

Developing Transferable Skills for Research

Edited by:

Arkadiusz Michał Kowalski

Marta Orviská

Rosmimah Mohd Roslin

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List of Authors

Anetta Caplanova, University of Economics in Bratislava, Slovakia
Agnieszka McCaleb, SGW School of Economics, Warsaw, Poland
Anna Dżienis, SGH Warsaw School of Economics, Poland
Arkadiusz Michał Kowalski, SGH Warsaw School of Economics, Poland
Aweewan Panyagometh, ICO NIDA, Bangkok, Thailand
Catur Sugiyanto, University Gadjah Mada, Jogjakarta, Indonesia
Cheah Jun Hwa, Universiti Teknologi Malaysia
Choirunnisa Arifa, University Gadjah Mada, Jogjakarta, Indonesia
Eva Muchova, University of Economics in Bratislava, Slovakia
Fathul Wahid, Universitas Islam Indonesia, Jogjakarta, Indonesia
Haliyana Khalid, Universiti Teknologi Malaysia
Hangga Fathana, Universitas Islam Indonesia
Hugo Lee, ICO NIDA, Bangkok, Thailand
Irma Windy Astuti, Universitas Islam Indonesia
Is Fatimah, Universitas Islam Indonesia, Jogjakarta, Indonesia
Ivan Sedliačik, Matej Bel University, Banská Bystrica, Slovakia
Ján Huňady, Matej Bel University, Banská Bystrica, Slovakia
Jogiyanto H.Mustakini, University Gadjah Mada, Jogjakarta, Indonesia
John Hudson, University of Bath, United Kingdom
Juraj Nemeč, Matej Bel University, Banská Bystrica, Slovakia
Maiẏaitulaidawati M.Husin, Universiti Teknologi Malaysia
Marek Kalovec, University of Economics in Bratislava, Slovakia
Marta Mackiewicz, SGH Warsaw School of Economics, Poland
Marta Orviská, Matej Bel University, Banská Bystrica, Slovakia
Noormala Amir Ishak, Universiti Teknologi MARA, Malaysia
Nor Aizya Mohd Zamil, Universiti Teknologi Malaysia
Nurul Indarti, Universitas Gadjah Mada, Jogjakarta, Indonesia
Rizki Farani, Universitas Islam Indonesia

Robaida Basiruddin, Universiti Teknologi Malaysia
Roman Klimko, University of Economics in Bratislava, Slovakia
Rosmimah Mohd Roslin, Universiti Teknologi MARA, Malaysia
Rosmini Omar, Universiti Teknologi Malaysia
Rungnapha Khamung, Burapha University, International College, Thailand
Sid Suntrayuth., ICO NIDA, Bangkok, Thailand
Suzilawati Kamaruddin, Universiti Teknologi Malaysia
Tan Peck Leong, Universiti Teknologi MARA, Malaysia
Tur Nastiti, Universitas Gadjah Mada, Jogjakarta, Indonesia
Wiryoно Raharjo, Universitas Islam Indonesia

Reviewers:

Michaela Bednarová, University Pablo de Olavide, Spain
Jegatheesan Rajadurai, Universiti Tenaga Nasional, Malaysia



Table of Contents

List of Authors	i
Reviewers	ii
Table of Contents	iii
List of Tablesxviii
List of Figuresxx
Foreword by the Editorsxxiii
1. Module 1: A Guide to Successful Academic Writing.	1
1.1 Introduction to Module 1.	2
1.2 How to Formulate the Research Idea	7
1.2.1 What is Academic Writing?	7
1.2.2 Finding a Research Topic: How to Choose an Interesting Topic, Main Idea, and Argument	8
1.2.3 Presenting the Research Background	12
1.3 Developing Conceptual Framework.	16
1.3.1 Literature Review of Conceptual Framework	16
1.3.2 Pedagogies	18
1.3.3 Method to develop a conceptual framework	19
1.3.4 Conclusion.	21
1.4 Effective Structure of the Research Article	23
1.4.1 Title	24
1.4.2 Abstract	25
1.4.3 Introduction	26
1.4.4 Materials and Methods	27
1.4.5 Results	29
1.4.6 Discussion	30
1.4.7 Conclusion of the Paper	31



1.5	How to Write the Literature Review	34
1.5.1	Literature Review	34
1.5.1.1	The Relevance of the literature review	34
1.5.1.2	Identification of relevant library resources and databases.	35
1.5.1.3	Electronic databases.	37
1.5.2	Search by a search engine	39
1.5.3	Effective Searching Strategy.	39
1.5.3.1	Searching strategies and their features	39
1.5.3.2	How much of searching is enough?.	40
1.5.4	The analysis of the literature	41
1.5.5	The summary of the literature	41
1.5.6	The synthesis of the literature	42
1.5.7	Conclusion.	42
1.6	Presenting Research Methodology	45
1.6.1	The Importance of the Research Methodology Section	45
1.6.2	Selecting and Justifying Specific Sampling Methods	46
1.6.3	Presenting and Justifying the Data Collection Techniques	49
1.6.4	Explaining Data Analysis Techniques.	51
1.6.5	Issues to be Avoided in a Research Methodology Section	52
1.6.6	Conclusion.	53
1.7	Drafting the Paper and Revising the Draft	55
1.7.1	Introduction	55
1.7.2	Characteristics of Good Writing in Publications	55
1.7.3	Outlining: Shaping and Streamlining the Story	56
1.7.4	Transforming the Outline into Paragraphs	58
1.7.5	Getting an Internal Critique.	61
1.7.6	Revising Drafts	62
1.7.7	Additional Notes: Key Steps in Developing Arguments	63
1.7.8	Conclusion.	65

1.8	Management of Citations and Reference Sources	66
1.8.1	Introduction	66
1.8.2	The Literature Review	66
1.8.3	Standards and guidelines of APA and Chicago styles	68
1.8.4	Enter New Source with MS Word	69
1.8.4.1	Chapter in a book	69
1.8.4.2	A Journal Article	71
1.8.5	Direct quote, paraphrase, rewrite and the transfer of the information into reference sources	72
1.8.5.1	A direct quote	72
1.8.5.2	A paraphrase	72
1.8.5.3	A rewrite	74
1.8.6	Conclusion.	76
1.9	The Use of English language in Academic Writing	79
1.9.1	Introduction	79
1.9.2	Word order	79
1.9.3	Agreement of Subject and Verb	81
1.9.4	Types of Abbreviations	82
1.9.5	Adjectives, Nouns and Verbs	83
1.9.6	Formality in Verbs.	84
1.9.7	Conclusion.	88
2.	Module 2: Publishing in Academic Outlets	90
2.1	Introduction	91
2.2	Picking the “Right” Journal	92
2.2.1	The Scope of the Journal	92
2.2.1.1	Is the manuscript consistent with the disciplinary focus of the journal?	93
2.2.1.2	Is the manuscript consistent with the national or international focus of the journal?	94

2.2.1.3	Is the manuscript consistent with the theory/practice focus of the journal?	96
2.2.1.4	Is the manuscript in harmony with the journal's quantitative or qualitative research bias (if any), or with type of article expected?	96
2.2.1.5	Reading already published articles.	97
2.2.1.6	Is the length of the manuscript appropriate for the journal?	98
2.2.1.7	How many times is the journal cited in your manuscript?	98
2.2.1.8	What advice do your colleagues have?	99
2.2.2	The ranking, impact and visibility of the journal: Journal prestige	99
2.2.3	The type of review process in the journal	101
2.2.4	The length of the review process in the journal	102
2.2.5	The length of the publishing process.	102
2.2.6	The success (rejection) rate of submission for the journal	103
2.2.7	The philosophical and ethical concerns connected with the journal	103
2.3	Correct Submission Procedures	108
2.3.1	Before the submission	110
2.3.1.1	Manuscript structure	110
2.3.1.2	Formal requirements	112
2.3.2	Submission process	116
2.3.2.1	Login into the online submission system	117
2.3.2.2	Choosing the type of the submission.	117
2.3.2.3	Entering the title and further details of the manuscript	119
2.3.2.4	Adding and editing authors of the manuscript . . .	120
2.3.2.5	Additional information about the manuscript . . .	121
2.3.2.6	Requesting editor and suggesting potential reviewers	123

2.3.2.7	Uploading the manuscript and other items into the submission system	123
2.3.2.8	Sending the final submission	125
2.4	Dealing with Rejected Papers	127
2.4.1	Causes of Manuscript Rejection	127
2.4.2	What to Do After the Rejection of the Manuscript	137
2.5	Dealing with Feedback and Revisions.	146
2.5.1	Meaning of Review Results	149
2.5.2	The Do's and Don'ts of Responding to the Reviewer's Feedback.	150
2.6	Resubmitting the Revised Paper.	157
2.6.1	Read the Comments Carefully	158
2.6.1.1	Itemized or grouped the comments.	158
2.6.1.2	Discussion with co-authors and colleagues	159
2.6.2	Revised manuscript	159
2.6.3	Table of Revision	160
2.7	Final Administration	164
2.7.1	Acknowledgement email from the publisher	164
2.7.2	Decision Letter	165
2.7.3	Copyright	168
2.7.4	Access and Share the Manuscript	171
3.	Module 3: Development and Management of Research Projects	172
3.1	Introduction	173
3.2	Planning and Writing Successful Research Grant Proposal.	174
3.2.1	Introduction – general overview of research projects	174
3.2.2	Why is good research project proposal important?	175
3.2.3	Selecting the topic and title of the research project	175

3.2.4	Formulating good research objectives in the research project	177
3.2.5	Formulating good research questions in the research project	178
3.2.6	Developing a research project timetable	180
3.2.6.1	What is research project timetable, and why it is necessary?	180
3.2.6.2	A Gantt chart	182
3.3	Identifying Priority Areas for Collaborative Research Projects	186
3.3.1	Introduction - Process of Setting Priority Areas for Research	186
3.3.2	Generating Topics for Priority Areas of Research	186
3.3.2.1	Executing Gap Analysis	188
3.3.2.2	Value of Information Analysis	189
3.3.2.3	Peer/Stakeholders Analysis	190
3.3.3	Setting Collaborative Research Priorities within the Southeast Asia Region.	190
3.4	Building Alliances and Selecting Foreign Partners	192
3.4.1	Introduction – general approach to establishing research contacts	192
3.4.2	The art of establishing alliances.	192
3.4.3	Selecting foreign partners	195
3.5	Sources of Financing.	198
3.5.1	Introduction – general overview on different types of sources of financing research projects	198
3.5.2	Government	198
3.5.3	Private industry	200
3.5.4	Foundations	202
3.5.5	Professional organizations or societies	203
3.6	Budgeting.	204
3.6.1	Introduction into budgeting	204

3.6.2	The costs of personnel salary	205
3.6.3	Purchase of external services (subcontracting/professional services)	206
3.6.4	Costs of purchasing materials and supplies.	207
3.6.4.1	Major instrumentation	207
3.6.4.2	Indirect costs	208
3.6.4.3	Travel expenses	208
3.6.4.4	Conferences, publications	209
3.6.4.5	Others	209
3.7	Managing International Collaborative Research Projects (Project Cycle Management).	211
3.7.1	Introduction into management of collaborative research projects	211
3.7.2	Managing successful research projects	211
3.7.3	Project cycle management.	213
3.7.3.1	Managing people in projects	213
3.7.3.2	Project's organizational culture	214
3.7.3.3	Project cycle management phases.	215
3.7.4	Project management in international research projects.	218
3.7.5	Cultural differences in international research projects	222
3.8	Risks Related to Research Projects	226
3.8.1	Introduction - risks in research	226
3.8.2	Managing Research Risks	227
3.9	Monitoring progress	231
3.9.1	Introduction to the role of monitoring.	231
3.9.2	Defining objectives and indicators	232
3.9.3	Project opening card	232
3.9.4	Reporting	234
3.9.5	Monitoring as an integral part of a project	235
3.10	Successful Delivery of Research Outcomes.	237
3.10.1	Introduction to delivery of research outcomes.	237

3.10.2	Success factors in delivery of research outcomes.	237
3.10.3	Delivery of research outcomes	239
3.11	Communication with Stakeholders	242
3.11.1	Introduction to communication with stakeholders	242
3.11.2	The need for communication with stakeholders	242
3.11.3	Methods of communication	243
3.12	Stakeholders' Engagement for Future Collaborations	247
3.12.1	Introduction - Stakeholders' Role in Research	247
3.12.2	Benefits of Stakeholders' Engagement	249
3.12.3	Models of Stakeholders' Engagement	251
4.	Module 4: Presentation and Communication Skills	254
4.1	Introduction	255
4.2	Fundamentals of an Effective Presentation.	257
4.2.1	Introduction to fundamentals of an effective presentation	257
4.2.2	What makes a presentation effective?	258
4.2.3	Preparation stage	258
4.2.3.1	Questions you should be asking in the preparation stage	259
4.2.3.2	Design	259
4.2.3.3	How many words should be on a slide?.	260
4.2.3.4	Designing effective slides and displaying data	261
4.2.3.5	Arrangement	262
4.2.3.6	Visual elements	262
4.2.3.7	Movement	264
4.2.3.8	Slides of a scientific presentation	264
4.2.3.9	What is the most appropriate minimum font size?	266
4.2.3.10	Simplicity	267
4.2.4	Conclusion.	268

4.3	Best practices in written and oral communication . . .	270
4.3.1	Introduction	270
4.3.2	The process of academic communication	271
4.3.3	Unpacking the writing of main ideas	272
4.3.4	Writing rubric	272
4.3.5	Academic essay structure	273
4.3.6	Creating a thesis statement from the essay question . . .	275
4.3.7	Writing an Introduction	276
4.3.8	Writing a Paragraph	277
4.3.9	Academic Presentations	277
4.3.10	Planning	278
4.3.11	Preparing	279
4.3.12	Presenting	280
4.4	Managing Stress during Presentation and Practical Aspects of Research Oral Communication	283
4.4.1	Introduction	283
4.4.2	The objectives of the module are to achieve the following;	283
4.4.3	Stress – a Closer Look	284
4.4.4	Stress and Personality	285
4.4.5	Stress Factors	286
4.4.6	Techno-stress	287
4.4.7	Consequences of Stress	287
4.4.8	Ways to Manage Stress	288
4.4.9	Stress-Managed Presentations	292
4.5	Non-verbal Communication	297
4.5.1	Introduction	297
4.5.2	Action Speaks Louder	297
4.5.3	Why Physical Action is Important	298
4.5.4	Ways to Make your Body Speak Effectively.	300
4.5.5	How to Use Non-verbal Communication Effectively . .	302

4.5.5.1	How to Gesture Effectively	302
4.5.5.2	How to use facial expression effectively?	303
4.5.5.3	How to use your eyes effectively	304
4.5.5.4	How to make good impression?	305
4.6	Essential Media Skills for Researchers	307
4.6.1	Introduction	307
4.6.2	Media Richness	307
4.6.3	Strategies to Develop a Powerful Presentation	308
4.6.3.1	Right Presentation Media for the Message	308
4.6.3.2	Develop the Most of Slide Software	309
4.6.3.3	Determine the Right Length for a Presentation	311
4.6.3.4	Persuade Beyond the Stage	312
4.6.3.5	Share the Stage	313
4.6.4	Techniques to develop presentation slides	314
4.6.4.1	Think Like a Designer.	315
4.6.4.2	Create Slides People Can “Get” in Three Seconds	315
4.6.4.3	Choose the Right Type of Slide.	316
4.6.4.4	Storyboard One Idea per Slide	317
4.6.4.5	Arrange Slide Elements with Care	318
4.6.4.6	Turn Words into Diagrams	321
4.6.4.7	Know When to Animate	321
4.7	Oratorical	323
4.7.1	Introduction	323
4.7.2	Oratorical and Composition/Oral Presentations.	323
4.7.3	Preparation	324
4.7.4	Ways of Beginning a Presentation	325
4.7.5	Methods of Presenting Your Presentation	327
4.7.6	Manuscript Speaking	327
4.7.7	Memorized Speaking	328
4.7.8	Extemporaneous Speaking	328

4.7.9	Ways of Ending a Speech	329
4.8	Audience Interaction	331
4.8.1	Introduction	331
4.8.2	Communication Strategy	333
4.8.3	Communication Principle of PAIBOC	334
4.8.4	Types of Sender	334
4.8.5	Audience Interaction	337
4.8.5.1	Get to Know Your Audience	337
4.8.5.2	Understand the Audience's Power	338
4.8.5.3	Segment the Audience.	338
4.8.5.4	Present Clearly and Concisely	339
4.8.5.5	Define How You Will Change the Audience	340
4.8.5.6	Find Common Ground	341
4.8.5.7	Develop Persuasive Content	341
4.8.5.8	Use Storytelling Principle	342
4.8.5.9	Measure Presentation's Impact	343
5.	Module 5: Evaluating Research Outputs and Researchers, and Non-academic Impact	345
5.1	Introduction	346
5.2	Establishing a Positive Research Environment and Research Infrastructure	349
5.2.1	Introduction	349
5.2.2	Developing the Right Underlying Research Agenda	352
5.2.3	Characteristics and Requirements of a Successful Research Culture.	355
5.2.3.1	Institutional Characteristics	355
5.2.3.2	Individual Characteristics	357
5.2.3.3	Leadership Characteristics.	358
5.2.4	Institutional Strategies in Establishing Research Culture.	358
5.2.4.1	Mentoring early career researchers	358

5.2.4.2	Institutional collaboration and networking	359
5.2.4.3	Instituting postgraduate and professional development programmes	359
5.2.5	How did Universities in UK Train their Researchers?	359
5.3	Research Output	365
5.3.1	Evaluation Research Output Based on Quality	365
5.3.2	Evaluating Academic Impact	365
5.3.3	Discounting by the Numbers of Authors.	366
5.3.4	Ranking Publications, Books, Journal lists and Citations	367
5.3.5	Constructing Journal Lists for Specific Countries	373
5.3.6	Writing to Maximise Academic Impact	375
5.3.7	Evaluation of Research Performance through Altmetrics System	377
5.4	Research Impact	380
5.4.1	Measuring Impacts of Research.	380
5.4.1.1	Research Impact and Research-Intensive Universities	383
5.4.2	What is Social Impact Assessment?	384
5.4.3	Some Social Dimensions that Motivate Social Impact Assessment	388
5.4.3.1	Impact on Community & Society.	388
5.4.3.2	The Role of Consultancy	392
5.4.3.3	For the individual, the department and the university, how to maximise non-academic impact.	392
5.4.3.4	Further impacts to Business and Industry	395
5.4.3.5	Government and Policy Making	396
5.4.3.6	Environment	397
5.4.3.7	Cultural and Heritage	398
5.5	Conclusion	402

6. Module 6: Effective Use of Technology for a Successful Academic Career	403
6.1 Introduction	404
6.2 Developing Critical Thinking	406
6.2.1 What is critical thinking?	406
6.2.2 Displaying critical thinking in reading and writing	409
6.2.2.1 Readers and their expectations	410
6.2.2.2 Critical thinking within the manuscript	410
6.2.2.3 Checklist to critically fine-tune the writing quality	412
6.2.3 Using evidence critically.	413
6.2.4 Cultivating argument mapping	414
6.2.4.1 Why argument mapping is important?	414
6.2.4.2 How to make argument mapping?	415
6.2.4.3 What aspects should be considered in creating argument mapping?	417
6.2.4.4 When to differentiate concept mapping, mind mapping and argument mapping?	418
6.2.4.5 Mind mapping.	418
6.2.4.6 Concept Mapping	419
6.2.4.7 Argument Mapping	420
6.2.5 Developing argumentative analysis	422
6.2.5.1 Why argumentative analysis is important	422
6.2.5.2 How to develop an argument	423
6.2.5.3 What aspects should be considered in developing an argument	425
6.2.6 Using K-Chart and Open Knowledge to develop critical thinking in research	430
6.2.6.1 The K-Chart Approach	431
6.2.6.2 The Open Knowledge Maps	433
6.2.6.3 Incorporating the K-Chart Approach and Open Knowledge Maps	435

6.3	Making the Most of Technology In Research	437
6.3.1	Advantages and Disadvantages of Using Online Research Tools.	437
6.3.2	Choosing the Right Online Data Collection Tools	440
6.3.3	Learning how to use Google Form	443
6.3.4	Data Preparation for Analysis.	450
6.3.5	Data Cleaning	452
6.3.6	Data Transformation	453
6.3.7	Technology in research dissemination	454
6.3.8	Dissemination Using Social Media	454
6.3.8.1	Dissemination Through Institutional Repository.	457
6.3.8.2	Dissemination Using Personal Website	458
6.3.8.3	Dissemination Through Blogging.	459
6.3.8.4	Dissemination Through ResearchGate	460
6.3.8.5	Dissemination Through Video	461
6.3.8.6	Dissemination Through Google Scholar	463
6.3.9	Challenges in using technology for research dissemination	464
6.4	Effective Teaching	468
6.4.1	Acknowledging individual differences	468
6.4.1.1	Individual Differences Aspects	468
6.4.1.2	Acknowledging Individual Differences: Best Practice	470
6.4.2	Using a range of pedagogies: from old school to gamification.	473
6.4.3	Implementing Gamification into a Course	478
6.4.4	Building positive interaction.	479
6.4.4.1	Learning Interaction in the Digital Era	479
6.4.4.2	Interaction Model	481
6.4.4.3	Applying an interaction model for a classroom activity	481

6.4.4.4 Building Positive Interaction: Best Practice	482
6.4.5 Learning Media System (Google Classroom)	483
6.4.6 Digital Games (Kahoot.com)	484
6.4.7 Monitoring progress and providing feedback.	486

List of Tables

Table 1.2.1.	Important Points of Writing	8
Table 1.4.1.	The IMRAD Format – Main Sections of a Scientific Paper.	32
Table 1.6.1.	Sampling methods and their justification	47
Table 1.6.2.	Strategies and their corresponding data collection techniques	50
Table 1.6.3.	Summary of the quantitative data analysis techniques . . .	52
Table 1.8.1.	The list of signal verbs to be used in referencing.	73
Table 1.9.1.	Adjectives, nouns and verbs with a common root	83
Table 1.9.2.	Opposites - Adjectives	84
Table 2.3.1.	Types of the submission	118
Table 2.3.2.	Steps in the submission process according to the journal Research Policy	119
Table 2.3.3.	Entering details about the author into the system	120
Table 2.3.4.	Additional information during the submission	122
Table 2.3.5.	Common items included in the submission in economic journals	124
Table 2.4.1.	Examples of common descriptions for both types of rejection	130
Table 2.4.2.	Elements to evaluate per section when revising the rejected article	141
Table 2.5.1.	Examples of editor comments – Part 1.	147
Table 2.5.2.	Examples of editor comments – Part 2.	148
Table 2.5.3.	Example of Reviewer comment #1	150
Table 2.6.1.	Reviewers’ comments	158
Table 2.7.1.	The authors’ rights	168
Table 3.2.1.	An example of a simple Gantt chart for research project	183

Table 3.3.1.	Advantages and Disadvantages of Public Engagement	188
Table 3.3.2.	Criteria for Ranking Research Priority Areas	190
Table 3.6.1.	Example of costs of research team members	206
Table 3.6.2.	Budget template	210
Table 3.7.1.	Hofstede’s dimensions of cultural profiles.	223
Table 3.9.1.	Example of “project opening card”	233
Table 3.9.2.	Template for the monitoring and implementing stages.	236
Table 3.12.1.	Benefits of Stakeholders’ Engagement at Different Stages of the Research Process	250
Table 3.12.2.	Benefits of Stakeholders’ Engagement	251
Table 4.3.1.	Example of an academic writing rubric	273
Table 4.3.2.	Academic essay structure	274
Table 6.2.1.	Elements of Reasoning	408
Table 6.2.2.	The Difference between Mind Mapping, Concept Mapping, and Argument Mapping	420
Table 6.2.3.	Where can we learn more about argument mapping?	421
Table 6.2.4.	The aspect of evidence (University of Sydney, 2000)	423
Table 6.2.5.	Where can we learn more about developing argumentative analysis?	429
Table 6.2.6.	K-Chart for research	431
Table 6.4.1.	Six Types of Interaction.	480
Table 6.4.2.	Learning activities based on the interaction model	481

List of Figures

Figure 1.3.1.	Approach to the Conceptual Framework Development for Academic Paper Writing.	18
Figure 1.3.2.	A Template for the Conceptual Framework.	20
Figure 1.3.3.	A Conceptual Framework: Active Learning with Leadership Styles.	21
Figure 1.8.1.	The Screen Capture of a MS Word on Entering a Reference Source.	70
Figure 1.8.2.	The Screen Capture of MS Word on Entering a Reference Source.	71
Figure 2.4.1.	What to do after rejection	129
Figure 3.3.1.	Process of Research Topic Generation	187
Figure 3.8.1.	Activities in Managing Risks.	228
Figure 3.10.1.	Results chain	240
Figure 3.11.1.	Communication with stakeholders.	244
Figure 3.12.1.	Types of Stakeholders and their Concerns	247
Figure 4.3.1.	Research Lifecycle diagram	271
Figure 4.6.1.	Presentation Types.	309
Figure 4.6.2.	Slideument	310
Figure 4.6.3.	A Virgin Slide Transformation.	315
Figure 4.6.4.	A Sample of Three Second Test.	316
Figure 4.6.5.	Storyboard	318
Figure 4.6.6.	Flow	318
Figure 4.6.7.	White Space	319
Figure 4.6.8.	Hierarchy.	319
Figure 4.6.9.	Contrast	320
Figure 4.6.10.	Unity	320
Figure 4.6.11.	Before	321

Figure 4.6.12. After 321

Figure 4.8.1. Communication Strategy Framework 333

Figure 5.4.1. Impact Zones 383

Figure 5.4.2. Social Impact Assessment Process 387

Figure 6.2.1. Paul-Elder Critical Thinking Model 407

Figure 6.2.2. The connection between claims, evidence,
and reason 413

Figure 6.2.3. An example of K-Chart presentation 432

Figure 6.2.4. Example of a screenshot showing mapping result
on the topic of “Informal Housing” 434

Figure 6.2.5. Screenshot of a detailed view of the “Informal
Development Case Study” cluster when we enlarge
the circle by clicking it 434

Figure 6.2.6. Screenshot of mapping on “Experimental Methods”. . . 435

Figure 6.3.1. Result from SurveyMonkey 441

Figure 6.3.2. The Interface of TypeForm 442

Figure 6.3.3. Google Apps in Gmail. 443

Figure 6.3.4. Google Form in Google Drive Application 444

Figure 6.3.5. Creating Different Types of Questions 445

Figure 6.3.6. Sending the Google Form via Email or URL Link . . . 445

Figure 6.3.7. Adding Research Collaborator. 446

Figure 6.3.8. Design and Create Questions using SurveyMonkey. . . 447

Figure 6.3.9. Option to choose Existing Questionnaire Templates
or to Start from Scratch 448

Figure 6.3.10. Invitation Button to Invite Research Collaborators . . . 448

Figure 6.3.11. Ways of forwarding using SurveyMonkey. 449

Figure 6.3.12. Analyses and Results Option Button 450

Figure 6.3.13. Download Responses from Google Form. 451

Figure 6.3.14. Download Responses in CSV format 452

Figure 6.3.15. Infographics (author’s own collection) 455

Figure 6.3.16. Example of Personal Website (author’s collection) . . . 459

Figure 6.3.17. A video created by a group of researchers on Tuberculosis. It was delivered in the Malay Language to target people in Malaysia (author’s collection) 461

Figure 6.3.18. Example of video using Powtoon App (author’s own collection) 462

Figure 6.4.1. Option for Survey 472

Figure 6.4.2. The example of the survey tool 472

Foreword by the Editors

This monograph includes study materials prepared in the project “Assessing and Improving Research Performance at South East Asian Universities” (REPESEA) implemented in the framework of ERASMUS+ Program, Capacity-Building projects in the field of Higher Education (E+CBHE). It covers six modules that are developed with the young scholars in mind especially those embarking on new research projects requiring good understanding of research process, publication and communication and presentation demands.

Module 1 focuses on presenting the research idea using proper academic writing style. Defining research problems and presenting the arguments that can support the problem statement are crucial aspects of an academic paper. Many researchers spend too long on this aspect hence producing ineffective and very long manuscripts. Consequently, they have to spend unnecessary additional time to cut and revise the text after being reviewed by editors. This chapter provides guidance, particularly for new academic writers and researchers, on how to write the main ideas of research, which can effectively cover all necessary arguments to define the research problems, to scrutinize existing literature, to find research gaps and to formulate research questions and research objectives. By providing sound arguments when developing the research idea, the researchers can communicate well the significance of their research to other academics and to contribute adequately to the existing body of literature review.

Additionally, in this module, the conceptual framework is discussed. It is explained as a commanding mind-mapping and graphical thinking skill which serves as the driving force of the writing as well as the device for innovative communication among writers. This technique can be used for writing the whole paper as well as the substructure of every segment of the paper. The goal is to provide a clear and systematic path in integrating conceptual frameworks with the paper-writing structure. The module focuses on the conceptual framework and writing structure in an effort to empower the students, faculty members, and researchers to collaborate among their peers and enhance their abilities in paper writing, submission and journal publication. The presented templates and methods may allow

experienced academics and new researchers alike to improve self-cognition, develop conversation and group collaboration. The use of the conceptual framework allows researchers to think proactively and helps them in planning the scope of their research.

This module also touches on how to structure a research article effectively to help young, or novice researchers to understand and learn how to develop good articles. It explains the effectiveness of the structure of a research article, which is based on the Introduction, Materials and Methods, Results and Discussion (IMRAD) format. The IMRAD structure has proved to be one of the most effective formats in academic writing due to its many advantages. One of the advantages is that this format allows the audience to quickly navigate the research article as well as to locate the part relevant for their purpose. The IMRAD structure effectively supports a systematic process that eliminates unnecessary details, and allows the reader to develop a well-structured and noise-free presentation. It allows relevant information to be presented clearly and logically by summarizing the research process in an ideal sequence. IMRAD is suitable to present the research results, when the experimental method is used, and they fit the frame of method-results-discussion.

In addition, Module 1 also focuses on the literature review as an integral component of the research process. It describes basic rules and strategies for an effective search and those for further processing. The literature review discussion is structured into seven parts. The first part explains the relevance of the literature review and its tasks and purpose. The fundamental process in the literature “mining” is described to distinguish between popular and scholarly sources. Significant library resources and databases such as Web of Science, Scopus, Proquest, JSTOR and EconLit are identified. The third part describes effective strategies of searching for information – browsing and keyword search followed by the recommendations, how to proceed in the analysis, summary and synthesis of the literature. The last section provides some essential guidelines for writing the literature.

In a research paper, a well-developed research methodology section is probably the most crucial section to show the credibility of research. A credible research paper must show that the research was conducted using the state-of-the-art research methodology and the researcher(s) need to demonstrate that the paper has achieved set goals. This module also focuses



on improving the ability of researchers to prepare a well written methodology section that demonstrates the credibility of the research paper. Specifically, the emphasis is on how to describe and explain the research methods and how to link them with defined research questions and/or hypotheses. Further, it also focuses on improving the abilities of researchers in presenting the research arguments and the research rationale, which are necessary to justify chosen methods.

Drafting a paper with a high degree of clarity, coherence and conciseness is very important to deliver the main idea embodied in the manuscript. This chapter also focuses on how to improve the ability of researchers to draft a manuscript that fulfils all criteria required of an academic paper for publication purposes. The criteria is defined, which constitute good writing in academic publications and the ways, in which researchers should shape and streamline the whole story in their papers, and then turn the outline into a full-text manuscript through a consistent flow of sentences. Further, emphasis is placed on how to prepare a draft following and conforming with the standard academic writing style. Particularly, the draft revision process is given some emphasis to ensure that the paper is developed in a high degree of clarity, that it is coherent and concise.



Researchers may carefully focus on the academic paper writing and its structure as the means towards attaining quality of publication, but the need for clear and accurate resource referencing style is also of utmost importance for academic publications in general. The basic rule, when referencing sources used is that citations and references must be accurate, complete and should be consistently applied. This module also provide insightful understanding of the standards, guidelines and resources commonly used in citation and the reference styles in social sciences and beyond; it also provides information on how to enter New Source with MS Word and keep the sources well managed. The discussion provides firm guidelines for readers, when faced with the requirement of managing sources and researching databases, while avoiding plagiarism.

Academic writing differs from other types of writing such as journalistic or creative writing. In most forms of academic writing a detached and objective approach is required. An academic argument appeals to logic and provides evidence in support of an intellectual position. It is important to present the research arguments in logical order and to arrive at conclusions. It is also

very important to note that many leading academic journals require authors or contributors to write in the English language. To most native English speakers, this does not present much trouble in comparison to non-native English speakers. Therefore, it is very important for researchers to pay paramount attention to the use of the English language in academic writing. This module deals with major areas regarding the use of English language in academic writing including: word order, agreement between the subject and the verb, types of abbreviations, adjectives, nouns and verbs and formality in verbs.

Module 2 relates to publishing in academic outlets which is recognised as being rather complex. The first important step immediately after the preparation of the manuscript is the selection of appropriate journals for publishing. This step is very important to achieve a high probability of publishing the article. Several characteristics should be taken into account when choosing the journals. First, the scope of the journal should be in line with the topic of the paper. Secondly, the ranking and impact of the journal have to be taken into account. Of course, the higher impact is always more desirable, but this is not always easy to secure publication. The success or failure rate could be useful indicators of this probability. Furthermore, the review process, length of review process and length of the publication process can be important in the final decision. Additionally, publishing in predatory journals is not in accordance with publishing ethics and should be avoided.

Submitting the paper to an appropriate journal includes more sub-steps and is mainly based on analysing the journal web page and communicating with other peers about publishing possibilities. It is especially important for an author to decide on the scope of the journal, the ranking, impact and visibility of the journal, the type of review process, the length of the review process, the length of the publishing process, the success/failure rate of submission for the journal, and the philosophical and ethical concerns connected with the journal.

The next step after preparing good quality paper for publication and choosing appropriate academic journal is the submission to the journal. The submission procedure is divided into two stages. Firstly, it is important to read journal's instruction for authors and learn the requirements for submission. Secondly, the submission process itself can be a challenging

issue. Despite some common procedures, there are still many differences between journals with respect to submission. Based on the examples of different journals this module shows the differences and similarities and point out the most common problems. However, it is still necessary for authors to read carefully the guidelines of the journal which could be unique. When using the submission system it is necessary to choose appropriate type of submission and follow the steps of submission.

There is no successful researcher who never experienced rejection. Receiving a rejection is part of a healthy peer-review process and from the author's point of view rejection of the first version of a paper often leads to significant improvements of the manuscript. The most typical reasons for the rejection are that the manuscript does not fall within the aim and scope of the journal (reaction – resubmit to more suitable journals), the manuscript contains elements that are suspected to be against the publication ethics (try to prevent, corrections are necessary), incomplete manuscript (prevent), poor use of English (prevent), references are inconsistent, incomplete, or very old (prevent), the quality of research lacks novelty (prevent or explain better why duplication occurs), the manuscript is below the journal's standards, data is poorly presented (prevent), the procedures and/or analysis of the data are seen as defective (prevent, improve), inappropriate method (prevent, improve, but if you feel that your method is feasible, submit to other journals).

Module 3 focuses on the topic of research projects and different phases of their implementation. It starts with the presentation of preparatory works that need to be done in order to successfully conduct research projects. It starts with general overview of research projects, differentiating between various types of research, and explanation of the importance of good research project proposal. Then, the instructions on selecting the topic and title of the research project are provided, followed by the directions related to formulating good research objectives, and research questions. Next, a research project timetable concept was prepared, together with a very popular tool used in project management, Gantt chart, used to diagram resources or tasks over a specific amount of time. This part is followed by a section on identifying priority areas for collaborative research projects. In particular, the collaborative research projects within the Southeast Asia region is discussed where it is identified that setting priority research areas

involving collaborative efforts can be a complex and dynamic process of ascertaining the needs of all those involved, especially when this involved diverse nations. Therefore, balancing the needs of different countries with different social and economic background are indeed essential.

Next section presents the topic of building alliances and selecting foreign partners, discussing the ways of establishing and maintaining partnerships with researchers from external institutions, with special focus on developing relationships with foreign researchers. It is highlighted that the most important ways to establish and maintain relationships include “real life” and “online” activities such as taking part in conferences, becoming a member of an academic society, participating in research and teaching exchanges as well as establishing a profile on academic online social networking sites, running a blog, posting on social media. It is also explained that factors to consider when selecting a foreign partner for collaboration mainly include: understanding the reasons for having a partner, characteristics and especially compatibility of a partner, defining members’ accountabilities within the project, and determining form of collaboration.

Next section focuses on the problem of finding financing needed to implement research projects. As knowledge is increasingly recognised as the key driver of competitiveness, governments and other types of organisations prepare different programmes supporting research. Key sources of financing research projects are identified and presented, starting from public funding offered by governments, which through strengthening scientific base attempt to increase innovativeness of the country. Next possible source of financing research is private industry, which is often interested in contributing to R&D efforts of scientists, especially in the areas where possible commercialisation of research results may take place. As finding research funding is becoming increasingly competitive, there are also different non-profit organizations that sponsor research presented in this section. Final source of financing research projects discussed in this section are professional organizations or societies.

Next section focuses on the construction of project budget. The basic cost categories that should be taken into account when calculating the amount needed for research are discussed, like: personnel salary of persons involved in the implementation of the project, external services or subcontracting, purchase of materials and supplies necessary for conducting research,

purchase of major instrumentation and devices, indirect costs, usually associated with the administrative costs and costs related to the dissemination of research results. General budget construction rules are examined, without details specific to various sources of financing as donors usually have specific budget requirements and templates for submitting budgets.

Next section focuses on managing international collaborative research projects, discussing the importance of managerial skills and knowledge necessary for carrying out research projects, especially international research projects. The key factors influencing success of collaborative research projects are presented, like: building of trust and respect, clearly defined objectives of a project, planning skills, and conflict management skills. Next, project cycle management is introduced with five phases characterizing any typical project, the importance of managing people and developing project's organizational culture. Moreover, the specifics of managing international collaborative research projects are analysed that comprise of forming the research consortium, developing objectives of the project and applied methodologies, data collection, interpretation of results and dissemination of results. An important dimension that needs to be taken into account in the planning and execution of research projects is risk. Hence, risk management in research should be a proactive effort thus, anticipating and planning in the event of crisis is crucial in ensuring a smooth flow of research executions. Monitoring activities should be done throughout the whole project process, starting with the point when the risks were recognized until the point of closure, where the whole project is summarized and the project's objectives, benefits and deliverables are evaluated. Next section deepens the analysis of monitoring progress of research project, thanks to which the implementing institution and the financing institution know whether it is possible to achieve the project's goals and whether the project will be completed on time.

The project should finish with successful delivery of research outcomes, where criteria for success need to be thought of and agreed upon by all parties as early as at the stage of planning a project. This requires effective communication with stakeholders, which is discussed in the next section. It is stressed that there are many individuals that must be communicated in each project and every project requires another way of communication, depending on its character, stage, team diversity etc. However, regardless of such project-

specific features, communication must be effective and efficient to accomplish a designed plan with success. Although nowadays connecting with people is more and more challenging, the use of communication methods provided by technology facilitates the information exchange process.

The module finishes with the highlighting the importance of stakeholders' engagement for future collaborations. It has been acknowledged that establishing and maintaining relationships with stakeholders can be an important element for facilitating the translation of research into programs, policies, and practice.

Module 4 focuses on presentation and communication skills especially for researchers or young scholars who need to communicate and present their research proposals or research progress and outcomes. The module is broken down into seven sub-modules including 1) fundamentals of an effective presentation 2) best practices in written and oral communication 3) managing stress during presentation 4) non-verbal communication 5) essential media skills for researchers 6) rhetorical and 7) audience interaction. Basic principles of communicating and presenting is discussed at length to enhance the researchers' ability to convey effective skills of presenting and communicating.

The first submodule introduces the audience to the fundamentals of effective presentation. From the initial stage of preparation, activities, and procedures during the presentation, presentation of slides, and presentation conclusions are well discussed. The second submodule introduces the audience to the best practice in written and oral communication. The submodule opens with the process of academic communication from having the research idea to the publication of the research materials. Then it moves on with the process of initiating the research ideas to the writing of rubrics which should help novice researchers or Ph.D. students to form or plan the writing process.

The next submodule deals with the issue of stress during the presentation. The content begins with the definition of stress then examines the different factors causing stress and how to deal with different types of stress. The content offers practical implication of how stress should be dealt with during the presentation. The module concludes some activities which should help the audience to deal with stress.

The following discussion is on non-verbal communication. The module provides details on the soft side of communication which predominantly relates to the 'action' of the speakers. It discusses significant physical aspects of the presentation including the ability to make the audience remember the speaker and his/her contents as well as using the speaker's action as the tools to add meaning. The non-verbal communication module offers a different mode to make your body speak effectively. It also includes actions to avoid during the presentation which can cause ineffective or even inappropriate behaviours.

The next submodule deals with essential media skills for researchers. This is considered to be the most important aspect of research presentation. The purpose of the module is to aid the understanding of various types of communication media and clarify the importance and strategies to use. This submodule should help the audience to understand different techniques to develop presentation slides. The content of this submodule incorporates the designer's concept of thinking which should be incorporated when preparing presentation slides.

Additionally, the oratorical aspect of the presentation and communication is discussed. The module revisits the structure of research based on the IMRAD structure. The module begins with the importance of knowing the audience, then it introduces the aspects of commencing the speech and different types of speech openings. More importantly, the module also discusses ways to close the speech which can be considered as equally important as the opening.

The final module discussion is on the audience interaction where the module discusses different aspects of audience interaction including communication strategy, communication principle, understanding the audience's power of delivery and measuring the impact of research presentations. This should help the audience to understand different types of communication strategies, different types of senders and different ways to build audience interaction.

Module 5 is specifically developed to assess research output and impact and is designed to create an awareness of research performance and convey the idea that excellence in research is the root that forms the basis of quality. At its core, the module offers critical elements to assess research performance at the level of individuals, academia and institutions. To assess performance in



research, faculties and institutions should consider the significance of the research environment, the importance of the agenda, and address output and impact of research. Research environment and agenda are critical in determining researchers' performance. Both the internal and external environments necessitate research ideas to grow along a robust research agenda. Both research environment and agenda also precipitate the process of nurturing researchers among the young academics and doctoral students. Consistently linked to impact, research performance should also contribute to both research and non-research significance. Academic impact from research comes from two sources, the quality of the publishing outlets and the number of citations. The quality of the journal/publisher is important for both. The module will create awareness amongst the researchers on how to judge the quality of a journal and for administrators this will be useful in terms of rewarding the academics. Non-academic impact is about the research having specific effects on society or the economy. This should be important for academics as well. To a larger extent, it is increasingly becoming important for universities to demonstrate how they create value for society, not just through their teaching, but also from the research and other related tasks.



It is vital for academics to produce research outputs that are meaningful. This is to mark their scholarly distinctions and milestones as they progress towards maturity in their academic career. As we see the rise of prolific academics and stringent requirements to publish by institutions, it is crucial to measure the quality and impact of publications because the concern of higher education worldwide is finding the balance between quantity and quality of such research outputs. Currently, the quality of the outputs can be measured qualitatively and quantitatively. Qualitatively, publications can be assessed through the evaluation of experts. Quantitatively, publications can be evaluated through bibliometric where the sources of academic impact is assess through the quality of the publishing outlets and number of citations. Besides focusing on the journal ranking, this module also discusses various other mechanisms that could be considered as one of the tools in measuring quality such as discounting by the numbers of authors as well as ranking of publications, books, journal lists and citations. There is also a discussion on current issues such as the trends toward multi authored papers, the altmetric approach for evaluation, the rationale of having journal ranking that suits individual country or region as well as an open discussion on how to allow a fair evaluation of quality in terms of research output.



Academic impact concerning citations, as well as stories of impact such as in the form of case studies are also discussed. Beyond academic impact in the form of publications, researchers' performances are also evaluated based on the social or non-academic impact. Stakeholders, grant funders as well as special groups within specific eco-systems have concerns on how studies done by university researchers could be translated into innovation and transformation that benefit respective parties. Hence, issues of social impact of research within the perspectives of community, cultural and heritage, business and industry as well as the overall environment is given specific attention.

Module 6 is intended to assist students and researchers in their quest to enhance their skills in using technology to support their writing and research assignments. Specifically, the objectives of this module are to build and enhance the capacity of researchers in developing their critical thinking by means of argumentative analysis. It is also meant to develop the skills of the researcher in using technology to enhance their data collection and preparation of analysis whilst also scaling and expanding the researcher's capabilities on effective teaching methods. This module also improves the researcher's skills in developing the instructional technology for teaching and learning. The module is designed to cover three sub-areas, namely developing critical thinking, making the most of technology in research, and effective teaching. Each of these areas are broken down into sections where Section 1 discusses how to develop critical thinking ability; Section 2 delivers the training on the optimum utilisation of digital technology in research; while Section 3 deals with effective teaching.

All the modules are developed with the researchers in mind. Understanding their needs and with capacity building as the main objective, their research abilities are honed and further extended in the quest to become knowledgeable and astute researchers.

Arkadiusz Michal Kowalski
Marta Orviská
Rosmimah Mohd Roslin

Editors



1. Module 1: A Guide to Successful Academic Writing

Anetta Caplanova, University of Economics in Bratislava, Slovakia (Editor)

Eva Muchova, University of Economics in Bratislava, Slovakia

Marek Kalovec, University of Economics in Bratislava, Slovakia

Jogiyanto H.Mustakini, University Gadjah Mada, Jogjakarta, Indonesia

Catur Sugiyanto, University Gadjah Mada, Jogjakarta, Indonesia

Choirunnisa Arifa, University Gadjah Mada, Jogjakarta, Indonesia

Sid Suntrayuth, ICO NIDA, Bangkok, Thailand

Aweewan Panyagometh, ICO NIDA, Bangkok, Thailand

Hugo Lee, ICO NIDA, Bangkok, Thailand

Rungnapha Khamung, Burapha University, International College, Thailand

1.1 Introduction to Module 1

Anetta Caplanova

Academic writing is an important skill for all academics. The ability to present one's research in the written form is essential not only for the progress of researchers in their careers but also for graduate and postgraduate students required to present their work, to progress in their studies and to obtain a degree. It is important for researchers and aspiring researchers to understand the principles of efficient academic writing so as to communicate the results of their research effectively to the academic community.

This volume aims to provide a practical guide on key aspects of academic writing and it can be used as a reference source for those striving to improve some aspects of their academic writing skills, but in the first place, it is aimed to be used as a concise study text in the transferable skill course on Academic Writing. The text prepared by a team of authors representing different universities, countries and regions is to provide a reader with information, which will help him to develop skills needed to prepare academic publications, which can be published in international academic journals. Even though some parts of the text are focused on specifics of writing of journal articles, a lot of presented information is relevant also for other types of academic manuscripts, such as scientific monographs, academic essays, master and doctoral thesis, conference papers and others.

The text is structured into ten self-contained chapters, which take a reader through the key aspects of the academic writing process. Since an effective structure of the written research piece represents an important start of the academic writing itself, the related topic is discussed at the beginning of this volume. The typical research piece has usually a clear-cut structure. There is an introduction, which presents the main topic of the paper and relates it to the state of the art in the research area concerned. The research gap, which the prepared publication is to address, is also usually explained and the main aim of the research is stipulated. Subsequently, the review of the relevant literature is provided and the methodology of the presented research is explained. In the case of empirical studies, the data used are also specified in this part of the paper and they are closely linked to the explanation of the methodology. Next, the results/findings of the undertaken research are



presented. Then, this is followed by the discussion of the findings, which researchers arrived at in their research. Based on the findings, the conclusions are formulated. It is clear that each part of the academic paper has its own objective, which should be also reflected in its content. This should be kept in mind by authors early on when they plan the structure of the manuscript and work on developing the content of individual parts of the paper.

In this volume, we then focus on the discussion of appropriate ways and appropriate academic writing style to present the research idea. Defining research problems and presenting the arguments that can support them are crucial aspects of a well-written academic paper. However, researchers often cover these aspects of their research too extensively. Then, they take up several pages and lead to too long and inefficiently written manuscripts. Not only the space available for a paper in journals is limited, but also the time and patience of readers (and reviewers) are valuable assets. Authors should remember this from the beginning of their work on the manuscript, since subsequent need to shorten it, will put additional time requirements and stress on them. This can be also avoided by efficient advance planning of the content of each of the parts of the paper.



Experienced academic writers agree that it is much more difficult to write a shorter and well-focused text, than a more extensive and longer one. Also, papers with shorter titles have been found to achieve higher academic penetration than papers, with longer and more complex titles. Moreover, experts also point to the necessity that the paper was accompanied by a well-written and concise abstract. Most people, who come across a paper, will have a look at its title and abstract only. A well-formulated and attractive title and an interesting abstract can raise the interest of readers and encourage them to have a closer look at it. Thus, to help researchers to succeed in their effort to produce well written and concise manuscripts, we explain and provide insights not only the property of a good title and abstract, but also look into how to summarize the research idea, how to define the research problems, to scrutinize existing literature in the field, and to identify gaps in this literature. Then, we focus on discussing, how to formulate research questions/hypotheses and the research objectives and also, how to express them clearly in the written form.

We live in the digital era when millions of Internet resources are a keystroke away. During the past few years, information deficiency was transformed

into information overload. The ability to identify relevant sources, to assess their reliability and quality has become crucial not only, but also for researchers. There are a few simple rules, which can help researchers to be more efficient when trying to identify the most relevant sources for their research and to systemize the state of the art in their research area. We explain the approaches, which have proven to be successful and provide insights into the ways, in which the literature search can be done in an efficient manner. The criteria to be used in the process of identification of background research sources are also explained.

After the core ideas and related sources of the research piece have been identified, it is important to summarize them in the Literature Review section of the manuscript. We provide authors with the suggestions, which help them to prepare sound literature review. Books and papers dealing with the topic of academic ethics point to the necessity to appropriately reference all sources used. But, it is not only important to cite all sources, but it has to be also done in an appropriate way. There exist different citation formats and different academic outlets may require that the literature used in the research was referenced in accordance with a different standard. Authors should become familiar with the referencing style of a journal/academic outlet they target with their manuscript and align the references in the manuscript with the journal/publisher requirements. In the related chapter, a reader will find a more detailed explanation of the citation standards. Also, the guidelines are provided so as readers gained confidence in using the most common citation and reference styles, in managing the literature sources, researching databases, and avoiding plagiarism.

Conceptual framework represents a tool that frequently serves as a map connecting the key research ideas of the paper and helps the research to stay focused. Also, it facilitates presenting the argument in a sequence of logically and smoothly flowing steps. However, this tool is often disregarded by academic writers and consequently, in many cases, their manuscripts are fuzzy and lack sufficient clarity and focus. In the chapter focused on the Conceptual framework, we strive to provide insights into integrating the conceptual framework into the process of academic writing. We explain, how to structure the manuscript in a graphical and hierarchical manner and how these tools can help in the preparation of the manuscript, so as a reader was provided with a complete picture of the research. We believe that a

better understanding of the concept of the conceptual framework and its relevance for academic writing will further contribute to developing academic writing skills of a reader.

The chapter focused on the research methodology section aims at clearly documenting that a well-written description of the methodology used in one's research demonstrates the credibility of the research. A well-developed methodology section should also facilitate the replication of the study carried out by a researcher(s) if one decided to do so. In the case of empirical studies, the origin and characteristics of the data used are also frequently explained in this section. A comprehensive discussion of research methods also shows a reader (and reviewers) that the research was conducted using the state-of-the-art research methodology. In this chapter, it is also explained, how the research methodology should be presented and its credibility demonstrated. We emphasize that when a researcher wants to present their research in a written form, regardless of the type of the academic publication, or methods used, it is an imperative that the methodology was always clearly explained since readers cannot ask authors questions as it is possible during oral presentations. The methodology should be equally well regardless, if the quantitative, or qualitative research methods were used in the research then. The discussion also addresses how the techniques and the research methods should be interlinked with specified research questions and/or hypotheses. The presented material should also help a reader to learn, how to justify adopted methods and to explain them in a concise way, so as the study could be replicated by other researchers. After having presented the research methods used, academic writers should progress towards the formulation of the discussion, conclusions and specification of the limitations of the current study and further venues in the related research. We also discuss approaches to writing a comprehensive conclusion and discussion section below.

The volume also contains a chapter dealing with selected issues of the appropriate use of English language in academic writing. An overview of key areas of English grammar that researchers need to master to be able to express themselves correctly and appropriately in academic writing are discussed. Then, the most common bottlenecks encountered by academic writers writing in the English language, are discussed in a separate chapter. They include but are not limited to, basic distinctions of meanings in the



verb-tense system, the use of modal verbs to express the degrees of certainty and commitment, alternative ways of grouping and ordering written information to highlight the flow of the research argument and other topics.

The prepared volume represents an outcome of the joint work of co-authors representing different disciplines and different academic cultures. The authors come from established universities in Indonesia, Thailand and Slovakia and have worked on the texts as a part of their collaborative project REPESEA supported by the European Commission Capacity Building in Higher Education programme, project number 574092-EPP-1-2016-1-SK-EPPKA2-CBHE-JP. The work presented below represents views of co-authors and their perceptions of the topic addressed. We hope that readers will find this outcome of our joint effort useful and helpful for succeeding in the effort to establish themselves in the demanding world of academic writing and publishing.

1.2 How to Formulate the Research Idea

Catur Sugiyanto, Jogiyanto H. Mustakini and Choirunnisa Arifa

1.2.1 What is Academic Writing?

Researchers need to write in an appropriate academic style if they want to publish and share their finding(s) with colleagues and reviewers in an effective manner. In this sense, they need to communicate their positions appropriately. Writing is one form of communication. In order to use an effective writing style, the first point to consider is to know the audience. Academic writing is also the type of writing that university students are expected to produce in response to the content they learn in an academic setting. This is how they formally join the “scholarly conversation.” Developing the writing style can begin at a very young age when a child writes a report about a book he has read or a topic he has learned about. It is not a personal experience, nor a story, nor a mere description. Academic writing presents to the audience, what a writer thinks and what the evidence is, as well as what has contributed to that thinking. The evidence can include the writer’s personal experience, information found in other books or literature, or information gleaned from discussing the problem with others (such as other experts) (Bell, 2012).

As Nikitina (2012) noted knowing the audience will help an author to determine the writing style, tone of the document, the content the author chooses to include, or omit and the medium he decides to select (e.g. a paper report, a Website, a presentation) to convey the message. Thus, when a person speaks in front of a professor, or a colleague at a conference it will be different from when one talks to a friend, even though the communication may be about the same subject.

For students and researchers, the development of writing style is important as it helps them to remember, observe and gather information, to think, to communicate and to learn.

Table 1.2.1. Important Points of Writing

Key Points, writing helps to do
1. Remember
2. Observe and gather evidence
3. Think
4. Communicate
5. Learn

Note: For a detailed explanation, please click on the QR code below.



Source: Day, T. (2013), pp: 2-3.

1.2.2 Finding a Research Topic: How to Choose an Interesting Topic, Main Idea, and Argument

Finding a topic is a decision like one of a traveller, who is choosing where to go. The place he will visit must be of interest to him. These days, a traveller can search for interesting destinations using the internet. He can explore sites, learn how to get there, how much it costs, where to stay, what food to eat, etc. Also, he can learn from others, who have visited the place of interest, talk to them, or read their reviews. In the same way, to find their research topics, researchers can explore what others have done in the field of their interest, learn from them and find the specifics that interest them most. Here, they build the topic based on someone else's findings, explore the aspects that have not been researched and identify existing gaps.

Another route starts with the interest of a researcher, which is then developed into topics, questions, and problems (Booth, Colomb, & Williams, 1995). Writing about something that interests us, will free us from the frustration because there are so many choices one can look at and there is so little time to do so. However, we should keep in mind the reasons, why we spend so much time and effort to pursue our research agenda and remember that there must be added value, which will make it worthwhile for a reader to spend his time reading, what we have written. A topic should be interesting and specific enough to lead to the research outcomes that one will pursue since they advance his thinking and understanding. We could use the problem of unemployment, which may be of interest to a researcher as an example. However, we need to narrow the topic down to a more specific problem of unemployment, for example, unemployment among the youth, or recent university graduates, which is more specific than just an overall topic of unemployment. By narrowing down the topic, the researcher is guided to more specific aspects of his research. The example of the linkage between a problem and a research question is presented in the following chart.

Problem:

Research indicates that significant numbers of people in doctoral programs complete all the course requirements, yet do not go on to complete the research or produce their dissertation. Hence, despite their significant investment in time and money, these people never received the doctoral degree they set out to obtain and thus remain alumni but dissertation (ABD). There is little information as to why this phenomenon occurs



Purpose:

The purpose of this multi case is to examine a sample of a doctoral candidate's as to why they did not manage to finish their dissertation.



Research Questions:

1. On completion of their course work, to what extent do the participant perceive that they prepared to conduct research and to write their dissertations.
2. What factors do the participants perceive that they needed to learn to complete their dissertations?
3. How do participants attempt to gain the knowledge, and develop the necessary skills and attitudes, that they perceived necessary to complete their dissertations?
4. What factors do the participants perceive might help them to finish their dissertations?
5. What factors do the participants perceive have impeded and/or continue to impede their progress toward completing their dissertations?

Chart 1.2.1. *A problem versus a research question*

Once we find a topic to research, we need to find a question that we will try to answer. Generally, there are three reasons for doing research and ways to attract readers' attention. They are

1. Gaps in the literature
2. Any existing anomaly
3. Uncertain impact of policy changes

(see for example Booth, Colomb & Williams, 1995).

Thus, we do not just dig up the information and report it, but we must think, whether the findings (i.e. the answer to the question posed) will be significant, first, to the researcher and then to readers (i.e. colleagues, entire academic community and wider audience).

A literature gap is a research question or a problem, which in the literature has not been answered appropriately, or at all, by the given field of study. A research gap also implies a lack of empirical studies (i.e. those involving a particular context) and of theoretical and methodological approaches. It is the gap, which should be filled by new research, so it fills the missing information, what is lacking in the existing knowledge. The gap should be explained in the “Introduction” section, which should always have a paragraph about the reasons, why the research was undertaken; in the “conclusion” section and possibly also in the “discussion”, in the form of suggestions for future research, where author underlines the problem that has not been answered by his academic research. In order to identify the gap, one has to map the literature, compare and contrast, categorize the pros and cons. There is no guidance on how many literature sources are to be mapped to formulate the literature gap. As an example, in writing their master thesis, students at Universitas Gadjah Mada, Indonesia, are required to review at least 30 relevant journal articles to make their thesis acceptable. At the Doctoral level, one is expected to review at least 100 journal articles. Of course, this depends also on the topic to be studied and the attention it has received in the literature so far.

It may be the most difficult part of the process for a researcher at the very beginning of his career to find the research topic. When undergraduate students come to see their thesis supervisor, they ask for a research problem. There is a simple method to explore when students face a similar problem. The suggestion is taken from Winkler and McCuen-Metherell (2012, p. 39).

- Pick a topic you are really curious about, is an expert on or are genuinely interested in.
- Pore over books, journals, magazines, newspaper, an online public access catalogue.
- Access CD-Roms, etc. A huge number of online journals is available for a free download. However, you should find “smart” keywords to avoid been lost in a long list of readings.

Box 1.2.1. How to Find a Research Topic

A more simple way of finding a research topic is proposed by Murray (2013). The author suggests to clearly asking oneself the following questions, which may pull the idea into one’s mind.

1. What I am interested in is
2. I did a couple of small studies that looked at.....
3. I could do better than
4. That paper on ... by ... is exactly the type of things that I’d like to do.
5. I’d like to write about ... But that’s already been done by ... , who ...

Box 1.2.2. Finding a Research Topic

Source: Murray (2013)

1.2.3 Presenting the Research Background

A research report starts with an introduction and the explanation of the background of the research. The background of the research paper is written with the intention of clarifying the importance and the necessity of the paper in the first place. The reasons for the study and the principal purpose behind the study are the major questions that are to be answered through the background that is presented in the research paper. Thus,

research background *refers to the process that a researcher uses to gain knowledge about a topic that she does not know about or does not know much about.* Moreover, a written research paper is a specific type of communication between an author and a reader. In it, the author may persuade the reader to take the research topic on board. As the researcher wants to persuade the reader, the background can also be presented as a personal reflection from his in-depth study of the issue.

The background study for an academic report includes a review of the area being researched, current information on the state of the study of the issue, previous studies on the issue, and relevant history of the researched issue. Ideally, the study should effectively set forth the history and background information on the problem. The purpose of a background study is also to help the author to prove the relevance of his research question and to further develop his research (Alleyne 2018).

- Write a thesis statement or a research question. Think about what the author wrote and look for issues, problems or solutions that others have found. Then the researcher should determine his/her opinion or stance on the issue. Then, write down his/her own opinion as an authoritative statement on an issue, a problem or a solution. At this point, he/she can carry out a more detailed research and find sources that are more relevant for his/her research.
- The next step is, to complete research using own thesis statement, or research question as a guide. Find relevant sources that will provide insights into this specific research problem. Make sure that these sources provide details on the history and past research related to the research question.
- Finally, formulate relevant sections when writing the background study. As the researcher evaluate his/her own research and begin to write the background study, he/she could split it into five separate sections that cover | : a) key issues, b) major findings and c) controversies surrounding the research on the topic as well as sections providing d) evaluation and e) conclusions on the background of the research topic.

Box 1.2.3. Tips for researchers to formulate the research background
Source: Alleyne (2018)

One may become confused between the introduction and the research background. The introduction explains in a concise way what readers can expect in the document: the problems, the method of analysis used, the findings and the outline of the structure of the paper. The introduction should be presented in such a way as to entice a reader to read the entire document. The background of the research paper, however, is to be written with the aim to explain the importance of the research problem(s) and of the research paper. The research background contains the explanation, why the study was conducted and what the main reason or purpose of the study is. The background serves also for the authors as a tool to prepare a reader if he is not familiar with the literature and concepts reported and used in the research paper. The background section is also to prepare a reader to be ready to read the full document.

In summary, this discussion outlines important steps in writing an academic paper. It attempts to cover all necessary arguments to define research problems, to scrutinize existing literature, to find research gaps and to formulate research questions and research objectives. Once the reader finds an interesting topic and support it through the background problem, he/she may continue to pursue the methodology to carry out the research.

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1.3 Developing Conceptual Framework

Rungnapha Khamung

Conceptual framework is a dynamic thought process transferred into graphical thinking skill; it is a tool for not only creative thinking and in-process communication but also for ensuring the quality of paper writing. The goal of this section is to provide a clear path to integrating the conceptual framework with the paper writing structure. The discussion mainly focuses on the conceptual framework and writing structure in an effort to empower students, faculty members, and researchers to collaborate with their peers and to enhance their abilities in academic writing.

The readers are equipped with the skills to identify key variables used in the field of their study, to conceptualize and abstract their ideas, to be able to simplify them into understandable keywords and apply them in graphic abstractions. The readers should learn to draw key concepts into bubble diagrams, brainstorm possible factors related to key concepts, to identify possible relationships, organize them in an orderly manner, and finally to complete the paper-writing structure.

1.3.1 Literature Review of Conceptual Framework

Miles and Huberman (1994, p.18) define the conceptual framework as “a visual presentation of key variables, factors or concepts and their relationship among each other, which have been or have to be studied in the research either graphically or in some other narrative form”. According to Maxwell (2013, p. 39), the conceptual framework of a study is “the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research”. Formulating the research problem is an important step in constructing a conceptual framework. Maxwell (2013, p. 41) further comments that “the structure, the overall coherence, is something that you build, not something that exists ready-made. It is important for you to pay attention to the existing theories and research that are relevant to what you plan to study because these are often key sources for understanding what is going on with these phenomena. However, these theories and results are often partial, misleading, or simply wrong”. Novak and Cañas (2006) investigate children’s conceptual understandings and ability to construct

those understandings with the development of the tool known as a “concept map”. Their study indicates that concept maps illustrate “the robustness and reliability of the technique of presenting children’s understanding. Subsequently, other researchers have also found concept maps to be reliable, valid indicators of conceptual understanding and changes in relevant concept and propositional structures over time” (Novak & Cañas, 2006, p. 178).

Doing research and writing a paper for an academic or scientific journal is like walking through the layout of an area, one may stroll in a linear path first, but the appreciation of the journey needs us to comprehend the complete assimilation of the function, aesthetics and experience of the entire area. According to Hsu (2015) the users’ experience at each stop against each prescribed space, form, function, perception, and so on, influence their views which, therefore, allows the quality of designed space to be investigated. The linear series of travel path lead the visitors to distinct stops in which designers formulate the space with various layout theories, ideas, substances, and functionality of visual, intellectual, and bodily surroundings. The one-dimensional linear series of a travel path is enlightened with the methodologies of the designs in a two-dimensional spatial structure; this revelation allows the creation of the 3-dimensional spatial structure of the visitors’ notion of the finished space design with sensation and creativeness. Following this analogy, the exercise of developing the conceptual framework can enable the participants to comprehend the paper-writing structure systemically.

Most academics learn how to write their journal papers through the experience they gained during their graduate school years when completing their dissertation, or thesis. For example, Oklahoma State University graduate college guides graduate students with a writing structure based on: *Introduction, Review of Literature, Methodology, Findings, Conclusion, and References* (OSU, 2018, p. vi), which is very much similar to the IMRAD format which include: *Title, Authors, Keywords, Abstract, Introduction, Material and Methods, Results, Discussion, Conclusions, Acknowledgements, References, and Appendices* (Nair & Nair 2014). The Academic Writing Center of the University of Cincinnati laid out a more comprehensive way of structuring an academic paper into *Title, Abstract, Introduction/Background, Statement of the Problem, Purpose/Rationale/Research Question, Methodology, Literature Review, Significance/*

Implications, Chapter Overview, Timeline/Work Plan, Bibliography/Appendices (Academic Writing Center, 2018, p. 1). According to Wordpress.com (2018, p. 1) a journal paper should have the following structure, *Abstract, Introduction, Methods, Results, Discussion, Conclusion, Acknowledgements, and References*; which concurs with the paper-writing structure discussed by several other scholars (e.g. Duchovic, 1998; Skelton, 1994; Borja, 2014). However, most paper-writing structure rarely uses a conceptual framework as a key step to developing the structural concept. In general, there is a lack of awareness of the significance of conceptual framework and how it may function as the starting point of the writing process, or as the device for enhancing critical thinking, graphical thinking, peer collaboration, and in-development communication. This section aims to provide a clear direction on how to integrate the conceptual framework with the paper-writing structure.

1.3.2 Pedagogies

This chapter specifically focuses on the pedagogies of conceptual framework and paper-writing structure so that it will empower the researchers to collaborate with their peers and to develop their cognitive capabilities and skills in academic paper writing. The approach to the development of the conceptual framework is presented in Figure 1.3.1.

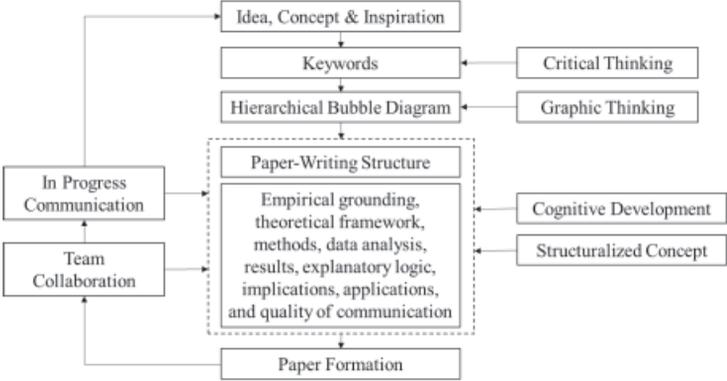


Figure 1.3.1. Approach to the Conceptual Framework Development for Academic Paper Writing

Source: Author's own

1.3.3 Method to develop a conceptual framework

When developing the conceptual framework, it is suggested to use the following sequence of steps:

1. **To research** some studies that are done in the area of interest.
2. To use those study examples and think of a **topic** that one can research.
3. The topics most students or researchers come up with tend to be too broad and not achievable, researchers need to have a **focus** on what they can actually do, even if it is a hypothetical exercise.
4. Once a student or a researcher narrow down the topic to the achievable format within a short time frame, then, the **conceptual framework** of that topic should be made.
5. Based on that conceptual framework, more supporting studies should be found, and an **outline** of an essay or a paper should be written.
6. Students, or researchers should not copy from another paper written by somebody else, but they should develop an **original work** and think about what they can do within their research topic and seek supportive evidence through survey, an experiment, another form of data collection, or citations that support, or point against the researched topic.

The development of the Conceptual Framework should consider the following sequence:

- **Identify key variables used in the field of the researchers' study.** Conceptualization is a skill of creative thinking with abstraction. People capture their **mental images** but simplify them into an understandable expression, whether they are **keywords** or **graphical abstractions**.
- **Draw out key concepts.** Draw bubble diagrams, which would contain those key concepts within bubbles and nodes (Figure 1.3.2).

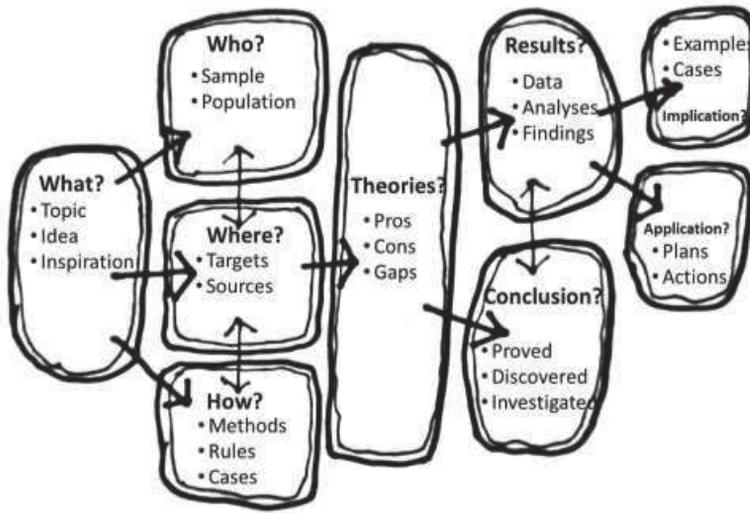


Figure 1.3.2. A Template for the Conceptual Framework

Source: Author's own

- **Brainstorm all the possible factors related to the key concepts.** Go through the brainstorming process, analyze, communicate with colleagues and review the concepts.
- **Identify possible relationships** and try to organize them in an orderly relationship in a 2-D space and connect them with relevant lines of **relationships**.
- **Complete the Paper-Writing Structure.** Go through the cognitive development of applying graphic language in the stages of bubble concepts, transformation of ideas, and eventually forming the detailed framework of structuralized concepts for paper writing. The researchers can fine-tune the key concepts and to reorganize the entire conceptual framework to make better presentations (Figure 1.3.3).

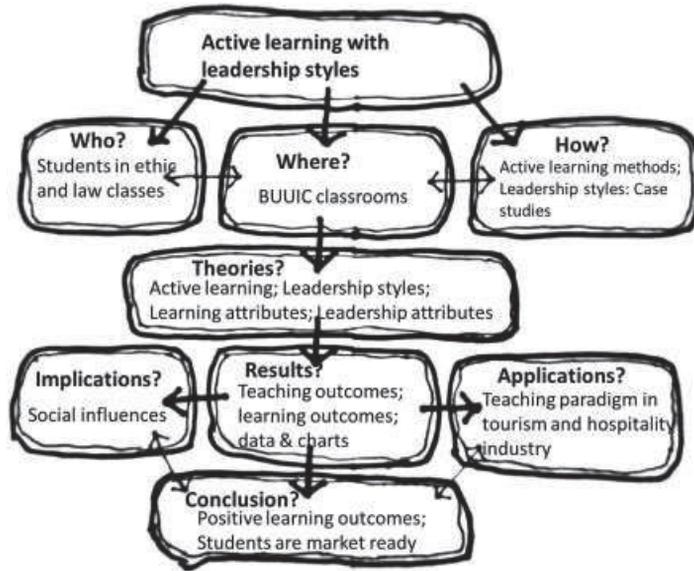


Figure 1.3.3. A Conceptual Framework: Active Learning with Leadership Styles

Source: Khamung

1.3.4 Conclusion

Writing a research paper requires first the conceptualization of the structural integrity of the paper. It is a holistic integration of the whole research, which includes crucial questioning of existing theories and research, the relevancy of the plan of study, investigative strategies, gaps and partial findings, problem statements, and outcomes. A conceptual framework assists researchers to combine their ideas and concepts into a well-organized graphical diagram. Instinctively, this diagram merges with the structure of the research and paper writing. The researchers can incorporate their thoughts, words, relationships, and hierarchical structures within a visible graphical representation and the spatial distribution of a conceptual framework. This process allows researchers to better adjust their thoughts and be more creative.

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1.4 Effective Structure of the Research Article

Sid Suntrayuth, Aweewan Panyagometh, Hugo Lee

It very important that the researches keep in mind that there is no standard or uniform research format/style that is followed by all journals/publishers. Each journal has its own style as well as specific criteria and instructions to authors or those who would like to contribute to their outlet or have a piece to be published. After an author selects a particular journal and wishes to submit a research manuscript, it is imperative that he follows the journal's instructions for authors. These instructions can be found in each volume of the journal, and online on the journal's website. In addition, it is important to note that a volume may contain several numbers, and there could be multiple volumes published in a specific year. This information can also be easily accessed from the journal's webpage. Occasionally, some authors may not agree on the logic of some of these instructions, but it is a futile effort to argue with the journal or complain about its instructions for authors. Each author should remember that authors are free to choose from a number of journals in which they can publish their papers. If they do not like a specific journal, it is best to choose an alternative journal.

However, most academic papers are prepared according to a standard format called IMRAD.¹ The American National Standards Institute (ANSI) adopts the term as the standard, first in 1972 and again in 1979 (ANSI 1979), and it has become the choice of most research journals (Nair & Nair, 2014). This abbreviation represents the first letters of the words Introduction, Materials and Methods, Results, and Discussion. But these sections do not represent a complete list of headings or components of research papers; the omitted parts are *Title*, *Authors*, *Keywords*, *Abstract*, *Conclusions*, and *References*. Background of the research presented in the previous discussion is frequently included in the Introduction section of the paper. Additionally, some papers include Acknowledgments and Appendix (Appendices).

1 However, not all types of research fit equally well in the IMRAD format, e.g. since the Literature Review is not explicitly included in this format. The Literature Review is then usually included in the Introduction section in this format. The IMRAD is suitable to present the research results, when an experimental method was used, and the Results fit the frame of method-results-discussion. Given the alternative models of research, also the alternative presentation of its result in the form of the paper is usually used.

Sometimes, some sections might be represented and/or amplified by others; such as “Theory” instead of Materials and Methods/Methodology. Other modifications include combining Results and Discussion into one section, and including “Conclusions” as the last part of the discussion. A recent trend is to provide only the main aspects of the research in the paper and to post all additional or “less important” aspects as “Supplementary Materials” on the journal’s website. Review papers do not contain “Results and Discussion,” and they usually use other headings instead of the IMRAD headings.

The following sections explains most important parts of the IMRAD format as well other relevant components including the title and the abstract.

1.4.1 Title

The title of the paper will be read more than any of its other parts. The way in which a paper is “browsed” by readers is in the following order: Title—Abstract—Results (Tables and Figures)—Full paper. The prevailing trend of the ongoing research in the field points out to the fact that on average, the number of readers decreases from one section to the next one in the above-mentioned sequence by a factor of 10. It means that for every 10 readers who look at the title, one reads the Abstract; for every 10 who read the Abstract, one goes on to the Results section, especially Tables and Figures; for every 10 who read the Results, one reads the full paper (Bailey, 2003). Thus, for every person who reads the full paper, 1,000 people read only the title. Titles are read both by scientists scanning the contents of a journal and by those, who identified the paper on the basis of searches through secondary sources, which always carry the title and the author(s), but they may, or may not carry the abstracts. The title may be reprinted in bibliographies and subject indexes, stored in bibliographic databases and cited in other articles. Therefore, the title is an extremely important component of the paper. A good title will attract readers, who might not otherwise read the paper and may help future researchers to find important and relevant information.

A good title of a research paper should:

- Contain as few words as possible: many journals limit titles to 12 words;

- Be easy to understand;
- Describe the contents of the paper accurately and specifically;
- Avoid abbreviations, formulas, and jargon;
- Not include any verb;
- Not contain low-impact words such as “Some notes on ...,” “Observations on ...,” “Investigations on ...,” “Study of ...,” and “Effect of ...”;
- Not be flashy as in newspapers (e.g., avoid such statements as “Agroforestry can stop deforestation”);
- Report the subject of the research rather than its results;
- Follow the style preference of the targeted journal (Available e.g. at: www.elsevier.com for Elsevier journals).

1.4.2 Abstract

An Abstract is a mini-version of the paper (Day, 1988). The American National Standards Institute says “A well prepared abstract enables readers to identify the basic content of a document quickly and accurately, to determine its relevance to their interests, and thus, to decide, whether they need to read the document in its entirety” (ANSI 1979: p 78). Therefore, it is extremely important that the Abstract is written clearly.

The abstract should be definitive rather than descriptive, i.e. it should state the facts rather than say that the paper is “about” something. Since the abstract will usually be read by on average 100 times more people than the full paper, it should convey the information itself, not just promise conveying information in the paper. For example, phrases such as “are described” or “will be presented” should be avoided in the abstract. Instead, the research should be described and the results presented. This is applicable with the exception of abstracts of papers to be presented at conferences or annual meetings, which are written several months in advance of the event and can be used to present preliminary research findings.

Academic journals have strict limits with regard to the length of abstracts, usually these range between 150–250 words, and are to be written in one paragraph, but multiple paragraphs are also acceptable for review papers.

Again, it is important to remember that an Abstract should stand on its own, i.e. be complete on its own. It should start with a statement of the rationale and objectives, report the methods used, the main results achieved, including any newly observed facts, the principal conclusions and their significance. If the keywords are not listed separately, the Abstract should contain the keywords by which the paper should be indexed. Since the Abstract is a short version of the full paper, it usually contains a mixture of tenses representing the tense used in respective sections of the paper. Thus, in the Abstract, statements referring to the rationale and introduction, interpretation of results, and conclusions are usually in the present tense, whereas materials and methods and results are usually in the past tense.

The Abstract should NOT contain:

- Abbreviations or acronyms unless they are standard or explained;
- References to tables or figures found in the paper;
- Literature citations;
- Any information or conclusions not presented in the full paper;
- General statements;
- Complex sentences.

Furthermore, in order to facilitate smooth reading, excessive quantitative data with statistical details and long strings of plant names should be avoided in the Abstract. It is suggested that the Title and the Abstract were written, or fine-tuned after the rest of the paper was written and its content is clear.

1.4.3 Introduction

A well written introduction is relatively short. It should explain, why a reader should find the paper interesting, why the author carried out the research, and provide the background that the reader needs to understand to form an opinion on the paper and underlying research. Specifically, the Introduction defines the nature and extent of the problems studied, relates the research to previous work (usually by a brief review of the literature clearly relevant to the problem), explains the objectives of the undertaken investigation, and defines any specialized terms, or abbreviations used in the subsequent text. It should be remembered that the Introduction leads logically to, and clearly states, the hypothesis, or principal theme of the paper.

As stated above, the Introduction should be relatively brief; most journals recommend that it should be less than 500 words. Repetition should be avoided, the Abstract should not be repeated in the Introduction. An extensive literature review should not be done in this section; two to four most relevant and recent citations should be sufficient to corroborate a statement. Well-known facts should not be repeated, nor the obvious facts. Different tenses can be used in the Introduction section: the justification and motivation of the study to be presented in the present tense (e.g. “Soils store relatively large amounts of carbon in terrestrial ecosystems”), whereas the references to the literature can be presented in the past tense (e.g. “Studies showed that ...”), or in the present perfect tense if it is common knowledge (e.g. “Studies have shown that ...”). The objective of the presented research is usually written in the past tense (e.g. “The objective of the current study was...”), but the present tense can be also used. However, as stated above, different journals follow different norms and styles. Also, with regard to the content, some journals expect the discussion of the literature in the Introduction, while others prefer it in the Discussion section. Some journals require a brief account of the Materials and Methods to be included in the Introduction section, and some may request even important conclusions to be presented in the Introduction section, although that tendency is now disappearing. It is crucial that authors checked with the journal they target their paper to. Also, browsing through some articles published in the selected journal may provide relevant insights into the expected content and format of the Introduction targeted at the particular journal.

1.4.4 Materials and Methods

The purpose of this section of the research piece is to present in a simple and direct manner, what has been done, how, and when, and how the data were analysed and presented. This section should provide all the information needed to allow another researcher to evaluate the study or actually repeat the research undertaken by authors. The simplest way to organize this section is chronologically; to include all necessary information, but to avoid unnecessary details that a reader is expected knowing.

The Materials and Methods section should include the following information, though not necessarily in the specified order:

- The description of the study location;
- The design of the experiment with number of replications and sampling procedures used;
- The sample and population of the study;
- The materials used - with exact technical specifications and quantities and their source, or method of preparation;
- The assumptions made and their rationale;
- Statistical and mathematical procedures used to analyse and summarize the data.

The methods used in the research should be described, usually in the chronological order, with as much precision and detail as necessary. Standard methods need to be mentioned, they may be described in the form of the reference to the literature as long as it is readily available. However, the modifications of standard techniques should be fully described. Thus, if the method used is new, it should be described in detail. On the other hand, excessive description of common procedures should not be included. General level of readers' understanding and familiarity with the procedures should be kept in mind. For example, in a manuscript for a journal targeted at researchers in biophysical aspects of agroforestry, it is not necessary to narrate all details related to how the sampling materials/sites were selected, and how samples were drawn and prepared for the analysis, etc. However, if details are insufficiently described, journal's editors may ask for additional details of any item.

Special attention should be paid to ensure that:

- Ambiguities in abbreviations or names are avoided;
- All quantities are in standardized units;
- All data are specifically identified so that another scientist can compare them precisely, if repeating the work;
- Every step is explained, including the number of replications;
- All techniques are precisely described, at least by name, if they are standard, or in as much detail as needed, if they were modified, or if a new technique was devised;

- Irrelevant and unnecessary information that does not relate to the results, or confuses a reader is to be avoided.

1.4.5 Results

The Results section presents the new knowledge generated, therefore, it represents the core of the paper. It should be noted that the Introduction and Materials and Methods sections are needed and designed to say, why and how the author(s) arrived at what is presented in this section. The implications of this section will then be explained in the Discussion section. Thus, the principal value of the paper depends on what is contained in the Results section. It is usually easiest to follow the results, if they are presented in the same order as the objectives are presented in the Introduction.

Here are some guidelines on presenting the research results. The authors should:

- Present the results simply and clearly;
- Report only representative data rather than focusing (endlessly) repetitive data;
- Do not report large masses of data; reduce them to statistically analysed summary and present them in tables or figures along with essential statistical information to facilitate understanding and comparison;
- Discuss in the text only the most important findings shown in tables and graphs, do not focus on all, or majority of data contained in tables and figures;
- Include negative data, i.e. what was not found, only if it is useful for interpreting the results;
- Refer in the text in an appropriate manner to tables and figures, and assign them sequential numbers;
- Include only tables and figures that are necessary, clear, and worth including;
- Avoid verbose expressions: e.g., instead of saying “It is clearly shown in Table 1.2.1 that the presence of tree canopy reduced light transmission to ground ...,” say “Light transmission to ground was reduced by the presence of tree canopy (Table 1.2.1).”

Tables and figures are an integral part of a well-written scientific paper, and they appear in the Results section, or in some cases they can be presented in the appendix. While tables present accurate numbers, figures show trends and features. However, the same data should not be presented in both tables and graphs.

1.4.6 Discussion

In the Discussion section, authors explain meanings and implications of the results of their research. Key questions to be addressed are: i) what, ii) how and iii) where. However, it may not be possible to answer these questions only in three paragraphs. It should be explained, what the strengths and weaknesses of the presented study are. Authors should understand that each study has some weaknesses and to admit them does not necessarily reduce the value of the paper. Something may have gone wrong (e.g., researchers were unable to recruit sufficient number of patients, or crucial data were destroyed), or a better analytical method has been developed, since the described research was undertaken. In such a case, it is needed to align the findings with the new work of others. Finally, it should be clarified where this line of research is going next. At this point, one faces the challenge of deciding whether the original hypothesis still stands.

The Discussion section pulls all strings together and shows the importance and value of work undertaken and is, therefore, the most innovative and probably most difficult part of the paper to write. The author(s)' skill in interpreting the results in the light of known facts and using the results as the evidence for innovative explanations of the observed behaviour should push the frontiers of knowledge and arouse the readers' enthusiasm. Without such engaging discussion, a reader may move on to another, from this point of view more interesting papers.

A good discussion should:

- Not repeat, what has already been said in the review of the literature;
- Relate the results to questions that were set out in the Introduction;
- Show, how the results and interpretations agree, or do not agree, with the current knowledge on the subject, i.e., previously published work;

- Explain the theoretical background of the observed results;
- Indicate the significance of the results;
- Suggest future research that is planned or needs the follow up;
- Deal with only the results reported in the study;
- Stay away from the generalizations and conjectures that are not substantiated by the results presented;
- Support each conclusion with adequate evidence.

The Discussion section can be written in both present and past tense. Current knowledge stemming from the literature is usually stated in the present tense, whereas the original work being reported and discussed in the paper (i.e. author's own work) is usually presented in the past tense; e.g., "Treatment A was better than Treatment B, which suggests that"

In many manuscripts, the mismatch between the stated objectives and the discussion/conclusions represents a very common problem. In the Discussion section, analytical insights should be presented, but it is difficult to specify, how this can be accomplished. The lack of such insights is evident, when authors simply state—and often repeat—the results, and make superficial statements such as "this work agrees with the work of author X" (i.e. with work of some other author, published several years earlier), as if the main objective of the research was to identify, if the results agreed with some other author's work published earlier.

1.4.7 Conclusion of the Paper

Rather than just repeating the results, Conclusions section should state well-articulated outcomes of the study and based on the findings reported in the paper briefly suggest future lines of research in the area. It is not uncommon in poorly written papers to find formulations such as "more research is needed before conclusions can be drawn." In such a case, the question is, why a paper from which conclusions cannot be drawn should be published.

Table 1.4.1 below provides the summary of the IMRAD format which include: Title, Authors, Keywords, Abstract, Introduction, Material and methods, Results, Discussion, Conclusions, Acknowledgements, References, and Appendices.

Table 1.4.1. The IMRAD Format – Main Sections of a Scientific Paper

Section	Purpose
Title	Specifying the core topic of the paper
Authors	Names and affiliations of authors
Keywords	Words other than those in the title that best describe the paper
Abstract	A stand-alone, short narrative of the paper
Introduction	Explaining why the paper was prepared. Explaining the problem, what is not known, the objective of the study.
Material and methods	Explaining how the study was done.
Results	Stating what the author(s) found.
Discussion	Explaining the meaning of the results and next steps to be undertaken. Interpreting the results and specifying future direction of research.
Conclusion	Stating possible implications of the research.
Acknowledgement	Acknowledging who helped and how and what the funding source of the research was.
References	Details of the papers cited are provided.
Appendices	Supplementary materials of research can be appended.

In conclusion, the module “Effective structure of the research article” provides readers with useful information on how to organize the research article in the most effective way. The module explains the effectiveness of the structure of a research article, which is based on the Introduction, Materials and Methods, Results and Discussion (IMRAD) format. The organization of an article in IMRAD helps to improve its readability and provides benefits in various aspects. The IMRAD structure effectively

supports a reordering that eliminates unnecessary details, and allows a reader accessing a well-structured and a noise-free presentation of relevant and significant information. It allows for most relevant information to be presented clearly and logically to the readers by summarizing the research process in an ideal sequence.

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1.5 How to Write the Literature Review

Eva Muchova, Marek Kalovec

Research is difficult work, mostly a result of learning by trial and error. There is no general template, how to succeed, except for a few recommendations, how to proceed in one's research. When we start research work on a popular website for academic writings – Google Scholar – we can find one of the most famous quotes attributed to Isaac Newton “standing on the shoulders of Giants”. The quote is topical at all times – our current knowledge in science stands on the previous discoveries and it perfectly illustrates the basic rule of academic work. Research starts by formulating a research question, which is followed by searching for existing knowledge in the particular field. This chapter describes basic rules and strategies of an effective search for existing results achieved in previous research and those for further progress in the literature in the field.

1.5.1 Literature Review

1.5.1.1 The Relevance of the literature review

“If I have seen further, it is by standing on the shoulders of Giants.”

Isaac Newton, English mathematician and physicist (1642-1727),
Letter to Robert Hooke, February 5th, 1675

Literature review is an integral component of the research process. The objective of the literature review is to identify, analyse and synthesise major studies published on the topic in order to establish the basis for further research.

What is it the main objective of the research then? Recall that it is to advance the level of knowledge in any particular field. Surveying the literature on a topic can identify major and vital contributions that have been published to date. In the literature review, one conducts research on results of others who has done it before (Ethridge, 2004). It is important to know, how others have approached the research problem, however, literature review can be linked to the research topic in several different ways and these are: through the problem, objectives, conceptual framework, methods and procedures.

The preparation for research is an important element of the research work. It provides a broad knowledge base to find answers to the research questions and must cover all activities starting from the research planning to its completion. It contains not only an overview of current scientific knowledge, but also the comparison of fundamental and latest findings in the field. A researcher should critically evaluate scientific literature, formulate key concepts, and argue in favor, or against a selected topic, approaches and methods.

A researcher should be aware that the failure to make his own judgments, opinions, comments, and interpretations could lead to compilation and poor quality literature review.

1.5.1.2 Identification of relevant library resources and databases

There are two types of publications, where information on a research topic can be found: popular and scholarly publications and only the latter are appropriate for the literature review. Scholarly publications are considered to be scientific resources, since they have been a peer-refereed or reviewed prior to publication. However, this does not imply that all facts, information and evidence are correct in this type of publications. It only shows that these publications were independently checked by professionals and experts to meet criteria related to their accuracy, validity and correctness prior to publication.

The scholarly publications include papers in professional journals, scholarly books, monographs, formal research reports, and some documents produced by the staff or under the sponsorship of governments (e.g. regional Federal Reserve Bank in the USA), international organizations (e.g. WTO, IMF, OECD), research foundations (e.g. Cato Institute, NBER, Economic Policy Institute, etc.).

List 1. Examples of Scholarly Journals in Economics

- The Quarterly Journal of Economics, Oxford University Press
- Journal of Political Economy, University of Chicago Press
- American Economic Review, American Economic Association

- Journal of Economic Literature, American Economic Association
- Journal of Financial Economics, Elsevier
- Econometrica, Econometric Society
- Journal of Finance, American Finance Association
- Review of Economic Studies, Oxford University Press
- Journal of Economic Growth, Springer
- Journal of Monetary Economics, Elsevier
- Review of Financial Studies, Society for Financial Studies
- Journal of Economic Perspectives, American Economic Association
- Journal of Econometrics, Elsevier
- The Review of Economics and Statistics, MIT Press
- Journal of Labor Economics, University of Chicago Press

Source: IDEAS/RePEc Aggregate Rankings for Journals

On the other hand, popular publications are easy to read and are focused more on general public than on professionals. These type of sources lack checking and reviewing, although they include publications in such respected journals as Economist, Wall Street Journal or Financial Times. Other popular sources include encyclopaedias, magazines and newspapers that often contain information on what is generally known about topic.

Although there is a wide range of publications and sources from which a researcher can get information about the current knowledge on the topic, not all recourses are to be included in the literature review. The largest sources of literature are available in libraries. Usually, every university, or college has its own library. Libraries provide catalogues available to students and academics. Most libraries provide also access to online catalogues (online search and loans). Electronic catalogues are organized in a very sophisticated manner so that users can find the information source by author, resource type (book, magazine, journal, research report), subject, or keywords. Keywords are one to two-word terms that are related to the researched topic.

1.5.1.3 Electronic databases

Electronic information databases contain an excessive amount of information such as full texts of articles, books, bibliographies, and quotations. An electronic database provides a wide range of scholarly sources through its large search platform. A user can read the documents on the screen or on paper after printing them out.

The most frequently used databases are the following ones:

1. Web of Science (WoS) is one of the broadest databases. It allows researcher to search for information on individual scientific works including feedback and it covers the most prestigious scientific journals in the world. It provides an access to the Social Science Citation Index dated since 1975 to present. A user of WoS can obtain information on citation numbers such as how many times a paper was cited during a given time period and which papers have cited the paper in question.
2. Scopus is another large database. It is the largest abstract and citation database of peer-reviewed literature in the world covering scientific journals, books and conference proceedings.
3. ProQuest is a multiple database of journals with the world's largest collection of dissertations and theses, ebooks, collections of the world's most influential scholarly journals and periodicals. Moreover, it contains magazine titles and includes full-text documents. Some magazines are available only electronically, some exclusively in a print form.
4. JSTOR is a database of full-text journals for social sciences and provides access to academic articles, books, and primary sources in many disciplines.
5. The Web of Science, Scopus, Proquest and JSTOR databases provide free access for teachers and students.
6. In Economics EconLit provides a comprehensive resource of the world economic literature. It includes peer-reviewed articles published in journals, working papers of leading universities, PhD dissertations, books, volumes of articles, conference proceedings, and book reviews – all expertly indexed, classified and linkable to full-text library records.

It is recommended that researchers in economics started their literature review by browsing two journals: The Journal of Economic Perspectives (that mostly focuses on summaries of economists' current thinking on a specific topic) and Journal of Economic Literature (that publishes overviews on specific topics in Economics). Also, in other scientific fields are journals, which set the direction of research and should be looked at first, when starting a literature review of some topic.

Google Scholar (<https://scholar.google.com>) provides a primary access to academic publications and belongs to the most affordable and accessible tools for both academics and students. Among other sources relevant for economists we can search multiple sources on American Economic Association's (AEA) website named Resources for Economists (<http://www.rfe.org>), or on the AEA web page (<https://www.aeaweb.org>) with free access to top journals, such as Journal of Economic Perspectives, or providing limited access to American Economic Review, American Economic Journal: Applied Economics or Journal of Economic Literature. In 1983 more than 1100 researchers throughout Europe founded The Centre for Economic Policy Research (<https://cepr.org>) with the database of discussion papers, e-books, reports, research projects, job opportunities and popular Vox EU CEPR Policy Portal (<https://voxeu.org>).

Except for published articles in journals the academic world generates plenty of working papers and publications, which are available online free of charge. From among those available in Economics there are the following ones:

- National Bureau of Economic Research (<http://www.nber.org>),
- Research Papers in Economics (<http://repec.org>),
- Social Science Research Network (<https://www.ssrn.com/en/>),
- The World Bank (<http://www.worldbank.org>),
- The International Monetary Fund (<http://www.imf.org>),
- The European Commission is a vital source of economic papers accessible free at (<https://ec.europa.eu>),
- working papers of the European Central Bank (<https://www.ecb.europa.eu>),

- economic research of the Federal Reserve (<https://www.federalreserve.gov>).

1.5.2 Search by a search engine

Search engines such as Google and Yahoo work by entering 1 to 2 keywords. Usually, researchers can find a lot of records that could be considered and, then, they must select the most relevant ones. The advantage of using the search engines is the possibility to sort the outcomes by the frequency of visits. Using the search engines, a researcher finds the most diverse sources - conference papers, research reports, forums, announcements about upcoming conferences, tutorials, encyclopaedias, dictionaries, home pages, and websites of researchers or research organizations.

On the one hand, the range is of a great advantage. On the other hand, frequently, the found sources can be of dubious quality, which presents a problem. Sometimes, these references can be the results of plagiarism, provide incorrect information, or fabricated data. The user should select sources that have been reviewed, i.e. assessed by independent experts. If the author(s) and/or an institution, from which the information originates, are not stated in the text, the text may be considered unreliable and should not be used in academic research. It must be remembered that search internet engines cannot replace the systematic examination of information sources such as catalogues and databases.

1.5.3 Effective Searching Strategy

The key process in the literature ‘mining’ is to distinguish between popular and scholarly sources. So far, we have covered the ways, how to examine reliable sources for research. However, these sources include hundreds of scientific and professional journals known as primary sources of information. This section explains, how to avoid getting lost in such a vast amount of information.

1.5.3.1 Searching strategies and their features

There are two basic strategies of searching for information – browsing and keyword searching (Greenlaw, 2006). In general, browsing is a tool for manually examining a document for useful information and references. This

approach enables a researcher to follow their field of interest and to focus on the content related to the topic. Further reading of relevant articles and papers leads to widening of the literature review and helps to focus on other sources to prepare the references. However there is a significant drawback in browsing the databases – several of them have time lags ranging from a few months to years. One of the suggested approaches to deal with the time lags in research is to search in abstracts of theses that bring more detailed information on methodologies and analyses than journal articles do.

The keyword search is another tool for obtaining data and information needed for research purposes. One of the advantages compared to the browsing strategy lies in the possibility it gives to a researcher in examining far larger number of documents in SSRN database or JSTOR. These databases generate hundreds of matches making the keyword search even more time consuming than browsing. The solution to overcome this disadvantage is to use quotation marks or to use so called Boolean searching. Quotation marks effectively reduce the search results and make matches more accurate, while Boolean searching enables researchers to use operators AND, OR and NOT. It is a complex question, how to search by keywords effectively. There is a trade-off between broadly and narrowly formulated keywords, each generating alternative costs – broadly formulated keywords make searching more time consuming, while narrowly formulated keywords may cause omission of some important reference sources. A generally provided advice suggests being ‘broader’ at the beginning and to narrow down the search at the next stages of the process.

1.5.3.2 How much of searching is enough?

While collecting all the matches from different databases, a researcher will encounter the moment, when he starts asking himself – do I have enough sources, or should I proceed with the search? Firstly, we have to realize that there is NO single database or source with all the references needed for the literature review. Therefore, the process needs to be repeated several times and, in several databases, to acquire sufficient sources for the planned research. But there is one point in further search, if we start getting the same results from different databases or references in articles. It provides a signal for reaching the edge of effective searching and we can conclude that we have collected all relevant references for our research topic.

1.5.4 The analysis of the literature

Analysing the literature means nothing else than reading. A researcher should be aware that the literature review helps to design the methodology and, simultaneously, helps others to understand the achieved results. At the beginning of any research, it is useful to know the leading authorities in the field. If the researcher is new in the field, it is advisable step by step to get acquainted with the work of leading authorities.

From the historical perspective, it is effective to start with the most recent studies so that the researcher acquires the most current knowledge and, at the same time, relevant sources referencing earlier studies. The researcher does not need to read full articles, generally, it is sufficient to start by analysing the abstracts of the papers (Mongan-Rallis, 2018). Based on the abstract, one can identify, whether there exists any significant relationship between the analysed article and the topic of interest. In case of doubts with regard to the relevance as established on the basis of the content of the abstract, it is recommended to skim through the article to avoid omitting a study or an approach, which is crucial for the literature review.

1.5.5 The summary of the literature

It is advisable to keep taking notes, since any questions, methods, objectives, findings, and conclusions, which catch our attention as relevant for the current study, should be recorded. This helps to organise approaches in different studies, to avoid chaos in the information stock and it leads to a more efficient processing of the literature. Some authors (Galvan, 2006) recommend using tables to achieve better overviews, to organise and summarise the findings. If such tables are used in the text, they must be accompanied by the analysis and summary of all findings stemming from the literature.

Some university libraries offer useful recommendations, how to proceed, when summarising the literature review (UCSC, 2018; WISC, 2018). It is suggested that the analysis consisted of four parts: (1) an overview of the topic along with the objectives of literature review; (2) the list of publications divided by the selected criteria – e.g. references in favour of a particular approach, against it, or offering an alternative solution; or according to the commonly used criteria such as references using qualitative, quantitative

approach, or based on the conclusions of authors, specific purpose, or objective of the study, or in a chronological order; (3) the explanation of the level of similarity or difference between/among results; (4) the conclusions describing the most appropriate approaches and introducing the most convincing results contributing most to the understanding and developments of the field.

1.5.6 The synthesis of the literature

Getting the sources organised and synthesised might be a challenge for a new researcher. Finalising the literature review sources does not mean summarising them separately. The literature review should be organised in the subtopics discussed in relation to a larger topic. Ingram, Hussey, Tigani, and Hemmelgarn (2006) suggest creating the synthesis matrix with main ideas sorted vertically and the relevant sources sorted horizontally. Another synthesis tool is a mind map (Rowland, 2018).

In the literature and guides related to academic writing, we also find suggestions for what should be avoided, while working on the literature review. Simply ordering one approach after another chronologically does not mean synthesis (Frye, 2012). Authors should realize that a reader is looking for the current knowledge in a clearer manner and does not want to synthesize the literature review on his own (Nikolov, 2013). It should also be noted that the review need not include everything, but it is necessary to point out, what is important from the perspective of the paper in question. If necessary, notes could be used to show a reader what is considered really important.

1.5.7 Conclusion

It is generally accepted that the main objective of the research is to advance the level of knowledge in any particular field. What is the objective of the literature review then? Surveying the literature can identify, analyse and synthesise major studies published on the topic in order to establish the basis for further research. There is a wide range of publications and sources from which a researcher can get information about the current knowledge on the topic. The largest sources of literature are available in libraries through the catalogues available to academics. The most frequently used

databases that can be useful for surveying the literature are Web of Science, Scopus, ProQuest, JSTOR and EconLit. Two basic strategies of searching for information are recommended - browsing and keyword searching. Compliance with the relevant guidelines for writing the literature review can substantially contribute to the success of research itself.

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1.6 Presenting Research Methodology

Jogiyanto Hartono Mustakini, Choirunnisa Arifa, Catur Sugiyanto

This chapter discusses the writing skills needed by researchers to present the research methodology in the relevant section. The objective of this section is to improve the ability of academic writers to explain the research methods used and to demonstrate the plausibility of their research. Specifically, we focus on improving the abilities of academic writers to select and apply specific research methods and to provide strong arguments justifying the choice of the research methods. Researchers should improve these capabilities and present the research methodology section concisely and accurately, which essentially is an important skill for successful publication of the research outcomes. The discussion is organized into five sections, i.e. the importance of the research methodology section, the selection and justification of specific sampling methods, the presentation and justification of the data, the explanation of the data analysis, and finally, the discussion of the common problematic issues to be avoided in the research methodology section.

1.6.1 The Importance of the Research Methodology Section

The word “methodology” is derived from the Greek word “methodos” or “meta hodos”, which means the way of doing something. Therefore, the methodology is linked to the way or a route that needs to be taken to achieve a certain outcome. More generally, the methodology is defined as a system of methods, techniques and tools for doing something. In a research paper the presentation of the research methodology section is very important for several reasons. Firstly, research methodology can explain the ways that a researcher needs to employ to achieve the research objectives, and hence, to address the research question. Moreover, reviewers, editors, and other academics reading the paper usually pay particular attention to the description of the research methods as good methodology supports the expectations that the results will also be good and plausible. Accordingly, in presenting the research methodology section, researchers must consider the research methods that are to be employed to address identified research problems to align their research objectives and the methodology used to achieve them.

In a systematic order, the research methodology section is concerned with the presentation of the following topics:

- The particular sampling method that will be employed;
- The types of data to be collected;
- The particular data collection technique(s) to be used.
- The arguments and reasons regarding a particular data analysis technique, or tools to be used.

In the academic publication, the research methodology section provides information on choosing the methods, techniques and tools relevant for the research conducted.

1.6.2 Selecting and Justifying Specific Sampling Methods

In the methodology section, the researchers should write about the sampling method used. In more detail, they should provide information on:

- a. The sampling method selected;
- b. Justification on why the method was selected.

A method describes specific steps that were undertaken in certain order during the research. The different sampling methods can be grouped into the probability methods and the non-probability methods. The difference between the non-probability and the probability sampling lies in the fact that the non-probability sampling does not involve a random selection and probability sampling does. In the non-probability samples, the population may not be well-represented, and it will be often hard to know on how well the selection was done. The non-probability sampling is conducted, when in the sample an element is not assigned with the known probability of being selected, or all elements in the population are not known. The methods that belong to the non-probability sampling are the following:

- Convenience Sampling;
- Judgmental Sampling;
- Quota Sampling.

Meanwhile, the probability sampling takes place, when the elements in the population have a known and non-zero chance of being chosen. The methods that belong to probability sampling are the following:

- Simple Random Sampling;
- Systematic Sampling;
- Stratified Random Sampling;
- Cluster Sampling;
- Area Sampling;
- Double Sampling
- Snowball Sampling.²

A researcher has to choose one, or a combination of these methods, which suit best their research. The most suitable method is the method that produces the smallest possible sample selection bias. After the most suitable methods for the study are chosen and the research is carried out in the methodology section, it has to be explained why these methods were selected. A good guide to choose sampling method can be found from research book written by Sekaran & Bougie (2016) entitled “Research Methods for Business: A Skill Building Approach”

The following table 3 summarizes the sampling methods and the justification on why researchers choose them as the most appropriate sampling method for their particular study.

Table 1.6.1. Sampling methods and their justification

Methods	Justification
Simple random sampling	It can be chosen for its generalizability. A good method, when the whole population is available and known, and the sample of items is chosen randomly as each item has an equal probability of being chosen.

² More details about individual sampling methods can be found at: <https://research-methodology.net/sampling-in-primary-data-collection>

Systematic sampling	It can be chosen for its generalizability. A good method, when the whole population is available and known, and the sample of items is chosen from an ordered population using a skip or a sampling interval. This sampling method is used, when the project's budget is tight and requires simplicity in the execution and understanding of the results of a study.
Cluster sampling	It can be chosen for its generalizability. A good method, when the population groups are separated and access to whole population is difficult.
Stratified sampling	It can be chosen to assess differential parameters in subgroups of population. A good method, when there are specific sub-groups to investigate (e.g. demographic groupings).
Area sampling	It can be chosen to collect information in a localized area.
Double sampling	It can be chosen to gather more information from a subset of the sample.
Convenience sampling	It can be chosen to obtain data quickly and conveniently because some members of the population are unknown.
Judgment sampling	It can be chosen to obtain information relevant to and available only with certain groups. A good method, when some members of the population are unknown.
Quota sampling	It can be chosen to obtain information relevant to and available only with certain groups. A good method, when some members of the population are unknown.

The researchers are expected to justify the reasons for the choices of their research methods. This is only possible when researchers are aware of the choices that they have made and understood the reasons for doing them. The researchers need to justify these reasons on the basis of the criteria and considerations they introduced. For example, if one likes to conduct the research investigating the behaviour of people using mobile banking, in the methodology section, the appropriate sampling method used in the study could be the method of convenience sampling. The use of this method can be justified based on the fact that it is not possible to identify all members of the population.

1.6.3 Presenting and Justifying the Data Collection Techniques

After the targeted sample has been identified, the next step is to retrieve the data from the subjects of the sample. It is obviously not possible to analyse the data before they are available. Prior to the analysis, a researcher needs to consider the best technique to collect the data. A technique is a concrete instruction to do something. It is also sometimes called an instrument, or a tool.

The researchers can deliberately choose their research techniques. A specific technique is chosen on purpose, with a clear-cut function in mind, knowing what the characteristics of the technique are. By choosing the data collection technique deliberately, the researchers expect to collect the data effectively and efficiently. This implies that they know beforehand, what specific technique (or combinations of techniques) can support the data collection objective. This links the techniques to specific research objectives.

The data collection techniques are the researchers' tools to collect the data. They shape and guide the way in which the data are generated, established and collected. The data involve all information that the researchers collect during the research. The researchers should choose the technique that fits the nature of the data to be obtained. However, the choice of the data collection technique has to be clearly justified. So as the researchers were able to choose and justify the data collection techniques, they have to decide on the strategy to obtain the data.

They should pick the data collection strategy, which they are familiar with and which fits the nature of their sample. Some data collection strategies available are³:

- *Direct observation strategy.*

This strategy can be used to obtain case study and field data. Observation and interview represent the data collection techniques that can be employed. Also, this strategy can be used to obtain laboratory data. The examples of this data collection technique are experiments and simulations.

- *Opinion strategy.*

3 The data collection strategies are summarized in various references particularly a good review of business research methods included in: e.g. Creswell (2013), Sanders et al. (2009), Sekaran and Bougie (2016) and Zikmund et al. (2013).

This strategy can be used to obtain individual opinions and the example of the data collection technique that can be employed is the survey. To obtain the group opinion, the Delphi data collection technique can be employed.

- *Archival strategy.*

This strategy can be used to obtain primary data; the example of the data collection technique that can be employed is the content analysis. To obtain the secondary data, the database retrieval can be used as the data collection technique.

- *Analytical strategy.*

This strategy is specifically used to obtain the data using mathematical logic. The data collection technique that can be used is the mathematical logic derivation.

The following table depicts the framework of data collection strategies and the corresponding techniques that researchers can perform to gather the data, as well as relate to the sources of the data.

Table 1.6.2. Strategies and their corresponding data collection techniques

Strategies	Data Sources	Data Collection Techniques
1. Direct observation strategy	a. Case study	- Observation - Interview
	b. Field study	- Observation - Interview
	c. Laboratory study	- Experiment - Simulation
2. Opinion strategy	a. Individual	- Survey
	b. Group	- Delphi
3. Archival strategy	a. Primary	- Content analysis
	b. Secondary	- Database retrieval
4. Analytical strategy	Mathematical logic	- Mathematical logic derivation

The researchers can determine the data collection techniques they are going to employ based on the data collection strategy and the characteristics of the data sources. For example, if a study is going to be conducted, which is aimed at examining the perceptions of mobile banking users, the data can

be collected, when these users make transactions using the technology. Since an individual user represents the data source and the nature of the data obtained is linked to the perceptions on using the mobile banking technology, it is suitable for a researcher to use an opinion strategy. It is known that subjects are dispersed across the nation and the objective of the data collection is the generalizability of the results, thus, in this case the best data collection technique to be employed is the survey method.

1.6.4 Explaining Data Analysis Techniques

The data analysis techniques are the techniques used to understand the data so that they are more meaningful for the stakeholders. It is the researcher's decision on the techniques used based on his theoretical notions, skills and most importantly on the type of the data to be analysed.

There are different data analysis techniques available. These can be divided into two main categories: quantitative and qualitative research methods. In social sciences, technical disciplines and natural sciences the focus is usually on the use of quantitative research techniques. However, with the development of the technology, software has been developed also for the analysis of qualitative data using information technology (e.g. NVivo, Atlas.ti, or others).

The quantitative research techniques are based on the use of statistical and econometric methods, which researchers learn in specialized courses, e.g. different types of regression, logit/probit/tobit regressions, discriminant analysis, ANOVA, MANOVA, conjoint analysis, canonical correlation, simultaneous equations, and structural equation modelling. The use of individual techniques depend on the type of data used as dependent or independent variables. The data can be classified as metric data (ratio and interval types of data) and non-metric (nominal and ordinal types of data). The following table contains the summary of the key data analysis techniques (Gudono, 2011).

Table 1.6.3. Summary of the quantitative data analysis techniques

Data analysis techniques	Data types	
	Dependent variable	Independent variables
OLS regression	(metric)	(metric, non-metric)
Logit/Probit/Tobit regressions	(non-metric)	(metric, non-metric)
Discriminant analysis	(non-metric)	(metric, non-metric)
ANOVA	(metric)	(non-metric)
Conjoint analysis	(metric, non-metric)	(non-metric)
MANOVA	(metric)	(non-metric)
Canonical correlation	(metric, non-metric)	(metric, non-metric)
Simultaneous equations	(metric)	(metric, non-metric)
Structural equation modelling	(metric, non-metric)	(metric, non-metric)

Source: Gudono (2011)

Using the example of the study to analyse users’ perceptions of applying technology for mobile banking transactions, a researcher may consider the use of structural equation modelling. This technique can be used to analyse this data, because it involves mixed data, i.e. both metric and non-metric. Therefore, the best technique to be used in this case is structural equation modelling.

1.6.5 Issues to be Avoided in a Research Methodology Section

There are some issues that researchers need to avoid in the research methodology section. The most common issues to be avoided are the following:

- Unnecessary definition of the concept that is explained in textbooks and understood by readers. For example, if researchers deal with the population, instead of defining what the population is, they should simply apply the concept in their research. Rather than defining the population as the entire group of people or objects for which researchers want to generalize the findings, it will be more useful to refer to the population of the study, in the example above, all mobile banking users in a specific country.
- Irrelevant information that leads to information overload and overcrowding, which will confuse the readers should be avoided.

Irrelevant details and too complicated background information should be avoided.

- Any kind of the limitations of research methods conducted in the study, which should be presented in a separate section, normally, in the last section of the paper.
- Repeating steps, or presenting similar/duplicate methods that were employed in the previous studies. Researchers need to avoid plagiarism issues, highlight the contribution of others and distinguish their research from others previous research.

However, the research methodology section may need to be presented more extensively, if the paper is aimed at multidisciplinary audience, and/or if the methods chosen are new or controversial, and/or if the paper is designed as a “methodology paper.”

1.6.6 Conclusion

This discussion provides guidelines for researchers to present their research methodology in their paper. In a research paper, the methodology section is important; it is to include all necessary methods, approaches, tools and techniques that must be employed to achieve the research objectives, as different objectives may require different methods. In this way, researchers may grasp important aspects that need to be considered in writing the research methodology section, in order to show that the research that has been conducted is highly credible.

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1.7 Drafting the Paper and Revising the Draft

Choirunnisa Arifa, Jogiyanto Hartono Mustakini, Catur Sugiyanto

1.7.1 Introduction

This chapter aims to improve the abilities of researchers to produce draft manuscripts that fulfil all criteria of academic papers for publication purposes. Specifically, it aims to focus on the awareness of researchers in developing papers of high degree of clarity, and to improve their abilities to compose the outline of a paper with consistent flow of thoughts, to transform the paper outline into the text with sentences that can effectively deliver the researcher's idea and maintain a consistent flow. It aims to raise the awareness of researchers about the necessity to generate internal arguments to improve the draft of the manuscript and to improve the abilities to revise the drafts based on the critiques or requirements of the publication outlets.

1.7.2 Characteristics of Good Writing in Publications

There are many different activities engaged in drafting a paper, i.e. writing to introduce the ideas, outlining and revising the outline continuously as the writing progresses. All these activities are aimed to produce relatively good first draft of a paper, so that the author(s) will have less revisions to do and they save time and energy at later stages of the publication process.

There are several 'generic' strategies that can be applied widely across the academic disciplines in academic writing. Although different journals (and different disciplines) may have different norms or styles of writing, the ways, in which the authors set out their arguments should be almost identical. Basically, the generic structure that underlies much research consists of the context, rationale, problem, method, results, interpretation, and implications. The important features of academic writing are the following:

- Uncontentious opening sentence, identifying the field of the paper;
- Identification of the 'issues' that 'remain in dispute' and 'still invite contention';

- Statement of the author's proposed contribution, e.g. using the words 'I nevertheless believe' (alternative style could be 'It nevertheless could be argued');
- Branding of the type of contribution, e.g. 'fresh approach' (alternatives could be 'new', 'different', 'innovative' and so on – based on which ones are used in the target journal);
- Claims that the paper 'can contribute to a resolution of the following issues...', but still open to further debate, and writing in the language of debate;
- Purpose of the paper identified by key verbs, e.g. 'investigates', purpose addressed in the argument – or sections of the paper – also in verbs, e.g. to 'assess . . . vindicate . . . explain . . . justify . . . establish'.

Ultimately, when drafting a paper, the author(s) need to provide clear, concise explanation not only with regards to the contribution of their study, but, also, more importantly, to define the scale of that contribution. Moreover, as an individual study will not solve all problems, potential weaknesses of the study must be identified and addressed in the paper. All features must be presented to produce a high-quality paper that is publishable in reputable journals.

The following section discusses some steps that are to be adopted by researchers in developing their arguments and presenting the necessary features of a good draft of a paper and to revise it until a publishable paper is produced.

1.7.3 Outlining: Shaping and Streamlining the Story

At this stage, the researcher works on outlining and at the same time 'organizing' the whole paper so as to shape and streamline the draft. Outlining involves a range of very different thinking processes. Specifically, the important objectives of developing the outline of a paper are:

- 'idea generation';
- forming a structure;
- linking ideas;

- clarifying a contribution;
- creating coherence;
- sifting and eliminating ideas;
- finding direction;
- contextualizing the work.

In order to shape and streamline the story of a paper, the author needs to present the steps of his argument into a good-flowing outline of the idea. This step is important so as to present the flow of the story in the form of a coherent research paper. Afterwards, the author can fill the outline by writing the sentences that express the main idea of each step of the research. In this way, the author can use the text as a bridge between the outline and a first draft of the full text of the paper.

It is important to look at the target journal, particularly also to reflect on the type of the paper that the author aims to write. The most important aspects to be considered in this regard are, whether or not the structure of the outline is sufficiently suitable or, whether or not there are any changes that the author should make to the draft to meet the journal requirements. From this point on, the author may consider the need for numerous revisions, when the author has to respond to a set of requirements, assumptions and understandings of what is expected in writing for a particular journal. If the author focuses on the purpose of the revisions, and each revision moves the paper in a right direction, then it is a valid effort. Murray (2013), suggest 3 levels of the outlining steps and possible words allocation on each step.

- **Level 1 outlining** is useful for setting out the proportions of the paper's main sections. In this form, it is easy to calibrate the outline with the target journal, and check that the sections are named in a way that is appropriate for the target journal and that the proportions match.
- **Level 2 outlining** is linked to making additional content and structure decisions. The author(s) can also do some checks on continuity answering the following questions: Are the sub-sections in the right order? Do the author(s) really need them all? Can some section topics be compressed into a sentence or two? The author(s) can begin to think of the links and transitions that they will need to

use to make the connections and changes of direction in an explicit argument.

- **Level 3 outlining** is a way of developing a detailed ‘design’ for the paper. The author(s) can decide exactly what is to be written in each section. At this level, the author(s) can also check for internal continuity asking: Are the content, proportions and connections coherent?

1.7.4 Transforming the Outline into Paragraphs

Even though the author(s) can have a detailed outline, it is not guaranteed that they will prepare a decent, publishable paper, as designing an outline is a different type of activity compared to writing the paragraphs and sentences. However, those two activities are interconnected, and both are necessary for progressing on the writing project, and sometimes these two activities can be done simultaneously, i.e. the author(s) might start to write a paragraph, while still working on the outline. The most important thing is that the author(s) persevered with the writing ‘habit’ regularly to avoid laborious work in the future, or to prevent loss of motivation.

In turning the outline into well written texts, the author(s) can connect the two activities by using prompts, or drivers for writing. Transforming the outline, the headings and sub-headings into prompts for writing will assist the author(s) in constructing a draft with rigorous, coherent academic thinking and to produce structured writing needed for a journal paper. It is worth noting that if using prompts, they have to be written in simple language, using personal pronouns and, at this stage, perhaps, using also verbs.

While the outline, or headings, tell readers about the subject of the section/paper, prompts give the author(s) a writing instruction, and they should deliver the idea of the paper in a coherent manner. Through prompts, the author(s) can transform the outline of the idea into text by delivering the aim of the writing and, based on that, developing sound arguments using precise words. Although usually, the academic writing starts with an outline, later on, the author(s) might still be able to go back to the outline and revise it alongside with the development of the author(s) idea and arguments through the writing process.

When writing paragraphs, the author(s) can use verbs to highlight the main

idea, or subject of the paragraphs and to show, how the author(s) are going to build the whole story of the paper. The following points provide the examples, on how to use the appropriate verbs in delivering the idea of the paper.

Choosing the verb for the paper The aim of this paper is to . . . [verb].

The author(s) can also select verbs to articulate the stages in their argument:

Choosing verbs for the sections This paper analyses . . .
It argues that . . .
It also illustrates . . .
It goes on to argue . . .
Using . . . the paper analyses . . .

to illustrate . . .
The paper concludes by

suggesting . . .

The following is an example of the whole abstract of a research paper with the verbs highlighted (Choi et al., 2015 p.1437):

“**Barton (2001) and Pincus and Rajgopal (2002) show that** earnings management through discretionary accruals and derivative hedging are partial substitutes in smoothing earnings before 1999. **In this study, we investigate** whether Financial Accounting Standard (FAS) 133 regarding hedge accounting in 2000 has influenced the relative merit of the two earnings-smoothing methods. Based on a sample of S&P 500 nonfinancial firms during 1996–2006, **we find that** the substitution relation between derivative hedging and discretionary accrual is significantly attenuated after FAS 133 implementation. **We also document** a significant increase in earnings volatility associated with derivative hedging post-FAS 133. These results are robust **to the use** of various model and method specifications, as well as **controlling for** contemporaneous macroeconomic and regulatory shocks. Overall, **our results suggest that** a material change in an accounting rule regarding derivatives can influence the level and volatility of reported earnings, as well as the method of income smoothing.”

After the author(s) have written the string of verbs, they can check that the sequence of sentences, or paragraphs, is coherent, logical and sufficient. In other words, the author(s) must develop a checking mechanism, so that they do not waste time and create for themselves extra revision work that could be avoided. This is how the author(s) can develop progressively more detailed design for the paper, and the more detailed it is, the less time the author(s) should need for the revision.

There are several possible types of argument, and each type requires a particular form of writing as follows (Murray 2013):

- **A ‘narration’ argument;** this type of argument requires developing ideas that will progress through a set of time stages, with those stages marked out by time words, like ‘Firstly . . . secondly . . . next . . . further . . . following . . . subsequent’ and so on towards ‘finally’. The important point is, that the author(s) need to think about the time coverage and how the details will be allocated at each stage. For example, the author(s) might consider the following questions, such as: Do you really need to write about all stages? Or will you select some and leave out others –and why? Which will you include, and why; which will you exclude, and why? How many words will you need – according to the journal’s style – for these mini-arguments? Are they there in all recent issues of the target journal?
- **A ‘categorizes’ argument;** this type of argument requires the author(s) to determine, which categories to use and why they might constitute a ‘contribution’ to the literature or to knowledge. The following questions should be answered: Does the paper propose a new insight into the current literature, or bring a new perspective on the research topic?
- **A ‘contrast’ argument;** this type of argument is usually developed, when the author(s) need to contrast their work or idea with that of others. In this argument, they describe the pros and cons of the subject, review the existing studies, and identify the similarities and differences of the studies in order to provide the room for highlighting the contribution of the paper.

In the writing process, the subject/topic might not be the sole concern of the author(s), as they also need to focus on how to present it clearly and

concisely within limited words and time available. Writing sentences is not only a matter of counting words until the expected length is produced, but also about making tough decisions about how much, or how little to say about each subject or, when the author(s) review the sentences deciding, whether they need to write about the subject at all. Therefore, this process requires a lot of hard thinking, as the author(s) need to structure the paper in a proper way, and to deliver the idea in as concise way as possible. Although each author might have their own writing style, or way to connect the stages in the writing-thinking process, it is important to do so efficiently. The author(s) should keep their thinking focused and keep checking the word count, hence, it will help them to calibrate the writing with the outline within the word and time limit.

1.7.5 Getting an Internal Critique

One way beneficial to strengthen sound arguments is by building in internal critique and comments into the manuscripts. The author(s) raise the critical questions about their own writing, debate it, and hence, anticipate potential critique of the paper. This step can be implemented earlier, at the beginning of the preparation of the draft, for example as author(s) review the method, or approach applied in the study, or later on, at the end of the paper, as author(s) prepare the conclusions, or both. The following points need to be raised to anticipate the critique:

- The authors need to identify any pros and cons of their approach;
- The authors have to explain, why they rejected different approaches;
- The authors need to ensure that they have built a strong enough case for their methodology;
- The authors need to ensure that they have developed a sound case for any adaptations of standard methods.

The points above can be addressed as internal critiques that might anticipate external critique and hence, improve the quality of arguments developed in the draft. The author(s) should check, where the questions could appear, and in what form(s). The way the author(s) should raise these questions, depends on the context of the study, but acknowledging that there are other ways of addressing the research question and explaining it in adequate way;

and also explaining that there are different interpretations that others could make, should suffice. The author(s) can address these points in a separate section in detail, focus on pros and cons, in case the paper is highly contested or controversial, but otherwise, they should consider the discussion within individual parts of the paper.

As the author(s) build the internal critique, it is also necessary to look back at the outline of the paper. The author(s) need to ensure that the updated draft is in accordance with the streamline of the whole story in the paper, and the arguments provided sufficiently support it. The author(s) can review the existing outline and revise it as necessary to add details and strengthen their arguments. Although there might still be the possibilities for the outline to be changed in the course of the writing process, through internal critique the author(s) have strengthened the paper and further changes can be done in light of new insights, or new developments in the literature.

1.7.6 Revising Drafts

Although the author(s) worked in stages at the structure of the draft, the author(s) need to continuously look back at the outline and revise it to make the structure of the manuscript clearer and more explicit.

The revision process involves deciding in advance what to say and discover and how to say it. In this way, the author(s) keep thinking about the subject and refine the idea continuously by going through the outline and adding some points that have just come into their reflective thinking. At this stage, the author(s) may be already aware about the targeted journal, and potential audience(s), hence, they need not to simply complete the draft, but also to invent a most suitable form to conclude the paper. Therefore, it is important that at this stage the author(s) concentrate on how to improve the coherence of the draft.

Academic writing is full of signals and sign-posts, where the whole paper is supplied with a route map (outline), assisted by sign-posts and other signals to relate back to the previous sections or to make the connection between them, in order to ensure that readers will never get lost in the paper. Accordingly, they can grasp the main idea thoroughly without 'reading author(s)'s mind' and to work out, how individual sections or paragraphs are connected to each other, or to understand the 'big picture' of the author(s)'s

arguments. Therefore, the most important thing, when revising the draft, is to ensure that the draft provides clear signals about the structure and idea of the paper. The key points in revising the draft, as well as the questions that need to be self-asked during the revision process, are as follows:

- *Forecasting*: the authors need to ensure that they have written a short summary of their whole argument at the start of the paper, including the paper's objective and the statement on how each section will contribute towards achieving it.
- *Signposting*: the authors need to provide references to the main argument throughout their paper, stating, possibly at the end of each section, how it has advanced the argument.
- *Signalling*: the authors need to provide links and transitions, if they change direction, i.e. at each stage in their argument.

Another important step is the iterative process, where the author(s) move from the abstract, to the draft, and back to the abstract again, aimed to verify, whether the idea that they want to express, has already been communicated in the paper. The process of systematic iterative sequence can be described as follows:

- *Abstract*: The words that are used to describe the aim/purpose of the paper.
- *Introduction*: The same terms/words should be used consistently. If the authors have used different words, they have to revise them, or ensure that the words will not distort the idea of the whole paper.
- *Abstract*: The revision should be matched with the terms that are used in the abstract to ensure that the authors have made the same point.

As this process can be repeated back and forth, the changes that the author(s) made, can get smaller and smaller, hence, the author(s) can view this process as a refining one recasting, what they might previously have seen as errors or lapses in concentration, as necessary steps in a thorough academic writing process.

1.7.7 Additional Notes: Key Steps in Developing Arguments

There are several key steps in developing sound arguments as part of

ensuring that the draft of the paper was revised accordingly and is ready for a submission:

- The authors should avoid potential misinterpretations by explicitly stating, what the authors claim and what they do not claim in the paper, without any overstating statements. It is important for the authors to clearly distinguish between what was and what was not done in the paper.
- The authors must not overstate the contribution of their research. The contribution of their research should be stated in a straightforward and simple way, and the use of the word ‘successful’ should be avoided. The authors should ensure that the sentence starts with the link word.
- The contribution of the paper is not to provide a solution to a problem, but to provide a mean for better understanding it. There must be no room for doubt: three negatives – ‘never . . . neither . . . nor’ – should suffice to tell readers what *not* to think about the work.
- Rehearsing the decisions made in the analysis or interpretation. The authors may use rhetorical questions to focus the analysis and to write about ‘what they argue’ explicitly. The authors may also ‘argue’ for what they do not do. However, in general, the use of rhetorical questions in academic papers should be avoided.
- The authors must clearly distinguish the stages of the research, from the development of the research issue(s), to the statement of the research problem and question(s) and the employment of the research methods to provide an answer to the research question, and finally, to the discussion of the findings to build up the answer to the research question. It is worth noting that the authors need to manage the transition from one phase to another one smoothly to avoid confusing the readers.
- The authors should start key sentences with the link words. They need to clarify the factors/conditions in which the interpretation will stand up, yet, also to formulate the results clearly.
- Summing up the point to be made, using colourful language. The authors may use a short opening sentence and link the elaboration

with the colon. The authors should distinguish what they can and cannot provide evidence for in their analysis and present explicitly, what their data show, using exact words. The authors must not forget to link their work to the literature.

1.7.8 Conclusion

This section provides guidelines to authors revising their drafts of papers so that their papers meet the quality suitable for publications purposes. To achieve that, it is necessary to develop papers with a high degree of clarity and conciseness, and to maintain a consistent flow of the idea, which is delivered through well-connected paragraphs and a high degree of coherence. In this chapter, several characteristics of good writing was presented. In order to achieve high quality writing, it is important for the authors to streamline the story of their paper to maintain the consistent flow of their ideas throughout the paper. The authors also need to carry out internal critique of their paper in order to anticipate potential refutations in the paper. In this way, the authors can revise the draft into a publishable paper to meet the criteria required by targeted publication outlets.

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1.8 Management of Citations and Reference Sources

Rungnapha Khamung

1.8.1 Introduction

Researchers may carefully focus on academic paper writing and its structure as the means to achieve perfect quality of their publication, but the need for clear and accurate documenting of citation and reference sources is one of the most important steps in literature review and academic writing. The basic rule is that citations and references must be accurate and complete when listing the sources used. It also has to be consistently applied. This chapter aims to guide readers towards understanding the standards of the most commonly used citation and reference styles in social sciences and beyond, i.e. APA and Chicago. The readers can also learn, how to enter New Source with MS Word, to keep the sources well managed, and to avoid the weaknesses of direct quote, paraphrase and to transfer proper information to build the reference sources. This chapter also deals with the rewrite as a technique to rephrase, reword, paraphrase and/or rewrite sentences, paragraphs, articles, contents, words and/or phrases into alternative writings while delivering the same meaning.

1.8.2 The Literature Review

Whenever writing an academic paper, it is critical that all sources used in the research are cited. According to MIT (2018), citing sources has the following functions:

- To indicate that the paper is the result of a serious and proper research by referencing appropriate sources;
- To give credit to other researchers and recognizing their ideas;
- To quote extracted words and ideas from other authors to avoid plagiarism;
- To document the sources with references for further research, which will be done by other researchers.

The University of New South Wales (UNSW), an Australian public research university located in Sydney, provides insightful information about the importance of referencing. Its website for student support suggests, “Referencing allows you to acknowledge the contribution of other writers and researchers in your work”, and “Referencing is also a way to give credit to the writers from whom you have borrowed words and ideas. By citing the work of a particular scholars, you acknowledge and respect the intellectual property rights of that researchers” (UNSW Sydney, 2018, p. 1).

Citing a source means that the researchers show, within the body of the text that the extracted words, ideas, figures, images, etc. are from another source. Citations consist of standard elements, and contain all the information necessary to identify and track down the publications cited, including author(s) name(s), titles of books, articles, and journals, date of publication, page numbers, and volume and issue numbers (for articles) (MIT, 2018).

According to OnlineSchools.org (2018), there exists several different formal ways of referencing:

- **American Psychological Association (APA):** Psychology and social science scholars usually use reference guidelines defined by the American Psychological Association;
- **MLA :** The Modern Language Association (MLA) of America developed this citation style, which it is commonly used by academics in the humanities and liberal arts;
- **Harvard referencing style:** This citation style is commonly used outside the United States, in scientific communities in countries like England, Australia, and Ireland;
- **Chicago referencing style:** The Chicago Manual of Style is commonly used within history and anthropology publications;
- **Oxford referencing style:** The Oxford writing style of referencing can also be called the documentary-note citation system. It was developed by the University of Oxford. E.g. some of the law departments insist on using Oxford English style guide (Oxford 2018).

When submitting a paper to an academic journal, authors should check required referencing style of the targeted journal and adjust the references in their paper accordingly.

The references can be made in the form of footnotes, endnotes and parenthetical references. *Footnotes* use successive numbers throughout the paper with the citation at the bottom of the page. *Endnotes* are used in the same form, but the notes are placed at the end of the paper. *Parenthetical references* cite the source within the text whenever other author(s)' work, facts, data are mentioned. The references are provided by the author's last name, year of publication and page of publication.

The citation may be referenced in three ways, i.e.: (1) (Maxwell), (2) (Maxwell, 2013), or (3) (Maxwell, 2013, p. 54). The year of publication is not compulsory, if one author has only one citation within the paper. A year represents an added identifier in the citation and in the reference list, if the author has more than one citation in the same year, those should be identified by small letters of alphabet (e.g 2013a, 2013b). If there is a need to specify, where the quotation is located, the page number(s) are given. In case of the parenthetical reference, the name of the author(s) need not be provided, if it had already been mentioned in the sentence ("Maxwell observed that...; Maxwell (2013) observed that ...; Maxwell (2013, p. 54) observed that ...").

Unlike the *Bibliography*, which may contain citations that are not referenced in the paper, in the *Reference list*, only the cited references should be included. However, researchers should double-check that all references referenced in the text have been also included in the Reference list.

1.8.3 Standards and guidelines of APA and Chicago styles

In this section, we focus on two popular referencing styles, namely APA and Chicago and explain them in more detail. The details of standards and guidelines of APA and Chicago styles can be found in the following two documents:

- APA_Citation Handout 6th_ed.pdf (APA, 2009)
- Chicago_Author_Date_16th_ed.pdf (Coates_Library 2016)

These two guides provide basic guidelines and examples for citing sources using either APA or Chicago styles. These guides cover the author-date style for writers who use parenthetical references as a means of giving attribution to sources. The guides also provide clear format of how to build reference citations.

For example: A Book

Format:

Author Last, First. Year of Pub. Title. Location of Publisher: Publisher.

Sample Citation:

Welch, Kathleen E. 1999. *Electric Rhetoric: Classical Rhetoric, Oralism, and a New Literacy*. Cambridge: MIT Press. (Coates_Library, 2016, p. 1)

1.8.4 Enter New Source with MS Word

Microsoft Word provides an easy venue for creating new source for an in text citation and build the reference list. This subsection gives explanation of entering reference sources for Chapter in a Book and Journal Article. Two examples are given here. The following example will show the referencing format of Chicago style for entering source practice; however, the results of in text parenthetical citation and reference list are available in MS Word References Function in APA, Chicago or other styles. Since one can derive other popular styles such as MLA and Harvard from this MS Word function, this module will only focus on APA and Chicago style to keep the explanation less complicated while allowing self-initiated erudition. The great philosopher Confucius once said, “every truth has four corners: as a teacher I give you one corner, and it is for you to find the other three” (Confucius, 2018).

1.8.4.1 Chapter in a book

The referencing format of Chapter in a Book follows a simple format of Chicago as “Author Last, First. Year of Publication. “Title of Chapter/ Article.” In Title, edited by First Last, inclusive page numbers. Location of Publisher: Publisher, Year” (Coates_Library, 2016, p. 2).

When a researcher finds the Chapter of interest in a book, he or she can examine the book publication page where editor, publisher, location of publisher, and year of referencing information are located. The researcher then look further into the book to examine the table of contents where the chapter title and page numbers are located. The researcher can extract the raw information of the Chapter in a Book from the book and record this. With that information, a researcher can use MS Word to enter a New Source

as shown in Figure 1.8.1. A researcher can save this pertinent digital information as part of the literature search file for future reference, for bookkeeping, and for changing citation styles if necessary.

Raw Information as extracted from the above figures:

Joseph A. Maxwell, Conceptual Framework, in *Qualitative Research Design: An Interactive Approach*, 3rd Edition, Joseph A. Maxwell, 2013, pp. 39-72, Thousand Oaks, CA: SAGE Publications, Inc.

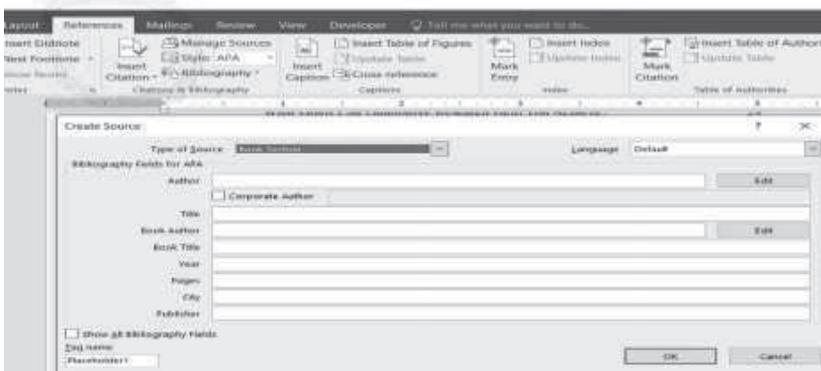


Figure 1.8.1. The Screen Capture of a MS Word on Entering a Reference Source
(Source: MSWord, 2018)

Once the new source is entered, a Reference List can be built with the choice of APA, Chicago, or other available Referencing styles. Below are the results of Chapter in a Book exemplary practice.

APA

Maxwell, J. A. (2013). Conceptual Framework. In J. A. Maxwell, *Qualitative Research Design: An Interactive Approach* (3rd ed., pp. 39-72). Thousand Oaks, CA: SAGE Publications, Inc.

(Maxwell, 2013)

Chicago

Maxwell, Joseph A. 2013. "Conceptual Framework." In *Qualitative Research Design: An Interactive Approach*, by Joseph A. Maxwell, 39-72. Thousand Oaks, CA: SAGE Publications, Inc.

(Maxwell 2013)

1.8.4.2 A Journal Article

The referencing format of Journal Article follows a simple format of Chicago as “Author Last, First. Year of Publication. “Title.” Journal Name volume # (issue #): inclusive page numbers” (Coates_Library, 2016, p. 2). When a researcher finds the Journal Article of interest, he or she can examine the publication page where Author, Journal Name, Title, and other pertinent information are located for referencing sources. The researcher can extract the raw information of the Journal Article from the proper page of the article and record this. With those information, a researcher can use MS Word to enter a New Source as shown in Figure 1.8.2.

Raw Information as extracted from the above figures:

Joseph D Novak; Alberto J Cañas, The origins of the concept mapping tool and the continuing evolution of the tool, *Information Visualization* (2006) 5, 175 – 184. doi:10.1057/palgrave.ivs.9500126



Figure 1.8.2. The Screen Capture of MS Word on Entering a Reference Source
(Source: MSWord, 2018)

Once the new source is entered, a Reference List can be built with the choice of APA, Chicago, or other available Referencing styles. Below are the results of Journal Article exemplary practice,

Chicago

(Novak &Cañas 2006)

Novak, Joseph D, and Alberto J Cañas. 2006. “The origins of the concept mapping tool and the continuing evolution of the tool.” *Information Visualization* 2006 (5): 175 – 184. doi:10.1057/palgrave.ivs.9500126

APA

(Novak &Cañas, 2006)

Novak, J. D., & Cañas, A. J. (2006). The origins of the concept mapping tool and the continuing evolution of the tool. *Information Visualization*, 2006 (5), 175 -- 184. doi:10.1057/palgrave.ivs.9500126

1.8.5 Direct quote, paraphrase, rewrite and the transfer of the information into reference sources

There is a fine line between the plagiarism and the paraphrasing. If the wording of the paraphrase is too close to the wording of the original content, then, it is considered as plagiarism. To avoid plagiarism, the main ideas need to come through, but the wordings have to be author(s)' own.

1.8.5.1 A direct quote

To use another person's writing in that of another author can be done using quotations, citations and appropriate forms of referencing. A quote has to have the exact wording as the quoted text and the author and the source must be identified.

Example of the Original Text When Cited Fully

“Inclusive Tourism is a global movement to ensure the full social participation of all persons with disabilities in travel, citizenships, and cultural contribution – and in the process, to assure the same for everyone else” **(Rains, 2009, p. 3)**.

Some journals prefer the researchers to limit the long quotation and only cite the critical part of the original text.

Example of A Quotation When Partially cited

The word “**inclusive**” refers to the concept of “**social participation**” **(Rains, 2009, p. 3)**.

1.8.5.2 A paraphrase

Paraphrasing usually communicates the message in a shorter form as the original. Another option is to use a summary that is much shorter than the original and provides an overview of the main points of the referenced piece.

Example of Summary and author's name in parenthesis:

When the destination's resources are overused and exploited, the best remediation is to implement tourism management strategies with varying degree of local community involvement and consensus (Agarwal & Shaw, 2007).

To avoid plagiarism, it is best to set the original source aside and then write your understanding of the author's ideas. (Paraphrases and summaries)

Original Text

The following paragraph is extracted from Widiastini (2014) article for practice:

As working people with extremely limited capitals, the principle of giving priority to safety is applicable to them. They sell souvenirs with limited capitals obtained from various souvenir entrepreneurs coming from different parts of Bali. The risk of suffering from loss has never caused them to find any difficulty (Widiastini, 2014, p. 1).

Example of Paraphrasing

Widiastini (2014) considers vendors as professionals with limited capitals and have low risk of suffering from losses.

Signal Verbs

It is best to introduce a quotation, or a paraphrase with a signal verb, which is followed by author(s)' name and provides the context for a reader. The list of signal verbs below will help researchers to integrate the quotes into full sentences (Table 1.8.1).

Table 1.8.1. The list of signal verbs to be used in referencing

Signal Verbs				
acknowledges	concludes	emphasizes	replies	advises
concur	expresses	reports	responds	interprets
agrees	confirms	allows	criticizes	lists
reveals	answers	declares	objects	says
believes	disagrees	offers	suggests	charges
discusses	opposes	thinks	claims	disputes
remarks	writes	advocates	points	notes

Source: Lunsford, 2018

Examples of using signal verbs:

Wang and Zhu (2014, p. 32) **suggest** coastal tourism develop “low carbon coastal tourism based on the idea of green thinking”. They encourage tourism to be more creative with ecotourism and alternative tourism.

The management of coastal zones **needs** to “consider the ecosystem approach” (**Fabbri, 1998, p. 51**).

It is best to use the present-tense unless a specific date calls for past-tense.

Examples of using signal verb in present tense:

Wong **concludes** that the “coastal development in Southeast Asia has largely been unplanned. Pattaya presents the best example of unplanned and spontaneous development in Southeast Asia” (Wong, 1998, p. 93).

Williams (2011) **notes** that five parameters were of the greatest importance for beaches: safety, facilities, water quality, litter and scenery.

Paraphrases with Words Extracted

In the paraphrases and summary the quotation marks are not used. However, if some words from the original text are used along with the words of the author(s), the quotation marks have to be used.

Quotations to emphasize the validity of important points

Quotations add spice to an academic paper and also provide the proof for the validity of some important points.

1.8.5.3 A rewrite

“To rewrite is to completely change something. To delete and then write again” (HiNative.com, 2018, para.1). In fact, paraphrasing is a type of rewriting since paraphrase usually rephrased and shorten the original sentence but keep the overall idea. Merriam-Webster. (2018) defines “Rewrite” as “to revise something previously written” and “to alter (previously published material) for use in another publication”. A rewrite is a technique that rephrases, rewords, paraphrases and/or rewrites sentences, paragraphs, articles, content, words and/or phrases into an alternative form, while delivering the same meaning. A rewrite is a proper writing technique to be used to avoid plagiarizing of someone else’s work. A researcher needs

human intelligence, understanding and original approach to decipher the original writing context and then to recode with his own words to express the original meaning.

Original Text Extracted:

Extract 1: The following paragraph is extracted from Maxwell's (2013) book for practice:

For this reason, the conceptual framework of your study—the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research—is a key part of your design. Here, the author uses the term in a broader sense, to refer to the actual ideas and beliefs that you hold about the phenomena studied, whether these are written down or not; this may also be called the “theoretical framework” or “idea context” for the study. Sharon Ravitch is a former student of mine, and the author wrote the foreword for the book. The most important thing to understand about your conceptual framework is that it is primarily a conception or model of what is out there that you plan to study, and of what is going on with these things and why—a tentative theory of the phenomena that you are investigating. (Maxwell, 2013, p. 39).

Extract 2: The following paragraph is extracted from Maxwell's (2013) book for practice:

A concept map of a theory is a visual display of that theory—a picture of what the theory says is *going on* with the phenomenon you're studying. These maps do not depict the study itself, nor are they a specific part of either a research design or a proposal. However, concept maps *can* be used to visually present the design or operation of a study—my model of research design is just such a map. (Maxwell, 2013, p. 54).

Example of Rewrite 1:

According to **Maxwell (2013, p. 39)**, the conceptual framework of a study is “the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research”.

Maxwell further suggests that “conceptual framework” may also be called the “theoretical framework” or “idea context” for the study (**Maxwell, 2013, p. 39**).

Example of Rewrite 2:

A concept map is a graphic display of a study, which depicts a graphic representation of what the author is thinking with the phenomenon and scenario of that study. Concept map can be used “to visually present the design or operation of a study” (Maxwell, 2013, p. 54).

1.8.6 Conclusion

In this section, the methods used for the Management of Citations and Reference Sources in a systematic manner is explained, and different reference styles used is discussed. Selected examples are used to explain the procedure of entering New Source with MS Word and keep the sources managed. The use of a direct quote, a paraphrase, and a rewrite in academic writing, is also explained which can be adapted to individual reference styles. This helps researchers in managing sources and researching database, while avoiding plagiarism which is very important in academic writing.

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1.9 The Use of English language in Academic Writing

Sid Suntrayuth, Aweewan Panyagometh, Hugo Lee

1.9.1 Introduction

English is now widely considered to be the world language of science, technology, and education. In fact, it has become the most common language used for communication in areas, where several languages have usually been spoken. The knowledge of English allows professionals and researchers to get access to the latest information in their fields and to effectively communicate with their colleagues throughout the world. English has undoubtedly become an important—perhaps now the most important—language of international academic communication in the world. This fact can, of course, be seen in a positive, or in a negative light. Viewed negatively, the predominance of English as the language of international academic journals and conferences undoubtedly places non-English speaking academics at a grave disadvantage in comparison with their English-speaking colleagues. The use of language editor is useful for all though, since it allows to enhance the quality of academic writing and correct the obvious grammatical mistakes easily.

Moreover, writing is a complex process that requires a number of various skills. As research shows, its nature may be treated differently in different cultures and educational systems. The ways of writing, including academic, also vary, sometimes considerably. There exists an opinion that being able to write is a special talent. However, you can develop your writing abilities by following certain strategies and practicing various patterns. The style of English academic writing is formal. Its main characteristics are the absence of conversational features and the use of an appropriate academic vocabulary. Developing a command of formal style is extremely important for both native and even more significant for non-native speakers wishing to master the conventions of English academic discourse.

1.9.2 Word order

A normal English declarative sentence has the following structure, with the subject preceding the predicate:

Subject + Predicate + object + adverbial modifiers

There are, however, additional rules. Most important of them are given below.

A normal English declarative sentence has the following structure, with the subject preceding the predicate:

Subject + Predicate + object + adverbial modifiers

There are, however, additional rules. Most important of them are given below.

1. Adjectives are used before the noun that they modify in the following order: a) general description, opinion; b) size, shape, condition; c) colour; d) origin; e) purpose, type. For example:

A nice small brown French writing table.

Old red Spanish home-made wine.

2. Adverbs of frequency (always, seldom, usually, often, frequently, rarely, occasionally, etc.), and of relative time (just, still, already, yet in negative, lately, recently, soon, etc.) are usually put in the middle position.

The computer is now established as a device that can often ease the human burden of work.

This theorem has already been proved in Chapter 3.

3. Adverbs of manner (that answer the question “how?”) are usually placed after the verb in the final position. However, in academic style, the middle position is preferable.

GENERAL USE: He studied the problem thoroughly.

ACADEMIC STYLE: He thoroughly studied the problem.

4. Adverbs and conjunctions referring to the whole sentence are placed at the beginning.

Nevertheless, it turned out that the experiment failed.

Finally, I will consider the applicability of the obtained results.

5. In questions, we normally put an auxiliary verb before the subject. However, in indirect questions, the subject comes before the verb. Compare:

Have you already met our new research assistant?

John asked me if I had already met our new research assistant.

The word order may be inverted (i.e. a word may be moved out of its usual position in a sentence) in the following cases.

1. In some negative sentences (clauses).

We do not assume that the necessary data will be obtained, nor do we assume a priori that the experiment will be successful. In no case does this offer imply any obligation.

2. In unreal conditionals.

Were the truth known, public opinion would change. Had the data been thoroughly checked, the project would not have been declined.

3. For emphasis.

Much more impressive are the obtained numeric data. Only when placed under certain kinds of stressors do aged rats show delays in recovering from the stress.

1.9.3 Agreement of Subject and Verb

The subject and the main verb of a sentence (clause) must agree in a number.

1. A singular noun, pronoun, or an uncountable noun is used with a singular verb. A plural noun or pronoun is used with a plural verb.

The water in the river is fresh and transparent.

The stars shine brightly in the sky.

2. After *or*, or *nor* a verb agrees with the subject closest to it.

Neither the doctors nor the patient want to continue the treatment.

The chairman or the committee members decide, when to meet next.

3. The following singular expressions with plural nouns agree with plural verbs: a number of... , the majority of... , a couple of... , a lot of... .

A number of researchers internationally are taking part in the conference.

A lot of students have to work to earn some extra money.

4. The following nouns ending with -s agree with singular verbs: checkers (draughts), chess, means, measles, mumps, news, physics (and other similar subjects of study).

Measles is a serious disease.

No news is good news.

5. The following plural nouns agree with plural verbs: arms, cattle, clothes, contents, outskirts, premises.

Nuclear arms are extremely dangerous.

The outskirts of the city are dirty.

6. Names of quantities thought of as one unit have singular verbs.

Five miles is too much to walk.

Three weeks is a good holiday.

1.9.4 Types of Abbreviations

Abbreviations take the form of shortened words, acronyms or other abbreviations, as shown below.

1. Shortened words are often used without a writer being aware of their original form. 'Bus' comes from 'omnibus', which is hardly ever used in modern English. However, 'refrigerator' is still better in written English than the informal 'fridge'. 'Public house' is now very formal ('pub' is acceptable), but 'television' or 'TV' should be used instead of the idiomatic 'telly'.
2. Acronyms are made up of the initial letters of a name or phrase (e.g. AIDS = Acquired Immune Deficiency Syndrome). They are pronounced as words.
3. Other abbreviations are read as sets of individual letters. They include names of countries, organizations and companies (USA/ BBC/ IBM), and also abbreviations that are only found in written English (e.g. PTO means 'please turn over'). Note that in many cases

abbreviations are widely used without most users knowing what the individual letters stand for (e.g. DNA, DVD).

1.9.5 Adjectives, Nouns and Verbs

The table below illustrated examples of some of the more common items adjectives, nouns and verbs, which have common root.

Table 1.9.1. Adjectives, nouns and verbs with a common root

Adjective	Noun	Verb
achievable	achievement	achieve
acquired	acquisition	acquire
analytical	analysis	analyze
contributory	contribution/ contributor	contribute
creative	creation	create
definitive	definition	define
derived	derivation	derive
distributive	distribution/ distributor	distribute
emphatic	emphasis	emphasize
evaluative	evaluation	evaluate
hypothetical	hypothesis	hypothesize
indicative	indication/ indicator	indicate
interpretative	interpretation	interpret
invested	investment	invest
predictive	prediction/ predictor	predict
reliable	reliability	rely
responsive	response	respond
significant	significance	signify
synthetic	synthesis	synthesize
variable	variation/ variable	vary

The following adjectives are frequently used in the academic language and they are best understood and learnt as opposites.

Table 1.9.2. Opposites - Adjectives

absolute	relative
abstract	concrete
logical	illogical
metaphorical	literal
precise	vague or approximate or rough
rational	irrational
relevant	irrelevant
subjective	objective
theoretical	practical or empirical or pragmatic

Examples of the use of these adjectives in the academic language are provided below:

- Inflation is an **abstract** concept.
- The **metaphorical** use of the word ‘key’ is probably more common than its **literal** one.
- The study of engineering is very **relevant** for the architecture.
- Her study of women in education was criticized for being too **subjective**.
- In Europe, **empirical** research began in the sixteenth century.

1.9.6 Formality in Verbs

Academic writing tends to use rather formal verbs to express the writer’s meaning accurately:

In the last decade, the pace of change accelerated.

Could Darwin have envisaged the controversy his work has caused?

Below are some example of verbs and their usage in sentences.

Verb	Example of use
to adapt	The health system has been adapted from France.
to arise	A similar situation arises , when we look at younger children.
to conduct	The largest study was conducted in Finland.
to characterize	Developing countries are characterized by . . .
to clarify	The project was designed to clarify these contradictions.
to concentrate on	That study concentrated on older children.
to be concerned with	The programme is concerned primarily with . . .
to demonstrate	Further research has demonstrated that few factors. . .
to determine	The water content was experimentally determined .
to discriminate	A failure to discriminate between the two species. . .
to establish	The northern boundary was established first.
to exhibit	Half of the patients exhibited signs of improvement.
to focus on	Her work focused on female managers.
to generate	A question, which has generated a range of responses.
to hold	Newton's second Law, $F=ma$, holds everywhere
to identify	Three main areas have been identified .
to imply	His absence implies a lack of interest.
to interact	Understand, how the two systems interact .
to interpret	The result can be interpreted as a limited success.
to manifest	As manifested in anti-social behaviour. . .
to overcome	Both difficulties were overcome in the first week.

to propose	They propose that social class is the main factor.
to prove	The use of solar power is proving successful.

Active and passive verbs

The passive voice is used, when a writer wants to focus on the result, not on the cause:

The college was founded in 1925 by Walter Trimble. (passive)

Walter Trimble founded the college in 1925. (active)

In the first sentence, the emphasis is on the college, in the second on Walter Trimble. So, the passive voice is often used in written English, when the cause (a person or a thing) is less important or unknown.

Aluminium was first produced in the nineteenth century. (by someone)

The colony was abandoned in the 1630s. (due to something)

The cause of the action can be shown by adding the preposition ‘by . . .’.

The city was flooded by a severe hurricane.

The passive voice is also used in the written work to provide a more impersonal style.

The findings were evaluated. (not ‘I evaluated the findings’)

Structure-All passive structures consist of two parts:

Form of the verb to be	Past participle
Is	Constructed
Was	Developed
Will be	Re-organized

Verbs of reference

- a. Using verbs of reference

Referring verbs are used to summarize another writer’s ideas.

Previn argued that global warming was mainly caused by the solar cycle.

Bakewell (1992) found that most managers tend to use traditional terms . . .

They may also be used to introduce a quotation.

. . . as Scott observed: 'Comment is free, but facts are sacred'.

b. Common referring verbs

Most of these verbs are followed by a noun clause beginning with 'that'.

- The following means that the writer is presenting a case: argue, claim, consider, hypothesize, suggest, believe, think, state.

*Melville (1997) **suggested that** eating raw eggs could be harmful.*

- A second group describes a reaction to a previously stated position:

accept admit agree deny doubt

*Handsmith **doubts** Melville's suggestion that eating raw eggs. . .*

- Others include:

assume conclude discover explain imply

indicate maintain presume reveal show

*Patel (2003) **assumes** that inflation will remain low.*

Further referring verbs

A small group of verbs is followed by the pattern (some-body/thing + for + noun/gerund):

*Lee (1998) **blamed** the media for creating uncertainty.*

blame censure commend condemn criticize

N.B. All except 'commend' have a negative meaning.

Another group is followed by (some-body/thing + as + noun/gerund):

Terry interprets rising oil prices as a result of the Asian recovery.

assess characterize classify define describe

evaluate identify interpret portray present

Verbs –Simple or continuous tense?

- In general, the continuous tense is used to focus on the activity itself or to stress its temporary nature. Compare the following sentences:

*She **has been writing** that report for six days.*

(to show the duration of the temporary activity)

*He **is writing** an article on the probability theory.*

(to show the temporary nature of the activity)

*She **writes** stories for teenage girls.*

(to demonstrate her normal work)

- Also, note that certain verbs are rarely used in the continuous tense. These are state verbs such as prefer, own and believe. Another similar group is known as performative verbs s a **verb** that explicitly convey the kind of speech act being performed (assume, deny, promise, refuse, suggest).

1.9.7 Conclusion

This section provides readers with insights on the use of English language in academic writing. The use of correct English in academic writing is very important to both native and non-native English speakers. Major areas in the use of English language in academic writing, which frequently represent bottlenecks for academic writers trying to write in proper academic English language is discussed. This section focuses on word order, the agreement between the subject and the verb, the types of abbreviations, adjectives, nouns and verbs and formality in verbs. Researchers should make sure that their manuscript is written in an appropriate language in terms of terminology, vocabulary and grammar. Not only the correct usage of English language helps improve the readability and the overall effectiveness of a written research article, but also sends a signal to editors and reviewers that author(s) took their job seriously and not only wrote in good language, but also worked hard on its scientific quality. Nevertheless, it is suggested that the use of professional English language editors may be required for both native and non-native researchers writing in English in order to increase

the appeal of their written articles. Additionally this will also improve the chance of being accepted for publication.

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2. Module 2: Publishing in Academic Outlets

Marta Orrviská, Matej Bel University, Banská Bystrica, Slovakia

Juraj Nemec, Matej Bel University, Banská Bystrica, Slovakia

Ján Huňady, Matej Bel University, Banská Bystrica, Slovakia

Ivan Sedliačik, Matej Bel University, Banská Bystrica, Slovakia

Is Fatimah, Universitas Islam Indonesia, Jogjakarta, Indonesia

Fathul Wahid, Universitas Islam Indonesia, Jogjakarta, Indonesia

Robaida Basiruddin, Universiti Teknologi Malaysia

Cheah Jun Hwa, Universiti Teknologi Malaysia

2.1 Introduction

Marta Orviská

The module is designed to help researchers to get their academic papers published in good (or even top level) academic journals. The success - to get published - depends on many factors. The first precondition is to prepare a paper of quality - this issue is discussed by Module 1. However, having a good paper is not enough.

To get published, (non-written) rules have to be followed. The **first step** is to pick the “right” journal (Part I of the text). The **second step** is to follow the correct submission procedures (Part II). The **third step** includes two alternatives. Less positive case is that the paper is rejected – here it is suggested to try with another suitable journal after improving the text for relevant comments from editors or reviewers (coming back to the first step of the process) (Part III). If the paper is preliminary accepted, dealing with feedback (Part IV) is next crucial issue. The **fourth step** is resubmitting the revised paper (Part V) and the **last step** is the final submission administration (Part VI). The six issues mentioned above are covered by this text. The first step – how to pick the right journal is elaborated in the most comprehensive way – as it is in reality the most important one. Some parts of texts in different chapters may slightly overlap – but twice is better to enhance our understanding.

Becoming a visible researcher through paper - this issue will be addressed by Module 5, but it is worth to mention that the academic impact from research comes from two sources, the quality of the publishing outlet and the number of citations. The quality of the journal/publisher is important for both.

2.2 Picking the “Right” Journal

Marta Orviská, Juraj Nemec, Ján Hunady and Ivan Sedliačik

2.2.1 The Scope of the Journal

The advice to check the scope of the journal before the submission seems so obvious but it is surprising how many articles are submitted to journals that are completely inappropriate. Existing sources (Knight & Steinbach, 2008; Johnson, 1982; Robey et al., 1998 and many others) propose a list of questions to be answered before deciding on where to submit:

Is the manuscript consistent with the disciplinary focus of the journal?

Is the manuscript consistent with the national or international focus of the journal?

Is the manuscript consistent with the theory/practice focus of the journal?

Is the manuscript in harmony with the journal’s quantitative or qualitative research bias (if any), or with type of article expected?

Has the journal published articles on the same subject? If not, has the journal at least published articles

on the topics that form the theoretical basis for this research?

Has the journal published articles using the manuscript’s methodology before?

If the manuscript reports insignificant results or if it is concerned with methodological issues, has the

journal published papers of this same type in the past?

Is the manuscript’s style of prose consistent with that of the journal?

Is the length of the manuscript appropriate for the journal?

How many times is the journal cited in your manuscript?

What advice do your colleagues have?

This list is long but not exhaustive, in many cases, extra questions can be raised and analysed, but we are not able to deal with all details. In the following text, all above mentioned questions are dealt with step by step.

2.2.1.1 Is the manuscript consistent with the disciplinary focus of the journal?

All good journals clearly define the disciplinary focus of the journal as part of the core “about us” information. The scale of journals from this point of view is very large – from journal with “narrow focus” on very specific disciplinary topic, via “full discipline” approach journals to “multidisciplinary” journals. It is difficult to find a “narrow focus” journal for a paper, or to try with journals of broad scope – in most cases this is not the core success factor. However, it is necessary to be completely sure that the area of a paper fits with the journal aims and scope. Aims and scope (topic) statements are normally available on home page or in the section “About” of a journal.

A good example of “narrow focus” research area journal is the *Journal of Services Marketing* (<http://emeraldgroupublishing.com/products/journals/journals.htm?id=jsm>). The web of this journal (JSM) states: “Published articles address a range of services-related issues of interest to marketing scholars and relevant to marketing professionals who represent a broad range of service industries. JSM is keen to publish manuscripts that address contemporary issues relevant to services marketing that make a clear contribution to services marketing scholarship and practice. Topics currently of interest to the editors are - the role of services in transforming society and consumer lives; new methodological approaches for service research; services marketing and the bottom-of-the pyramid; the role of new technologies and interactivity; off-shoring and outsourcing of services; servitization; service design; co-creation and third-parties; crowd-sourcing; the future and key trends in the practice of services marketing; what researchers need to know; micro-businesses, cottage industries and the service sector; social service enterprises; viewing service(s) through a new lens.”

The example of “full discipline” research area journal could be the *Journal of Public Administration Research and Theory* (leading journal in public administration). The web of this journal (<https://academic.oup.com/jpart/pages/About>) states: “The Journal of Public Administration Research and Theory serves as a bridge between public administration and public management scholarship on the one hand and public policy studies on the other. Its multidisciplinary aim is to advance the organizational, administrative, and policy sciences as they apply to government and governance. The

journal is committed to diverse and rigorous scholarship and serves as an outlet for the best conceptual and theory-based empirical work in the field.”

The example of “multidisciplinary” journal is the *Science Bulletin*. The web of this journal (<https://www.journals.elsevier.com/science-bulletin>) states: “*Science Bulletin (Sci. Bull.*, formerly known as *Chinese Science Bulletin*) is a multidisciplinary academic journal supervised by the Chinese Academy of Sciences (CAS) and co-sponsored by the CAS and the National Natural Science Foundation of China (NSFC). *Sci. Bull.* is a semi-monthly international journal publishing high-calibre peer-reviewed research on a broad range of natural sciences and high-tech fields on the basis of its originality, scientific significance and whether it is of general interest. In addition, we are committed to serving the scientific community with immediate, authoritative news and valuable insights into upcoming trends around the globe.”

2.2.1.2 Is the manuscript consistent with the national or international focus of the journal?

In most cases this information is also available at the home page or “About” page of a journal. Most journals today are (claim themselves as) international and do not focus on submission from a specific region or even a specific country. The title of a journal, including some territorial affiliation, can be very misleading – in most cases this just indicate where the journal is published. The fact that it makes no sense to submit a paper to journal with different geographic focus is obvious, however more it may be worthwhile to try to submit a paper with national focus to most leading journals. Some journals ask for comparative focus, to submit article with one country experience to such journal is contra-productive.

The example of journal with definite territorial focus could be *Asian Journal of Social Psychology*. The web of this journal (<https://onlinelibrary.wiley.com/page/journal/1467839x/homepage/productinformation.html>) states: “Asian Journal of Social Psychology stimulates research and encourages academic exchanges for the advancement of social psychology in Asia. It publishes theoretical and empirical papers by Asian scholars and those interested in Asian cultures and societies. Asian Journal of Social Psychology publishes theoretical and empirical papers as well as major reviews of research on

specific topics by Asian scholars and those interested in Asian cultures and societies.”

The example of journal with territorial affiliation in the title, but with international focus in reality is *Transylvanian Review of Administrative Sciences*. This “formally Romanian” journal has few papers from Romania, while most articles come from other countries. However its web (<http://rtsa.ro/tras/index.php/tras>) states: “TRAS represents a collective effort initiated by an international group aimed at boosting the research in the field of public administration in a country where during the communist regime there was no tradition in this sense. TRAS represents a unique source of specialized analysis of the ex-communist space, of the transition processes to democracy, of the reform of public administration, and of comparative analysis of administrative systems.”

The example of journal with clear international focus is *International Public Management Journal*. The web of this journal (<https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=upmj20>) states: “The International Public Management Journal (IPMJ) publishes high-quality empirical and theoretical work on managing large organizations, particularly public organizations. IPMJ features work from scholars around the world who conduct research in the areas of public management and government reform, comparative public administration, organizational theory, and organizational behavior. IPMJ seeks to provide a bridge between those conducting research on public management and public administration on the one hand, and those working in the areas of organizational behavior and organization theory on the other. IPMJ intends to stimulate and reflect the academic interests of an international constituency of readers and scholars.”

The specific case is the journal with international and comparative focus, like *Journal of Comparative Policy Analysis: Research and Practice*. The web of this journal (<https://www.tandfonline.com/toc/jcpa20/current>) states: “JCPA has pioneered comparative policy studies since 1998 and is the only explicitly comparative journal of policy analytic studies. It aims to stimulate the intellectual development of comparative policy studies and the growth of an international community of scholars who research the challenges and benefits of global inter- and intra-policy making.”

2.2.1.3 Is the manuscript consistent with the theory/practice focus of the journal?

Most journals included in core international databases (WoS, Scopus) have strict academic character, but some of them at least claim that their focus is the combination of academia and practice. Very few top journals have preference for articles that are more practical, preferring those with academic value.

The example of a “mixed” approach journal could be *International Journal of Production Economics*. The web of this journal (<https://www.journals.elsevier.com/international-journal-of-production-economics>) states: “In character, the journal combines the high standards of a traditional academic approach with the practical value of industrial applications” ... but also “Articles accepted need to be based on rigorous sound theory and contain an essential novel scientific contribution.”

One of very few examples of the journal with dominant practical focus is *World Sports Active Wear*. The web of this journal (<http://www.integrity-ethics.com/journal/123148>) tells: “WSA magazine - widely recognised as the World’s leading publication for material development in the active wear market, has been running for 10 years. Published six times a year, the journal provides details of all of the important commercial and technical developments within the world’s most dynamic and globally integrated industrial businesses.”

2.2.1.4 Is the manuscript in harmony with the journal’s quantitative or qualitative research bias (if any), or with type of article expected?

The last core information which should be available directly on the journal web page is about expected research approach, methods and the type of article. These are two different questions. One level is to distinguish between journals expecting quantitative, mixed or qualitative approach. Second level is to check if “your” type of article is accepted (for example not all journals accept case studies, not all journals publish book reviews, etc.)

The example of journals with definite/almost definite quantitative approach is *Czech Journal of Economics and Finance*. This journal is also a very good example and is strongly recommended to authors to read the articles from

the selected editions. The journal web (<http://journal.fsv.cuni.cz/page/index/aims>) expression “empirically oriented papers” is at least partly misleading. After checking a few articles, the author should understand that the journal requires quantitative approach, preferably on economic modelling.

The example of journal with mixed approach is *Contemporary Economic Policy*. However, also in this case the author needs to check sample articles to be sure that elementary statistics is sufficient to get published. The journal web (<https://onlinelibrary.wiley.com/page/journal/14657287/homepage/productinformation.html>) states: “CEP publishes scholarly economic research and analysis on issues of vital concern to business, government, and other decision makers. The objectives are to communicate results of high quality economic analysis to policymakers, focus high quality research and analysis on current policy issues of widespread concern, increase knowledge among economists of features of the economy key to understanding the impact of policy, and to advance methods of policy analysis.”

The examples of journals with definite/almost definite qualitative approach is *Journal of Non-profit & Public Sector Marketing*. Also in this case the description of aims on the journal web is a bit general, but after reading a few articles, qualitative approach is fully visible (<https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=wnon20>).

Concerning the “Type of article” criterion, potential authors should also check the kind of article that is expected. Some journals are highly specialized on one type of article, but some are very open to accept different types of articles. *Journal of Islamic Marketing* web (<http://emeraldgroupublishing.com/products/journals/journals.htm?id=jima>) which states: “JIMA publishes articles which are based on quantitative or qualitative empirical work, conceptual, theory driven, literature reviews, case studies, book reviews, executive interviews, and thought pieces - without preference.”

Many journals have special sections for shorter or specific articles – the example might be the above mentioned *Journal of European Public Policy*, which publishes a Research Agenda Section and a Debate Section.

2.2.1.5 Reading already published articles

After preliminary check of the aims and scope (topics) and expected methodology via the journal web page, it is advised (as already indicated) to

read several published (recently published) articles (most journals have free samples of even free access to their articles). Only through this, the potential author can respond to the core questions listed in the beginning of this part of the text, especially on the following:

Has the journal published articles on the same subject? If not, has the journal at least published articles on the topics that form the theoretical basis for this research?

Has the journal published articles using the manuscript's methodology before?

If the manuscript reports insignificant results or if it is concerned with methodological issues, has the journal published papers of this same type in the past?

Is the manuscript's style of prose consistent with that of the journal?

Reading a few articles or checking the list of papers published in a few recent issues may even help to discover that the mission statement of a journal and the types of published articles are fully harmonised (we indicated examples of such cases in the previous text).

2.2.1.6 Is the length of the manuscript appropriate for the journal?

Journals significantly differ in terms of acceptable size of an article. In most cases the information about the optimum size of an article (or requirements for tables and figures maximum size) can be found in the section "Instructions for authors". The most frequent word limit is 6000 to 8000 words and normally includes tables, references, figure captions, footnotes, endnotes. Papers in excess of this length will not be accepted for publication.

2.2.1.7 How many times is the journal cited in your manuscript?

This question is rather sensitive and will be discussed also with the part on "philosophical and ethical concerns". Almost all journals today are willing to increase their impact factor – achieved through referencing of their articles in other journals and their own journals. The stress on impact factors has different connotation on journals. Some of them do not show that they will be able to get higher impact visibly – and try to achieve referencing by quality of articles published. Other journals may push for impact factor in less ethical ways – for example by explicit navigation of authors and reviewers (for example reviewers may be directly asked to assess if the text includes references to previous articles in the journal).

In any case, we may argue that it should be considered as fair and useful if relevant articles on the topic, already published in a pre-selected journal are referenced in the prepared article. To be sure that important article of this character is not omitted; again it is advised to check the contents of journal issues at least for last three to four years.

2.2.1.8 What advice do your colleagues have?

As stated earlier, some information about a journal scope and aims is explicitly available from the journal page, but in many cases this information is only partial, not fully clear and in some cases the practice can be slightly different from what is written. Taking this fact into account, it is always good to check, if your colleagues have experience with similar type of articles or with pre-selected journals.

2.2.2 The ranking, impact and visibility of the journal: Journal prestige

Journal prestige is in most cases an important consideration for an author, especially in systems where the prestige of the journals accepting author's paper directly influences the author's performance evaluation (this all depends on the priorities of an author - if speed of publishing is more important, high ranked journals are normally not the best option, because of queuing - see later text).

Klingner et al. (2005, p.15) state: "You want your work to appear in the best outlet that will accept it. Rewards of all sorts follow from publication in frequently cited, visible journals. These range from more positive personnel reviews, to more favorable grant reviews, to invitations to publish more."

Several authors tried to list the factors that create a journal's reputation (for example Brorsen, 1987, Klinger, 2005, Robey et al., 1998). The core factors are as follows - journal with older history, journal with larger circulation, journal with lower acceptance rate, journal with comprehensive review process, journal with well-known editor and editorial board members, journal with prestigious institutional affiliations of editor and board members, journal affiliated with a prestigious organization, journal often quoted over time, journal with high impact factor (often quoted recently), and journal with high visibility in multiple computerized databases.

The weight of the above mentioned factors is different for different disciplines and levels and is related to the aggregate value of benefits that come from publication for the discipline, institution or authors themselves.

Very frequently used impact factor is only one partial measure of the quality of a journal. Knight and Steinbach (2008, p.66) argue: “Just as there is considerable debate over the appropriateness of departmental or university journal lists, there is also considerable debate over the use of journal impact factors. The impact factor, which is itself calculated and published by a for-profit academic publisher, the Thompson Corporation, is a recent ratio between the number of citations and the number of articles published by the journal. Impact factor alone, however, is likely too restrictive a measure of journal quality.” These authors also argue that “regardless of how authors view elements like journal ranking lists or impact factors, authors desiring to make an optimal journal submission decision must recognize the existence of these elements and their potential impact upon the recognition that a manuscript published in a particular journal is likely to receive. Balancing the possibility of publication in a prestige journal against the potential time lost in the review process that precedes a rejection is a difficult problem.”

Some experts suggest that it is good to send initially the manuscript to the most prestigious journal –the author can be lucky and the paper is accepted, or the author receives the feedback of the highest quality, which can be quite helpful to improve the manuscript. However, repeated non-successful submissions to top journals with lengthy review process may cause important delays and the paper may become outdated, without any chance for publishing in good journals. Thompson (1995, p.343) notes on this: “These are personal decisions. Some people only want to publish in the most respected journals. Some people think the quality of the piece overrides issues involving the quality of the journal; these folks believe that an important article will be recognized no matter what journal publishes the work.” Antelman (2004) found that in four disciplines (philosophy, political science, electrical and electronic engineering, and mathematics) freely available articles did have greater research impact, as measured by citations in the ISI Web of Science database.

Vogel et al. (2017, p.1715) list 18 existing ranking systems for academic journals (for management and business sciences) - Clarivate Analytics, Australian Business Deans Council, Journal Quality List, AERES Journal List, Chartered Association of Business Schools Academic Journal Guide,

CNRS Journal List, Categorization of Journals in Economics and Management, Cranfield University School of Management Journal Recommendations for Academic Publication, Danish Ministry of Higher Education and Science Journal List, Erasmus Research Institute of Management Journals List, Business School Paris Ranking of Journals, FNEG Journal List, Classement des Revues Scientifiques en Sciences de Gestion, Financial Times Journal List, Google h5index, Handelsblatt Journal List, HEC Journal List, SCImago Journal Rank, University of Queensland Business School Adjusted ERA Rankings List, University of Texas Journal List, German Academic Association for Business Research Journal.

For European contexts, the most frequently used rankings are “the Five-year Impact Factor” gathered from the Journal Citation Reports® by Clarivate Analytics, the SCImago Journal Rank (SJR) compiled on the Scopus® database and the Google Scholar h5 index. The ranking of journals in these systems is not be the same, even if the same basic methodology is used. For example in Clarivate Analytics ranking the leading public administration journal in 2018 was Public Administration Review, but in Scimago the leader in this category was Administrative Science Quarterly.

2.2.3 The type of review process in the journal

Good journals put a lot of emphasis on the quality and impartiality of the review process. The standard is double-blind review (anonymous refereeing by two anonymous reviewers) – reviewers do not know author/s and authors do not know reviewers. Some good journals use a single-blind peer-review system, where the reviewers are aware of the names and affiliations of the authors, but the reviewer reports provided to authors are anonymous.

Any very simplified and fast type of review process is suspicious and such journal should be carefully checked to prevent any unethical or similar problems occurring (see part on predatory publishing).

Many journals have “gate-keeping” system – the initial editor/s screening with the aim to check the quality and focus of the paper ex-ante, before submitting it to reviewers. Such journals may but must not announce that each paper is reviewed by the editor (editors) and, if it is judged suitable for this publication, it is then sent to at least two independent referees for (double blind) peer review.

This service is appreciated by most academicians, as within few days the authors normally receive the message telling them, why the journal editors do not want to send the paper to standard review process.

2.2.4 The length of the review process in the journal

Today almost all journals try to shorten the time between the acceptance of an article into the review process and the final decision. However, for most good journals the length of the review process is still counted in months, not weeks or days. Editors and publishers calculate the average length of the review process, but not always publish this information on the web and use it only for internal management purposes.

The fact that in most cases the review decisions is “(preliminary) accepted – major revisions needed” means that extra weeks (depending on the ability of the author/s to submit timely updates to the article and the ability of the author/s to effectively incorporate editorial feedback) are necessary for follow up (submitting revised version, reviewing of this revised version by original reviewers).

Authors who have particularly tight timeframes for publication (authors with upcoming tenure or promotion cases, authors in the last year of their research project or researchers whose area is topical only within the short or medium-term) need to focus on journals with high speed review process (but be aware concerning the ethical considerations – see later text). There are many journals which try to attract authors via very short review procedure (in most cases open access journals with processing fees). Good example is *Sustainability Journal* (<http://www.mdpi.com/journal/promoting> itself by the following information: “Rapid publication: manuscripts are peer-reviewed and a first decision provided to authors approximately 22 days after submission; acceptance to publication is undertaken in 5.9 days (median values for papers published in this journal in 2017)”.

2.2.5 The length of the publishing process

Publication process is composed of two elements: the publisher’s processing time and the publication backlog. Many journals, particularly print journals, have backlogs of a year or more of complete, fully accepted articles awaiting publication (the length of waiting list is normally not published). To cope

with “backlog delay” many journals started to use the policy “on-line first” (however, in many countries these on-line publications do not count for performance schemes). The “full fast track” is again provided by on-line journals – such journals typically have a much shorter publisher processing time than print journals, and online journals generally have little or no backlog of finalized, accepted articles awaiting publication.

2.2.6 The success (rejection) rate of submission for the journal

The information about the rejection rate is also normally not available on the journal web, but can be estimated using peer’s experience. For almost all high quality journals the rejection rate is over 50 %.

2.2.7 The philosophical and ethical concerns connected with the journal

The first and the core aspect for this part is to avoid “predatory publishing”. The term “predatory journal” or “predatory publisher” was first time officially mentioned in 2010 by American librarian Jeffrey Beall. He proposed that two characteristic features are signs of “predatory publishing” - publishers who publish articles with little or no real peer review and charge significant article-processing charges. Suspected journals are listed on so called “Beall’s List” (<https://bealllist.weebly.com>).

The web page with “Beall’s List” should be checked by any author, especially if they are willing to publish fast or in open access/on line mode: “This is a list of questionable, scholarly open-access publishers. We recommend that scholars read the available reviews, assessments and descriptions provided here, and then decide for themselves whether they want to submit articles, serve as editors or on editorial boards. In a few cases, non-open access publishers whose practices match those of predatory publishers have been added to the list as well.”

The authors should check especially the following information to determine predatory publishers - the quality of editor and staff, business management, integrity, journal standards and practice (for detailed info check the web page “Beall’s List”).

The fact that a journal is in Clarivate or Scopus database does not guarantee

that the journal is non-predatory. According to Srholec and Machacek (2017) in 2004 the Scopus database published about 2000 papers in predatory type journals (app. 0,1 %), this figure increased in 2015 to approximately 60000 papers (approximately 3 %).

Not only journals, but also many conference organisers behave in “predatory” way. Today it is rather simple to get the proceedings to be included in Clarivate or Scopus system and the promise that the proceedings will be submitted for evaluation by these systems is in many cases the core “motivation” factors to participate. In most cases the quality is a marginal issue for organisers, the quantity crucial. Extra advantage for authors is the very good chance to use this type of papers to manage their own so called “citation circles” (Teodorescu & Andrei, 2014).

The final issue to be mentioned here is publishing via “own” publication platforms. Machacek and Srholec (2017) speak about “samizdat” journals and even name some of them. They identified 13 journals registered in Scopus and issued by Czech universities with more than 33% of the articles written by their own university staff. The journal *Scientia Agriculturae Bohemica*, published by the Czech Agricultural University in Prague is the “top” with more than 80% of papers by authors from this institution. Another journal directly mentioned by these authors (p. 32) is *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, indexed in Scopus from 2007. This journal is published during the period 2013-2016 with a total of 968 articles. From this, 56% of articles was published by authors from Mendel University, 89% of authors from the Czech Republic. One author from Mendel University managed to publish during the above mentioned period a massive 34 articles in this journal, 15 of them in 2016.

As indicated several times above, another important philosophical/ethical/practical issue is to publish in Open Access (OA) journals (journals whose contents are freely available to scholars through the Internet). The philosophic-ethical dimension of this dilemma is especially connected with the above problem of predatory publishing – many experts argue that most predatory publications appear in OA journals. However, positive evaluations can also be found – for example Koochang and Harman (2006) argue that many OA journals have matured, many have developed impact factors and citation rates equal to similar traditional journals, their peer-review is as rigorous or more rigorous than similar traditional print journals. Suber

(2002, p.31) noted: “None of the advantages of traditional scientific journals need be sacrificed to provide free online access to scientific journal articles. Objections that open access to scientific journal literature requires the sacrifice of peer-review, revenue, copyright protection, or other strengths of traditional journals, are based on misunderstandings.

On the other hand, many open access journals charge significant fees. Knight and Steinbach, (2008, p.70) argue that “Such charges raise the issue of whether at some journals; the key determinant in an article being published might be the author’s ability to pay and not the considered opinion of reviewers and editors. Of course, this possibility is no different in the case of print journals. The journal medium does not determine the rigor of the review or the ethics of the editors. Taking these remarks into account, it is more visible today that the focus should not be on “traditional” versus “open access”, but on real quality.”

Many aspects of the practical dimension were also indicated above - open access journals often provide more rapid dissemination of knowledge, especially free and open exchange of information (good publication in such journal gives to the author very good chance for more frequent quotations of such article). On the other hand, open access journals may not be as well evaluated as “traditional” journals by performance committees and performance financing schemes. Apart for speed and impact, two other questions may be relevant for authors are:

Does the author retain copyright of the article?

Is the copyright transferred to the journal?

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2.3 Correct Submission Procedures

Marta Orviská, Juraj Nemec, Ján Hunady and Ivan Sedliačik

Introduction

Academic outlets have numerous similarities but in certain aspects they differ from each other. In the following text we focus on types of potential publications, its structure and formal requirements by providing three examples so researchers can make comparison. Two of them are the journals covered by the most important publishing houses – Elsevier and Springer – and the last one is Prague Economic Papers, independent journal published by University of Economics in Prague. Firstly, here is a brief introduction of the journals:

Research Policy (Elsevier Journal)

Research Policy (RP) is a multi-disciplinary journal devoted to analyzing, understanding and effectively responding to the economic, policy, management, organizational, environmental and other challenges posed by innovation, technology, R&D and science. RP is generally acknowledged to be the leading journal in the field of innovation studies, with its academic status and influence being reflected in a remarkably high ‘Impact Factor’ for a multidisciplinary social science journal. More information about the journal is available at the web page: <https://www.elsevier.com/journals/research-policy/0048-7333?generatepdf=true>

Economia Politica (Springer Journal)

The journal publishes peer-reviewed articles that link theory and analysis in political economy, promoting a deeper understanding of economic realities and more effective courses of policy action. Established in 1984, the journal has kept pace with the times in disseminating high-quality and influential research aimed at establishing fruitful links between theories, approaches and institutions. With this re-launch (which combines Springer’s worldwide scientific scope with the Italian cultural roots of *il Mulino* and *Fondazione Edison*, whose research has been published by the two mentioned publishers for many years), the journal further reinforces its position in the European and international economic debate and scientific community. Furthermore, this move increases its pluralistic attention to the role that – at the micro,

sectoral, and macro level – institutions and innovation play in the unfolding of economic change at different stages of development. Additional information about the journal is available at the web page: <https://www.springer.com/economics/policy/journal/40888>.

Prague Economic Papers (Journal of the University of Economics, Prague)

Prague Economic Papers (PEP) is a representative scientific journal dealing with economic and financial theory, modelling and empirical analysis. The journal focuses mainly on publishing of articles that bring new original insights into economic and financial theory and modelling, the innovative approaches in the econometric modelling, and the results of empirical analyses that can be generalized or that can be inspiring for empirical analyses in other economic spaces. It presents information about scientific life and new interesting economic literature published. The main aim of the Prague Economic Papers is to publish articles that will be interesting to both theoretically and practically directed readers. As a reviewed scientific journal it has been published since 1992 by the University of Economics, Prague.

Academic outlets are not limited only to publishing of empirical or theoretical research articles, but provide also a platform for other publications like research notes, discussion papers, consultations, survey articles, annotations, book reviews, etc. Some journals provide also special issues and special sections on a particular theme, where editors put an integrated collection of articles. In the following text, we bring a brief overview of different types of publications that trainee can submit for a review process in selected journals.

In general we can distinguish several types of publication in economic journals:

- *Research Articles* - full-length papers (up to 8,000-10,000 words in Research Policy journal and up to 30000 in *Economia Politica*).
- *Research Notes* - typically of 3,000-5,000 words. This category is a vehicle for specific types of material that merit publication, but do not require all the 'normal' components of a full research article. This might cover, for example, specific aspects of methodology or short reports about specific sets or types of data (and their access and use) that merit publication without the full set of requirements for a normal article.

- *Discussion Papers* - occasionally published on important topical issues where views differ;
- *Book Reviews* – should have commonly up to 3500 or 5000 characters.
- Research Articles in Special Issues and Special Sections.

More information about the journal is available at the web page: <https://www.vse.cz/pep/text-information-for-authors.php>.

2.3.1 Before the submission

2.3.1.1 Manuscript structure

In the following text we cover different requirements for the structure and formal requirements of our “example“ academic outlets. Manuscripts’ structure of the research articles is generally very similar. Some of the academic outlets are more specific or strict; others are more relaxed to authors.

a) Structure of the manuscript in Research Policy (Elsevier journal)

Each article published in Research Policy journal (<https://www.elsevier.com/journals/research-policy/0048-7333?generatepdf=true>) should be divided into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (while the abstract is not included in section numbering). Any subsection may be given a brief heading. Each heading should appear on its own separate line. ‘Acknowledgements’ section at the end should not be included in the section number either. A typical article might include the following main sections.

Introduction. The objectives of the work should be stated and provide an adequate background, avoiding detailed literature survey or a summary of the results. The introduction should also justify why the topic of the paper is important and that the content is original. The summary of results should have been dealt with in the abstract.

Literature review, conceptual framework, hypotheses etc. This section should extend (but not repeat) the background to the article already dealt with in the Introduction and lay the foundation for the work being reported. It should identify the most relevant previous literature on the topic (but not in

excessive detail) in order to position the paper and demonstrate how it will make a significant contribution. It (or a separate section) should set out (and justify) the theoretical or conceptual framework adopted in the paper. It may identify a number of hypotheses to be tested or research questions to be explored. In short, this section (or sections) should explain what the motivation for the paper is and why its contribution is original and significant.

Material and methods. Sufficient details should be provided to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, quotation marks should be used and the source should be cited. Any modifications to existing methods should also be described. The reader needs to know that the empirical data and/or other material are relevant, reliable and capable of supporting robust conclusions, and that the methodology is appropriate, systematic and rigorous.

Results should be clear and concise.

Discussion. This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Extensive citations and discussion of published literature should be avoided.

Conclusions. The main conclusions of the study may be presented in a short Conclusion section, which may stand alone or form a subsection of a Discussion or Results and Discussion section. This section should also make clear what is the original contribution of the paper, discuss the policy or management implications of the findings, provide a critical assessment of the limitations of study, and outline possible fruitful lines for further research.

Appendices. If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

b) Structure of the manuscript in *Economia Politica* (Springer journal)

Submissions to *Economia Politica* (<https://www.springer.com/economics/policy/journal/40888>) are considered for publication on the verified condition they

are original scholarships, bearing upon issues relevant to its editorial aims in the form of research papers. Submitted manuscripts should be up to 15,000 words in length, including all references, notes and appendices

- c) Structure of the manuscript in Prague Economic Papers (Journal of the University of Economics, Prague)

There is no recommended structure for articles published in *Prague Economic Papers* (<https://www.vse.cz/pep/text-information-for-authors.php>), authors should follow general structures. The *pages* of the manuscript should be numbered as well as the *chapters* of the text (max. two levels). *Abstract* (max. 1,000 characters), *Keywords* (3–6) and JEL Classification (3–6) have to be included. *Length of title of paper* is maximum 80 characters

2.3.1.2 Formal requirements

Each paper published requires adherence to formal requirements of a specific academic outlet. Researchers would be interested in formal requirements at later stages of the publishing process, but it is strongly recommended to read and follow those before preparing the manuscript. The reason is simple: size of a paper required by the academic outlet. Word counts, format, styles, tables, figures and literature formatting – all of those have impact on paper's size.

- a) **Formal requirements in Research Policy** (<http://www.elsevierbv.com/journals/research-policy/0048-7333?generatepdf=true>)

Research Policy journal has a strong preference for articles to be no more than 8,000-10,000 words. In exceptional circumstances, however, the *Research Policy* (RP) Editor handling the paper may be willing to give some latitude here for the author. *Research Policy* differentiates between the requirements for new and revised submissions.

New submissions. When processing *new submission*, authors may choose the option of a single Word or PDF file to be used in the refereeing process (called “Your Paper Your Way service”). Only when the paper is at the *revision stage*, author is requested to put the paper in to a ‘correct format’ for acceptance and provide the items required for the publication of the article. There are no strict requirements on *reference formatting* at submission. References can be in any style or format as long as the style is consistent.

Where applicable, author(s) name(s), journal title/ book title, chapter title/ article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. *The reference style* used by the journal is being applied to the accepted article by Elsevier at the proof stage. There are no strict *formatting requirements* but all manuscripts must contain the essential elements needed to convey the manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions. If the article includes any Videos and/or other Supplementary material, this should be included in the initial submission for peer review purposes. Articles should be divided into clearly defined sections. *Figures and tables* should be placed either next to the relevant text in the article or on separate page(s) at the end (not a mixture of both).

Revised submissions. The Editors may request that text should be left-aligned and double-spaced (or at least 1.5 spacing), with margins of 1 inch or 2.5 cm all round. In addition, authors should make sure that they have ‘accepted’ all changes previously listed in earlier versions under ‘track changes’, and that all embedded comments or highlighting of the text has likewise been removed. To avoid unnecessary errors authors are strongly advised to use the “spell-check” and “grammar-check” functions of the word-processor. Authors for whom English is not their first language should also seek help from colleagues or professional editors if this is necessary to bring the standard of the written English up to an acceptable standard. Regardless of the file format of the original submission, at revision, authors must provide the journal with an editable file of the entire article. The layout of the text should be kept as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the *Guide to Publishing* with Elsevier). To avoid unnecessary errors, authors are strongly advised to use the ‘spell-check’ and ‘grammar-check’ functions.

b) Formal requirements based on example of *Economia Politica*

(<https://www.springer.com/economics/policy/journal/40888>)

Since this journal follows a double-blind reviewing procedure, authors are therefore requested to submit a *blinded manuscript* without any author names and affiliations in the text or on the title page. Self-identifying citations and references in the article text should be avoided. A second document to be

submitted is a separate title page, containing title, all author names, affiliations, and the contact information of the corresponding author. Any acknowledgements, disclosures, or funding information should also be included on this page.

Abstract (maximum 150 to 250 words) should not contain any undefined abbreviations or unspecified references.

Keywords are limited to 4 to 6 words which can be used for indexing purposes.

Text Formatting. Manuscripts should be submitted in Word in docx format (Word 2007 or higher) or doc format (older Word versions). Authors should use a normal, plain font (e.g., 10-point Times Roman) for text, italics for emphasis, and the automatic page numbering function to number the pages. Further, authors are requested not to use field functions, should use tab stops or other commands for indents, not the space bar. To make tables, a table function should be used, not spreadsheets. For equations, equation editor or MathType should be used. Manuscripts with mathematical content can also be submitted in LaTeX.

Headings. Authors should use the decimal system of headings with no more than three levels.

Abbreviations should be defined at first mention and used consistently thereafter.

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables. Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Acknowledgments of people, grants, funds, etc., should be placed in a separate section on the title page. The names of funding organizations should be written in full.

Citation. References in the text should be cited by name and year in parentheses.

Reference list should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list. Reference list entries should be alphabetized by the last names of the first author of each work.

Tables. All tables are to be numbered using Arabic numerals. Tables should always be cited in text in consecutive numerical order. For each table, a table caption (title) should be supplied explaining the components of the table.

c) Formal requirements based on example of Prague Economic Papers (<https://www.vse.cz/pep/text-information-for-authors.php>)

A minimum of formatting is required in *Prague Economic Papers*. Editors encourage only bold and italics fonts when appropriate (e.g. variables *italic*, constants not italic, *etc.*).

Tables are written by Word tool (not pasted as pictures). Data sources need to be included. Any less frequent concepts and *abbreviations* should be explained in the text. *Footnotes* should be written at the bottom of a page and numbered consecutively. *Figures*, schemas, *etc.* are placed in Word with title, note and source only for orientation purpose (not editable). All *Figures, etc.* need to be enclosed in separate editable files (format of original programme – xls, tif, eps; min. 300 dpi, 128 mm). Arial, 8. *Figures* in Word need to be identical to figures in separate editable files. Authors should note that the included coloured figures and graphs are printed in black and white; thus consider whether they will not lose their lucidity. *Equations* must be uniformly formatted. Equations should be created using the tools integrated in Word editor or in the *MathType* (Times New Roman, 10) software preferably. Easy equations write as Word symbols, e.g. $(\beta = a - 1)$. (how to write). *References* within the text should contain only the first item of the cited document (usually the author's surname) and the year of its publication – e.g., Samuelson (1989); if a citation is included, indicate the respective page. At the end of the manuscript a list of references in alphabetical order according to the References Style standard have to be included. Write all *DOI numbers* to references (use e.g. <https://www.crossref.org/> to find them). Any manuscript which is not conforming to those requirements is returned to the author(s).

2.3.2 Submission process

In this section we describe the whole submission process step by step. It will be predominantly focused on submission of research manuscript, but there are only small differences, when submitting for example literature review, book review or other types of submissions.

Despite the fact, that we try to be as concrete as possible when describing the submission process, there are still many different ways on how to submit manuscript. In general we can classify the submission techniques as follows:

1. Submission via standard online submission system of publisher – the same for most of the journals,
2. Submission via own unique online submission system of the journal,
3. Submission via uploading directly on the website or into data storage,
4. Submission via e-mail communication with editors.

In recent years, the first two techniques have become very popular. Online submission systems are less time consuming and more effective for editors, reviewers and could be also beneficial for authors. Most of the highly rated journals currently use this submission technique. However, it is still always necessary to keep track with submission guidelines on the website of certain journal. They can be mostly found in the sections entitled “Guide for authors” or on the page of the submission system itself.

In the text, we focus on two different journals mentioned before. Both are published by two largest publishing houses Elsevier and Springer (*Research Policy* and *Economia Politica*). Hence, we can say that the submission will be very similar for all submissions that are published under Elsevier or Springer brand.

These two publishers as well as most of the others are using their own standardized online submission systems for almost all journals published by them.

Approximately twice a year, *Research Policy* may publish a Special Issue (or a somewhat shorter Special Section) on a particular theme, where an integrated collection of articles has been put together and edited by two or three Guest Editors.

2.3.2.1 Login into the online submission system

Journals have usually their own pages where authors can login directly to submit the article. For example, in the case of Elsevier journals this page can be accessed through the journal's homepage and the main domain is ees.elsevier.com followed by the abbreviation of the journal (for *Research Policy* the page is <https://ees.elsevier.com/respol/>). For the Springer journals the page for submission is on the domain www.editorialmanager.com (for *Economia Politica* the page is www.editorialmanager.com/epol/default.aspx). The page for login into the submission system is of course also accessible from the home page of every Springer journal as well.

In general, when submitting for the first time to selected journals, authors have to do the registration first. This is often necessary in order to get the login name and password into the submission system. Authors have to enter the name and email address in order to get login and passwords, which will be sent to their e-mails.

However, there is sometimes a possibility to have same consolidated login and password for every journal published by the same publisher. Furthermore, many journals support the login via ORCID. An ORCID is a non-proprietary alphanumeric code that uniquely identifies an academic author. It is a 16-digit code, in the format: 0000-0000-0000-000X. Publishers use it to unambiguously attribute any published work to the correct authors.

After successful registration and/or login into the system, the main page of submission system can be seen. Firstly, it is often necessary to fill in details about affiliation and research specialization of the submitter. Often, there will be a question on whether the submitter is available to be a potential reviewer for this journal. If the main focus of the journal is complementary this could be beneficial for authors.

2.3.2.2 Choosing the type of the submission

After initial formalities, the submitter can proceed directly to manuscript submission. This could be usually done by clicking on “Submit new manuscript” or “New submission”. The online submission system guides the submitter stepwise through the process of entering the article details and uploading all files.

Firstly, it is important to select the type of the submission as shown in the examples in Table 2.3.1 below.

Table 2.3.1. Types of the submission

	Research Policy (2018) (Choose Article Type)	Economia Politica (2018) (Select an article type)
Types of the submission	1. Research note	1. Original research paper
	2. Research paper	2. Editorial
	3. Special issue: “Academic misconduct”	3. Book review
	4. Special issue: “Policy makers”	4. Special issue: “R&D and firms’ internationalisation
	5. Special issue: “Innovative start-ups”	5. Special issue: “Small businesses in the aftermath of the Great Recession”:
	Book review	

Source: Authors based on Research Policy – online submission system. (2018) and *Economia Politica* – Editorial manager. (2018).

It is upon the authors whether they want to submit to some of journals’ special issue, but the review process often is faster in this case. When the topic of the submitted manuscript falls within the scope of the special issue it is recommended to submit to special issue rather than standard issue. If the paper is for special issue authors should make sure that they select the correct special issue article type using the drop-down menu, because journals often have several special issues in preparation. Not selecting the correct special issue type for the article topic means that the paper is not included in the special issue at all, if accepted. Several journals allow authors also to include interactive plots with the online article. In order to apply this feature there is a need to upload a file in a CSV (comma-separated values) format as supplementary materials at the end of the submission process.

All steps of the submission process are often shown in the submission system. They can be also seen in the left menu in the next figure. However, the order as well as the content of the each step could be different from journal to journal.

Table 2.3.2. Steps in the submission process according to the journal *Research Policy*

Submission process options according to Research policy (2018) :
1. Select article type (type of the submission – required for starting the submission)
2. Enter title (Entering a full title - required for starting the submission process)
3. Add/edit/remove Authors
4. Submit Abstract
5. Enter Keywords
6. Additional Information
7. Enter Comments
8. Request Editor
9. Attach Files

Source: Authors based on *Research Policy* (2018) – online submission system.

2.3.2.3 Entering the title and further details of the manuscript

The system also requires the title of the manuscript. This is an important step because often you are not able to proceed further without entering the title. It will be one of the main distinguishing marks of the submission (together with the code of the submission). At the same time authors should also enter the abstract and keywords. Authors can also copy and paste the abstract from the manuscript in the word processing software. References should be avoided in the abstract. The length of the abstract that could be entered into the system is often limited by certain number of characters, but the exact length depends on the journal. The required number of keywords is usually in the interval from 4 to 7. Among other things, keywords will also help Editors select appropriate referees to review the submission. Mostly the keywords should be separated by semicolons.

2.3.2.4 Adding and editing authors of the manuscript

After entering the title and other parts of the manuscript, authors are able to proceed in the submission process. In the next step the system usually requires names and details about the authors of the manuscript. In this section of the submission it is important to enter the names of everyone who contributed to the manuscript. The presentation of authorship is highly important for researchers and academics. Hence, following the submission process, it can be confirmed that all authors' details are correctly added and that all co-authors agreed to the authorship and the order of authorships in the manuscript. Authors have to agree with the submission itself. Authors' names should be already entered in the system, but it is necessary to enter the names of each co-author together with their institutions and e-mails.

It is also important to double check all details entered especially contact e-mails, because after successful submission all co-authors will be automatically informed about this fact through e-mails. In order to add another author it usually necessary to click on the plus sign "add another co-author". The example of the form used for entering the details about Authors is shown in Table 2.3.3.

Table 2.3.3. Entering details about the author into the system

Title
Given /First Name
Middle Name
Family Name
Academic Degree(s)
E-mail address
Institution
Country or Region

Source: Authors based on *Economia politica* – Editorial manager. (2018).

Authors have to choose corresponding authors for the manuscript. Corresponding authors will be primarily informed about all changes and procedures during the review process as well as about the final decision. The order of authors can be also changed by dragging and dropping them in the list of authors. Importantly, it is necessary to have the consent of all authors when submitting the manuscript. It is not only the ethical standard but it is also important for technical reasons. Once the submission is completed it is not allowed to add or remove any of the authors. Name of the authors will be visible only to Editors. In line with the double-blind peer review policy, reviewers will get blinded manuscripts. This is more or less the standard for good quality scientific journals.

2.3.2.5 Additional information about the manuscript

In the next step of the submission process, authors have to enter other important information regarding the manuscript. First authors are asked to enter funding details of the research if applicable as it can be seen in the example below. When the submitted paper is the output of any funded research project it has to be mentioned here. Authors have to provide funder name, grant number and the grant recipient. After the first three letters, the system will offer a selectable list of best matches for the funder name. Most journals provide this opportunity to find a founder in their database. However, many local institutions could not be listed in the text. Thus sometimes it is necessary to enter funder name manually. You have to fill the funding institution, award number and recipient of the grant. Make sure to select or enter the correct funder as well as award number. In the case that there is more than one funders it is often available to click on the plus sign to add another funder and the details. All information about the funding has to be deleted from the manuscript itself to ensure anonymity during review process. After this step is finished it is necessary to click on the “Next” button.

There are still several other additional information which are often needed during submission. As can be seen in Table 2.3.4, authors are often asked to ensure that submitted paper has not previously been published either in whole or in part. Moreover, it also should not be under consideration by another journal at the same time. It is very important to be aware of this fact and do not submit the same paper to other journals until the final decision about publication or final rejection is made.

Table 2.3.4. Additional information during the submission

Additional information needed Please respond to questions or statements below (instructions are mostly available):	Answer required with limited number of characters (e.g. 20000)
Can you assure us that this paper has not been previously published (in whole or in a part), that it or a part of it is not currently under consideration by another journal and that it will not be submitted for publication elsewhere until a decision has been made by this journal.	
Have you read and do you fully accept the Ethical Guidelines of the publisher for journal publication in particular the responsibilities set out in the section headed Duties of Authors and can you confirm that your paper contains no element of data fabrication, data falsification or plagiarism (including unacknowledged self-plagiarism).	

Source: Authors based on *Research Policy* – online submission system. (2018).

Authors are also often requested to fully accept the ethical standards of the publisher. It is recommended to read carefully the ethical guidelines of the journal before submission. It is obvious, that the manuscript considered for publication must meet high ethical standards and contains no element of data fabrication, data falsification or plagiarism (including unacknowledged self-plagiarism).

When submitting to economic journals, articles are also often required to indicate 3 JEL codes, with categories relevant to the journal. All categories can be found on the webpage of *American Economic Association* (<https://www.aeaweb.org/jel/guide/jel.php>). It is important to choose three most suitable categories based on the topic of the paper as well as the focus of the journal. Any necessary comments for Editors could be also sent via the

system. These comments do not appear in the final submission but are available for the editor's office.

2.3.2.6 Requesting editor and suggesting potential reviewers

Several journals provide an opportunity to choose preferred editor. This usually applies for journals with large editorial board and those with wide focus on different research areas. This enables authors to choose the best suited Editor in the light of the content of the paper. They can usefully choose the name of the Editor from the drop-down menu. The name surname and also the affiliation of each editor can be mostly seen there. For example, *Research Policy* provides in the year 2018 the opportunity to choose from nine different Editors. They encourage authors to choose the Editor who is best suited in the light of the content of the paper. Of course it is very useful to find out important information about the research focus and publications of Editors before choosing. Authors should not choose an Editor working in the same institution. Nor should they choose an Editor with whom they have co-authored, collaborated or had some professional or personal relationship over the last five years. In some cases, Editor-in-chief may still reallocate the paper internally to another Editor based on their availability and appropriateness.

Authors are sometimes also asked to mention potential reviewers of their manuscript. It is mostly mandatory to enter their names, institutions and e-mail. However, it is obvious that this is used only as recommendation which could be accepted or rejected by the Editor.

2.3.2.7 Uploading the manuscript and other items into the submission system

Finally it is necessary to attach and upload the files into the system. This is often the most time consuming step and may significantly differ from journal to journal. However, in most cases the procedure is somewhat similar. There are several items which could be uploaded. These items are mentioned in the list as it can be seen as examples in Table 2.3.5.

Table 2.3.5. Common items included in the submission in economic journals

Item description:	Required/ Voluntary item
Page containing Authors names and contact details/ Title page with names	Required item
Manuscript (without authors names and contact details – double blind policy)	Required item
Cover Letter/ Letter to the Editor	Mostly voluntary item but in some journals required
Tables (included separately)	Voluntary item
Figures (included separately)	Voluntary item
Research highlights	Voluntary item
Graphical abstract	Voluntary item
Video	Voluntary item
LaTeX source file	Voluntary item
Data	Voluntary ore required item
Supplementary interactive plot data (CSV format)	Voluntary item
Other supplementary material	Voluntary item

Source: Authors based on *Economia Politica* – Editorial manager. (2018) and *Research Policy* – online submission system. (2018).

Required items are usually marked with an asterisk *. Submitter has to upload these items in order to successfully finalize the submission. This includes the title page of the manuscript with the authors’ names and details and blinded manuscript without author details. Authors could also upload the cover letter for the Editor. Figures and Tables are often uploaded separately from the text. It is necessary to label them again in the system and sort them according to their appearance in the text.

For each file that authors want to submit, they have to adhere to these steps:

1. Select appropriate item from scroll down menu.
2. Enter a description in the text box.

3. Click “Browse” or “Choose files” and in the opened window, select the file on the computer and click “Open”.
4. Click “Attach This File”. Attached items will be visible in the list.

These steps should be repeated to attach the next submission item. When all items have been attached submitter can proceed to finalize the submission.

2.3.2.8 Sending the final submission

In this final step of submission process, all uploaded items are bind together into one .pdf file. This procedure usually takes a few minutes, depending on the number and size of the items. Authors also get email notification when the final manuscript file is built. After this announcement authors are able to double-check the final .pdf file again. We need to do it carefully to make sure that it has all necessary items. This is the last opportunity to change the submission. After approving and sending the manuscript, it will be sent to the editor’s office. It will also get a unique submission code which is important in the case of further communication with the editor. Submitters and all other authors of the paper will get e-mail notification about successful submissions. The current status of the submissions could be always seen in the submission system after login. Initially it will probably indicate that the current status is “submitted”. This status will change after the manuscript is assigned to one of the Editors.

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2.4 Dealing with Rejected Papers

Fathul Wahid and Is Fatimah

2.4.1 Causes of Manuscript Rejection

It is frequently said that there is no successful researcher who never experienced rejection. Although the correlation between the quality of a journal (measured by impact factor) and the rejection percentage is debatable, the majority of high impact journals have a rejection rate of 50–80%. Based on the journal that is targeted, having the manuscript accepted or rejected is a natural process. As such, receiving a rejection is part of a healthy peer-review process to publish in a journal. From the author's point of view, being rejected will often lead to the improvement of the manuscript as there are often multiple rejection points involved that can improve its quality. This is a view that should be taken rather than the assumption that rejection is just for a journal's credibility. Therefore, understanding the reasons for rejection is extremely important to help authors improve their future work.

Authors must be well aware that submitting a manuscript to a journal is a process of scientific communication between them and the readers of a journal. This is a communication that aims to convey scientific content such as the results of a research or literature study.

All manuscript submissions will normally undergo the reviewing process (see the scheme presented in Figure 2.4.1) before final decisions regarding publication are made by the journal.

1. **Editorial office checking:** The editorial officer checks the completeness of the manuscript submission and identifies whether it is an original submission or not. When the manuscript is identified as an incomplete submission or unoriginal, its status will be returned to the authors as “unsubmitted.” However, when the manuscript is evaluated as complete, it will be forwarded to the editor in chief (EC) so that an associate editor (AE) can be selected for the next steps.
2. **AE assignment:** The EC selects an AE to handle the submitted manuscript. Usually, AEs are selected based on their expertise and

the relevant topic of the manuscript. When a manuscript is resubmitted, the EC will usually reassign it to the same AE unless there are specific reasons not to.

3. **Reviewer selection and invitation:** The AE selects a group of potential reviewers, who are selected either from the journal's reviewer database or from the authors' suggested reviewer list. For resubmissions, the AE can invite the same or a different group of reviewers. After the reviewer selection, the AE sends the review invitations to the selected reviewers. Usually, the invitation contains the title, the author list, and the abstract of the submitted manuscript. The number of required reviewers for a paper depends on the journal's policies.
4. **Reviewer assignment:** When the invited reviewers accept the invitation, the manuscript will be reviewed for a certain period, which is part of the reviewing process. The reviewers' task is different from the one of the EC or AE. Reviewers are responsible for criticizing the academic substance and the overall quality of the research presented in the submitted manuscript. An adequate reviewer will provide objective and well-described comments on the manuscript.
5. **AE recommendation:** Based on all the review comments and scores, the AE decides to either recommend acceptance or rejection to the EC. In the event when there is not enough input from the reviewers to make a decision, the AE can invite another reviewer for additional evaluation.
6. **The decision of the EC:** Based on the reviewer comments and the AE's recommendation, the EC makes the final decision whether to accept the manuscript or not.

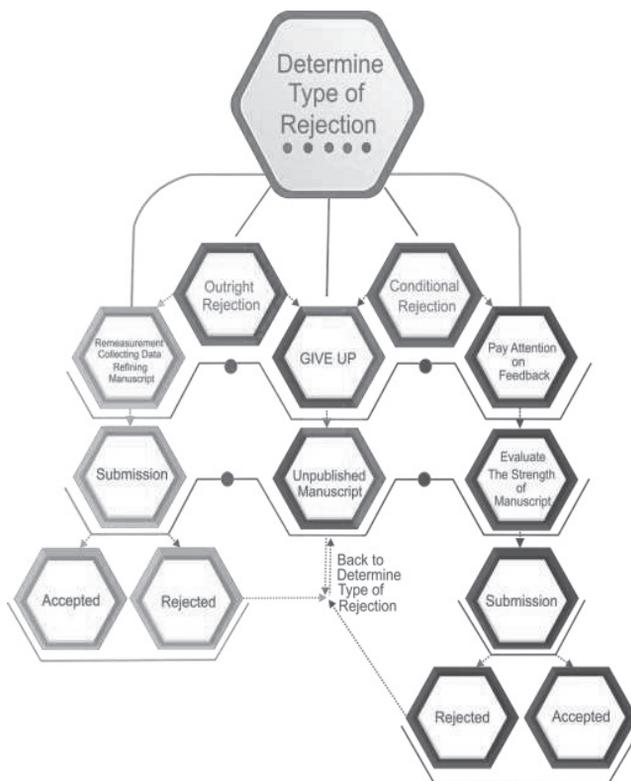


Figure 2.4.1. What to do after rejection

Source: Authors own

Based on the above steps, the journal’s editorial officer is the first reader of the manuscript. Generally, they are professionals in certain specialized scientific fields who do not have the time to read manuscript submissions in detail. For this reason, they need the opinions, views, and recommendations from other researchers that are in the same field and can act as a reviewer.

A manuscript can be rejected after being checked by the editorial officer and EC, after the review by the reviewers, and after being resubmitted. When the rejection is made before the review by reviewers, it is termed as “**Desk Rejection,**” which also applies when the manuscript gets rejected after the editorial officer has sent it to reviewers.

The EC has the discretion, even before sending it to the reviewers for reviewing, to reject the manuscript immediately. Additionally, a rejected

manuscript by the editorial officer, before the reviewing process, can occur when a manuscript is in an unsuitable format, contains plagiarism, or has an unsuitable topic outside the aim and scope of the respective journal. For example, for a pharmaceutical journal, it was reported that about 20–30% of the manuscripts in the pharmacy topics could be quickly rejected due to these reasons. With an electronic submission system, the editorial rejection can occur within a few hours, and thus allows the authors to submit quickly to another journal.

For manuscript submissions, there are two types of rejection: conditional rejection and outright rejection. An outright rejection also means “rejected, do not resubmit.” In contrast, conditional rejection means that the manuscript could be acceptable but has to be improved based on the editor’s or reviewers’ points. Both rejections have been derived from different fundamental reasons. Here, outright rejection is usually directly related to a manuscript’s inappropriate aim and scope, fundamental flaw(s) in research design and methodology, and even un-alignment with the journal’s publishing ethics. For common descriptions used for both rejection types, see Table 2.4.1.

Table 2.4.1. Examples of common descriptions for both types of rejection

Outright Rejection
<i>a/ Thank you for submitting your manuscript to “_____.” I regret to inform you that we have decided against publishing your manuscript. The data and the experimental methods seem to be invalid.</i>
<i>b/ I regret to inform you that we have decided against publishing your manuscript. The main problem of the submitted manuscript is the lack of sufficient novelty; furthermore, the information content was limited as well.</i>
Conditional Rejection
<i>Thank you for submitting your manuscript to “_____.” The manuscript requires revision to comply with the requirements of our journal.</i>

Source: Authors own

Below are more details regarding the reasons for rejection.

- a. **The manuscript does not fall within the aim and scope of the journal**

When a rejection is based on this reason, there is no other option than to submit the manuscript to another—more appropriate—journal. A rejection based on this reason is an outright rejection. Depending on the rejection details, the manuscript might not need any revision prior to its submission to another journal. In this regard, the manuscript's quality may be high enough but does not fit, for one reason or another, with the aim and scope of the respective journal.

The mismatch of the manuscript with the journal generally occurs due to the advanced topic of the respective research. For example, difficulties arise to choose a journal for a research paper that focuses on the application of carbon material for environmental remediation using adsorption technology. At a glance, there are many suitable journals based on the aim and scope for the manuscript's topic, including environment protection, environmental technology, material technology, or possibly a journal involved with the theoretical concepts of the adsorption process. However, screening the various manuscripts and their topics published in the targeted journal before submission will provide a better description regarding the aim and scope of the targeted journal rather than predicting it based on keywords.

b. The manuscript contains elements that are suspected to be against the publication ethics

Having a clear understanding of the publication ethics is a must when submitting a manuscript to a journal. Here, the Committee of Publication Ethics (COPE) is a standard that is used and referred to by many journals and publishers to which authors should pay attention to. Various important ethical guidelines of COPE for authors include the absence of plagiarism (including language plagiarism), submission of the same manuscript to multiple journals, and the ethical clearance and authorship.

For the first ethical guide, for example, the authorship, there should be no conflict of interest. This includes that all manuscript contributors and its data must be acknowledged properly. Additionally, all authors must be actual contributors of the manuscript's data. This means that a ghost writer cannot be added nor authors that were not actually involved—a strategy often used to increase the publication list of the respective author. Furthermore, reporting the funding body of research and the affiliations should be in line with the journal's publication guidelines.

Regarding the submission of the same manuscript to multiple journals (also called duplicate publication), the publisher and the editorial editor generally utilize a plagiarism checker to identify plagiarism easily, which functions particularly well for text similarity. Additionally, the use of images, graphs, or other academic information—without permission from the publisher—is not allowed, even when these are from a published manuscript of the author him/herself. Furthermore, the submitted manuscript to one journal should not be under consideration by another.

Unlike duplicate publication, publishing small “slices” of research in several different papers, called “salami publication” or “salami slicing,” is regarded as unethical. According to the U.S. Office of Research Integrity, salami slicing of research data can result in the distortion of literature by leading unsuspected readers to believe that the data presented in each salami slice (i.e., journal article) is derived from a different subject sample. This not only skews the “scientific database,” but it creates repetition that wastes the readers’ time as well as the time of editors and reviewers who must handle each manuscript separately. On top of that, it unfairly inflates the author’s citation record.

Next, for research involving animals, the ethical clearance step should be made before the actual submission and should be proven by a formal letter by an ethical board stating its clearance. This statement regarding animal experimentation on publishing ethic awareness is usually stated in the cover letter to the journal. Overall, manuscripts that contain elements that are suspected not in line with publishing ethics will be outright rejected.

c. Incomplete manuscript

The completeness of the manuscript during submission indicates the sincerity of an author. Here, an incomplete manuscript may lack key elements such as the title, authors, affiliations, keywords, main text, references, and tables and figures. For some journals, the figures and tables must be separated from the text, but for others, they must be included in the text. Based on these various requirements, the manuscript must conform to the “guide for authors” of the targeted journal. For instance, a figure should be prepared using appropriate software, and its texts should be clear enough to read. The reader should be able to comprehend graph’s information quickly and easily with the help of a proper legend, notation, axis parameters, scale, etc. For

figures including photographic images, a minimum resolution of 500 dpi is particularly recommended.

d. Poor use of English

High-quality English is one of the requirements included in the technical review process by the editorial officer. Even when the research idea has a high novelty value, proper methodology, and good results, a confused editorial officer who has difficulty understanding the manuscript's sentences—due to poor English—will often give the manuscripts negative comments as the poor language makes the overall quality of the research look weak. However, this kind of problem can be easily fixed by either asking a native English-speaking colleague to review the manuscript or by hiring a professional copy-editor/proof reader.

e. References are inconsistent, incomplete, or very old

There are three important aspects regarding citations and the reference list:

1. The first aspect involves the suitability of the citation's format. The authors must thoroughly understand the guide for authors regarding the reference format of the respective journal. Instead of only having all the cited references in the manuscript matched and listed in the bibliography, the format must be in accordance with the journal's reference list requirements. Using inconsistent or various styles to cite references in the manuscript or missing citations in the references list may indicate a copy-pasting action in sentences and can be detected as plagiarism. The use of a reference manager, such as Mendeley, Endnote, etc., can easily prevent this problem.
2. The second aspect involves the requirement of relevant references within the text. Here, references are used to support the statement or discussion in a sentence by providing the previous work or paper. This approach is also used to show that the data or analyses of the manuscript are in line or even opposite with the cited papers. Importantly, when using references to support statements in the manuscript, the reference should be in accordance with what is conveyed. It is considered offensive and unprofessional when references are randomly cited regardless of their relevance concerning the statement, which often occurs in unprofessionally

managed journals. This occurs, for example, to raise the journal's impact factor, where the editor might suggest the manuscript's authors to include certain papers as references.

3. The third aspect includes the use of recently published references. This is important as out-dated references may indicate that the authors do not follow the recent progress in their respective topic.

f. The quality of research lacks novelty

Manuscript rejection can occur due to its lack of novelty and/or its redundant research scope. For this reason, novelty is a primary criterion of a good manuscript. A high novelty does not necessarily mean that the research has to be entirely new, but a low novelty does indicate the lack of differentiation with previous research.

Example: A manuscript aims to publish the effect of antioxidant X isolated from plant A for anticancer activity, while the previously published manuscript had reported the effect of antioxidant X isolated from plant Y for the same anticancer activity.

The same extraction and testing method described in the second manuscript will have a low novelty because it does not differentiate enough from the first one with similar findings. This means that a strong manuscript provides a significant and novel enough contribution to update the scientific knowledge in its respective field. Thus, prior to the research, the authors should be able to use existing research to design a novel study that significantly adds novel data to the scientific community.

A lack of novelty can also occur from the indication that the manuscript's work is part of a larger study and is divided to make as many articles as possible. Additionally, the content of the manuscript is indicated as a minor extension of previous work. In this regard, this issue may conflict with publishing ethics due to a potential salami slicing action.

Here are the examples:

1. In a paper concerning about antibacterial test of a new compound, authors present other part on synthesis and characterization of the compound that has been published in another paper. In another different paper, authors report the other kind of antibacterial activity

of the compound. It means that the lack of novelty is due to a very small part of contribution and information given by new the paper.

2. Research about the effect of managerial training to the small business community to the productivity. When authors use different objects for the same methods and approaches to the similar objects in the researches, it will lead to the lack of novelty of the research.

g. The manuscript is below the journal's standards

Another possible reason for rejection is related to the manuscript's lack of quality regarding its research content or international importance or interest—i.e., the quality of research is substandard due to poor experimental design and/or methods. The journal's EC always evaluates the quality of the research, with respect to the demands of the journal, before deciding whether to forward it to the AE. Here, some journals will look for research that is related to new critiques and include advanced findings related to their aim and scope. In sum, if the manuscript is lacking in any of the above-mentioned points, it can be labelled as low quality, making the findings internationally unacceptable.

h. Data is poorly presented

Editors and reviewers consider whether the manuscript's topic significantly contributes to the existing knowledge in the respective field based on the presented data and its analysis in the manuscript. Occasionally, when the data is not presented properly, the reviewers may conclude that the work is premature for publication. This may be the case when the manuscript provides data with limited analysis—in which the data may be poorly presented, unclear, labelled incorrectly, or lack statistical analysis—making the conclusions of it difficult to understand. As such, these shortcomings may indicate a faulty experimental design or a poor analysis.

Deciding how to present the data is an important aspect of the manuscript's presentation. For this reason, presenting the data in graphs, histograms, flowcharts, or tables should be properly considered. For crucial data, this is particularly important in order to support the manuscript's conclusions. Therefore, potential obscurities in the measurements should be clearly displayed to avoid unnecessary questions from reviewers that would request

reconfirmation. Optimal clarity of data presentation is also to show that the method and data are reproducible.

i. The procedures and/or analysis of the data are seen as defective

For certain research topics, reviewers can easily determine whether there is an incongruity in the data or methods used that are described in the manuscript. For example, a peculiar and unlikely result, obtained under certain conditions, indicates an incompatibility with the theory and could even indicate the existence of data fabrication. In this situation, the suspected data will have a rapid rejection effect by the reviewers. Here, general sentences will be used as the reason for rejection:

The data do not seem to be taken with the proper method. In these experimental conditions, X data should not be negative. As such, there is an indication of research misconduct.

Or

Experimental operational conditions are not theoretically possible to produce the data as presented. The method or instrument used appears to be invalid.

When the rejection is caused due to the above cases, there is no other choice than to re-evaluate the used method to obtain the data and review the appropriateness of the theory behind it before sending it to another journal. Resubmitting the manuscript to the same journal is unwise as it can result in another rejection even after the data has been corrected. This is because the journal's editors are likely to invite the same reviewers, who could give the bad impression that the research approach in the research problem is no longer appropriate.

j. Inappropriate method

A manuscript containing an inappropriate method based on standard research methods can quickly result in rejection. This can occur, for example, when the study lacked a clear control group, or when there is no comparison before and after treatment. Here, the manuscript's method section is a fundamental aspect often used to determine whether data collecting or mining was performed adequately or not. For example, a study about effect of some treatments to an object, authors do not use a non-treatment action as a controlling factor to determine an objective conclusion.

Overall, the AE and reviewers will pay much attention to the used method described in the manuscript. Especially poorly described methods and improper research designs will reduce the credibility of any claims made in the manuscript.

2.4.2 What to Do After the Rejection of the Manuscript

If authors receive a rejection, it should first be identified whether it is an outright rejection or a conditional one. Then, the authors need to establish what to do next. Here, one can refer to the scheme presented in Figure 2.4.1.

If the rejection is an outright one because the manuscript's content is unsuitable for the journal's aim and scope, the authors should simply pursue publication in another journal. In contrast, if a manuscript has been rejected outright because of fatal flaws or defective methods and data, the authors should strongly consider whether it is appropriate to pursue publication with the current manuscript. An outright rejection could actually prove beneficial to the scientific community when it prevents authors from publishing a potentially misleading and harmful (to the respective field) manuscript.

Whether an outright rejection or a conditional one, ignoring the underlying meaning of it or giving up further action only results in an unpublished manuscript. Paying attention to editor and reviewer comments helps to refine and improve the manuscript, which is beneficial for resubmission or submission to another journal. The following text describes the main steps that should be taken after receiving reviews from a conditional rejection.

a) Pay attention to editor and reviewer comments

Rejection accompanied by the comments of the editor and reviewers is crucial to compile a better-quality manuscript when revising. It even occurs that feedback from reviewers result in an almost entirely new manuscript with a different introduction and perhaps an even more interesting and more intensive data analysis. A manuscript will, in general, be accepted after the third rejection because its quality has become much improved compared to its first submission. This happens when the authors follow the reviewer comments and feedback as well as re-evaluate the strength of all manuscript components.

Ignoring the reviewer comments is another option; however, difficulties could arise when the secondly selected journal uses the same reviewers as the first one. This will cause a negative impression for the authors as the reviewers' feedback for improvement was ignored.

b) Evaluate the strength of each part of the manuscript

Title: The title is a critical component of the manuscript. It gives the first impression and can be a strong invitation for readers to read the manuscript further. However, it also can cause a quick rejection by the journal's editor. In this regard, the manuscript could have been rejected due to an almost identical title of a previously published manuscript, even when the purpose and methodology could be entirely different.

Similar titles may give the impression that the presented works are similar. Then, if in the next section of the manuscript (i.e., the abstract) a description is used—one that does not show any new contribution—the possibility of rejection becomes quite high. Overall, the title of the manuscript is of great importance for the first impression.

The first step to correct the manuscript's title is to evaluate and improve its strength. Here, it is important that the title fulfils the three main elements: keywords, impact, and emphasis. The first step is choosing the proper and objective keywords to make it easier for readers interested in your field of work to find the manuscript online. The second includes a strong title to attract readers and promote the novelty or innovative findings reported in the manuscript or show how these findings will affect the research field and society (as the element of impact). Then as the third step, to fulfill the emphasised element, the authors must make sure that the most important aspect of the manuscript is prominently included in the title.

The refined title includes the new finding and appeals readers to explore how the enhancement was made. Finally, the authors should check the journal guide for authors for any other possible particular requirements for the title.

Other don'ts for the title include the following:

- Don't be too broad or too vague. The emphasis element of a title does not mean that the authors should not be specific when describing the subject. A very broad title will not be appealing for readers to read the content of the manuscript further.

- Don't use bulk/filler phrases. Bulk or filler phrases are phrases such as “a study on,” “research on,” “evaluation on,” and “the effects of” and will not contribute to the strength of the title as they provide no direct information about the content.
- Don't use abbreviations. Generally, the use of an abbreviation in the title is not acceptable as there is the possibility that it has various meanings, even within similar fields.
- Don't act too confident and don't use humor. Very confident phrases can include, for example, “A Fantastic formula of ...” and should be avoided. Additionally, a humorous phrase may confuse readers unfamiliar with the humor. Overall, a manuscript is not a research proposal, and unless the results of the manuscript are quite significant, choose the appropriate words to phrase and state the title.

Abstract: As the first part that readers will see and read, the abstract should grab the readers' attention within 150–250 words. Therefore, it is important to understand that regardless of whether the required abstract type of the journal is a structured one or not, the abstract acts as the trailer of the whole manuscript. By reading the abstract, the reader will learn something new about the findings in the manuscript, and the results subsection should, therefore, be the longest and most emphasized part of it. Nevertheless, writing the abstract is a challenge as you have to provide a clear, objective, and complete description of the findings presented in the whole manuscript. Due to a poor abstract—one that does not grab the reader's attention—an editor might fail to encompass the importance of the manuscript's content, resulting in the potential rejection of the manuscript.

Introduction: In the introduction section, readers should find information related to the problem statement, the approach used in the research, and the research objectives. In this aspect, research objectives are frequently not clearly stated causing bias towards the analysis of the obtained data as well as the derived conclusions. It is important to avoid this by providing a brief detail regarding interesting points related to innovation, new conceptualizations, or any new finding of the presented research. Nevertheless, it does occur that the presented research does not offer new concepts or methodologies but does contribute to the enrichment of data from other subjects or data sources. In

this regard, the subjects of the research are common but contain different conceptual approaches. Another important part of the introduction is its description of how the presented research contributes towards state of the art research regarding the respective topic. The action that should be highlighted for another submission, after the first rejection, is the refinement of the introduction's suitability with the aim of the second journal. Some editors and reviewers address during their evaluation the fitness of the research's background with the aim and scope of the journal. This may cause changes to the manuscript, which will sometimes also determine who the next reviewers will be. As such, the authors should reorganize and highlight the subjects in the introduction section to facilitate the essential parts of the manuscript clearer.

Materials and Methods: Rejection caused by an incorrect methodology usually requires a large effort to revise the manuscript. It is crucial to take such a method-based rejection into account and not ignore it before submitting the manuscript again. This rule particularly applies when the reason of rejection is due to the invalidity of the method and its obtained data. Ignoring this crucial issue will cause a negative impact on the author's credibility. Thus, the author needs to assure that the validity of data is improved by re-examining or recollecting the data with a similar method before the next submission.

Discussion: The manuscript can be rejected when the results or discussion section contain potentially unqualified statements and data (including a confusing presentation of it). For example, the discussion could lack emphasis showing how the study contributes to existing knowledge. Authors should evaluate and bring the discussion into an understandable essence involving the results to answer the research questions. Furthermore, authors should refer and compare the data, as well as its interpretation, with other previously published works.

Figures and tables: Mistakes that are often made during figure and table preparation include the following:

- There are too many or too few figures and tables. Having too many figures and tables could indicate the authors' inability to present the data in an effective manner. This can occur when the presentation of all images or tables are required, and the authors may include them as supplementary information.

- The figures and tables are not cited in the text and are duplicative or of poor quality (e.g., images).
- There is no discussion or supportive sentences describing and analyzing the figures and tables.
- The figures and tables are missing clarifying symbols (e.g., arrows), units, etc.

Overall, the authors should check these points and adjust these sections so that they fit the ideal conditions as much as possible.

References: The references of the manuscript have to be re-evaluated and updated after making the revision before submitting to another journal. This is especially important when the introduction has been adjusted to the aim and scope of the second journal. Therefore, the authors need to scan, find, and cite additional required references and add them accordingly to the manuscript before submission. In addition, they could also suggest reviewers from authors who published a paper in the second journal. This will be a strategy providing an advantage for both authors and the journal as the editor has experience connecting to them, and the citation will increase the impact of the journal. Authors need to cite their papers. Make sure that cited references are related, and explain how the work is related.

Table 2.4.2 provides potential rejection reasons per section and describes the approach of how each of them should be evaluated for improvement.

Table 2.4.2. Elements to evaluate per section when revising the rejected article

Section	Potential Rejection Reason	Requirements for Acceptation
Abstract	<ul style="list-style-type: none"> • Unclear • Does not adequately describe the research work presented in the whole manuscript 	<ul style="list-style-type: none"> • Consists of all components • Well-written • Data are accurate • Expresses the originality of the work

Introduction	<ul style="list-style-type: none"> • No clear statement on objective, hypothesis, or aim of the study • Inadequate references 	<ul style="list-style-type: none"> • Shows that the research is up to date and contributes to the state of the art • Provides a brief detail on interesting points related to innovation, new conceptualizations, or any new finding from the presented results
Materials and Methods	<ul style="list-style-type: none"> • Clear description of procedures are missing, indicating that the results are not reproducible • Questionable data Inadequate/missing figures/tables • Poor use of language (i.e., grammar, punctuation, and spelling errors) 	<ul style="list-style-type: none"> • Accurate data • All research components are present and clearly stated • The used procedures are clearly described in a concise manner and are easily replicable • Manuscript advances previous knowledge • All compliance guidelines are met • Tables and figures contribute substantially to the content
Results	<ul style="list-style-type: none"> • Missing or unsupportive results in relation to the items mentioned in the Materials and Methods section • Does not answer the research questions • Not credible • Statistical significance of the findings is not stated 	<ul style="list-style-type: none"> • Exhibit the significance of the findings • Results are credible and answer the research question/hypothesis • Contains effective and well-prepared figures and tables

References	<ul style="list-style-type: none"> • The numbers of the list do not match the ones in the text • Too many or too few • Too old (out of date) 	<ul style="list-style-type: none"> • Up to date • Relevant • Appropriate to manuscript type • Correlate well with the text
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Source: Authors

c) Make sure that the English language is acceptable

Even when the topic of research presented in the manuscript has novelty and is interesting for publication, manuscripts with many grammatical errors and structural mistakes often make the editor and the reviewer confused and uninterested to completely read the manuscript. The manuscript should have been reread and carefully reviewed several times by all the co-authors, paying particular attention to spelling, grammar, typographical errors, sentence and paragraph clarity (e.g., poorly structured), coherence, and reference completeness before submission. Such errors or lack of quality represent a poor preparation and can result in unnecessary delays before the manuscript is sent for peer review.

The author’s writing skills are crucial for preparing a high-quality manuscript to achieve a better chance of having the manuscript published. Here, an approach that could be taken is to utilize a copy-editor/proofreading service. In fact, some publishers provide such services, which usually also adhere to the style required by the specified journal.

d) Select the appropriate journal

After a complete evaluation and adequate revision of the manuscript, authors can select the appropriate journal for their next submission. Resubmission to the same journal that initially rejected it based on the reason that it was not matching their aim and scope should be avoided. Simply put, this would be a waste of time. Therefore, the authors should be wise and choose a journal that has a better fit with the content of their manuscript. Here, some journals provide online tools to measure the fitness of the manuscript to select the appropriate journal. To do this, the authors usually only need to enter their manuscript’s title and abstract in the tool. The system will then help authors to find the most proper and relevant journal for their submission. See for example <https://journalfinder.elsevier.com>.

Another path that authors can take is to ask the EC or editorial member of the journal to inquire whether their manuscript's title and abstract are suitable for the journal or not. The editor will generally reply and suggest the authors to submit the manuscript when it fits with the aim and scope of the journal. This approach can also provide an opportunity to minimize the pending time of assignment to an editor once the manuscript is submitted. Additionally, the information obtained from this communication is sometimes necessary so that the authors can include it in their cover letter.

e) Suggest other reviewers than the ones of the first submission

With a specific research topic or niche, it could be possible for authors to guess the identity of the reviewers, which is usually based on the reviewer's background and comment writing style. Instead of using the author's reference suggestions, editors usually select their reviewers based on the references used in the manuscript. In this case, and if possible, the authors could choose alternative references to support their statements in the manuscript to avoid being reviewed by the same reviewers again. By doing this, it might be required to rewrite certain sentences to make the alternative reference (including a different author) suitable, which may provide a different perspective.

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2.5 Dealing with Feedback and Revisions

Fathul Wahid and Is Fatimah

The “revise” or “revise and re-submit” judgments do not mean that the manuscript is simply acceptable and will be published without much extra work to reflect opinions of reviewers and editors. The decision of the editor does not depend on how many feedback points or comments the manuscript receives from the reviewers but rather whether these comments require a substantial revision or not. There exist “non-written” rules how to react to reviews and the cover letter from editors. Authors are expected to respond to each comment in systemic, succinct and clear form, to correct all what is related to the improvement of sentences, punctuation, abbreviations, references, and grammar, to show the respect to reviewers and their comments and to show the “try” to respond to suggestions (to explain, why some proposed changes are impossible).

Although different from “rejection,” the “revise” or “revise and submit” judgment does not mean that the manuscript is simply acceptable. However, it does represent an opportunity for acceptance in the same journal. This opportunity allows for the improvement of the manuscript’s quality and for communication between the author and reviewer to present their opinions and explanations in the form of objective reply comments.

Similar to a rejection, a revise or revise and resubmit decision may be decided by the AE even before the manuscript goes through the review process, or after a review process.

The decision of revise and resubmit before being able to continue to the review stage is generally related to the manuscript’s format, the language style, the structure of the language used, or other components related to the incompleteness of the manuscript during a submission. It must be noted that this is certainly different from the rejection decision where such early decisions by the editor generally relate to mismatches with the aim and scope of the journal or the lack of qualitative methods in the management of the research.

There are many possible requirements by the editor to revise and resubmit the manuscript, including major and minor ones. Some examples are presented in Table 2.5.1 and Table 2.5.2.

Table 2.5.1. Examples of editor comments – part 1

Revise and Resubmit	Major Revision Required	Minor Revision Required
<p>Thank you for submitting your manuscript titled “____” to the Journal of “____.”</p> <p>After careful consideration, we believe that your manuscript has the potential to be published in our journal. However, we feel that the paper needs to be substantially revised, and hence are not able to accept the paper in its current form.</p> <p>If you agree to revise the manuscript based upon the comments of the reviewers/ editor, we will be happy to reconsider the manuscript as a new submission. Please include this manuscript number in the cover letter of the resubmission, as well as your responses to the reviewers’ comments. The editor in charge will consider whether or not your changes have addressed all the comments and may decide to send the manuscript for review for further evaluation.</p>	<p>Manuscript ID XXX entitled “____,” which you submitted to the Journal of “____,” has been reviewed. The reviewer(s) have recommended publication but also suggest MAJOR revisions to your manuscript. Therefore, I invite you to respond to the reviewer comments and revise your manuscript.</p>	<p>The manuscript can be published in the present form. The reviewer(s) have recommended publication after certain minor revisions.</p>

Source: Authors own

Table 2.5.2. Examples of editor comments – Part 2

Revise and Resubmit	Major Revision Required
<p>Enclosed please find the reviewers' report on your manuscript. All reviewers have recommended major and even substantial revision of the manuscript. Although their reports are very positive about your manuscript's content, they also include helpful suggestions for improving the manuscript, especially regarding _____. Because of the reviewers' concerns, I cannot accept the paper in its present form. I can offer, however, to send a revised version of the manuscript back for a re-evaluation. I am sorry to have to convey this negative decision. I understand that this is disappointing news, but I do feel strongly that this essay could be accepted for publication in our journal after careful revision.</p>	<p>Thank you for submitting your manuscript to the Journal of "_____." I have completed the review of your manuscript and have appended a summary below. The reviewers recommended to reconsider your submission after adhering to the following major revision. I invite you to resubmit your manuscript after addressing all the reviewer comments.</p> <p>When resubmitting your manuscript, please carefully consider all mentioned issues in the reviewers' comments, outline every change made point by point, highlight your corrections, and provide suitable rebuttals for any comments not addressed.</p>

Source: Authors own

In all fields, nearly all papers require revision before being accepted for publication. Responding to reviewer comments can be daunting, particularly when progress has already been made in the respective research after submitting the paper. However, one must be aware that the peer review process helps to validate the research idea, methodology, results, and conclusion that are made in the manuscript. For these reasons, giving a significant effort and intensive attention to the reviewer comments is a must. Keeping in mind that the reviewers are professional peers, the revision and response process to improve the manuscript can become integrated with the

research communication process. Overall, to understand what “the revision required” means and how to deal with it become important aspects for a researcher.

2.5.1 Meaning of Review Results

Generally, there are three kinds of “revise” forms: major revisions required, minor revision(s) required, and revise and resubmit. The decision of the editor for a major revision required or minor revision required does not depend on how many feedback points or comments the manuscript receives from the reviewers but rather whether these comments require a substantial revision or not. For example, a manuscript could receive a lot of feedback and comments from the reviewers, while the editor decides that only a minor revision is required. In contrast, the feedback and comments could be scarce, but the editor decides that major revision is required. In the editorial process, the difference between a major and minor revision is the presence or absence of a re-review process after the revision is submitted by the authors. Some journals have guidelines for the editor to either state a major or minor revision, which generally take into account the manuscript’s methodology, data error, comprehensive or non-comprehensive discussion, and even language and writing typology.

An evaluation that is slightly more demanding than the major revisions required decision is the “reject and resubmit” one. A decision of “reject and resubmit” requires the authors to do a substantial and major revision to the manuscript, and after resubmission, the editor has a chance to send the paper to new reviewers. A legitimate reason for this could be when the first set of reviews was overly negative, while the editor thinks the paper does have merit. In contrast, when the evaluation involves the “revise and resubmit” decision, it means that the editor should send the paper back to the same reviewers.

The most important aspect, which applies to all revision types, is how to deal with it, and how the manuscript’s authors get through with it. Here, after revising the manuscript, the authors’ response letter to the reviewer feedback is imperative for the future of the manuscript and great care should be taken with it. In some cases, to construct an effective response, some days of intermittence are required after receiving the feedback of major

revision and revise and resubmit decisions as it will most likely affect the authors emotionally. So, while the authors need to make on-time decisions for their feedback, they also need time to pay great attention and detail on it. Some comments may cause an ill-informed, biased, or complex and incorrect perspective at first for the authors. On the other hand, occasionally, two or more reviewers could give similar feedback on a similar point, concerning some sentences or aspects of the manuscript, which means that the reply just needs to be an effective and simple action as a response.

2.5.2 The Do's and Don'ts of Responding to the Reviewer's Feedback

Do's

a) Respond to each comment

Authors should pay attention to all comments and feedback. The authors have to submit the revised manuscript along with a point-by-point response to each reviewer's comment. Here, the technique of tabulating reviewer comments along with the author's response is a useful technique to include each and every point. Another style to reply to reviewer feedback is by making an orderly response note. To adhere to the correct approach, authors should confirm the guide for authors of the journal. Below are a few examples given for the response methods to the reviewer feedback.

Table 2.5.3. Example of Reviewer comment #1

Reviewer's comments	Response
How did the authors make the conclusion of mechanism #2 as shown in Figure 2? Is it based on literature reviews or from the previous work of the authors? The authors have to clarify this point.	Mechanism #2 its conclusion refers to (...) the kinetics data reported by a previous paper. The related references have been added.
From Table 3, why was the pore volume of SAP1 low despite the specific surface area?	It was a missing number. The pore volume should be $15.78 \cdot 10^{-2}$. The number has been corrected.

The XRD patterns in Figure 3 are not clear enough to see the shift of the 2 theta.	The XRD presentation is revised. The presence of a low peak around 28.5 refers to the presence of silica in very low amount. The information has been added.
--	--

Source: Authors own

Example 2:

Reviewer’s comment

In the majority of the figures, they are comparing X with Y. The authors need to justify the assumptions by comparing both observations and results.

Response:

The authors agree with the reviewer’s suggestion. The assumption was taken from (...) in general. Additional discussion has been provided on page 9 line 12–13.

b) Always agree to the reviewer feedback that is related to the improvement of sentences, punctuation, abbreviations, and grammar

The feedback related to grammar will help the authors to improve the clarity of the manuscript’s message. Simply correcting these writing issues is sufficient without the need to respond to each of them. However, authors do need to make sure that the required actions for correction has been made and that the reviewers or the editor can easily see the changes in the revised version. A sentence such as “All spelling and grammatical errors pointed out by the reviewers have been corrected” is sufficient.

c) Begin the response to each comment with a direct answer to the point

Authors should show the primary response and provide a “yes” or “no” answer or “Thank you” whenever possible before making their justification. For an example, see the response below.

Reviewer comment:

Most results are presented appropriately. However, in my opinion, the data in Figure 2 are not very well presented. I suggest focusing more on discussing the results in Table 3.

Response:

Thank you for your suggestion. We have revised the text to show this clearer (discussion corresponding Table 4 has been added).

d) Respect the reviewer and their comments

Authors must be aware that occasionally the reviewer will have read the manuscript rapidly. Thus, they could get comments that seem off-base or came from a misunderstanding of the research perspective, methodology, etc. Nevertheless, the goal of the revision is to show that the authors took the reviewer's comments sincerely, and authors should clearly convey what they did in response to the reviewer's critiques. As such, they should respond with their best manners and show respect to the reviewer's comments. One thing to always remember is that reviewers give criticism to what authors wrote and not on who they are as persons.

e) Keep the responses succinct and clear

The authors should make sure to note the changes they have made and make them visible in the revised manuscript. Usually, it is best to include a clean version of the document and one that includes the identified changes. This makes it easier for the reviewer to search for the changes. If possible, the authors should refer to the specific page and line number where the changes have been made. It is important, however, to make sure that the line numbers are correctly specified from the original or the revised manuscript. Furthermore, the suggestions regarding additional discussion and data presentation should also clearly be pointed out in the revised manuscript. In these cases, it is often easier to perform additional experiments or data analysis than to make new arguments based on additional sentences.

f) Do what the reviewer asks, if possible

Occasionally, a major revision forces the authors to perform additional experiments or analyses based on the reviewer's feedback. This applies even to cases in which the authors believe that the reviewer has requested an analysis that is not informative or is otherwise flawed. Adhering to these requests is important as it will often place the authors in a stronger position when they are able to do what the reviewer requested. Additionally, by following the reviewer's request, it becomes much easier for authors to obtain a positive response for the revised manuscript.

Reviewers may sometimes also simply ask for too much. It is certainly acceptable to say that the requests go beyond what the authors perceive to be within the scope of the current work. However, take to state that the mentioned points indeed need more details instead of just ignoring the request.

g) Give an explanation for not fully adhering to arduous demands

Authors do not have to agree to all of the reviewers' feedback, but they do need to explain—in an appropriate manner—why they are not able to deliver what was asked for. Often the reviewers request more sophisticated instrumentation or an alternative approach or method to confirm certain data in the discussion. When it is not possible to follow these demands, thank the reviewer for the suggestion along with the explanation as to why they are beyond the scope of the manuscript, or why it is not possible at the time.

For example, the reviewer asks for five additional experiments or measurements, while the authors were only able to do four. Then, if the authors only respond by stating that four out of five were done and that the fifth falls outside the scope of the manuscript without any additional argument, the reviewers will not be satisfied. In such a situation, the authors need to provide proper justification and include in their response that the incomplete fulfilment of the request is not crucial. If possible, the authors should make an argument ensuring that the method and approach taken have been sufficient to construct the revised discussion, and therefore, result in an accurate conclusion. Authors can also add references in this situation for additional support.

Example:

Reviewer #1 comment:

The profile of the data in Fig. X is not specific enough. The authors should use instrument XX with method YY for a better result and a more accurate interpretation.

Response:

Thank you. It is not possible to analyze the samples using instrument XX and method YY at the moment. However, the objective result can be obtained by the present method. Please refer to previous works for similar cases and samples (Smith, 2017; Daniel et al., 2018).

Occasionally, it may be necessary to fall back on the discretion of the editor. For example, editors often ask that authors shorten their manuscripts or to give an intensive discussion on the data, whereas reviewers often ask for additional details, experiments, or analyses. In this case, the authors should include in their response that they have followed the editor's requests by presenting the data more effectively in the Results section.

h) Respond to reviewer's suggestion for references

A reviewer can provide much constructive feedback and require many changes, but another aspect is the suggestion to include more references. In some cases, reviewers can suggest using certain authors as references. Then, the manuscript's authors need to look for the papers of the suggested authors that fit with the discussed point. The authors should try and include the reference(s) when appropriate; however, when this is not possible, they should leave it out and provide a polite and brief explanation as to why the suggestion could not be used.

i) Use typography to help the reviewer navigate through the response

Authors can use typography and indentation to differentiate between three different elements: the review itself, the authors' responses to the review, and the changes that have been made to the manuscript. When the authors use this approach, they should provide an additional explanation at the beginning of the response to explain its structure. All too often, the authors focus mainly on revising the manuscript itself and invest little time making the response document clear and compelling. As a consequence, this can lead to misunderstandings between the reviewers and the authors and ultimately may lead to the manuscript's rejection.

j) Proof with evidence

It sometimes occurs—especially for the major and revise and resubmit decisions—that the reviewer doubts the procedure or technique regarding the data collection. If authors have enough evidence that the procedure is correct and can be sourced from other literature, they need to be convincing and point out these sources—the more evidence, the better. On the other hand, another form of feedback relates to the validation of data retrieval. In this case, the authors also have to clarify the obtained evidence. For severe cases, they must even include the primary data from the used instrument as supplemental information.

Even in the worst situation, when the reviewer needs additional evidence for a statement or conclusion in the research methodology, authors should always try and provide the improved information. In relation to one of the reasons for rejection, additional experiments and measurements will be important. Regularly, a manuscript will be greatly improved in quality from this kind of review. As such, the authors should positively take this chance. In case there is a lack of instruments for the desired evidence of the reviewers, the authors should provide arguments that the used methodology is acceptable.

k) Accept reviewer misunderstandings

If the reviewer misunderstands something, for example, the reviewer commented on something that was already clear, the authors should simply just apologize for it. The author's response should state that they agree with the misunderstanding and provide an explanation. It is better to go ahead, revise, and show that the reviewer's feedback was taken into account and understood.

l) Provide the revision summary/report

The response letter usually consists of the revision summary or revision report. It includes the changes in the revised manuscript and the new analyses performed in response to the essential criticisms of the reviewers' comments. If criticism is raised by multiple reviewers, it can also be pointed out in the revision summary. Afterward, the response letter should contain the complete set of reviewers' comments interleaved with the authors' responses.

Don'ts

1. Don't forget to address any feedback from the reviewers. If this happens, it reflects that the authors did not take the feedback sincerely.
2. Don't argue against every single comment. If the reviewer has suggested a minor revision that the authors might not entirely agree with, but it is easy to comply with and does not take away any value from the study, it might be easier just to incorporate it.
3. Don't cause controversy among the reviewers. A reviewer may give suggestions or feedback that is contrary to the feedback of other

reviewers. Do not use this to cause controversy among them. For example, avoid making statements such as “*reviewer A actually suggests the opposite of what you are suggesting.*” The authors must take the most appropriate action for a better manuscript. So, they must strive for the approval of one reviewer and explain properly to the other one why this decision was made, leaving the other reviewer out of it.

4. Don't deny the request of the reviewers to include the original/raw data as it will probably result in fundamental improvements of the manuscript.
5. In case the reviewers have the same feedback, do not ask one reviewer to go and read the response of the other. For example, “*Your question is similar to that of reviewer B, just look at my response for Reviewer B.*”

References

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Porter, A.L., Rossini, F.A. (1985). Peer review of interdisciplinary research proposals. *Sci. Technol. Hum. Values* 10 (3), 33–38.

2.6 Resubmitting the Revised Paper

Robaida Basiruddin and Cheah Jun Hwa

The details of the process of resubmitting the paper depend on the editorial decision and the complexity of comments received. In case when only minor revisions are required, the improved paper should be resubmitted as soon as possible. In more complex cases, the authors should focus first on quality improvements and only then on time. The following steps are advised in resubmission process - read the comments carefully, itemize or group the comments, discuss with co-authors and colleagues, revise manuscript and prepare the table of revision.

This part covers the paper under the “revised and re-submitted” decision. When the authors received this type of decision, it means that the manuscript has value and potential. Thus, there is possibility that the manuscript will be accepted if the authors make considerable effort to address the reviewers’ comments.

The “revised and re-submitted” decision may come into two forms; (i) Minor revision – in this circumstances, it simply requires the authors to incorporate all the comments without involving too much arguments. Then, quickly send the revised manuscripts to the editor while it still fresh in his/her mind. This fast action may increase the probability of the manuscript to be accepted. The second form of “revised and re-submitted” decision is a (ii) Major revision. The major revisions mostly come with lengthy comments from the reviewers, which requires days to complete. The authors must decide whether the time to work on the comments is worthwhile or not. Once the authors agreed to proceed, then the following guideline might help.

- Read the comments carefully
- Itemized or grouped the comments
- Discussion with co-authors and colleagues
- Revised manuscript
- Table of revision

2.6.1 Read the Comments Carefully

After receiving back the manuscript, the first thing to do is to glance through all the comments. Researcher should not rush into the revision process because comments from reviewers could sometimes influence the emotion of researcher to respond unsoundly. After several days, researcher should start re-read the comments carefully and take time to understand all the comments to avoid misinterpretation. Reading the original manuscript with deep understanding on each comment may help the authors to see the manuscript from reviewers' perspective.

2.6.1.1 Itemized or grouped the comments

Most journals probably appoint two to four reviewers on each manuscript. In addition to this, the editor or associate editor might also give their opinions/comments on the manuscripts. Itemized or grouped the comments accordingly will help the authors to work easily on the revision especially if one or more reviewers raise similar issues.

There are the examples of reviewers' comments in Table 2.6.1.

Table 2.6.1. Reviewers' comments

Reviewer	Comments
1	Comment 01: Literature Review: Could be useful consider a sort of “general part” before dealing with single objects.
	Comment 02: Methodology: It is appropriate, but other fit indices should be considered. You reported SRMS, what about GFI e AGFI?
	Comment 03: Implications: they are well developed. However, from the practical point of view, more clarifications are required.

2	<p>Comment 1: The paper is well documented and it includes a thorough and meet research. Overall, we recommend to be more careful to the following aspects</p> <ul style="list-style-type: none"> • update the references • Benchmark the research against studies both in Malaysia and in other economies. • Proofreading is highly needed.
	<p>Comment 2: Some aspects of the methodology are not clear. Please specify if there are 200 distinct teams considered or 200 persons included in a smaller number of teams.</p>
	<p>Comment 3: Some aspects of the methodology are not clear.</p> <ul style="list-style-type: none"> • The argument of the paper identifying Malaysia as a top IT investment destination suggests that the teams (companies) considered are in this field. Comments related to this sectoral distribution might add depth to the investigation

Source: Authors

Based on the above example, “*Review 1 – comment 2*” and “*Reviewer 2 – comment 2 and 3*”, all the comments can be grouped together under the theme of ‘methodology’. Therefore, when the authors work on the ‘methodology’ section of their paper, she/he might consider the bigger picture of the required corrections to be made.

2.6.1.2 Discussion with co-authors and colleagues

Before starting to work on the revision, the researcher need to invest some time to discuss with co-authors or colleagues on each comment from the reviewers. Having a proper discussion with each co-authors or colleagues, will help to respond each reviewers’ comments effectively and efficiently.

2.6.2 Revised manuscript

Even though some of the reviewer comments might be unpleasant, the researcher must revise and resubmit the letter in a formal and polite manner.

While it is natural to be irritated or upset upon receiving the comments, remember that the reviewers are critiquing your work, not you. Following the recommendation below will help create a polite, appropriate, and readable letter.

- i. **Express gratitude.** It is almost always appropriate to open the letter with an expression of gratitude. Reviewers have invested time and brainpower in providing detailed and comprehensive comments. Thank them for their efforts.
- ii. **Signal attention to review comments.** Provide an explicit reference to your attention to the comments made by the reviewers and the editor (if given). This move signals that you have taken their comments seriously. Make this move early in the letter.
- iii. **Claim positive results.** Like signalling attention to the comments, claiming positive results acknowledges that the reviewer's insight has significantly improved your paper. It also helps create a polite, formal tone.
- iv. **Preview content.** Before you list the comments and how you addressed them, first provide the editor with a roadmap for how to read. This preview will make it easier for the editor to work through your letter and your resubmitted, revised draft.
- v. **Respond to specific comments.** The bulk of your letter should be your point-by-point response to the specific comments of the reviewers (and the editor). Each response should describe the changes you made. If you did not address a comment in your revisions, make sure to provide a reasoned explanation in your letter. In order to respond to the comments, the researcher need to restate (verbatim) a reviewer's comment and follow it with an explanation of how you addressed (or did not address) the concern as well as include any information (page, paragraph, and/or line numbers) that will increase the readability of the letter.

2.6.3 Table of Revision

In order to work on table revision, researchers need to make sure that every comment have been addressed properly. Make sure every response need to

be proofread before submission. Below are the examples on the response to the reviewer in a table form.

Now we describe responses to comments of Reviewer 1 and Reviewer 2.

Reviewer 1:

- *Comment 1:* Literature Review: Could be useful consider a sort of “general part” before dealing.

Response to the comment: I thank the referee for careful reading our paper and providing constructive suggestions. The explanation is as follows: We could consider to add to the paper, but currently the paper is already lengthy and we think focusing on the issue at hand directly would be much better.

- *Comment 2:* Methodology: It is appropriate, but other fit indices should be considered. You reported SRMS, what about GFI e AGFI?

Response to the comment: I thank the referee for careful reading our paper and providing constructive suggestions. The explanation is as follows: In the current development of PLS-SEM, the only recommended goodness-of-fit (GoF) measures available are the standardized root mean square residual (SRMR) and the exact model fit test (Dijkstra and Henseler 2015; Lohmöller 1989). This two suggested GoF have been tested are suitable for model validation in PLS-SEM as compare to NFI, Chi-Square, and RMSttheta criteria (Henseler, Hubona, and Henseler, 2016; Henseler and Sarstedt, 2013). Dijkstra, T. K., & Henseler, J. (2015). Consistent Partial Least Squares Path Modeling. *MIS quarterly*, 39(2), pp. 297-316. Lohmöller, J.-B. (1989). Latent variable path modeling with partial least squares. Heidelberg: Physica. Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: updated guidelines. *Industrial management & data systems*, 116(1), 2-20. Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistics*, 28(2), 565-580.

- *Comment 3:* Implications: they are well developed. However, from the practical point of view, more clarifications are required.

Response to the comment: I thank the referee for careful reading our paper and the referee is absolutely right here. The response is as follows: We have edited the implications although we find we have already explained as detailed as possible.

Reviewer 2:

- *Comment 1:* The paper is well documented and it includes a thorough and meet research. Overall, we recommend to be more careful to the following aspects:
 - update the references;
 - Benchmark the research against studies both in Malaysia and in other economies.
 - Proofreading is highly needed.

Response to the comment: I thank the referee for careful reading our paper and providing constructive suggestions. The explanation is in Response 02, 03, 04, and 05. In addition, proofreading was done in this revision.

- *Comment 2:* Some aspects of the methodology are not clear. Please specify if there are 200 distinct teams considered or 200 persons included in a smaller number of teams.

Response to the comment: I thank the referee for careful reading our paper and the referee is absolutely right here. The response to this comment, revision is made as follows: "...So, the targeted sample size should have at least 200 virtual teams. The sample size of 300 virtual teams (as respondent) is selected to ensure accuracy for statistical analysis...."

Also, "...A total of 300 questionnaires were distributed to the employees working in the manufacturing firms in Penang. 205 questionnaires were successfully collected at the end of the data collection. The response rate is 68.33%. From the 205 responses, 2 were received very late after the conclusion of the data analysis. A total of 203 questionnaires were used, and these consist of 203 teams..."

- *Comment 3:* Some aspects of the methodology are not clear. The argument of the paper identifying Malaysia as a top IT investment destination suggests that the teams (companies) considered are in this field. Comments related to this sectoral distribution might add depth to the investigation

Response to the comment: Thank you for this suggestion, we understand the concern but since the “virtual teams” are difficult to find and the numbers are limited that is the reason we did not look at sectors. We have now added sectoral issue in the limitations.

References

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Williams, H.C. (2004). How to reply to referees’ comments when submitting manuscripts for publication. *Journal of the American Academy of Dermatology*, 51(1), pp.79-83.

2.7 Final Administration

Robaida Basiruddin and Cheah Jun Hwa

2.7.1 Acknowledgement email from the publisher

The journal will notify the authors by sending acknowledgment email when they received (not accepted yet) the revised manuscript. In this email, the journal will provide the reference number in case if the authors would like to follow up about their manuscript. The authors need to wait at least six to eight weeks for the second round of reviewing process.

Below is the example of acknowledgment email.

From: **Asia Pacific Journal of Marketing and Logistics** <onbehalf@mc.manuscriptcentral.com>
Date: Sun, Jul 8, 2018 at 5:52 PM
Subject: Asia Pacific Journal of Marketing and Logistics - Manuscript ID APJML-06-2018-0212

To: XYZ@utm.my

08-Jul-2018

Dear Mr. XYZ:

Your manuscript entitled “Factors affecting ecological XXX” has been successfully submitted online and is presently being given full consideration for publication in the Asia Pacific Journal of Marketing and Logistics.

Your manuscript ID is APJML-06-2018-0212.

Please mention the above manuscript ID in all future correspondence or when calling the office for questions. If there are any changes in your street address or e-mail address, please log in to Scholar One Manuscripts at <https://mc.manuscriptcentral.com/apjml> and edit your user information as appropriate.

You can also view the status of your manuscript at any time by checking your Author Centre after logging in to <https://mc.manuscriptcentral.com/apjml>.

Please note that Emerald requires you to clear permission to re-use any material not created by you. If there are permissions outstanding, please upload these when you submit your revision or send directly to Emerald if your paper is accepted immediately. Emerald is unable to publish your paper with permissions outstanding.

Thank you for submitting your manuscript to the Asia Pacific Journal of Marketing and Logistics.

Yours Sincerely,

Asia Pacific Journal of Marketing and Logistics Editorial Office

2.7.2 Decision Letter

Once the manuscript is accepted, the authors will receive a decision letter from the journal. Depending on the publisher, the author may go through the process of copy editing and type setting. The copy editing process helps to correct any grammatical or stylistics errors. The type setting process enhanced the view/layout of the manuscript. The final step is proofreading the manuscript before it is made publicly available. All process is essential to produce quality manuscript that is free from errors and corrections. Most of the journals nowadays use online system. The authors are required to follow the instructions given by the system.

Below is the example of the decision letter from the Emerald publisher:

Dear Dr. XXX,

It is a pleasure to accept your manuscript entitled “The case studies of fraud prevention mechanisms in the Malaysian medium enterprises” in its current form for publication in Journal of Financial Crime.

By publishing in this journal, your work will benefit from Emerald EarlyCite. This is a pre-publication service which allows your paper to be published online earlier, and so read by users and, potentially, cited earlier.

Please go to your Author Centre at <https://mc.manuscriptcentral.com/jfc> (Manuscripts with Decisions for the submitting author or Manuscripts I have co-authored for all listed co-authors) to complete the copyright assignment form. We cannot publish your paper without this. All authors are requested to complete the form and to input their full contact details. If any of the contact information is incorrect you can update it by clicking on your name at the top right of the screen. Please note that this must be done prior to you submitting your copyright form. If you would like more information about Emerald’s copyright policy, please visit the Information & Forms section in your Author Centre.

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3. Module 3: Development and Management of Research Projects

Agnieszka McCaleb, Department of East Asian Economic Studies, Collegium of World Economy, SGH Warsaw School of Economics, Poland [Editor]

Anna Dżienis, Department of East Asian Economic Studies, Collegium of World Economy, SGH Warsaw School of Economics, Poland

Arkadiusz Michał Kowalski, Department of East Asian Economic Studies, Collegium of World Economy, SGH Warsaw School of Economics, Poland

Marta Mackiewicz, Department of East Asian Economic Studies, Collegium of World Economy, SGH Warsaw School of Economics, Poland

Rosmimah Mohd Roslin, Universiti Teknologi MARA, Malaysia

3.1 Introduction

Agnieszka McCaleb

This module aims to provide support and guidance in development and management of research projects with special focus on international dimension of research undertakings. The module is designed to help trainees with preparation, application, planning, and obtaining resources to carry out the research, budgeting, monitoring, and management of research projects.

The structure of the Module is as follows. The first section discusses the rules of writing successful research grant proposals with focus on research topic, title, objectives, and good research questions. Next research project's timetable is introduced and the application of Gantt chart in research project planning and management. Third section deals with identification of priority areas for collaborative research projects. Here the process of setting priority areas is elaborated on including generating topics for priority research, executing gap analysis, the value of information analysis, and peer/stakeholder analysis. This section concludes with setting collaborative research priorities in the South East Asia region. The fourth section discusses the ways for building alliances and selection of foreign business partners. Section five presents numerous possible sources of financing of research projects including: government, private industry, foundations and professional organizations. The following section introduces budgeting in research projects with key categories in research project's budget such as costs of personnel salary, purchase of external services, purchase of materials, major instrumentation, indirect costs, travel expenses, conferences and publications and others. The seventh section discusses management of collaborative research projects with simple introduction of project cycle management rules. Section eight talks about risks related with research projects and ways of managing and limiting such risks. The section number nine introduces the rules of monitoring research projects including such issues as the role of monitoring, defining objectives and indicators of research project, application of project opening card, reporting. Section ten introduces the ways and factors in successful delivery of research outcomes.

The next section explains the rules applied to communication with stakeholders. Section twelfth presents stakeholders' engagement for future research projects. The last section explains the role and importance of cultural differences in international research projects.

3.2 Planning and Writing Successful Research Grant Proposal

Arkadiusz Michał Kowalski

3.2.1 Introduction – general overview of research projects

The success of grant proposal depends on huge degree of writing ability in communicating the significance and impact of the planned research. Research may be defined as a careful consideration of study regarding a particular concern or a problem using scientific methods. It is possible to distinguish projects concerning different types of research:

- basic research, which is mostly conducted to enhance knowledge, and which covers fundamental aspects of research. the main motivation to carry out this type of research project is knowledge expansion;
- applied research, which focuses on analysing and solving real-life problems using scientific methods;
- problem oriented research, which is conducted to understand the exact nature of the problem to find out relevant solutions;
- problem solving research, which uses applied research to find solutions to the existing problems.

There may be three types of projects from the perspective of the objectives of the research, or a mix of them:

- exploratory research, which is conducted to explore the research questions and may lay the foundation for more conclusive research and data collection, so it does not have to offer a final conclusion to the research conducted;
- descriptive research, which provides with more understanding on current issues through a process of data collection. It is used to describe the behaviour of a sample population, and aims to describe, explain and validate the findings;
- explanatory research or causal research, which is conducted to understand the impact of certain changes in existing standard procedures.

3.2.2 Why is good research project proposal important?

Writing a successful grant proposal on is a crucial skill needed to conduct high quality and high impact scientific research, as it provides the resources necessary to foster activity in an important area of investigation. A well-written research project clearly communicates the potential significance of a topic of research, the impact of the research to be carried out, and the feasibility successfully carry out the proposed tasks. In particular, research proposal serves several purposes:

- it provides an overview of the relevance and objective of a research project,
- it gives an overview of the content, the procedure and the timing of a research project,
- it shows whether a research project is researchable in scope and timing.

The success of grant application depends to huge degree on writing ability in communicating the significance and impact of the planned research. It must be remembered that clear expression of scientific ideas requires substantial quality time be assigned for writing.

There are different components of the research proposal, like: title, research objectives and questions, time schedule, etc., however the elements that must be included in the description of the project may differ depending on the requirements of the founder. That is why it is necessary to read carefully the call for proposal and all related documents, in order to meet the specific requirements.

3.2.3 Selecting the topic and title of the research project

One of the key steps in preparing research grant proposal is to find good research topic and formulate adequate project title. Research topic presents the area of investigation and is the wider notion than project title, which is more laconic formulation of the area of investigation. A topic sentence should be a complete thought, whereas a title is usually not a complete thought.

The ability to develop a good research topic is an important skill. It must be narrow and focused enough to be manageable and interesting, yet broad

enough to find adequate information. In choosing the topic, it may be helpful to try to answer the who, what, when, where and why questions:

- WHY is the topic interesting?
- WHO are the information providers on this topic, who might publish information about it, who is affected by the topic?
- WHAT are the major questions for this topic? What are the issues and viewpoints to consider?
- WHERE is the topic important: at the local, national or international level? Are there specific places affected by the topic?
- WHEN is/was your topic important? Is it a current event or an historical issue? Does the topic require the comparisons by time periods?

When the topic of the research grant proposal is decided, the title, which summarizes the main idea or ideas of planned study, should be formulated. A good title contains the fewest possible words that adequately describe the contents and purpose of research to be undertaken. The title of the project will appear in a wide range of places, for example on reports, in presentations, on publicity materials and in the eventual dissemination of the results, so it should be made short and memorable. It is worth to make efforts to formulate the title of the research project in an interesting way, as it will be the element of project application that will be first and most commonly read by reviewers, granting committee members, and all interested persons. That's why the title should capture the essence of proposed project. In addition, research project title should:

- relate to the topic, niche area and scientific discipline,
- be short (normally not more than 10 words) but provide as much information about the project as possible,
- accurately describe the exact nature of the main element of the study,
- define the research clearly, be precise, and make clear sense,
- contain key variables in the research study (investigative areas),
- be descriptive and to the point,

- attract the attention and interest of the reader
- not contain technical terms, or jargon.

3.2.4 Formulating good research objectives in the research project

A critical component of a successful research engagement is a set of clearly defined and meaningful research objectives. Research objectives are the goals that are set in the research project, that are to be achieved through the project. There are two types of research objectives:

1. the main objective (which is sometimes called general, primary or key objective), which states what researchers expect to achieve by the study in general terms, by providing clear, complete and coherent goal of the research,
2. the specific objectives (or secondary or additional objectives), which systematically address the various aspects of the study and provide support in attaining the main objective.

In general, it is advisable to break down a general objective into specific objectives, which are smaller, logically connected parts. Secondary research objectives divide main objective into several parts and address each part separately. Specific research objectives are essential part of research project as they help to focus the study, by narrowing it down to essentials, and to organize the study in clearly defined parts or phases. Properly defined, they will facilitate the development of research methodology and will help to orient the collection, analysis, interpretation and utilization of data.

Five typical research objectives are (Onwuegbuzie & Leech 2006):

- exploration, which involves using mainly inductive methods to discover a concept, construct, phenomenon or situation and advance understanding, hypotheses or generalisations.
- description, which involves identifying and describing the antecedents, nature and aetiology of a phenomenon,
- explanation, which involves developing theory for the purpose of explaining the relationships among concepts or phenomena and determining reasons for the existence of events.

- prediction, which refers to using pre-existing knowledge or theory to predict what will occur at a later point in time,
- influence, which relates to manipulation of the setting or variable to produce an anticipated outcome.

Research objectives describe the endpoints that a researcher will be accountable for. That is why they must be achievable with data to be collected from surveys, observations and experiments. In practise, research objectives include active verbs such as: assessing, determining, establishing, evaluating, identifying, measuring how much, etc. However, it must be remembered that they are not statement of the research methods (like to carry out a survey) as the methods are developed to meet the objectives, not the other way around.

Conveying an understandable, scientifically valuable, and technically achievable primary and secondary objectives of the research proposal to the reviewers is essential for the ultimate success of the grant application. Useful way to develop well-written research objectives is to use the SMART approach, which includes five criteria (Doran 1981) that can be applied when setting research objectives:

- **Specific**, meaning that the objectives should be exact about what the research project is going to accomplish,
- **Measurable**, implying the ability to quantify research activity or its results and that the source of and mechanism for collecting measurement data are identified,
- **Attainable**, meaning that the objectives are reachable,
- **Realistic**, meaning that there are the resources to make the objective happen,
- **Time specific**, meaning that there is a defined timeframe for the achievement of the objective.

3.2.5 Formulating good research questions in the research project

A research question is a clear, focused, concise, complex and arguable question, which research proposal will be centred around. Formulating good research questions in the research project helps researchers to focus their scientific work by providing a path through the research and writing process.

The specificity of a well-developed research question helps to avoid the “all-about” research proposal, and work toward a specific niche area the project is planned to focus on. That’s why the researcher should consider if the research question is not too broad or too narrow.

Hulley et al. (2007) suggested the use of the FINER criteria in the development of a good research questions:

- **F**easible, meaning that research objectives should be manageable in scope, and affordable in time and money, and that there is adequate technical expertise,
- **I**nteresting, meaning that getting the answer to research objectives posed intrigues potential reviewers of research proposal and community,
- **N**ovel, meaning that research objectives confirms, refutes or extends previous findings,
- **E**thical,
- **R**elevant to scientific knowledge, and to future research.

Another set of criteria for a good research questions is provided by Bakker (2014):

- Research questions should address a knowledge gap, as it makes no sense to ask a question if the answer is already known.
- The research question should be pragmatically and theoretically relevant.
- Main concepts are precise and anchored in the literature.
- Research questions should be manageable, which means it is answerable by means of research within a reasonable time frame and available resources.
- Formulation of research question should help the reader envision the type of research proposal (descriptive, evaluative, design-oriented, advisory etc.).

Research questions represent an attempt to discipline researcher curiosity, which should not lead to questions formulated in a ‘haphazard fashion’ (Lewins 1992, p. 8) but in relation to what is already known in the area of

interest. The process of developing and refining research questions allows scientists to make connections with existing theories and previous empirical findings, avoiding unnecessary repetition of or overlap with previous work. Formulating right research questions also allows to clarify ideas, to reflect on the definition and operationalization of important concepts, and to make links between the questions they aim to address and the most appropriate research design (White 2013).

In summary, research proposal is the most important part of the research process, as the success in this stage determines the possibilities to obtain the funds necessary to implement the project. Research proposal gives an opportunity to demonstrate researcher's ability to undertake high quality research, for example by demonstrating the capabilities to communicate complex ideas clearly, concisely and critically. Some of the most common review criteria and their meaning in terms of questions that reviewers should be able to answer (Gholipour, Lee & Warfield 2014):

- Significance – Does the project address a critical problem?
- Innovation – Does the project involve development of significantly different concepts or methods?
- Investigators – Are the investigators and collaborators well suited to carry out the project?
- Approach – Is the research approach appropriate to accomplish the aims of the project?
- Environment – Is the project site and environment appropriate for the success of the project?

3.2.6 Developing a research project timetable

3.2.6.1 What is research project timetable, and why it is necessary?

The implementation of research project is constrained by time and resources. To complete a project successfully, the researcher must control a large number of activities, and ensure that they are completed on schedule. Missing a deadline or finishing a task out of sequence may lead to knock-on effects on the rest of the project. This is why there is a need to prepare project timetable, which establishes the structure for the project, guiding

when different phases start and end. The size and structure of a project timeline naturally depends on the research project it is describing, but in general it needs to capture the following elements:

- the list of tasks to be completed,
- the dates on which the tasks need to be complete,
- the expected duration of each task,
- dependencies between tasks.

Creating a timetable allows the researcher to determine if research project is on track to meet the designated delivery date. In particular, research project timetable can serve a number of essential functions:

- it helps reviewers understand how the researcher plans to stage and conduct project tasks,
- it provides evidence that researcher has a detailed action plan that allows to finish the work in the time allotted,
- it provides an easy-to-find list of the main tasks the research team needs to accomplish in order to achieve proposed objectives of the research project,
- it facilitates project monitoring and evaluation as well as identification of issues and reporting,
- in case of team proposals, it clarifies responsibilities and roles, as well as helps to understand how each action impacts the project as a whole,
- it allows funders with key information for project review.

Before the project timetable is established, a clear understanding of all of its components is needed. A typical work project is broken down into phases, to detail the exact activities that will occur. Then, working out how long each part of the project is likely to take, and whether any activity depends on the completion of another, helps in determining the overall time span of a project.

It is worth to consider the following key points when setting up project timetable:

- duration of project i.e. start and finish dates,

- specific stages of the project identified i.e. pilot, focus group discussion, survey,
- objectives and their inclusion in the timeline,
- realistic project duration / timetable,
- external constraints / deadlines influencing project duration / time frame)
- regularity / scheduling of progress reports and the person in charge.

Establishing realistic timetable is important in evaluating the feasibility of research project, as many researchers, especially with little experience, tend to underestimate the amount of time needed to implement the various stages of research.

3.2.6.2 A Gantt chart

A very popular tool used in project management is a Gantt chart, first initiated in 1896 by Polish engineer Karol Adamiecki in a form of a visual work flow chart that he called a “harmonogram”, and developed further around 1910 by American management consultant and engineer Henry Gantt. Frequently used in project management, a Gantt chart provides a graphical illustration of a schedule that helps to plan, coordinate, and track specific tasks in a project. This tool enables research team to identify the shortest completion time for a project (the ‘critical path’), help to monitor progress and prompt to act when the timetable slips.

A Gantt chart is a floating bar chart used to diagram resources or tasks over a specific amount of time. It lets project managers graphically illustrate a schedule that helps in the planning, coordination, and tracking of specific tasks within a project. By outlining the timing of tasks needed to finish a given project, such charts allow an immediate understanding of the resources, effort, and teamwork required. Gantt charts break a project down to a succession of tasks and assign each task to a different row along the vertical axis. The horizontal axis spans the expected duration of the project, with dates written along the top. A horizontal bar outlines the expected duration for each task: the left side marks when the task begins, the right side marks the end. As work progresses, each bar is filled in according to how much work has been completed on each task.

It can be helpful at this stage to identify milestones, or particularly important

completion points, as it enables to verify that research is on track and on schedule. Defining these milestones will depend on the topic and scope of research project. Usually, milestones refer to completion of an important task and providing deliverables (e.g. submitting of the report, data, etc.). Milestones, which are usually shown as triangles in the Gantt chart, are usually scattered within the schedule along with tasks that require some significant length of time. Milestone itself has zero duration because it symbolizes an achievement, or a point of time in a project. It is important to consider carefully where milestones are placed, as they show the dates for key achievements in a project and will be used by grant funder to determine whether project is on schedule.

Technically, Gantt charts may be simple versions created on graph paper or as a table in Microsoft Word, or more complex automated versions created using Microsoft Excel or project management applications such as Microsoft Project, or FileMaker Pro. There are also different Gantt chart software packages available online, some of them free of charge, for example Gantt Project (<https://www.ganttproject.biz/>), which is project scheduling and management app for Windows, OSX and Linux.

Table 3.2.1. An example of a simple Gantt chart for research project

No	Task	2019				2020			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Literature review								
2	Review and preparing the methodology			▼ D1					
3	Data collection								
4	Data analysis						▼ D2		
5	Interviews								
6	Interviews transcription, coding and analysing						▼ D3		
7	Preparation of case studies							▼ D4	
8	Results, discussion and conclusions								
9	Complete final report / publication								▼ D5

▼ – milestones:

- Deliverable 1 (D1) – theoretical review and methodological study
- Deliverable 2 (D2) – data set and statistical report

- Deliverable 3 (D3) – report from interviews
- Deliverable 4 (D4) – case studies
- Deliverable 5 (D5) – final report

In order to make Gantt chart clear, it is recommended to outline up to maximum 20 tasks on one chart. In cases of very big, complex project, it may be break into smaller subprojects that can be more easily represented. Important events in the project, called milestones, can be denoted. One of the limitations of Gantt charts is that they do not indicate task dependencies. Even though they technically allow for overlaps between different tasks, they encourage scientists to see the research process as a linear, sequential activity. This may be misleading in some cases, particularly for qualitative research projects where many of the tasks are iterative. Such a project might produce a Gantt chart where tasks overlap to such an extent that the graph becomes impossible to follow (Bryman, 2015).

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3.3 Identifying Priority Areas for Collaborative Research Projects

Rosmimah Mohd Roslin

3.3.1 Introduction - Process of Setting Priority Areas for Research

The identification of research areas that are considered as priority differs across diverse environmental and research landscapes. It very much depends on the needs of the institution together with the demand placed by policy makers and relevant stakeholders requiring specific research outputs. Additionally, setting of priority areas in research is often carried out based on a comprehensive cost-benefit analysis and the context in which such setting is needed. According to Stewart (1995), public sector scientific research where the research is undertaken within organisations that are predominantly funded by the government, should be able to benefit the society. This means products, services or techniques that are derived from the research (however indirectly) must receive some kind of general application. The benefits may be social or economic where the general quality of life is improved, or where the living standards of the people are enhanced. If a nation has clearly stated goals, it is possible for researchers, to orientate their choices in conformity with those goals although there may be varying bases of determining such priorities.

3.3.2 Generating Topics for Priority Areas of Research

One institution that has stood firm on the assertion that their research areas are based on real-world settings and are outcome-oriented is the Patients-Centred Outcome Research Institute (PCORI) in the United States. It is on this note that adopting PCORI's methodology of priority setting is deemed relevant for most action-oriented research projects. Adapting the Patients-Centred Outcome Research Institute (PCORI) (2012) methodology of priority setting, the first step at priority setting is topic generation which requires the active involvement of the public. Topic generation entails the technique of gap analysis to identify areas that need further scrutiny. This is illustrated in the following Figure 3.3.1.

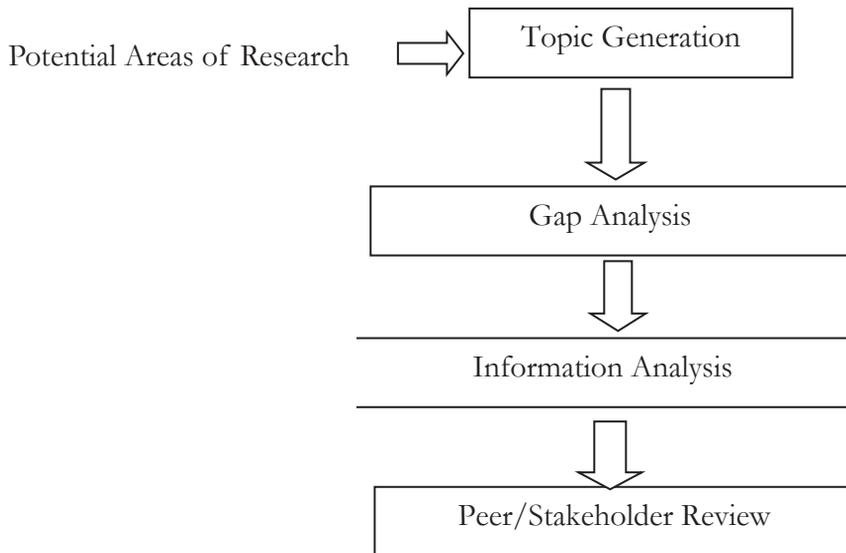


Figure 3.3.1. Process of Research Topic Generation

Source: Author's own compilation based on the Patients-Centred Outcome Research Institute (PCORI) (2012).

To do this, engaging the public is deemed important and is the centre of the priority setting process. Consultation and collaboration approaches to public engagement are suggested by Nass (2012) as means of generating public views. Such views are likely to generate in-depth understanding of public needs which could be translated into pertinent research areas. In consultation, an organization encourages the public to contribute their views, perceptions, and experiences, and then incorporates consultation into the research process. In collaboration, the public is empowered to become active partner in an ongoing public-researcher relationship and the public members and researchers make decisions together. Each approach presents unique advantages and disadvantages as presented in Table 3.3.1.

Table 3.3.1. Advantages and Disadvantages of Public Engagement

Level of Engagement	Advantage	Disadvantage
Consultation	Able to generate diverse perspectives from large source of informants.	No public inputs generated.
Collaboration	Wider participation from the public.	Limited views from narrow source of informants.

Source: Author’s compilation based on Nass, P. (2012). Workshops in Methods for Setting Research Priorities, in <https://www.pcori.org>.

Both consultation and collaboration are means of eliciting a wide range of responses that may become inputs in identifying key research areas. The methods used to generate such responses are typically qualitative social science methods of interviewing, observation and document analysis. Such methods are more likely to produce meaningful responses with a wider range and diverse perspectives on a multitude of issues.

3.3.2.1 Executing Gap Analysis

Gap analysis is a common strategic method used to identify actual performance in comparison to desired performance. It essentially helps in determining what needs to be done to improve current situation. On this note, identification of research priority areas can use gap analysis to determine areas that need further exploration. Key issues identified in the first stage of topic generation will undergo rigorous analysis of analytical framework to determine its potential as priority research areas in collaborative settings. Bearing in mind that collaborative research requires inputs from all involved, the process may get rather complex, thus requiring a systematic framework of analysis.

One method of executing this is through the evidence-based approach where the perspectives of experienced experts are elicited. These experts make up the committee that is tasked with identifying critical areas for research that are likely to benefit relevant parties through the process of information value analysis. The committee would consist of:

- i. Area experts
- ii. Academics
- iii. Practitioners – Industry players where relevant
- iv. Policy makers

3.3.2.2 Value of Information Analysis

The setting up of the committee signals the steps at attempting to isolate key issues that could be directed to priority areas. This is the starting point towards generating essential areas for collaborative research. This approach relies very much on quantitative data, especially from national datasets to compare current executions for specific conditions, evaluating such items as population-based estimates for prevalence and costs. The design of these measures allows for estimates of ranking and for rough comparisons across conditions. The committee synthesized available evidence from the literature and experience to judge the extent of improvability for each area through systems change.

The committee also considers the degree to which effective systems change in one area has the potential to diffuse to other areas in which improvements would further enhance overall benefit. Making this determination requires judgment as well, as there can be no historical evidence for the ability of improvement in one priority area to generate.

Questions that may be raised during the priority setting process by the committee would include:

- i. What is the potential for research utilization of the proposed research area?
- ii. Would the research area involve the development of products or have the potential to improve services?
- iii. Would the proposed research area bring an innovative element?
- iv. Would it enhance social well-being, increase economic standing, enable entrepreneurial capabilities, elevate innovation?

Table 3.3.2. presents the list of the criteria used for ranking of research priority areas.

Table 3.3.2. Criteria for Ranking Research Priority Areas

Criteria	Bases
Meeting the needs of stakeholders	Ethical and moral issues Availability of relevant information Socially and Culturally accepted
Appropriate	Meeting community needs Magnitude of the problem Meeting national and sector objectives
Viability	Availability of resources Align with cultural and political needs Align with environmental demands
Outcome of research	Implementation of research outcomes Applicability of outcomes Input for policy development Cost reduction on specific issues
Collaborative opportunities	Willingness of partners Involvement of potential partners Research outcome likely to be enhanced with partner involvement

Source: Author's Input based on de Haan et al. Health Research Policy and Systems (2015) 13, p.14

3.3.2.3 Peer/Stakeholders Analysis

Peer reviews are suggested as means of ensuring that identified priority areas that have been translated into research and research outputs do indeed achieve the established aims. This could be in the form of scorecards, blended scoring or individual scoring carried out by appointed reviewers. The execution of peer reviews may entail the total process of the research beginning with the initial phase of proposal presentation, the interim report stage and the final result of the research.

3.3.3 Setting Collaborative Research Priorities within the Southeast Asia Region

Within the context of countries like Malaysia, Thailand and Indonesia, it is

quite common for committees to be set up specifically for identifying areas that are of importance especially in relation to the achievement of the national agenda. More often than not, research priority areas are those that may benefit more than one parties. As such, collaborative research projects are often undertaken when executing prioritized research. When there is potential for collaboration, research areas that are like to benefit all parties involved are the ones that are likely to be considered. However, the process of identifying priority areas may be somewhat complex, requiring in-depth assessment of the needs of those involved as well as the likely impact such research output may generate. Generally, identification of collaborative research areas would consider the following:

- i. Areas that have high impact to all parties concerned;
- ii. Areas that are most amenable to improvement; and are broadly inclusive in several respects, cutting across relevant boundaries,
- iii. Areas that are likely to affect a range of demographic groups for which the benefits of the research output may be most viable.

Setting priority research areas involving collaborative efforts can be a complex and dynamic process of ascertaining the needs of all those involved, especially when this involved diverse nations. Balancing the needs of different countries with different social and economic background entails understanding, tolerance and more importantly the ability to comprehend cultural and social diversities that may well influence research process and ultimate outputs.

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3.4 Building Alliances and Selecting Foreign Partners

Agnieszka McCaleb

3.4.1 Introduction – general approach to establishing research contacts

Nowadays there is an emphasis on multidisciplinary research and internationalization of research. Thus, ability to establish and maintain relations with researchers from external institutions is crucial. The successful relationships are built through establishment of channels of communication and trust. Increasing number of institutions offers research grants for projects carried out by international teams, often composed of around ten institutions (especially in case of the European research grants). Collaboration is always burdened with a risk which is costly. Thus, the question arises how to select foreign partners that are reliable and guarantee a successful completion of the project.

3.4.2 The art of establishing alliances

Establishing contacts with external researchers should be always on the agenda of any researcher no matter if currently he/she has or not intentions to apply for a research grant. A researcher should always look for opportunities to build network of personal academic contacts that can be leveraged for future projects. When thinking strategically about the approach to building the network a researcher should first identify the persons he/she would like to know.

The ways for establishing alliances/contacts for research projects include:

Real life activities:

1. Taking part in conferences: presenting own research, exchanging name cards, networking during lunches, dinners, coffee breaks; after conference linking with new contacts on Research Gate, Facebook, LinkedIn etc. social media websites.
2. Becoming a member of an academic association that organizes regular (usually annual) conferences, seminars or workshops.

Examples of such associations are: European International Business Academy (EIBA), Academy of International Business (AIB), Harvard Business School's Microeconomics of Competitiveness. Apart from ability to making contacts with foreign researchers from our field these associations through their members are related with scientific journals and offer trainings on improving chances to be published there.

3. Becoming a member of an association or a network of academics in a field that has own website where researchers' profiles are visible which increases the likelihood of being found by others who are searching for people with specific expertise.
4. Taking part in projects at mother institution
5. Going on fellowships, teaching programs
6. Going for research stays at other universities
7. Inviting key note speakers to own conferences
8. Inviting researchers to co-author scientific articles
9. Organizing/participating in joint programs, joint summer schools etc.
10. Integrating foreign scholars in activities of the university (seminars, open lectures etc.)
11. Exchange of students and young scientists which is simple way (as usually finding is more available for young scholars) to establish international research collaborations (de Grijns 2015)
12. Internationalization of PhD programs

Online activities:

1. Establishing email contact, email addresses can be found on the institutions website, scientific articles usually include mailing address for contacting author/s.
2. Establishing own profile on online scientific networks such as: Research Gate, Academia.edu, Google Scholar, Mendeley, Research ID, etc. where you describe your research interests, show publications, current research projects etc. Social media requires engagement and

in order not to waste time it is advisable to set limits when and for how long you engage in social networking. Connections made online are good basis for meeting your contacts in reality at a conference, workshop etc.

3. Writing own scientific blog
4. Posting scientific related content on social media such as Facebook, LinkedIn, Twitter etc.

External support:

Besides own search for partners there are ways to seek contact through third parties.

1. Some international research funding organizations provide networking opportunities for members (example is COST European Cooperation in science and Technology which provides access for its members to participation in workshops, conferences, working group meetings, exchange visits of researchers involved in COST programs allowing them to visit institutions or laboratories in other countries, training schools, (COST 2018)).
 - COST, <https://www.cost.eu/cost-actions/cost-actions-networking-tools/>
2. Some national research funding institutions and dedicated university units support search for foreign partners.

For example:

- Poland: National Science Centre, www.ncn.gov.pl
 - UK, University of Oxford: <https://www.ox.ac.uk/research/innovation-and-partnership/partnerships/collaborate-research-project?wssl=1>
 - UK, University of York: <https://www.york.ac.uk/staff/research/external-funding/oda-research-funding/global-challenges-research-fund/guidance-for-applicants/overseas-collaborators/finding-a-collaborator/>
- 1) Ask your network (supervisor, older colleagues with established networks, etc) for recommendations of reliable foreign partners.

With limited resources to engage in and maintain relationships it is important to pick partners strategically. When doing it the guidance of Freie Universität Berlin (2018) can be useful: analyzing diversity and intensity of current relationships as well as their future prospects. Thinking about partners who are complementary to you in terms of skills, area of specialization, geographic location (some research grants require certain number of participants to represent certain countries/regions such as the European Union's COST Action requires a minimum number of members to come from countries labelled "Inclusiveness Target Countries"). The members of a scientific unit should commonly select partners with whom they want to establish partnerships.

3.4.3 Selecting foreign partners

The key considerations when looking for collaborative partner are (UK Economic and Social Research Council):

- Understanding well the reasons why you and potential partner are interested in engaging in a research project. The reasons have usually several dimensions such as practical (access to resources, the need of a partner to be able to actually carry out project), personal (friendship, common interest), or greater agenda for example to change nature of research and symbolic. These motivations have implications for your project.
- Identify characteristics of your potential partner. Partner should probably be in some way complementary in terms of skills, knowledge, experience, etc. Compatibility of partner is important (partner's ability to work successfully with you and other project members). Analyse what your partner can contribute to the collaboration and if these expectations are realistic. In many cases researchers tend to select partners of equal or greater strength in order to be able to learn and have greater chance in winning the funding. Try to answer the following questions related to your potential partner: Is he/she able to work well with other team members, especially at a distance, across borders? What is their work style and is it complementary to yours, so you can avoid unnecessary conflicts? Does including a potential foreign partner/institution

enhances your ability to win funding for the project (greater validity of the project)? Do they speak good enough English to be able to communicate without problems?

- All project members should define their accountabilities: internal (to key project participants), external (to scientific field, ideas of “public good”, social networks). These accountabilities often compete and must be negotiated before start of the project.
- Determine your approach to collaboration and its implications for the form of collaboration.
- It is best that we start cooperation with small projects to get to know each other (if partner is reliable, knowledgeable, responsive, delivers on time etc.) (The Research Council of Norway).

The following questions may help clarify collaboration approach:

- What is the timeline of this project? Is the planned project timeline restricted by the available funding or will it exceed the funding period?
- What is the character of the human relations in this project? Are these relations for the purpose and time of the project or are they important in their own right and will last after the project is finished?
- Are project members interested in changing knowledge or changing reality?
- Who selects the research theme and when?
- Who project partners are accountable to?
- What assumptions about ‘knowledge’ does project members have? Different world views and research traditions may have impact on the approaches to collaboration and thus should be identified at the start.

Additional advice when selecting research partners includes:

- Discussing with your partners the issues of money, time and resources at the very beginning of the forming of a research consortium. These issues are quite sensitive and can cause problems

in successful completion of a project. Think how these issues may impact your cooperation and final results.

- Selecting research partners as early as possible to have time to get to know each other, decide if you want to cooperate, decide rules of participation in research projects, arrange the division of labour etc. and to finally have time to write parts of research funding application.
- The partners in international research project should complete a training on cultural awareness in order to avoid misunderstandings and conflicts resulting from cultural differences.

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3.5 Sources of Financing

Arkadiusz Michał Kowalski and Marta Mackiewicz

3.5.1 Introduction – general overview on different types of sources of financing research projects

The emergence of knowledge as a key factor of economic development has increased the possibilities to find resources to finance research projects focusing on science and the organisations that produce and fund science. In general, there are four main sources of funding research projects that are analysed more in detail in this research:

1. Government,
2. Private industry,
3. Foundations,
4. Professional organizations.

3.5.2 Government

The governments of many countries strive to increase innovation, so they fund research and development. The share of gross domestic expenditure on R&D financed by government is about 31% in the European Union and 24% in the US (Eurostat 2015).

The most important source of funding in Europe is Horizon 2020 - the European Union's Framework Programme for Research and Innovation for years 2014-2020. With its dedicated budget of around EUR 80 billion it is the biggest EU Research and Innovation programme ever. The budget is implemented by 22 different bodies, some of which channel resources from other funding bodies (other EU, national, regional, and/or private funds) and so act as a secondary source of funds (European Union 2015). Looking at the types of organisations submitting proposals to Horizon 2020, the largest share of all applications comes from secondary and higher education establishments (38.4%), while research organisations rank third with 18.2% of applications (European Union 2018). Horizon 2020 accepts also the applications from entities based in Third Countries (non-EU countries).

International cooperation in research and innovation is a cross-cutting priority in Horizon 2020. During the first three years of the programme there were almost 13 thousand applications submitted, involving 4,471 distinct applicants (European Union 2018). The Third Countries that have applied most often to Horizon 2020 are the United States, China, Canada, Australia and South Africa.

Calls and topics are presented on the website. The application can be done with the use of the electronic submission service. Detailed information on the funding opportunities and how to participate is available at the portal:

<http://ec.europa.eu/research/participants/portal/desktop/en/funding/index.html>

Funding opportunities in research, including funding programmes, fellowships and individual grants can be found on the website:

https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities_en

Most Horizon 2020 projects are collaborative research projects where at least three entities from different countries work together. There are not only on-line tools available for organisations looking for partners, but also events and databases of previous and ongoing projects which help to establish partnerships.

The list of countries eligible for funding is published on the website and can be found in the Online Manual. There is also a Guide for funding for non-EU countries & international organisations available for partners from outside the EU.

Governments usually have agencies that are responsible for the distribution of funds, which includes announcement of calls for proposals and appraisal of applications. Usually there are separate agencies that deal with academic research (basic research) and applied research.

Examples of government agencies that provide financial support include:

Germany - <https://www.research-in-germany.org/en/research-funding/funding-organisations.html>

The United States - National Science Foundation, <https://www.nsf.gov/funding/aboutfunding.jsp>

Sweden - <https://www.sida.se/English/partners/our-partners/research-cooperation/research-calls-and-grants/>

Poland - <https://www.ncn.gov.pl/wspolpraca-zagraniczna/wspolpraca-wielostronna?language=en>

There are also bilateral programmes promoting international scientific exchanges and collaborative research. These programmes provide financial support for joint research projects, joint seminars and researcher exchanges in some specified fields, eg. health, energy, sustainable development, education etc.

Grants for research projects are also available under operational programmes financed with UE structural and investment funds. Support can be granted for research infrastructure, cooperation with enterprises, development of skills related to the latest scientific advances or commercialisation of research results. It is worth to check the information published by the managing authorities in your country in order to have the current information on calls for proposals.

http://ec.europa.eu/regional_policy/en/funding/

Some more information on the sources of funding research projects can be found here:

https://oedb.org/ilibrarian/100_places_to_find_funding_your_research/

For South-East Asia, Asian Development Bank.

3.5.3 Private industry

Private industry-financed research, which is often conducted by university researchers for industry, constitutes one of the main channels through which knowledge and technology are transferred from science economy. The knowledge gained from research may be useful to the company's progress, as it can potentially contribute to its R&D efforts. In recent years, partnerships between universities and businesses become especially relevant in the face of increasing economic pressure and global competition, the need for interdisciplinary approaches and the growing complexity, scale and costs of science and technology. Industry funding and partnerships offer the potential to accelerate innovations, and move research to market where

it can benefit the economy and society. In practise, some collaborations between companies and academic researchers are initiated by industry scientists looking for specific technologies or expertise.

The importance of private industry funding for research depends on the type of national innovation system in specific country. In the countries representing so called market innovation system (e.g. USA, UK or Australia), the role of private industry funding of scientific research is much higher than in the countries with so called continental European innovation system (e.g. France, Germany or Italy).

One of the sources of information is CRDF Global's current opportunities for funding list, available at:

<http://www.crdfglobal.org/grants/funding-opportunities>

This list provides with information on opportunities for funding, which are available in the form of research grants, fellowships, business plan competitions, technical trainings, laboratory upgrades, and travel support to attend professional conferences and events, with the goal of advancing civilian-oriented science and entrepreneurship around the globe.

Another source of financing is the Sponsored Programs Information Network (SPIN):

<https://spin.infoedglobal.com>

SPIN contains information on more than 8,000 current funding opportunities, i.e., grants, fellowships and other support programs. Twelve major categories or topics are covered, including: Arts/Humanities; Behavioral/Social Sciences; Education; Science and Technology; Mathematics; Computer Science; Management/Commerce; and Law. After selecting a broad topic, it is possible to narrow search by selecting one or more descriptive keywords.

An interesting source of information is Community of Science COS – Funding Opportunities.

<https://pivot.cos.com/>

COS Funding Opportunities claims to be the “largest, most comprehensive database of available funding,” with 700-member institutions. Individuals can register free, but this won't grant an access to the funding database.

3.5.4 Foundations

Locating and securing research funding is becoming increasingly competitive, as funding opportunities are limited and the number of researchers. There is a wide range of non-profit organizations that sponsor a broad array of research, from high-profile foundations that tackle comprehensive, international challenges to small family foundations, which focus their resources on a single important issue. Very often, specific foundations focus on specific field of science. The most common are foundations supporting researchers working on biological phenomena relevant to particular diseases or disorders, e.g.:

- Glenn Foundation for Medical Research
<http://glennfoundation.org/>
- the Juvenile Diabetes Research Foundation
<http://www.jdrf.org/>
- the United Mitochondrial Disease Foundation

<http://www.umdff.org/>

An important source of information is Foundation Center:

<http://foundationcenter.org/>

Foundation Center helps with locating a funder by geographic area (including global funders), and review funder statistics to determine what their funding priorities are. On its website, there is link to Foundation Directory Online (FDO), which objective is to deliver quality funding prospects.

<https://fconline.foundationcenter.org/>

By combining exhaustive data with intuitive search functionality and informative data visualizations, FDO delivers the information helpful to reach the fundraising goals.

In South East Asia there are following foundations supporting scientific research projects:

ASEAN Foundation, <http://aseanfoundation.org>

South East Asia-Europe Net, Partners in Science, <https://sea-eu.net>

3.5.5 Professional organizations or societies

Professional organizations represent another possible source of funding for research projects. Examples of professional organizations that provide financial support include:

<http://ibro.info/professional-development/funding-programmes/>

<https://www.seda.ac.uk/research-small-grants>

<https://www.sigmaxi.org/>

In case of professional societies, they usually offer travel grants, although a few have research grant opportunities. As it is very sector-specific, professional societies in specific areas should be investigated with respect to research funds opportunities.

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3.6 Budgeting

Marta Mackiewicz

3.6.1 Introduction into budgeting

The development of a good budget is crucial for the success of the project, since the achievement of the expected results depends on the possibility of financing all stages of the project. The budget should identify the anticipated cost for everything (salaries, materials, instrumentation, travel costs, etc.) that will be required in order to successfully complete the research project.

During the budgeting process all the costs must be calculated and well justified. A budget that is overwhelmed may be the reason for the rejection of the application. The budget justification is an explanation, stating why the amount of money is needed in order to carry out the activities planned.

The most important point in the budgeting process is to request exactly the amount of funds that is really needed. Therefore, before starting to develop a budget, it is necessary to develop a research plan - a list of all tasks that must be completed in order to achieve the assumed goal. This is the basis for estimating the number of work days that must be included in the budget.

Examples of activities in the research project include: development of a detailed research methodology, gathering the necessary information and data, analysing the collected data, carrying out experiments, developing a report.

The process of creating a project budget depends on whether the research is financed under a program that requires a specific form of budget presentation or can be created without external restrictions. Sometimes the programs financing research projects have a certain maximum budget value, sometimes it is possible to finalize all planned expenditures without the upper limit.

Before starting the budgeting process the following issues must be considered:

- whether the sponsor (source of financing) requires a specific form of budget presentation,

- whether there are restrictions on the type of expenditure that can be financed from a given source,
- whether the maximum budget for the research project is specified.

Usually, if the sponsor (source of financing) requires a certain form of budget presentation, the budgeting rules is also specified (for example, no more than 30% of the project budget can be allocated for personnel salary), external services cannot exceed 20% of the budget, own contribution of at least 10% of the budget, etc.).

The general budget construction rules that apply to all projects, regardless of the required form, are discussed below. The following categories should be included in the budget of the research project:

1. personnel salary of persons involved in the implementation of the project,
2. external services or subcontracting - costs of purchase of specific services necessary to carry out the project implemented by specialized institutions (eg. research institutes / professional services),
3. purchase of materials and supplies necessary for conducting research,
4. purchase of major instrumentation and devices,
5. indirect costs, usually associated with the provision of appropriate working conditions for members of the research team, often referred to as a percentage share in the entire budget
6. costs related to travel (travel expenses, members' diet)
7. costs related to the dissemination of research results (conferences, publications, etc.).

The basic principles of calculating the costs in these groups are presented below.

3.6.2 The costs of personnel salary

The costs of personnel salary are calculated by dividing the number of planned working days and the daily remuneration of the members of the

research team. The salary of a member of the team usually depends on their role in the team and experience (junior, senior researcher, manager, etc.). Therefore, the budget should specify the number of planned working days for each category of a research team member (for each planned task).

Table 3.6.1. Example of costs of research team members

Research activities (Fee Costs)	Project Leader	Senior	Medior	Junior	Assistant	Total days/ hrs per activity
Research activity 1	2					2
Research activity 2	4					4
Research activity 3	2					2
Research activity 4	8					8
Etc.						0
Etc.						0
Total # days/hours	16	0	0	0	0	16
External fee (day/ hour)	120	0	0	0	0	
Total external fee	1,920	0	0	0	0	1,920
Internal (cost) fee rate (day/hour)	101	0	0	0	0	
Total internal costs	1,620	0	0	0	0	1,620

For some research projects specific knowledge may be needed. If the internal staff is not familiar with these specific issues, it may be necessary to involve some external experts. The remuneration of external experts must also be calculated and specified as personnel salary.

3.6.3 Purchase of external services (subcontracting/professional services)

Typically, in research projects, it is possible to purchase specialized research services, the implementation of which is not possible by the institution implementing the research project. Sometimes, the performance of such

services requires adequate infrastructure or human resources that are not available to the institution. The simplest method is to quote such a service at the stage of planning the budget by collecting this information from 2-3 potential subcontractors that provide such services. It should be checked whether the program / sponsor allows for subcontracting. If so, describe the service in detail and collect an estimated price from the institutions that provide such services.

For example, if we intend to outsource the survey, we must specify: the target group (who is to be examined, for example, women and men with mobility disabilities, aged 18-65), the method we want to conduct the study (Example, Computer Assisted Telephone Interview, CATI), the assumed number of collected questionnaires, the planned length of the questionnaire (in minutes).

If we intend to buy data sets that are not standard and need to be adapted by the data collector, it must be remembered that the quotation time can be long. Usually, institutions that provide data sets need a quotation of around 2 weeks and sometimes even a month. The inclusion of such a budget item therefore requires an early inquiry about the price.

The same procedure concerns other external services like laboratory testing, closed testing, or expert opinion consultation. In case of some services like conducting a focus group interview the cost are usually easy to predict, unless a very specific group is needed.

3.6.4 Costs of purchasing materials and supplies

If experiments require specialized equipment or materials (e.g. chemical reagents, laboratory supplies, computer software and supplies), it is necessary to collect information about the price. As described above, check the price or gather information from 2-3 suppliers about the cost. Of course, it should be checked whether the purchase of materials and equipment is an eligible cost.

3.6.4.1 Major instrumentation

A purchase is typically identified as major instrumentation rather than materials and supplies when the cost of the instrument exceeds a defined

value and when the device has an anticipated lifespan of more than a year. Examples of major instrumentation purchases include laptops, laboratory equipment, etc. When requesting major instrumentation, it is important to specify the manufacturer and model of the specific instrument that must be purchased and to indicate what if any features this model has that make it uniquely required in order to accomplish the proposed work. Again, if a specific instrument is needed, it is recommended to obtain a quotation from the potential providers or manufacturers.

3.6.4.2 Indirect costs

Indirect costs are usually calculated as a share of the entire budget. However, it is not a rule. Indirect costs can be assessed on modified total direct costs basis (rates do not include the costs of major instrumentation or subcontractors) or a total direct costs basis (all costs are considered). Indirect costs cover a pool of funds allocated the facilities and administrative costs that are incurred in support of the research activities, for example, the use of office equipment, working time of employees of a financial department etc. If the required form of budget preparation does not specify the amount of the share of indirect costs, the entire budget should be planned not less than 10% and not more than 30% of the budget (depending on the type of research project). Some projects require a high involvement of support teams, especially if the grant has complicated rules for accounting for eligible costs. In the case of relatively simple projects, taking into around 10 - 15% of the project value is usually sufficient.

If the required form of the budget does not provide for “indirect costs”, these costs should be carefully planned, in particular the labour costs of financial team and administrative personnel (for example 20 hours monthly for the duration of the project).

3.6.4.3 Travel expenses

Conducting research often involves the necessity of travelling of the members of the research team. These can be trips to perform some specific tests (for example, to conduct an interview, to collect samples of materials for research, etc.) or trips related to meetings with partners that form the consortia. These costs are relatively high in some projects, and frequently

are forgotten to be included because they are not directly related to the implementation of the research. It is advisable to plan at least the following costs:

- a) transport costs (depending on the number of people who will participate in the trips, distance, means of transportation, and the number of trips planned),
- b) accommodation costs (it should be checked whether the funding source does not require the application of rates accepted for specific countries).
- c) per diems (similarly to the above - the rates for the country to which the research team members will be travelling) may be determined.

Many funding sources place strict limitations on travel it is worth checking this carefully before drafting the project budget.

3.6.4.4 Conferences, publications

If we intend to disseminate research results, it is good to plan the costs of conferences and publications in the budget. Usually it is also required by the sponsor. Again - apply the rules described above (concerning travel costs, per diems, hotel, registration fee, etc).

3.6.4.5 Others

It may be wise to have a risk provision, however it is not possible to present this budget position. If the planned experiments are risky and the project is burdened to many riskd, it is advisable to add some additional salary costs or indirect costs.

For some funding opportunities, a cash or in-kind contribution from the institution implementing project is mandatory. The list of eligible in-kind contribution is usually provided. Usually in-kind contributions in the form of voluntary work is possible. Sometimes the project grant rate and project co-financing is determined with reference to the status of the individual consortium members. Universities and public research entities usually have the highest possible grant rate.

A thoughtful budget demonstrates that the research project is well conceived and likely to be completed successfully. It should be taken into account that

the budget along with the whole project application will be a subject of a review. Therefore, it is advisable to make sure that the planned costs presented in the budget are proportionate and necessary for the implementation of the project.

Below example of budget template is provided.

Table 3.6.2. Budget template

Participant	Direct personnel costs	Other direct costs	Sub-contracting	Third parties	In kind contribution	Indirect costs	Total eligible costs	Requested grant
							€ -	
							€ -	
							€ -	
Total	€ -	€ -	€ -	€ -		€ -	€ -	€ -

3.7 Managing International Collaborative Research Projects (Project Cycle Management)

Agnieszka McCaleb and Anna Maria Dżienis

3.7.1 Introduction into management of collaborative research projects

The international collaborative research projects are more and more complex in terms of multidisciplinary approaches, multiple organizations involved, diversity of countries and cultures, bureaucratic burden. Thus, nowadays researchers have to also be skilful managers able to build teams, manage deadlines, inspire and motivate team members, resolve conflicts and navigate between cultures.

The management of collaborative research projects requires from project leaders to:

- Build trust and respect
- Flexibility in managing changes in the course of the project
- Good communication skills and cross-cultural awareness
- Project management skills
- Ability to create project's organization culture driven by unified, shared vision

Finally, international collaborative research projects require team members, and especially the project leader, to have deep understanding and awareness of cultural differences that are likely to impact management and final success of the research project.

3.7.2 Managing successful research projects

A study by vom Brocke and Lippe (2015) of extant literature on management of collaborative research projects identified the following paradoxes:

- Research projects are characterized by uncertainty and require freedom and flexibility but it is necessary to manage it tightly to reach the stated goals.

- Collaborative research enhances combination of views, approaches to solve problem comprehensively but diversity of partners result in managerial problems related with managing different cultures, different organizational set ups and multiple disciplines.
- Manager of such collaborative project has limited power as partners enjoy autonomy and because of governance structures. At the same time, some tasks such as project vision management and summary of results need engagement and commitment of all partners.

The literature provides managerial solutions to the above paradoxes (vom Brocke and Lippe, 2015):

- Management of a project vision: vision of a project should be defined by all members, and then clearly and properly communicated to all persons engaged in the project. It should constitute a tool that reduces uncertainty and aligns views of all partners.
- Ensuring partners are compatible and that work style is collaborative. It is best that project members have experience working together. Project expectations should be openly discussed and clarified at the very beginning to avoid diverging goals. During the project compatibility can be fostered through good communication, face-to-face meetings of project members (such as at the project related workshops), researcher exchanges, inter-cultural work aspects trainings.
- Organizing and monitoring of work progress should be flexible and carried out at multiple levels: flexibility should be combined with rigid work structures; control at project level but flexibility at work level; define and inform frame of reference and responsibilities, be transparent to all project members but try not to provide too many directions on how to carry out individual tasks.
- Employing skilled scientific project manager: project manager should be knowledgeable in a project field and have strong communication skills; diplomatic approach/skills, high level of technical awareness, leadership skills such as ability to delegate tasks and ability to participate.

Rules of successful collaborative research project management:

- Continuous building of mutual trust and respect throughout the project (Easterby-Smith and Malina 1999)
- Clearly stating the objectives of a project that all partners want to achieve (partners may differ in terms of their motivations and goals to engage in a project). Thus, at the very beginning of a project everyone in a consortium should understand the objectives of all consortium partners so that the project's plan can be devised to achieve these goals. This project-start procedure is beneficial as some goals may be incompatible with each other. For example, academic partners want to have publication and business partner wants to secure intellectual property and trade secrets (Harris 2007).
- Good planning and providing realism and hope are key to effective leadership and governance (discussed in more detail in section 6.4).
- Conflicts in projects are common issue. Usually the beginnings of these conflicts can be traced to the original negotiations of the partnership. Therefore, the early discussions need to be as transparent as possible. Clear and frequent communication is basis for preventing misunderstandings and makes way for development of mutual trust (Lau et al. 2014).

3.7.3 Project cycle management

Project cycle management identifies and addresses all phases of a project that include planning, organizing, coordinating and controlling of a project to achieve originally stated objectives and to satisfy all stakeholders by delivering the right outcome at the right time and cost.

3.7.3.1 Managing people in projects

Project manager has to operate in complex circumstances involving people from different backgrounds, professions, cultures, organizations. From the very beginning it is a very difficult task. Usually project manager's authority is not very strong but he has plan, organize, coordinate, communicate, lead and motivate project members to attain a project's goal. It is often that people have two managers – one project manager and the other department's

boss. The project manager is not in charge of their appraisals or salary. One thing that connects project participants is project organization structure. Due to insufficient time there is not much opportunity to build interpersonal relationships that are standard in routine work. In addition, members of the project may change and new join in. Despite this disruptions and challenges project manager has to have time to push the project forward and thus he/she has to apply pressure or other motivational instruments on project members.

Thus, project manager should have skills in the following spheres:

- Leadership (with focus on achieving project targets)
- Securing power in difficult and changing situations
- Motivating people and groups
- Developing teams and teamwork
- Managing conflict (many projects fail due to conflicts) (Harrison and Lock 2004).

3.7.3.2 Project's organizational culture

Project managers have to think globally about all contributors to the research project. Everyone engaged in the project must learn to think about project's global structure and organization. All project participants should be totally committed and loyal to the project. People in the project must be oriented towards achieving the goal not only focused on individual operations. Thus, project must be divided into individual and team goals. Team members have to accept the fact that there are many changes in the life-cycle of a project thus they should learn to be and be prepared to be flexible in their work.

The performance of a project depends on cooperation and teamwork which require:

- Mutual support
- Open communication
- Trust
- Respect

Thus, the project manager should make all project members committed and

enthusiastic about the project. Project plan should understand all project members. Project plan should be created in a process where all project members are involved. It cannot be devised and imposed by project manager on team members (Harris 2007).

3.7.3.3 Project cycle management phases

There are five phases of project management providing a roadmap to accomplishing project's goals which consist of: phase 1 – development of project concept and starting the project; phase 2 – defining project's scope and planning its work items, budget, Gantt chart, communication strategy and tools as well as identifying risks and finding their countermeasures; phase 3 – actual start of the project and execution of tasks; phase 4 – monitoring and control of performance and quality of deliverables, achieving of the project's goals; phase 5 – project closure (Smartsheet 2018).

Phase 1: Initiation of a project

At this initial stage we need to think about the project in a very broad way. It should resemble a business case where we analyse if project is feasible and if it should be undertaken. Key project stakeholders should also do their analysis to decide if project should be undertaken. If decision is positive then a project initiation document should be formulated with goals and requirements of the project. It should comprise of needs, stakeholders and the research project case.

Phase 2: Project Planning

This stage is key for success of a project as it provides a roadmap that all project members should follow. At the beginning the goals should be stated. Two methods support development of goals, namely S.M.A.R.T. and CLEAR:

S.M.A.R.T. method allows to ensure that goals are thoroughly examined and that we understand implications of goal-setting process.

“S” stands for “specific”: here in relation to our goals we should answer the following questions: who, when, why, what, where, which.

“M” stands for “measurable”: we should develop criteria that allow us to measure success of a goal.

“A” stands for “attainable”: decide what are the most important goals and what is needed to achieve them.

“R” stands for “realistic”: we should be willing and able to work to attain the goals.

“T” stands for “timely”: a timeframe should be established to achieve the goals.

CLEAR goals reflect contemporary work conditions and mean:

“C” stands for “collaborative”: goals should incentivize project members to work together.

“L” stands for “limited”: goals should be limited in scope and time for facilitating their management.

“E” stands for “emotional”: goals should be related to project members’ passions so they form emotional connection with the goals. Such emotional aspect can enhance quality of work performed by project members.

“A” stands for “appreciable”: goals should be divided into smaller tasks that are easily achievable.

“R” stands for “refinable”: situation can change during the life of a project thus we should be flexible with our goals; it should be possible to redefine the originally created goals.

During this phase project management plan is developed that includes costs, timelines, available resources. It should also include baselines and performance measures. Baselines allow project manager to check if project is on track.

The identification and listing of all tasks to be carried out during the project can be done during workshop when all project members are present, the list of tasks is developed through brainstorming.

In addition, roles and responsibilities are decided so that everyone knows what they are accounted for.

During this stage project manager should create the following documents:

- Scope statement: document clearly defining project benefits, objectives, deliverables and milestones.

- Work breakdown schedule: visual representation of manageable tasks for the team.
- Milestones: key goals that need to be achieved during the project, which should be included in the Gantt chart.
- Gantt chart (discussed in more detail in section 2 of this Module)
- Communication plan: it is especially important to create a communication plan when your research project has outside stakeholders. You should create a proper communication around the project and you should develop a schedule when to message and update project members based on deliverables and milestones.
- Risk management plan: you should identify all possible risks. Risks in research projects are discussed in more detail in section 8 of this Module.

Additional and more detailed issues when planning a project:

- arranging tasks into small groups, between 4 to 8 persons is best.
- arrange tasks into chronological order.
- identifying dependencies between tasks (such as one task cannot start before another task is completed)
- description of work packages (including work package objectives, expected outcomes, each member contribution, required work load and resources, who takes responsibility of work package, risks related with work package).
- transforming the work packages into Gantt chart.

Phase 3: Execution of a project

In this phase deliverables are developed and completed. It usually starts with “kick-off” meeting during which individual teams are informed of their responsibilities.

During this phase the following tasks are performed:

- Development of team/s
- Assignment of resources
- Execution of project management plans (some tasks may be related

with risks of delay such as proofreading and translation into foreign languages; each part of the research proposal such as methodology should be extensively discussed by all members to avoid problems and misunderstandings).

- Management of purchases if necessary
- Project manager leads and manages project implementation
- Establishment of tracking systems
- Task assignments are executed
- Meetings during which progress in completion of tasks is discussed
- Updating of project schedule
- Modification of project plans as necessary

Phase 4: Project performance/monitoring

This phase is discussed in more detail in section 9 of this Module.

Phase 5: Project Closure

This phase means project is completed and researchers hired specifically for the project finish their work. At this point project members who were especially valuable should be recognized. Project closure events can be organized to thank members for their work.

3.7.4 Project management in international research projects

The rules for managing projects stated above should serve as a basis for approaching managing research projects. Research projects have their own specifics which are discussed in this section being extension to the general rules on project management. As international, interorganizational, multidisciplinary research projects have gained in importance the last decade saw research on how such collaborative research, also called team science initiatives, should be managed. It is highlighted in the literature that international research projects require a lot of flexibility from researchers as they should formulate strategies for unexpected issues arising during the implementation of each phases of the research project. Project phases in international research projects can be divided into (Easterby-Smith and Malina 1999):

Phase 1: Forming the research team/consortium

Diversity of a team in terms of disciplines, academic career stages, organizations, ages, genders etc is a powerful resource but can also be challenging for managing such different personalities. Forming a successful research team is thus the most important part in management of a research project.

Rules helping select collaborative research team members include:

- Core team members have known each other before and have cooperated before.
- New members joining the team should be well-known to at least one core member to ensure quality of team members.
- Identifying researchers interested in working within interdisciplinary collective (in interdisciplinary projects not only scientific capabilities are important). Such assessment can be done through interview (Bennett & Gadlin 2012).
- Team leader should analyse each potential team member's "degrees of commitment, availability, previous experience, formal and hidden motives for participating in the project as well as the degree of acceptability and understanding of cultural variety" (in Bournois & Chevalier 1998 after Rohner 1984).
- Overall team goals should correspond with individual team members' career needs. It should be considered that teams comprise of people at different stages in their careers thus their personal goals and ambitions must differ.
- Consortium composition should reflect the requirements regarding consortium members stated in the call for proposals.
- When some type of consortium members is missing it is advised to ask the core team members for recommendations.
- When inviting contacts to join the consortium the deadline for response should be set.
- When forming a team, the cultural aspects should be taken into account. For example, in China *guanxi*, relationships based on reciprocity which require continuous maintenance, would guide the

selection of members. Thus, if a researcher was invited by Chinese colleague to take part in the project when this researcher is developing own project he/she should invite his Chinese colleague to join the consortium.

Next stage of this phase requires establishing roles and responsibilities within the project as well as ways of communication. It may pose some threats as some members may not be accepting the proposed division of tasks, diminished autonomy, different perspectives for addressing research problems. Leader's important role in this respect is to make people aware of potential advantages of differences in perspectives and ways of doing things. Collegial scientific disagreement should be appreciated and supported while pressure for consensus should be avoided as in such atmosphere people are more likely to open up and accept different ideas.

Phase 2: Developing focus, objectives, and methodologies of the project

The aims, conceptual frameworks, methods, hypotheses of the project should be developed by all consortium members, but there should be a leader who manages and monitors this process so that it stays within the timeline. The projects consisting of several members usually take at least several months to formulate focus of the project, aims, methods etc. When formulating these the members should consider the funding source's interests. For example, when applying for funding from the national agency some benefits for the country from the project should be included. All parts of research project should be discussed in detail, such as methodology, in order to avoid assumptions that may be developed among each team as to the motivations of other teams, which may result in negative perceptions of project partners (Easterby-Smith & Malina 1999). Meetings should take place at least at the start of work on research project and at the end.

It is highlighted in the literature that research methodologies are not valued in the same across countries and approach to methodology can vary between countries (such as in terms of positivist versus constructivist approach; preference in some countries for specific type of methodology such as quantitative versus qualitative approaches). It should be thus discussed and determined in detail among all partners what methodology will be used in a project and what implications it has for all members (Bournois & Chevalier

1998; Easterby-Smith & Malina 1999). After negotiations on methodology the project leader should ensure that the same methodology is applied by all members. The leader can however allow for some local adjustments in order to avoid damaging the progress of the project. For example, in qualitative research extra questions can be added by national partners or case studies can supplement results from hard data. Such amendments must be negotiated at the start of the project. Project leader should thus be culturally aware. (Bournois & Chevalier 1998).

Phase 3: Data collection

When a project requires quantitative data the purchase of a specific database should be included in the budget of a project. Another way of obtaining data is to find an institution or a researcher who has access to data and inviting it/him/her to join the project. Bournois and Chevalier (1998) point out the risk of fragmented data which is due to national partners having multiple obligations which forces them to delegate data collection to assistants which dilutes responsibilities and scientific capabilities. It is advised to standardise and formalize data collection and media used. Example is codification of missing values in questionnaires where in some countries 0 and in other 9 is used which makes it very difficult to consolidate the data.

In qualitative research it should be investigated if access to organizations in each country covered by the research is possible. In countries such as China where personal ties are key enablers for accessing the informants it should be taken into account to have team members from such country that possess the necessary linkages. Securing interviews with companies should include general approval of the research project by senior managers of the company. When contacting companies, the success in securing the interviews can be influenced by a number of factors such as academic status, gender, race, and age which should be taken into account when sending teams conducting field work. External perceptions of status may be in conflict with the internal selection of researchers to conduct the fieldwork. In cross-cultural research different attributes such as age or gender may have different perceptions in different countries. Such field work often takes long time especially when multiple countries are studied and delays in obtaining all required interviews should be included in the schedule of the whole project.

It should be noted that managing collection of data should expect longer time as in different countries different seasons/months are not feasible for sending out questionnaires. For example, in France July and August are holiday months and December and February are months when official documents for administration are being prepared; in China New Year is based on lunar calendar and can fall in January or February and lasts around two weeks.

Phase 4: Data interpretation

As data interpretation may vary across institutions/countries it is advisable to test this possibility at an early stage by designing a joint pilot study where all research members can observe how each team within a project operates (Easterby-Smith & Malina 1999). Due to usual pressure to publish the results it is advised to allow more time for this stage for comparative analysis and interpretation. This phase usually comprises two stages: national level reports and international report. The national/country reports compare the results with previous studies which rely on similar frameworks, history, institutions. The final phase is international report which according to Bournois and Chevalier (1998) usually does not have enough time for discussion of results, frameworks of analysis that may be common or conflicting. Researchers are not encouraged to question their output.

Phase 5: Dissemination of research results

Firstly, research results are delivered to the funding body (European Commission, regional agency, a company or professional association). The project leader should discuss and determine who publishes what and where. The common practice is that national leaders publish in their own language in their country mentioning the name of the research project. The utilization of open source publications should be exploited for visibility of research results. It is advised to consider the language of the reports at national level analysing which translations are cheaper from English to national language or national language into English. When it comes to publishing in respected peer-reviewed international journals the time for translation, proofreading should be taken into account as well as budgeting for translation should be secured at the beginning of the project.

3.7.5 Cultural differences in international research projects

It can be intuitively said that diversity in ages, gender, personal backgrounds

and cultures in a research team is a plus. Members of such a group know that they have to establish mutual understanding and common goals to lead the team to successful research outcomes.

Furthermore, it can be expected that diversity in a research team can develop a specific skill set in such a group, enabling it to approach problems in more creative ways. Those, who are aware of and have knowledge of different perspectives are able to focus on common goals rather than particular interests stemming from cultural differences.

As far as evidence-based example of the influence of culture background on a company's values is concerned, there is a famous study in the area of cross-cultural differences conducted by Hofstede (2010). Hofstede's research allowed him to formulate, originally four and finally six, dimensions of national culture.

These are as follow:

- Power distance
- Individualism versus Collectivism
- Masculinity versus Femininity
- Uncertainty avoidance
- Long Term Orientation versus Short Term Orientation
- Indulgence versus Restraint

More specifically, Hofstede (2010) defines a set of competitive advantages and disadvantages of different cultural profiles in international competition, which can be useful while identifying cultural characteristics crucial for achieving the assumed objectives of a research project:

Table 3.7.1. Hofstede's dimensions of cultural profiles.

Power Distance (small) Acceptance of responsibility	Power Distance (large) Discipline
Uncertainty Avoidance (weak) Basic innovations	Uncertainty Avoidance (strong) Precision
Collectivism Employment commitment	Individualism Management mobility

Femininity Personal service Custom-made products Agriculture Food Biochemistry	Masculinity Mass production Efficiency Heavy industry Chemistry Bulk chemistry
Short-Term Orientation Fast adaptation	Long-term Orientation Developing new markets

Source: Author's own compilation based on Hofstede G, Hofstede GJ, Minkov (2010). *Cultures and Organizations: Software of the Mind*, McGraw-Hill Education, 3rd edition 2010.

The cultural dimensions identified by Hofstede provide a basis for understanding the approaches of people from different cultures to power, discipline, collectivist vs individualistic attitude, feminine character vs masculine character, approach to relationships. It helps understand people and their behaviour as well as to plan collaboration. For example, people from the Western culture tend to have rather short-term approach to projects and cooperation while people from Asia tend to build long-term relationships and emphasize cooperation and collectivistic approach to task without emphasizing individual goals and needs.

Again, the awareness and knowledge of the above-mentioned cultural characteristics can prove to be useful for a better implementation of a research project and communication strategy.

In order to mitigate risks resulting from cultural differences in international projects it is important to:

- Establish trust between stakeholders through strict supervision and enforcement of standard processes. While unequal salary and profit distribution and lack of transparency reduce trust. Uncertainty avoidance manifested in reluctance to delegate tasks also leads to decrease of trust. Behavior aimed at saving face and avoidance of dealing with this kind of challenges are two other factors that impact negatively the building of trust in stakeholder relationships (Lückmann & Färber 2016).
- Develop shared sense of identity and belonging.

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3.8 Risks Related to Research Projects

Rosmimah Mohd Roslin

3.8.1 Introduction - risks in research

The idea of risks existing in research projects or in the execution of key activities of research have not been given much emphasis in general by many researchers when planning their execution simply because risks are not aggressively anticipated. Undoubtedly, risks do exist and when this is linked to mega projects involving large financial and human capital, the impact may be quite substantial. Researchers, therefore, are expected to take steps to minimize potential risks.

According to Winston (2006) any research projects are essentially at risks and such risks may be in numerous forms including physical risks, psychological risks, legal risks and social and economic risks. These risks are often overlooked in the quest of winning research grants and inevitably become embedded in the whole research process. It is therefore essential for researchers to consider the idea of risks in research projects and ultimately take into account the management of such risks.

One specific area of risk management in research project that has been given some detailed consideration in the literature is ethical risks. The history of risk management in research projects has some of its foundations specifically in research ethics. Ethical risk is often associated with those that may harm the subjects involved in numerous ways but is somewhat necessary to the conduct of the research. It may involve the use of subjects in a manner that may leave some impact to the subject if left unmonitored. It is on this premise that many research organisations invariably have ethics committee to ensure that the research pose the lowest risk possible to subjects. The basis of monitoring by these ethic committees vary from legislation, regulation, guidelines and codes of conduct in order to make relevant assessments on risks that are potentially present. Thus, although risk management has somewhat been practiced by researchers, they tend to be limited to the ethical conduct whilst numerous other forms of risks tend to be neglected. Wageman (2004) highlights four key benefits to the application of risk management to research projects as follows:

- i. The identification, analysis, assessment, treatment and monitoring of risks helps bring clarity to the scope of a particular research project.
- ii. It assists project participants to defend a project when adverse events occur and assists with a justification of changes as a result of those adverse events.
- iii. The greater the risks undertaken by research projects can represent increased opportunity for success if risks can be managed and research outcomes achieved.
- iv. The identification of contingency of funds that can increase the ability for a project to survive adverse events through the provision of additional funds.
- v. As such, the need to understand risk management for research projects is crucial to ensure that the whole research conduct will be carried out smoothly and efficiently.

3.8.2 Managing Research Risks

A question that is often posed is the specific time period when risk management practices should be in place. Winston (2006) suggests that risk management of research projects should be applied at the conception of the research idea. Research projects are unique in that the innovation associated with research inherently involves risk (Leung & Isaacs 2008). So risk management of research projects is centred primarily around planning and controlling of uncertainty. This therefore implies the need to embed risk management practices beginning from the idea generation stage up till the point the research is completed and presented to stakeholders. There is a tendency for risk management activities to be performed in research projects on specific technical aspects of the project rather than risks that may impact the success of the whole research project (Lee, Chung & Kim, 2007). A more viable means of managing risks would be to look at all pertinent areas where risks may be present. This is where both researchers and research management personnel need to interact and coordinate all risk management practices. Adapting Gajewska and Ropel's (2011) framework of risk management, the following flow is proposed:

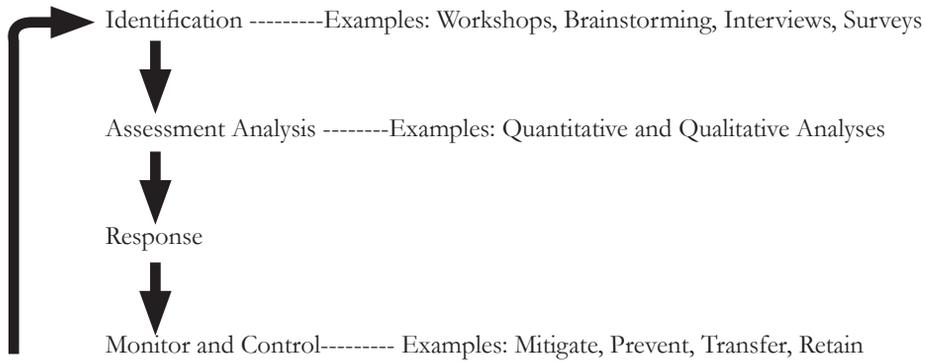


Figure 3.8.1. Activities in Managing Risks

Source: Author's own development based on Gajewska, E. & Ropel, M. (2011). Risk Management Practices in a Construction Project – a Case Study, Division of Construction Management, Chalmers University of Technology, www.publication.lib.chalmers.se

It must be emphasized that risk management in research should be a proactive and not necessarily a reactive effort. On this note, anticipating and planning in that event that crisis may occur is crucial. The phases highlighted in Figure 3.8.1 is simply to provide a structured procedure of managing risks. At the identification phase is where risks are actually identified through numerous means. Activities like brainstorming, Delphi technique, location visits, expert opinion and many more are likely to generate possible risk areas in all stages of the research process. If risks is identified, then the flow of managing risks require in-depth analyses using both qualitative and quantitative methods. Quantitative method like Sensitivity analysis is likely to generate key areas of possible risks throughout the research process as much scrutiny is conducted at each research phase. Qualitative methods are likely to generate rich information on the probability of risks and their potential impact. This could then be integrated to enable a more structured conceptualization of risks.

Should risks be identified, then the process moves on into the phase of responding and the actions needed depend on when the risks are actually isolated. At the initial phase of the research before the research process is in full swing proactive measures would be needed such as avoidance tactics,

For example, if it is execution risks related to specific policies that is identified at this juncture, then working the need of facing the challenges of such procedures and regulations may need to be undertaken. If however, risks are identified at the implementation phase where mitigation of such risks may be the only alternative, then actions relating to this must be in place. For example, if lack of information may present possible risks at this juncture, then information generation procedures must be undertaken to downplay some of the possible risks.

In the execution phase of the research project, monitoring and control are performed in order to make sure that the process is going according to the plan and all identified risks are being handled properly. Monitoring activities should be done throughout the whole project process, starting with the point when the risks were recognized until the point of closure, where the whole project is summarized and the project's objectives, benefits and deliverables are evaluated. All research members then have a chance to list all activities or risks which were not fully managed within the project. Westland (2006) suggests that those unmanaged risks can be a subject of further discussion and be used as warning for next projects. Thus, incorporating such risks into research management may become essential in ensuring the overall success of the project.

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3.9 Monitoring progress

Marta Mackiewicz

3.9.1 Introduction to the role of monitoring

Monitoring aims at providing regular oversight of the implementation of an activity in terms of input delivery, work schedules, targeted outputs, etc (Europa 2018). Through such routine data gathering, analysis and reporting, program/project monitoring aims at:

1. Providing project management, staff and other stakeholders with information on whether progress is being made towards achieving project objectives. In this regard, monitoring represents a continuous assessment of project implementation in relation to project plans, resources, infrastructure, and use of services by project beneficiaries.
2. Providing regular feedback to enhance the ongoing learning experience and to improve the planning process and effectiveness of funds.
3. Improving the efficiency and effectiveness of a project.
4. Increasing project accountability with donors and other stakeholders.

Project monitoring is normally carried out by project management and staff. Monitoring actions must be undertaken throughout the lifetime of the research project.

Monitoring a research project requires:

- a) clearly defined objectives of a research project,
- b) drawing up a work plan of activities in which the moments of their completion and the milestones are specified (see Chapter 2 Developing a general project timetable).

The **work plan** is the basis for monitoring the progress of project implementation. Therefore the work plan should describe in detail the delivery of inputs, the activities to be conducted and the expected results. For monitoring purposes, the timetable should clearly indicate not only schedules but also the persons responsible for providing the inputs.

3.9.2 Defining objectives and indicators

In research projects it is not always easy to precisely define the goal (it can be understood differently by project participants). Sometimes comprehensive projects have several different goals (Europa 2018).

A well formulated goal:

- does not describe what is planned to do but what is planned to fulfil (reach);
- should be understandable, clear to interpret, precise, measurable, concrete, controllable and real.

In a typical research project, it is advisable to formulate **milestones**. Milestones mark specific points along a project timeline and their completion is usually necessary to start a new phase of a project. In other words - they constitute major progress points that must be reached to achieve success. Therefore, milestones make easier monitoring progress (but there is no obligation to formulate them).

An important element of monitoring is **indicators**. Measurable indicators help to better characterise an objective and follow the conditions present in fulfilment of an objective. Project indicators should be: consistent, clear, comparable, measurable, controllable and supported by data.

It may be helpful to set deliverables at each milestone as indicators.

Even if indicators are required in the research project, they do not always help in analyzing the progress in reaching the objectives. It may be the case that the target values of most indicators will be achieved only at the end of the project. Then an important indicator is the degree of budget use (For example, according to the division into categories and the time of project implementation). The person managing the project must therefore know the budget well (see chapter 6) and timetable (see chapter 2). Only then effective monitoring is possible.

3.9.3 Project opening card

A useful tool is a “project opening card” in which the budget is defined, divided into categories and the planned implementation period. The budget should be divided into periods of project implementation. The percentage of the use of financial resources is then visible.

Table 3.9.1. Example of “project opening card”

Specification	Year	Quarter	Planned fee	Cumulative
Salary costs	2018	Q1	10,000	
	2018	Q2	12,000	22,000
	2018	Q3	12,000	34,000
	2018	Q4	16,000	50,000
	2019	Q1	10,000	60,000
Direct costs	Year	Quarter	Planned costs	Cumulative
Subcontracting	2018	Q1		
	2018	Q2		
	2018	Q3	15,000	
	2018	Q4	5,000	20,000
	2019	Q1		
Materials and supplies	2018	Q1	10,000	
	2018	Q2	18,000	28,000
	2018	Q3		
	2018	Q4	2000	30,000
	2019	Q1		
Etc.

The use of human resources (fee) can be monitored using electronic records of employees’ working time (if there are appropriate systems in the institution implementing the project). The timesheet can also serve this purpose. They are not necessary if employees are employed for one project only for a limited period of time.

This tool enables to determine whether the available resources are sufficient and are being well used and whether the capacity at disposal is sufficient and appropriate.

In addition to the project opening card, which is used to monitor costs, it is also worth developing a document for the project implementation framework. Usually at the beginning of the research project, the entire

research methodology, assumptions about cooperation, schedule, data source summary and research tools are developed. They are included in the inception report. The report should be submitted for the approval of the main stakeholders. The acceptance of the report allows to navigate within the designated framework and in accordance with the adopted work schedule. The existence of an inception report on the one hand ensures that the research process follows the accepted methodology, and on the other it allows monitoring whether the project is proceeding according to the assumptions, i.e. each stage of research provides specific effects, a right sequence of research allows the use of results previously achieved in the next stages, that the research process proceeds according to the assumed time frame and that certain results will appear on time.

3.9.4 Reporting

In larger projects, reporting may be required on weekly, monthly or quarterly basis. If the team is highly experienced then less frequent reporting may be appropriate. Progress report on project implementation is usually provided to the grant provider (funding source). It should be agreed with the funding source how often the progress reports should be delivered. In large projects that last longer than a year, the monitoring body (monitoring committee) can be established. Usually, information is provided whether the work that was to be carried out in a given period was carried out and with what result. If they have not been performed, justification and determination of the risk of late completion of the project is required.

According to the PRINCE2 - a Structured Project Management Methodology - the periodic reports should provide the following information (Bradley 1997):

- statement on the progress achieved in the recent reporting period,
- a list of problems that have occurred in the recent period and actions taken to overcome the problems,
- confirmation of actions and products to be carried out in the next stage,
- statement on the financial situation and implementation of the schedule for the entire project and the current stage.

In the case of large international research projects, a common practice is dividing a project into several work packages. Each work package should have a work package leader. In order to check that the project is progressing satisfactorily, the project manager (the person in charge of the whole project) should plan project meetings with the work package leaders throughout the lifetime of the project. Work progress at the work package level should be reported by the work package leaders. It should also be measured against the planned deliverables and milestones (Bradley 2005).

The project manager consolidates these reports delivered by work package leaders and uses these as part of the progress reporting to the monitoring committee or the sponsor (the funding source). It is used for an assessment when reviewing stage status. The information provided in the progress report allows to manage by exception. If an exception plan is needed, it should be requested to the funding source. Usually the exception assessment is made by the project manager and the monitoring committee. The report should include a description of the problem, analysis of its impact, options for improvement and recommendation of corrective actions. In research projects it is not unusual, as research projects often face unforeseen problems. This is related to their nature - experiments can give positive results or they can prove that further work is pointless. In such a case, a decision should be made to discontinue the project.

3.9.5 Monitoring as an integral part of a project

Summing up - Monitoring must be prepared as an integral part of the project. When starting a research project, the implementing institution should be prepared to:

- Establish the project objectives,
- Make sure that project objectives are clear and measurable,
- Define specific project targets in accordance with the objectives,
- Agree with the sponsor (funding source) on the specific indicators to be used for monitoring project performance (if required by the sponsor),
- Specify the format and frequency of progress reports,

- Clarify roles and responsibilities for monitoring (For example, if there is a need to have a monitoring committee).

Using the appropriate software makes monitoring easier (For example, MS Project, Project Manager Workbench, Primavera), especially when using standard forms of reports on the execution of works that are generated using these programs.

All activities in the monitoring and implementing stages can be presented as a summary in a table format.

Table 3.9.2. Template for the monitoring and implementing stages

Objectives in quantified form	Project Targets	Deliverables	Reporting stage (Q1, Q2, Q3, Q4)	Person in charge

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3.10 Successful Delivery of Research Outcomes

Anna Maria Dżienis

3.10.1 Introduction to delivery of research outcomes

As far as a successful accomplishment of a project is concerned, there exist some general criteria for success such as meeting the timescale or budget. However, with regard to team-specific characteristics, there can be distinguished more individuals-appropriate factors allowing for delivering the success. Success factors that create a successful environment for a team, enhance the chances of successful delivery of research findings.

3.10.2 Success factors in delivery of research outcomes

Successful delivery of research outcomes begins with a launch of a project, since a project's success can be translated into meeting the goals. Considering project requirements from the start lays the foundations of this success. From this point of view, project planning and review need to define the project, clearly set the goals and objectives, and formalize it in a written, easily accessible document. Focus on collective outcomes helps prevent pursuit of individual goals and constitutes a factor of successful delivery of research impact.

Being engaged in a project, not rarely time-consuming and complex, makes an individual lose perspective. Meanwhile, seeing the “Big Picture” is important to perform effective governance of a research undertaking. It is crucial to contemplate the Big Picture and have it in mind as the research project develops.

Example of success factors of a research project:

- Communication
- Involvement
- Commitment
- Competent team
- Transparency

To accomplish planned activity with success, project team members need to

establish a relationship among each other. Communication with other players as to expectations and concerns is crucial in building trust, productive work environment and commitment. This, in turn, requires some time, which is good if accounted for in an overall plan of a project. Encouraging personal connection among team members can lead to an increase in effectiveness of, e.g., knowledge exchange.

Speaking of effective governance of a project, it should account for flexibility, which can be understood as various methods and approaches allowing for swift problems overcoming. These methods and approaches may vary across cultures, which, as well as the overall cultural context, need to be taken into consideration when setting goals and planning for outcomes.

It would be beneficial for all parties involved to show the process of project development on, e.g., social media. Social media provides a new measure of communicating and cooperating on projects and should be considered as a project to improve project management process (PMI 2018). Such a practice enables monitoring progress step by step, its effectiveness and helps keeping goals in sight. For the sake of successful outcomes, goals need to be clearly specified and recognized by all stakeholders.

Involvement and commitment are to be among the most important factors which have impact on project success. It is pointed out that significant improvement may happen when project's (top) management demonstrates commitment to the project (Project Times 2018). It is stressed that managers are often not involved because nobody has explained to them why involvement is important (Englund 2015). Commitment brings more and better ideas to the project and more commitment.

A competent project team also constitutes an important success factor for a research project and its results. Not only project professionals, but, first of all, fully committed actors can contribute to meeting the objectives. People are the key element of research, their diversity, networks and confidence to show initiative cannot be over-emphasized. That is why socializing, building trust through strengthening relationships is so important. Here regular meetings within the research group would be very useful. Caring for enthusiasm, motivation and training could save a lot of time and nerves.

During the meeting or other communication channels, any message or result transmitted by or to the team members need to be characterized by simplicity.

A handy advice is to present visually rather than in words, which also proves to be useful for final research outcomes delivery. A project managed **transparently** is one which has visibility to every task of the project. Everyone can see the status of each part of a project (Weber 2017).

In the middle of a research project, a kind of a mid-term presentation of outcomes is helpful. It is a great challenge, since the team cannot be able to point any success yet. However, this is an occasion to present the so far undertaken methods and preliminary results. Communication at this point can save time and effort, especially in case when any section of the research turned out to be unsuccessful. Short, multi-media presentation in front of all project participants would allow for a reassessment of a process and could be a kind of a test before the final presentation communicating the outcomes of the whole research. Such a confrontation would help face and deal with difficult issues and enable making decisions the team would stick to. The ability to see and listen is very helpful at this stage. Moreover, such a presentation of results enriched by a feedback from the audience is closer to the success. It becomes possible to visualise the overall impact of the project.

3.10.3 Delivery of research outcomes

For all the above-mentioned reasons, first research outcomes delivery is a crucial stage for a project. This is the moment when the research can be successfully reorganized and augmented.

The delivery method is worth discussing with other team members. It often depends on the type of a project and can be determined by sponsors and stakeholders, however, at this phase it is useful to develop a consultation process for the undertaking. It could be a session within a project team, enlarged, if allowed, by principals or/and a practice engaging outside experts and academics.

External professionals, who may come from different backgrounds, are believed to strengthen the capabilities of a project team. They can advise the team on issues related to the field of their expertise, share the opinion on the possible final results and, what is of great importance, evaluate and verify if the outcomes are consistent with adequate area of knowledge and science in general.

If it is possible for a specific project, the results can be sent to stakeholders

with a purpose to establish whether the outcomes meet the expectations and priorities of a contracting side. At the same time, to see if the project outcomes` fit in the future needs and abilities, the potential of their implementation can be evaluated (See Figure 3.10.1).

Regardless of the output, it is essential to collect all sorts of feedback in one, easily accessible document and analyze it within the project team.

INPUTS	Staff, time, money, other resources.
OUTPUTS	Results achieved immediately after completing an activity.
OUTCOMES	Any change that the project delivers.
IMPACTS	Long-term changes stemming from the outcomes.

Figure 3.10.1. Results chain

Source: Author's own elaboration based on CGIAR.

Based on the above figure, the following terms describing the results of a project can be defined:

- Inputs – staff, time, money, other resources
- Outputs – immediate products of project activities
- Outcomes – the desired future state of a threat or opportunity factor. An objective is a formal statement of the desired outcome
- Impacts – the desired future state of a conversation target. A goal is a formal statement of the desired impact.

Inputs together with strategy, a set of actions undertaken by a project, refer to *process*, while outputs and outcomes to *results*⁴.

4 Using Results Chains to Improve Strategy Effectiveness An FOS How-To Guide, Foundation of Success, May 2007, p. 2.

The closing presentation or the final research outcomes delivery, need to be done after distilling research outcomes, and in a way to successfully communicate specific research results to target audience. A project conclusion report may come handy. It should consist of a summary of a research project used to support conclusions. Here again, it is worth to remember about a cultural context. Some issues may need to be addressed in a particular way.

Final evaluation or review would identify the impact of the research.

Example of success criteria:

- Meets stakeholders` requirements
- Meets the objectives
- Yields benefits
- Happy team

How do we know if the research has succeeded? It can be assessed by the use of a project success measurement framework: success criteria, which usually are established in the planning stage of a project.

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3.11 Communication with Stakeholders

Anna Maria Dżienis

3.11.1 Introduction to communication with stakeholders

The need for communication among all individuals involved in a project must be realized by management. There are many tools that help to improve communication between project stakeholders. However, good project managers are aware of benefits of healthy relationship among colleagues and know how to make use of various tools to establish rapport between team members.

3.11.2 The need for communication with stakeholders

The single biggest problem in communication is the illusion that it has taken place.

George Bernard Shaw

As the quote says, communication is a process and that's why its effectiveness should be verified at all stages of a project (See Figure 3.11.1).

The awareness of the importance of the connection with stakeholders is essential for the development of a research project. Moreover, as it was mentioned before, communication constitutes one of success factors of a project.

Smooth communication should be executed not only as a must to achieve successful outcomes, mechanically and routinely, but also with regard to fruitful knowledge exchange. Likewise, it is essential to maintain a good ongoing relationship among players. Effective communication provides the means to inform stakeholders of issues that may come up later, during the process.

To facilitate the contact with stakeholders, a full list of partners along with their areas of interest need to be prepared. Then, identifying and prioritising stakeholders' concerns and issues should be performed. This would allow for the assessment of the parties' commitment to the project, another success factor of a research project.

At the beginning of a research project, a communication plan should be delivered. However, again, it does not mean that a written and well-executed plan would be just enough. It is highly important to interpret not only spoken but also unspoken stakeholders' wants.

3.11.3 Methods of communication

At the step of drafting a communication plan, there are at least two questions that need to be contemplated and eventually answered: what instruments will be most productive in communication, and when do stakeholders need to be contacted.

Among the well-known methods of communication there are:

- Emails, website
- Meetings
- Briefings, presentations
- Workshops
- Calls, especially conference calls, etc.

The plan can be included into a communication matrix, in which case columns would specify the communication prerequisites for a research project, e.g., it could be arranged into the following requirements:

- communication type,
- target
- objective
- method
- frequency
- communicator

It is natural, that during the process of conducting a research project, difficult issues appear often. Having this in mind, identifying communication challenges such as reluctance of stakeholders to take the initiative can save many troubles and nerves. Another worth remembering thing is that stakeholders' communication requirements may differ for each group.

Decision-makers should assure stakeholders of quality services by appointing a person responsible for a contact, a spokesperson. Such a move would make connection with collaborators even easier.

An appointee of the project team should have his or her deputy. Spokesperson and deputy spokesperson should be introduced to all stakeholders and the team need to be make sure that its communication representatives are fully accessible to grantees by e-mail, phone etc. Additionally, it would contribute to effective communication with stakeholders if each team leader also designated a communication representative (See Figure 3.11.1).

As to the information sharing practice, appropriate information disclosure with a well thought out questions – how often, when, may help parties understand risks, impacts and opportunities of a research project. Communication keeps all parties up-to-date with the research development.

So far, it has become clear that effective communication should consist of at least three key elements:

- communication plan
- understanding of stakeholders
- cooperation and engagement



Figure 3.11.1. Communication with stakeholders
Source: Author's own elaboration based on Slide Team

A universal indicator for effective communication strategy would be getting feedback from stakeholders. Communication with stakeholders` is a very delicate thing. Consistent, rational information is a must, and stakeholders` position on all issues needs to be taken under consideration up front. Moreover, in every project there exist key messages that everyone should know, which also should be investigated at the beginning of the process. Already 2500 years ago, Aristotle mentioned (350BC) that *if communication is to change behaviour, it must be grounded in the desires and interests of the receivers*. In this area nothing has changed.

The best technique to involve the stakeholders in the design and implementation is to talk with them face to face. Doing it this way helps to identify stakeholders` conflicts of interests at the earliest stage.

Summing up, communication should always be appropriate, thought out and accurate., which can be achieved by acquiring knowledge of the background of intended audience.

Communication:

- Clear
- Concise
- Has strategy and action plan
- Proactive
- Has its timeline

Last but not least, there exist several ways of measuring the effectiveness of communication with stakeholders, e.g., evaluation meetings with surveys, even small ones, conducted at the end of a meeting. Another way is just to hear the feedback directly from stakeholders. The group can be simply asked about opinion, however, in this case the audience should be rather small. There are also other channels of communication such as, e.g., discussion forums, nevertheless, any method of measuring performance of communication need to be tailored to the needs of the target audience.

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3.12 Stakeholders' Engagement for Future Collaborations

Rosmimah Mohd Roslin

3.12.1 Introduction - Stakeholders' Role in Research

Stakeholders in research are typically those who have an interest in the research or project outcome. Bourne (2005, p. 31) defined project stakeholder as “individuals or groups who have an interest or some aspect of rights or ownership in the project, can contribute in the form of knowledge or support, or can impact or be impacted by, the project”. Stakeholder engagement in research is essential especially at the conceptualisation and dissemination stages of the research process. The beginning and the end of the research process of specific projects are usually the most crucial as these entailed keen understanding of the research focus. Stakeholders are the parties that are likely to benefit from the research output and therefore play an important role in ensuring that the research flow and the whole process leading to the outcome would be in line with the identified needs. Different types of stakeholders and their involvement and concerns at various stages of the research process may be depicted in the following:

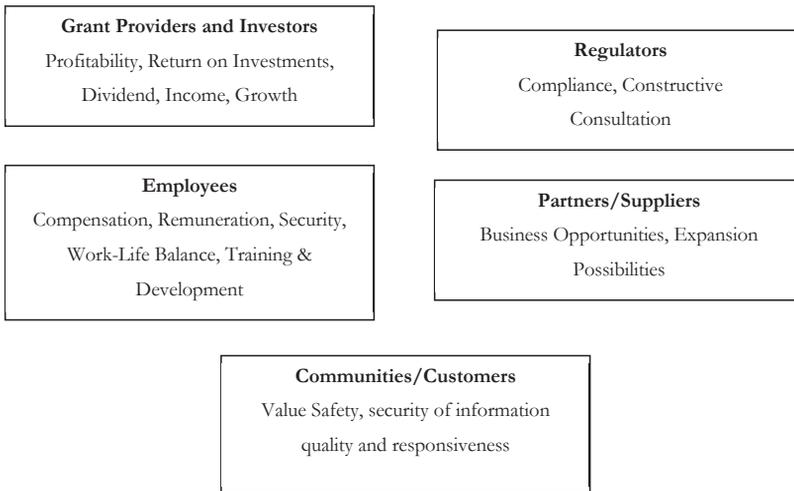


Figure 3.12.1. Types of Stakeholders and their Concerns

Source: Author's own

Stakeholder engagement is the process of ensuring that the appropriate people are identified and involved throughout the research process so that they are in a position to inform the needs of the study, the research design required and ultimately make use of the findings when a study is completed. Fedder (2017) asserts that the main principles for stakeholder engagement include:

1. Contextualise the research project - Contextualising the research project entails the need to understand the situation. This partly overlaps with stakeholder identification, as interaction with stakeholders is an essential part to understand contexts and establish relevance.
2. Analyse the relevant stakeholders – It is indeed important to understand fully the needs of stakeholders who require the research outcomes. There is a need to analyse the circumstances and the settings in which the research takes place and to identify why the engagement activity is necessary. Often this involves the process of analysing political, societal, economic, scientific, development, environmental, legal, and other processes and projects that are relevant to the problem and the research project.
3. Assess the most beneficial timing – As with any research undertakings, timing can be essential to the attainment of outcomes. Timing can be essential in engaging appropriate stakeholders. It is important that adequate time is given in order to integrate stakeholders into the engagement process to establish partnerships, strengthen networks, and build trust and commitment. Depending on their involvement, stakeholders can be engaged at multiple points during a research project: at the beginning, during its implementation, at the dissemination stage, or after project termination.
4. Use appropriate and adequate engagement tools- The core of engaging with stakeholders are the tools that actually connect stakeholders with the research project. There is no one tool that will meet all needs of the stakeholders and as such, tools should be ideally applied, this process involves careful planning and development, regular scrutiny and feedback from stakeholders, and adaptation to changing needs and circumstances. Individual projects often engage with multiple different stakeholders at different levels (collaboration, involvement, consultation, informing). Therefore, they often apply a

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mix of different tools that are appropriate to the context and stakeholders.

5. Anticipate and manage conflicts – It should be anticipated that stakeholders may not always agree with the researchers’ ideas and suggestions pertaining to the study. Despite the opportunities, the complex nature of stakeholder engagement means that agreement among all stakeholders is rarely straightforward. Conflicts may arise when there are incompatible interests or goals. Conflicts may vary and depend on multiple factors, such as legal, political, and institutional frameworks; economies; societal structures; cultural values; historic events; environ-mental conditions; or knowledge of parties. These may further be exacerbated if the project is a collaborative one involving numerous nations.
6. Evaluate and sustain momentum for adapting current and future engagement initiatives - Engaging with stakeholders need not necessarily ends when the project is over. There is a need to evaluate the engagement as this entails a number of advantages. It may identify how effective and efficient the engagement activities were, thus allowing to adapt current or future activities. It may identify any unanticipated positive and negative impacts and it may also demonstrate to stakeholders and research funders how their investments have resulted in outcomes that fitted local contexts and create a lasting impact. Continuing collaboration or communication with stakeholders after a project on a feasible basis, helps to monitor and achieve specific societal and political outcomes.

3.12.2 Benefits of Stakeholders’ Engagement

An inclusive view of research undertakings implies the need for all involved in the process to be informed of the progress and the demands that may come during the execution of the research. It has been acknowledged that establishing and maintaining relationships with stakeholders can be an important element for facilitating the translation of research into programs, policies, and practice. Thus, understanding the needs of those directly and indirectly associated with specific studies may be beneficial to the researchers and the funders.

Some examples of the benefit of engagement through different stages of the research is outlined by Fedder (2017) in Table 3.12.1.

Table 3.12.1. Benefits of Stakeholders' Engagement at Different Stages of the Research Process

Research Stages	Examples of Stakeholders' Engagement
Development	<ul style="list-style-type: none"> • Identify project concept and project design/ research strategy • Determine possible stakeholders and roles • Elaborate on the scope of contributions • Anticipate possible risks and potential for conflicts • Determine requirements and resources
Designing Stages	<ul style="list-style-type: none"> • Allocation of resources • Establish project plans • Determine possibility of co-designing • Networking possibilities
Execution	<ul style="list-style-type: none"> • Training provision • Data processing • Review and evaluation • Conflict resolution, if any
Post-research activities	<ul style="list-style-type: none"> • Publication support • Assistance on implementation of results • Advise on data exchange requirements • Support on promotional activities • Review of achievement

Source: Author's compilation based on Fedder, B. (2017). Leibniz Centre for Tropical Marine Research http://www.zmtbremen.de/en/Office_for_Knowledge_Exchange.html

For cross-borders research where collaboration requires a high degree of commitment, stakeholder engagement may prove to be essential in ensuring sustainable cooperation. Collaborative research across nations implies strategic needs which should not stop at the point of completion. It is

through stakeholder engagement that continuity of efforts is possible and the benefits to be reaped are more likely to be richer and more meaningful. The summary of the benefits to all parties involved is summarised in Table 3.12.2.

Table 3.12.2. Benefits of Stakeholders’ Engagement

To Researchers	To Stakeholders/ Practitioners	To the Society/ Community
<ul style="list-style-type: none"> ● Establish prominence ● Expansion of knowledge ● Escalate reputation ● Establish networks ● Accumulate Contacts ● Expand reach ● Possibility of future funding 	<ul style="list-style-type: none"> ● Knowledge enhancement ● Learning opportunities ● Input for decisions ● Generate networks and involvement ● Sense of ownership ● Adapted policies and practices, innovations ● Shared responsibilities 	<ul style="list-style-type: none"> ● Economic improvement ● Community development ● Social wellbeing enhancement

Source: Author’s compilation based on Durham E., Baker H., Smith M., Moore E. & Morgan V. (2014). The BiodivERsA Stakeholder Engagement Handbook. Bio- divERsA, Paris, <http://www.biodiversa.org/702>.

Stakeholders’ engagement is therefore suggested if future benefits are to be reaped from collaborative research efforts. Although challenging at times, it may be worthwhile in pursuing stakeholders’ involvement for long term benefits.

3.12.3 Models of Stakeholders’ Engagement

Engaging with stakeholders involves direct interaction with them. According to Slunge, Drakenberg, Ekbohm, Göthberg, Knaggård and Sahlin, (2017) there are several views and understandings of what stakeholder interaction is depending on when such interaction takes place. One view of this is that it should take place primarily after the research is done, when it is time to communicate or transfer the findings of the research to stakeholders. This

implies a more controlled interaction where the conduct of the research is carried without prior involvement of the stakeholders. The stakeholders will only be engaged at the time when the findings of the research are to be communicated and shared. Often known as the *Transfer Model*, this form of engagement allows the researchers to carry out the study without any direct involvement of the stakeholders although the objectives of the research are directly linked to the needs of the stakeholders.

On another perspective, there are researchers who want to be more proactive and interact with stakeholders throughout the research process. This form of engagement is known as the *Interaction Model* where the stakeholders are in the know of the research conduct from the time it commences until it is completed. The reasons for this, is to gain broader access to data, get contextual information, communicate research findings and ultimately improve research. It is anticipated that the interaction between researchers and stakeholders can improve the quality of knowledge. Thus, the focus on improving interaction is much broader than with the transfer model and covers issues such as the means of engaging with stakeholders in effective ways and the importance of building a network with stakeholders. Networking and relationship building are therefore the main thrusts of this model. The differences in the two models lie in the continuity of information exchange between the stakeholders and the researchers in the interaction model. In the transfer model, interaction only commences after the completion of the research. Regardless of which model the researchers adopt, the key idea in stakeholders' engagement is for researchers to interact with stakeholders who are likely to benefit from the research undertakings.

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4. Module 4: Presentation and Communication Skills

Sid Suntrayuth, The International College of NIDA, Bangkok, Thailand (Editor)

Roman Klimko, University of Economics in Bratislava, Slovakia

Aweewan Panyagometh, The International College of NIDA, Bangkok, Thailand

Hugo Lee, The International College of NIDA, Bangkok, Thailand

Noormala Amir Isbak, Universiti Teknologi MARA, Malaysia

Nurul Indarti, Universitas Gadjah Mada, Jogjakarta, Indonesia

Tur Nastiti, Universitas Gadjah Mada, Jogjakarta, Indonesia

Agnieszka McCaleb, SGW School of Economics, Warsaw, Poland

4.1 Introduction

Sid Suntrayuth

Presentation and communication skills are some of the most important skills in academic process. The ability to communicate research findings is one of the most critical aspects of academic research. There is growing evidence that indicates that presentation and communication skills are now more valuable than ever before not only for academicians but also for businesses or other types of jobs as well.

The purpose of this module is to provide the transferable skills in presentation and communication. This is to enhance the ability of researchers, scholars and graduate students who are perhaps new to research. The module is broken down into seven sub-modules: (1) fundamentals of an effective presentation, (2) best practices in written and oral communication, (3) managing stress during presentation, (4) non-verbal communication, (5) essential media skills for researchers, (6) rhetorical, and (7) audience interaction.

The sub-module introduces the audience to the fundamentals of effective presentation and also the advantages and disadvantages of research presentations. The contents of the module cover some of the fundamental points for making good and effective presentation from the initial stage of preparation, activities, and procedures related to the presentation, preparation of presentation slides, and ending the presentation. The aim of this first module is to provide the audience with the context of an effective presentation.

The second sub-module introduces the audience to the best practices in written and oral communication. The module discusses the process of communication, starting from the research idea right through the publication of the research materials. The process of getting the research idea and preparing the rubrics will help novel researchers or postgraduate students to plan the writing process. This module gives outlines of academic structure, the writing of an introduction, paragraph and academic presentations.

The next sub-module deals with stress during presentation. This topic is considered to be critical to many researchers. The content begins with the definition of stress. The module examines the factors that cause stress and

how to deal with the different types of stress. The content offers practical implications of how stress should be dealt with during research presentation. The module concludes with activities that should help the audience to deal with stress.

The following module discusses non-verbal communication. The module provides details on the soft side of communication on the 'action' of the presenters. It also provides the significance of the physical aspect of the presentation that includes the ability to make the audience remember the presenter and his/her contents as well as using the presenter's actions as tools to add meaning. The non-verbal communication module offers the different ways to make your body speaks effectively. It also includes actions to avoid during the presentations, which can cause ineffective or even inappropriate presentation behaviors.

The next sub-module deals with the essential media skills for research presentation. The purpose of the module is to help aid the understanding of various types of communication media and to understand the importance and strategies to use presentation as a communication media. This sub-module should help the audience to understand different techniques to develop presentation slides. The content of this sub-module incorporates the designer's concept of thinking, which should be incorporated when designing research presentation slides. The module concludes with some takeaway notes to help the audience with their understanding.

Next sub-module is the rhetorical aspect of the presentation and communication. The module revisits the structure of research, which is based on the IMRAD structure. The module begins with the importance of knowing your audience. It introduces the important aspect of the beginning of a speech and different types of opening a speech. More importantly, the module also discusses ways to end the speech, which is equally as important as opening the speech.

The final module is the audience interaction where the module discusses the different aspects of audience interaction, including communication strategy, communication principle, understanding the audience's power or delivering and measuring the impact of research presentation. This final module should help the audience to understand different types of communication strategies, different types of senders and different ways to build audience interaction.

4.2 Fundamentals of an Effective Presentation

Roman Klimko

4.2.1 Introduction to fundamentals of an effective presentation

In terms of time spent, a scientific presentation is costly. The audience has to devote valuable time to attend, and of course, the presenter has to give up valuable time to prepare and deliver. For presentations that require travel, the cost can be considerably high. Alley (2003) points out that although expensive, scientific presentations are important. Moreover, the stronger the presenter is, the more the credit the audience assigns to that presenter. Given the importance and expense of the scientific presentation, scientists should strive to communicate efficiently in those presentations. When you are thinking whether to make a scientific presentation or not, it might be reasonable to ask a simple question “Why not just write a document and post it on the internet?” Again, given the expense of the scientific presentation, writing a document and posting it on the internet, may be a better way to deliver the information. There are several advantages of making a presentation, whereby during presentation, there will be opportunities to receive and answer questions, to revise questions or answers posed, to choose the types of delivery, to apply various types of visual aids as appropriate and be assured that the audience is present to listen to our presentation. However, the disadvantages of the presentation may be that the audience may have to listen and accept what they hear without having the opportunity to check on the background of the information, also audience sometimes find it difficult to keep pace with the delivery speed of the presenter who may be lacking in good presentation skills.

An effective presentation provides the opportunity to communicate important and specific information in a succinct manner that is beneficial to the audience. In order to create this kind of benefit, the information described in the presentation must be presented in a manner that allows the audience to understand and use it. The presentation that is effective is comprised of several elements, i.e., support materials, presentation skills, and relevant contents. It is crucial that all irrelevant contents are eliminated from the presentation so that the audience is not overloaded with data. An effective

presentation allows a presenter the opportunity to communicate a lot of information in a small amount of time. Koegel (2007) also states that the quality of the presentation given affects the presenter's credibility and ability to influence other people (for limitations see Dulaney, 2003). Given the advantages and disadvantages of presentations, this discussion attempts to offer advice that emphasizes the advantages, while mitigating the disadvantages.

4.2.2 What makes a presentation effective?

It might be surprising, but studies suggest that the average adult's undivided attention span is 15 to 30 seconds. Yes, that is correct, not more than 30 seconds! Koegel (2007) also points out that there is no possibility to maintain the undivided attention of an audience for very long, because the mind constantly darts in multiple directions. Basically, the question is whether we can fix this issue or not. Well, partially yes if the presenter constantly works to reengage and reengage, the audience will have a reason to refocus and pay attention. If we want our message to be heard and remembered, the basic rule is:

Keep it short, focused and relevant

4.2.3 Preparation stage

Nowadays, there is much discussion among professionals on the issue on how to make both presenters and presentations better. According to Reynolds (2012), much of the discussion focuses on software applications and techniques. What application should we get? Should we get a Mac or a PC? What kind of animation and transition would be the best? These questions often dominate discussions on presentation effectiveness. The focus on software and technique often distracts us from what we should be examining. During the preparation stage, it is important to think about how to craft the story that is memorable, appropriate and most effective for our audience. This is in line with Gallo (2013), who states that successful presentations are memorable, understandable, and emotional. Memorability is a key issue in the pedagogical process. Imagine that your audience is not able to remember what you have just said in your presentation or recall your idea. As such, it really does not matter how great the presentation is. Fortunately, there are many techniques to communicate ideas in memorable ways. Gallo (2012) also explains and suggests using the rule of three. You

can try to incorporate the rule of three in your presentation. Just divide your presentation into three parts, discuss three benefits of something, or give your audience three action steps it can take. It means that packaging the content you prepare into groups of three makes it far easier to remember for the audience.

4.2.3.1 Questions you should be asking in the preparation stage

What is my core point?

Yes, “What is my core point?” is the key question. If the audience remembers one thing only, what would you want it to be? And, of course, more questions are needed. No matter if the presentation you get to give is next month, next week or tomorrow, Reynolds (2012) suggests jotting down the answers to these questions:

- How much time do I have?
- What is the venue like?
- What time of the day will I be speaking?
- Who is the audience?
- What is their background?
- What do they expect of me?
- Why was I asked to speak?
- What do I want them to do?
- What visual medium is most appropriate for this particular situation and audience?
- What is the fundamental purpose of my talk?

4.2.3.2 Design

Design is crucial and will always be

Unfortunately, many times we see amazing experts who ruin their presentations with extremely bad slides. According to Kolign (1996), most people remember on average about 10 percent of what they hear and 20

percent of what they read. However, if there is a well-designed slide, the retention of an audience that is both hearing and seeing the information can increase to 50 percent. Unfortunately, many presenters cannot reach that retention of 50 percent, because the type of design they use does not help them. A common mistake presenters make is to create slides with lots of text and detailed charts. This is a big mistake. According to Reynolds (2012) many presenters include everything under the sun in their slides! He calls these slideuments as a result of merging slides and documents.

Slides are slides, documents are documents

4.2.3.3 How many words should be on a slide?

First of all, there is no official rule on the word count for a slide. But, avoid two-line titles when giving a presentation because of the distance the eye has to travel across the slide. In fact, just consider doing a presentation with titles only (Duarte, 2008). Projected slides should be as visual as possible to support your points quickly. The slideument is neither effective, nor pretty. Hristov (2013) points out that we should not forget that the audience is there to listen to us and not to watch our slides. If the presenter is showing a very intensive slide, his or her audience will unintentionally first look at the slide and will not listen to him or her. The point is that the audience can miss something that you are saying. Duarte (2008) states that the audience will either read your slides or listen to you. The listeners will definitely not do both. Therefore, you can ask yourself, whether it is more important that they listen, or more effective if they read. What you prefer, it is up to you. She also tries to point out the difference between a document, a teleprompter and a real presentation. If a slide contains more than 75 words, it is basically a document. A teleprompter is a kind of slide with 50 or so words. Unfortunately it is the default style of many professionals. Perhaps this results from a lack of time spent rehearsing the content. The disadvantage of this approach is that presenters rely on the teleprompter and usually turn their back to the audience and the text on the slide functions as a crutch for the presenter. On the other side, in real presentation, slides are used efficiently as a visual aid to reinforce the presenter's message. A true presentation focuses on the presenter, the visionary ideas and concepts he or she wants to communicate. So each slide reinforces the content visually rather than creates distraction and it allows the audience to comfortably

focus on both. Well, it takes an investment of time on the presenter's part to develop and rehearse this type of content, but results are worth it. Kawasaki (2015) strongly recommends that you should never read your slides. The text on the slides is your anchor point and the words out of your mouth are explanatory and embellishment. According to Reynolds (2012) if you plan reading slides, you might as well call off the presentation now, because your ability to connect with, persuade, or teach the audience anything will approach zero. If you read the slides, there is no way to show presence, make a connection, or even transfer information in a memorable way.

Reading slide decks is indeed a good way to put the room to sleep

There is also a rule called the 1-7-7 Rule:

- Have only **one** main idea per slide.
- Insert only **seven** lines of text maximum.
- Use only **seven** words per line maximum.

The question is though: “Does it work?” “Is this method really good advice?” “Is this really an appropriate and effective visual?” According to Reynolds (2012), nobody can do a good presentation with slide after slide of bullet points. Bullet points work well when used sparingly in documents to help readers scan content or summarize key points. Therefore a good general guideline is to use bullet points very rarely and only after careful consideration of other options for displaying the information in a way that best supports your message. However, if you are summarizing key specifications of something or reviewing the steps in a process, bullet points may be the best choice. In the beginning, it is important that you do not start directly with presentation software. Hristov (2013) suggests taking a list of paper, notes, whatever you like and write down your ideas there first. Imagine the order of the slides, try to see what goes where and think how you can tell your message visually. Then sit in front of your PC and prepare the slides.

4.2.3.4 Designing effective slides and displaying data

Effective slide design includes a mastery of 3 things: arrangement, visual elements, and movement. Those function either as a signal, to deliver information clearly and directly, or as noise, to interfere with the message and cause the viewer to tune out.

4.2.3.5 Arrangement

Arrangement tells us a story. Duarte (2008) points out that based on the arrangement decisions a presenter makes, a slide can prompt feelings of confusion, tension, as well as agitation. Conversely, it can maximize clarity. And, of course, clarity matters. Arrangement of the slide deck has a strong impact on whether a slide's message is visually clear. Many presenters do not understand that arrangement is a principle. The big mistake is if the presenters put everything on one slide and assigns equal value to them. Actually, it is nothing but laziness on the presenter's part to put all the stuff on one slide.

4.2.3.6 Visual elements

Each of the visual elements – background, color, text, and images – determines how your slide deck will look like and requires you to make the key design decisions. It is important to choose element styles and then stick with them, because there is one specific theme we need to keep at the forefront of our minds – consistency. However, there is also power in breaking the consistency. Imagine that your slide design covers 15 slides. You can create a memorable visual moment with something inconsistent with the rest of your slides and that inconsistency will stand out. But, if you break the rules many times, you will lose the opportunity for visual emphasis (Duarte, 2008). Using visual elements can reinforce and simplify the messages you are communicating, but there are both advantages and disadvantages. According to Alley (2003) there are many advantages, but almost as many pitfalls. One major advantage is that with projected slide you can precisely and efficiently show the arrangement of a complex image. Sometimes it might be impossible with spoken words. Another advantage of visual elements is that they can offer variety and beauty to your presentation. People can listen only so long before they need a break. Third advantage is that well-crafted visual aids reveal that the presenter has put much effort into the presentation. It makes really good impression on the audience. Many audience sense that if the presenter put so much energy into the presentation, then the presentation might be worth their attention. There are also the drawbacks of employing visual elements (Alley 2003):

- Visual element that fails can undercut the presenter's authority and undermines the entire presentation.

- Creating visual elements of high quality is an intimidating venture for many scientists.
- Poorly designed visual elements can raise more questions than answers for an audience – sometimes it would be better to turn off the projector and just speak to the audience.

When you display data in your presentation, it is very important to adhere to one principle above all others: clarity. Duarte (2008) points out that data slides are not really about the data. They are about the meaning of the data. The basic problem is that, usually, slides are not a good medium for showing complex data. Just imagine the presentation where presenter refers to one complicated chart for couple of minutes and at the end of the day you still could not figure out the point of the slide. For this reason only show data in your presentation if the data helps you better illustrate your conclusion. Displaying the data in a way that the audience can absorb them easily is a must. Hristov (2013) adds that if you use images, it is necessary to start using high definition pictures, as well as to save their original proportions for your presentations. Stretched pictures never look good. Alley (2003) concludes that images are one way to make slides engaging. Also, because many images are difficult to communicate with only speech, it is always better to take advantage of the opportunity that a presentation provides to display the key images of your work. According to some researchers the brain processes visual information much more quickly than text – 400,000 times more quickly (Williams, 2000).

Duarte (2008) suggests using the following 5 principles to present your data in the clearest possible way:

- a) Tell the truth
- b) Get to the point
- c) Pick the right tool for your job
- d) Highlight what is important
- e) Keep it simple

Keep it simple is very important. A visual aid will be ineffective if you include too much detail. Therefore, always keep the design simple to ensure that it is easy to read, and make sure the visual aid communicates the correct

message. Springer et al. (2002) recommends keeping visual elements simple, they should include keywords and phrases, and should be large enough so that each member of the audience can see them clearly.

4.2.3.7 Movement

Every change creates distraction. Every animation affects an audience's ability to grasp insights. Well, animations are not a bad thing. The aim of any animation should be to help the audience process information. Unfortunately, for some reasons, there are many presenters who struggle with selecting animation wisely. According to Duarte (2008) animation is not last-minute icing on the cake, it is a key communication strategy. An example of that everything matters is also the difference between slow and fast moving animation. Slow moving animation can help to create a feeling of nostalgia, or even the passage of time. On the other side, fast moving animation will help you to create a sense of excitement, energy, or surprise. Also, always be sure that you are synchronized with your slide deck. It is human nature that viewers will read and process the visual information at the moment it is presented. The results could be that the audience will try to listen while reading ahead at the same time. The easiest way on how you can fix this problem is to hide elements until you need to refer to them – the audience will listen more and read less.

4.2.3.8 Slides of a scientific presentation

When slides are chosen to communicate the results of a scientific presentation, their design becomes crucial for the success of that presentation. If the slide cannot be read for some reason, the audience is distracted with the question of what those words or images are. Therefore, presenters should strive to design slides that are easy to read, especially if the presentation does not allow for questions or if the listener is not confident enough to ask a question. According to Alley (2003) despite the importance of designing slides that are easy to read and that orient the audience quickly, many presenters appear to have designed the slides with the opposite intention.

Some specific guidelines (Alley, 2003) for typography, color, layout, and style of slides for scientific presentations go against the defaults of PowerPoint

and therefore against the presentations commonly projected at conferences and university lectures. For typography, use a sans serif typeface such as Arial, use boldface (Arial); use type sizes at least 18 points (14 points is acceptable for references) and avoid presenting text in all capital letters. For color, use either light type against a dark background or dark type against a light background and avoid red-green combinations (many people cannot distinguish). For layout, use a sentence headline for every slide, but the title slide; left justify the headline in the slide's upper left corner; keep text blocks, such as headlines and listed items, to no more than two lines; keep lists to two, three, or four items; make listed items parallel and avoid sublists. For style, include an image on every slide; make the mapping slide memorable; for instance, couple each section of the talk with an image that is repeated in that section; limit the number of items on each slide and limit the number of slides so that so that you can dedicate at least one minute to each slide.

Alley (2003) points out that the primary goal of the scientific presentation is to inform or to persuade the audience about technical results. The presenter strives to have the audience remember those results after the presentation as well as to understand the steps for how those results were reached. But there are some exceptions, of course. In a classroom lecture the presenter often wants to emphasize the process for solving the problem, rather than the results of the problem. It is sad, but many presenters present many slides and pack them with much detail. Then the result is that the goal seems to be neither to inform nor to persuade the audience.

Kawasaki (2015) recommends using a dark background, because it communicates seriousness and substance. A white or light background looks cheap and amateurish. We also should use bullets. Just build your bullets: click, bullet one, explain; click, bullet two, explain; click and so on. No more animation is needed in your presentation. But, use only one level of bullets. When using more than one, you are trying to communicate too much information on a slide.

Every case is different, but generally, shorter is better. As such, "What's the perfect length of a presentation?" According to Reynolds (2012) many studies show that concentration really takes a hit after 15 to 20 minutes. He also adds that his experience is less than that. Why then so many presenters go past their allotted time, or even worse, they intentionally try to stretch it out to the allotted time, considering the points have much been made?

Probably it is a result of the formal education – more is better. However, this old-school thinking does not take into account the creativity and intellect. The result is that we take this more-is-better thinking with us into our professional lives.

4.2.3.9 What is the most appropriate minimum font size?

What a question! If you have to ask this question, you may be using your slide deck as a document. So, here you have some interesting quotes:

- Duarte (2008) says that do not go smaller than 28 points. If you are consistently reducing your point size to less than 24 points and using third-level bullets, you have officially created a document and not a slide.
- Kawasaki (2015) offers two rules. A good rule of thumb for font size is to divide the oldest investor's age by two and use that font size. The second one is that the larger font, the better the speaker – Steve Jobs used a 150-point font.
- Alley (2003) suggests at least 18 points (14 for references).

So, have you ever considered using the font smaller than 18 points? What was your point? Presentations are the glance media, more closely related to billboards than other media. It requires commuters to process quickly as they drive past. Duarte (2008) recommends asking yourself whether your message can be processed within 3 seconds, because the audience should be able to quickly ascertain the meaning before turning the attention back to the presenter.

There is also one well-known rule 10/20/30 supported by Kawasaki (2004). It provides you not only with the information you need to know about the recommended font size, but also about the length of the presentation and the number of the slides. Basically, it is a very simple rule. According to him a PowerPoint presentation should have 10 slides, last no more than 20 minutes, and contain no font smaller than 30 points. Well, it is a general rule. But even if your presentation is initially planned for an hour and you are going to finish in 20 minutes, you are the lucky one, because you will leave plenty of time for questions and discussion.

4.2.3.10 Simplicity

Simplicity is more important when displaying data, since the data themselves can often confuse the viewer. Duarte (2008) points out that it is equally critical to keep your data slides free of unnecessary clutter. Unfortunately, when it comes to charts and graphs, presenters face other temptations. No matter what software is used, there is a wealth of buttons, bullets, lines, borders, and other chart and graph decorations. It can quickly overwhelm the data on the slide. Tufte (2003) refers to these as a chartjunk. According to him the chartjunk is a clear sign of statistical stupidity. If you use the PowerPoint templates for statistical graphics, it is an analytical disaster. With these designs in your presentation, your audience will conclude that you do not know much about data and evidence. You should do your best to avoid all unnecessary visual distractions. As a result, the message will come through much clearer. When making the data slides, Duarte (2008) offers some suggestions on how to modify your PowerPoint slide deck:

- Create more visual differentiation by increasing the space between sets of bars.
- It is rarely necessary to show a table and accompanying chart on the same slide.
- Reduce the number of colors and assign neutral colors to the secondary information.
- Simplify the legend by removing the border, reducing the font size, and visually separating the primary information from the secondary information.
- De-emphasize the background grid by lightening the color.
- For the charts, removing the 3D effect makes the data appear more visually precise.
- Backgrounds should never compete with content.

Are you using text on a slide for describing something? You probably could use an image more efficiently. It is important to realize that it might be better to replace the written text on a slide with a picture (Reynolds, 2012). Images are direct, efficient and powerful if they are highly visual, simple, and served a successful supportive role in the live talk. They augment the

presenter's narrative and help make things clear. Reynolds (2012) also points out the visuals should be engaging and part of the show, on the other side, they must be quickly and easy to understand. Simplicity is an important consideration when designing slides. If you use only small amount of text, it will help to ensure that your overall design is simple. The listeners can grasp your point faster if it is provided in small amount.

Design is everywhere, really hard and is also a very subjective topic. Therefore, above-mentioned are general guidelines and there are exceptions, indeed.

4.2.4 Conclusion

“Communication is about getting others to adopt your point of view, to help them understand why you’re excited (or sad, or optimistic, or whatever else you are). If all you want to do is create a file of facts and figures, then cancel the meeting and send in a report.”

Seth Godin

Author, really Bad PowerPoint

Although there is much space in this sub-module 1 devoted to the design of presentation slides, the essential ingredients for a strong presentation are more basic. For an effective presentation not only delivering the information is important, three ingredients also have to be present (Alley, 2003):

- a) **The presenter must understand the subject.** The presenter is not expected to know everything about the subject. However, what the presenter imparts has to be worth the audience's time.
- b) **The presenter must have a keen awareness of the audience.** What they know about the subject and why they have attended.
- c) **The presenter shows a genuine enthusiasm for the subject.**

The aim of this sub-module 1 *Fundamentals of an effective presentation* has provided recommendations on how to prepare an effective presentation, with emphasis being placed on design of the presentation. Every single presenter should strive to craft a presentation that is truly worth his or her audience's time, the presentation that the audience will not forget. And do not forget:

“NEVER READ YOUR SLIDES”

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4.3 Best practices in written and oral communication

Sid Suntrayuth, Aweeman Panyagometh and Hugo Lee

4.3.1 Introduction

Many universities around the globe are now delivering higher education to diverse student population with very different needs and aspirations from the more traditional cohorts of the past (Nelson & Kift, 2005). In order to prepare students for a broad range of employment opportunities, universities are fostering the development of ‘graduate attributes’ or ‘essential learning outcomes’, in addition to content knowledge and disciplinary expertise (Oliver, 2015). While lists of graduate attributes may vary, certain skills are invariably listed, including communication skills (Institute for Teaching and Learning, 2015). The ability to communicate has been consistently identified by employers as one of the most essential graduate attributes. There is also a growing consensus that the development of communication skills (encompassing academic literacy and English language proficiency) occurs most effectively in the context of disciplinary study (Arkoudis & Starfield, 2007) and that communication skills need to be embedded in the curriculum. However, there is also recognition of the challenges of achieving this (Arkoudis, 2014). As Wingate (2006) and others (Clanchy & Ballard, 1995; Moore & Hough, 2005) have pointed out, communication skills tend to be treated as a ‘bolt-on’, extra-curricula study skill, rather than as an essential aspect of all academic and professional work in disciplinary contexts and fields of employment. In fact, effective, collaborative and explicit embedding of the teaching and assessment of communication skills (and other generic skills or graduate attributes) can be seen as a ‘wicked problem’ in education. While these skills and attributes are necessarily implicated in all academic work, their development is often tacitly assumed (Jacobs, 2007).

In an academic research environment, scholarly communication becomes a central part of the process of deliberations. Scholars and academicians carry scholarly communication out using certain channels of communications. Most important ones are scholarly journals, conference proceedings, research monographs, dissertations, research reports and personal memoirs. Internet now provides much easier and instant means of connection. Social

media is a boon for any type of communication. The learned societies – the formal institutions representing scientific and think tank communities – are primarily responsible for initiating scholarly journals in their respective subject areas, where members can communicate their results of scientific research and get valuable feedbacks from readers of these journals or fellow members of these learned societies. Since the mid-twentieth century and later, learned societies have started collaborating with for-profit publishers – for achieving global outreach, global readership and global authorship. ICT enabled environment helps in global outreach of scholarly literature, more rapidly than earlier print-only era. Scholarly communication gets enormous impetus when scholarly literature becomes globally and instantly accessible through online mode in the globalized societies.

4.3.2 The process of academic communication

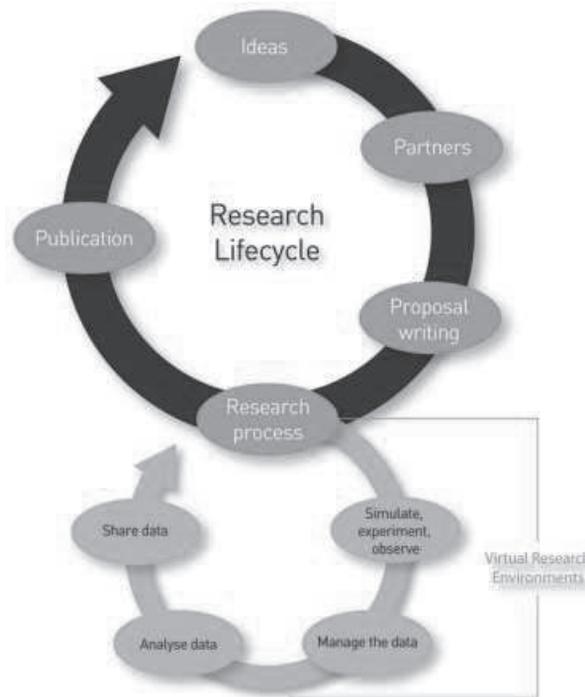


Figure 4.3.1. Research Lifecycle diagram

4.3.3 Unpacking the writing of main ideas

Similarly to a university essay assignment, the author of an article should try to firstly differentiate the main key words. Usually, an essay or the research will have some direction words that give clues about what is wanted in the essay (Rolls & Wignell 2013). These words may be “describe”, “explain”, “argue”, “discuss”, “critique” etc.

Describe: Write about the facts, process or event. Write in a systematic order, and emphasize the most important points. You are not expected to explain or interpret.

Explain: You will need to analyse, not simply describe or summarise. You need to focus on the ‘why’ or ‘how’ of a particular issue, to clarify reasons, causes and effects.

Argue: If you are asked to argue, you need to systematically support or reject a point of view by presenting evidence. You also need to show that you are aware of the opposing point of view.

Discuss: You present a point of view. This will include both description and interpretation. Your opinion should be supported by argument and evidence from other writings.

Critique: A critique is where you identify and discuss both the positive and negative aspects of a topic.

Compare and contrast: Find the similarities and differences between two or more ideas, events or interpretations.

4.3.4 Writing rubric

Many researchers believe that having an academic writing free of grammatical errors and is nicely formatted, is the most important aspect of academic writing. This is important, because it makes the essay readable, but often other aspects of the writing are also worth to mention. The writing rubric can also be used in order to provide a good plan of academic writing. The following is an example of an academic writing rubric:

Table 4.3.1. Example of an academic writing rubric

Writing components	Points	Expectation for each area
Text organization and the structure of writing	5	Introduction: Must have clear thesis statement aligned to body of writing
	5	Body of essay: Must be well structured, have cohesive paragraphs, and flow well.
	5	Language: Must have style of voice suitable for purpose and audience Conclusion: Must include clear summary of key points from body of essay and link to thesis topic.
Content	25	Answers the question: Ideas must be well presented and consistently related to the essay question.
	25	Critical thinking: Shows high level of critical analysis, and includes different points of view where relevant.
Quality of evidence	15	Research: Ideas supported by credible and relevant sources.
	5	In-text and referencing list accurate.
Grammar	8	Sentence structure clear, consistent & error free.
Formatting	2	Formatting as requested. The overall flow of presentation.

4.3.5 Academic essay structure

While the essay structure provided by Rolls and Wignell (2013) may appear overly prescriptive, it does provide an excellent framework for a researcher who is beginning the academic writing, or a student who has difficulty structuring an essay.

Table 4.3.2. Academic essay structure

Introduction
General statement Thesis statement Outline of main ideas you will discuss
The body
Paragraph A Topic sentence Supporting evidence Supporting evidence Supporting evidence Concluding sentence
Paragraph B Topic sentence Supporting evidence Supporting evidence Supporting evidence Concluding sentence
Paragraph C Topic sentence Supporting evidence Supporting evidence Supporting evidence Concluding sentence
Conclusion
Summary of main points; final comment. (paraphrase what is in the introduction).

Rolls & Wignell (2013)

Many academics write their introduction and conclusion last, to make sure that they reflect what is in the body of the essay. For beginning essay writers it is good to write the introduction first to ensure that they answer the questions asked, but always check it and revise if necessary when the body of the essay is completed.

4.3.6 Creating a thesis statement from the essay question

The following examples are based on the work of Rolls and Wignell (2013) that show that there is no one right way to create a thesis statement. What is more important is that the thesis statement signals what the essay will be about.

Essay Question 1

What is meant by the term globalisation? Discuss the effects of globalisation on at least one of the following:

- Trade
- Business
- Consumerism
- International relations
- The arts

Thesis statement 1a

This essay will discuss the positive and negative effects of globalisation in relation to consumerism, trade and business.

Thesis statement 1b

This essay begins by defining what is meant by globalisation, and then discusses the positive effects of globalisation on the arts in Australia.

Essay Question 2

Despite its negative health effects, the tobacco industry remains an important part of the economy of many nations. Discuss the economic effects of the tobacco industry in relation to at least one of the following levels of industry:

- Primary level (farmers)
- Secondary level (small business)
- Tertiary level (Government revenue)

Thesis statement 2a

This essay will show that the economic benefits of the tobacco industry are beneficial to the global economy at the primary, secondary and tertiary levels of the industry.

Thesis statement 2b

Despite its negative health effects, the tobacco industry remains an important part of the Australian economy. This essay will discuss how the Federal Government tax regime on the industry currently brings in more money than is spent on tobacco related illnesses.

4.3.7 Writing an Introduction

The introduction is the most important paragraph in an essay, because it sets out the thesis statement and gives the reader clear signposts for what they will be reading in the essay. An introduction should include the following:

Background information

This is usually made up of one or two sentences to introduce the topic and gives background information.

Thesis statement

This introduces the main topic or argument on which the essay is based.

Outline

The outline lets the reader know what the essay covers, and how it is organized.

Scope

This section is only needed if the focus of the essay is narrowed. It lets the reader know the focus of the essay

Example:

Background	In the past two years, the threat of cane toads to the Top-End of Australia has become an increasing reality. Their numbers continue to steadily increase in Kakadu National Park and they are causing damage to this pristine environment.
Thesis statement	This essay will discuss the effects of cane toads on the environment of Kakadu National Park and show that the cane toads will cause permanent damage to the environment.
Outline	This will be seen as, firstly, discussing the characteristics of cane toads and then, examining their predicted long-term effects on the animals of Kakadu and the tourist industry.
Scope	Because there is data available only on the effects of cane toads on goanna, frogs and crocodiles, these are the only animals that will be discussed.

4.3.8 Writing a Paragraph

Paragraphs form the building blocks of an essay. In academic essays, a paragraph should introduce one main idea and provide supporting evidence that elaborates the main idea. This supporting evidence needs to be referenced with in-text referencing. The main idea is often called a topic sentence, and provides the reader with a map of what is coming next in the essay.

A paragraph should have a beginning (topic sentence), a middle (evidence), and if it is a long paragraph, a summary sentence at the end. An essay that flows well is easier to read. It is encouraged that the writers use linking words and sentences to link their paragraphs.

The following paragraphs have been adapted from Rolls and Wignell (2013, p 63).

Topic sentence	Adults should read to infants. Smith and Brown (2010) explain that this helps them to read at a later stage because it helps them to see the association between words on the page and language. It should also help infants to view books and reading as a positive experience because ‘story-time’ is usually a cosy, one-to-one experience between a parent and child
Supporting sentences with evidence	
Topic sentence & link sentence	Another reason that global warming is a major concern is its effect on habitats. This will occur as melting ice caps increase water levels around the globe. Low-lying countries will be the most seriously affected. A study by CSIRO (1999) had projected that by 2020 a number of Pacific Island countries will need to be evacuated. As human habitats will be affected, so too will be the habitats for plants and animals.
Supporting sentences with evidence	

4.3.9 Academic Presentations

A presentation is any situation that involves speaking to a group of people in order to make a point, educate or share information. Many presentations also have some form of supporting visual aids such as slides, a whiteboard,

projections or flip charts. The following part will look at the key points involved in putting together an academic presentation. It highlights stylistic and structural requirements, the act of presenting and offers advice to improve individual performance. Academic presentations take the same form, but the purpose can be very different. Specifically, academic presentations represent an oral examination.

Therefore, when assessing your performance, your lecturer will be looking for:

- Understanding of the topic and the audience
- Appropriate breadth and depth
- An argument in the content
- A clear structure: a distinct beginning, middle and end
- Suitable visual aids
- Evidence of having practiced the talk
- Proper timing/length

As with all academic skills, academic presentation skills can be learnt and continually improved through practice. One way of tackling a presentation is to divide it into three easy stages:

4.3.10 Planning

Thorough planning will enable the researcher to present his/her views in a considerate and logical way. Three key factors should be addressed when planning the presentation:

- Purpose
 - Focus: When you plan your presentation, concentrate on what is really important. What is the exact problem? What is it you need to achieve by the end of it? Set these down as objectives.
 - Objective(s): Establish your objectives and how you are going to achieve them. All your emphasis should be placed on these objectives throughout the presentation, and influence every aspect of the presentation.

- Audience
 - The type of audience might well influence the format of your presentation and its content, for example, a technical presentation to a specialist audience might be more formal than one to a discussion group. Ask yourself the following questions about your intended audience:
 - Who are they?
 - What are their reasons for attending?
 - How many are likely to be present?
 - What sort of people – age, education, status?
 - What do they already know about the subject?
 - What are their likely attitudes/biases?
- Location
 - Another important aspect of planning concerns the location. This can have significant implications for how you plan your content and organize yourself. If you have access to the venue, it might help to pay an earlier visit. The aspects you might want to check include:
 - type and size of room
 - seating arrangements – fixed or movable
 - position of speaker (you)
 - equipment available, e.g., whiteboard, projector, OHP, flip chart, tape recorder
 - acoustics (sound)
 - facilities for special needs

4.3.11 Preparing

RULE 1: Content is the most important part of your presentation.

RULE 2: The visuals should enhance, not detract from your presentation.

A clear structure will allow the audience to understand your main themes. To aid this, break your presentation down into three sections: Introduction, Main Body and Conclusion.

The order whilst presenting is as follow:

1. Introduction	2. Main body	3. Conclusion
Set the scene, outline your objectives	Explain your main findings	Summarise each point made
Tell them what you are going to tell them	Tell them	Tell them what you just told them

Consider working in a 3 – 1 – 2 order when preparing your presentation:

3. Conclusion	2. Introduction	1. Main body
Work backwards from your overall conclusion to ensure all concluding statements are supported throughout the presentation.	Prime your audience for what is to come and mention the key areas that you will be developing throughout the presentation.	Expand each of your key points in order that the concluding statements are justified.

4.3.12 Presenting

Academic presentations are not always in formal settings; sometimes they take place in classrooms in front of small groups of fellow students. Whatever the situation, they should be viewed as an important opportunity to sell your knowledge in a professional way. As a presenter, consider the following practical issues:

- Do not simply read the text from the slides without any of your own words. Remember the audience can read!
- Consider whether sitting or standing is most appropriate – standing is preferable, but for group presentations, sometimes non-speakers may prefer to sit, whilst only the lead speaker stands.

- Do not fold your arms or put your hands in your pocket
- Use cue cards as memory aids. Try to keep them small so that they can be held in one hand, and not read like a script. The audience does not want to see the top of your head for the whole of the presentation.
- Do not fumble with the equipment or furniture
- Always have a duplicate of your presentation or a spare copy with you in the event of unplanned problems – for example, equipment that does not work, saving devices show errors, a sudden change of venue.

With regard to preferred personal qualities:

- Open body language – hands at your side or bent at the elbow in front of your body.
- Look at the audience – do not fix your stare, but glance around in a casual manner.
- Smile
- Clear, even tone of voice – neither hushed nor too loud for the size of the room, depending on the number of people present. A low tone is preferable for small numbers; greater projection is required for greater numbers, in larger rooms.
- Try to avoid using too many gestures or repetition of certain words or phrases e.g., ‘you know’, ‘and so on and so forth’ ‘and I really mean this’ ‘umm’ ‘err’
- Be enthusiastic but do not get too excited about what you are saying and start going off the subject. Bullet points can help you, and the audience, stay focused and avoid a verbal assault.

Remember you are not alone, even the most practiced presenter will suffer from nervousness. The following suggestions can help to relieve feelings of anxiety:

- Try some relaxation exercises. Sit up, breathe in for a count of one and out for a count of four; keep this going for five minutes whilst just concentrating on the counting and rhythm of your breathing

- Practice your presentation a few times before the actual event. Repetition will help you remember actions, timings and crucial sections more easily than passively reading the content on paper or a screen.
- Mentally rehearse if you are unable to physically rehearse. Visualize yourself speaking, your body language, try to picture the sequence of the presentation to get an idea of the flow of the material, and how you can help the audience understand the most important points. Know your subject!
- Before you get to the presentation, do not cram at the last moment. Try to do something enjoyable and unrelated to the upcoming event.

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4.4 Managing Stress during Presentation and Practical Aspects of Research Oral Communication

Noormala Amir Ishak

4.4.1 Introduction

Research can be perceived as demanding, challenging, difficult, and stressful. Many of us dread giving oral presentations, yet sooner or later as researchers, we are obligated to do so. Stress is a fact of life and a key issue faced by many people. The purpose of this module is to provide researchers with a closer look at possible causes of stress, how stress can be managed, anticipated and coped when it arises. Several strategies are discussed as effective stress-coping strategies. Results show that positive self-talk, time management, mentoring are strategies that researchers can find valuable and effective to reduce stress during presentations.

There is an old saying that ‘If a trainee hasn’t learned it’s because the trainer hasn’t trained’. Trainees who understand the benefits they will receive from training will want to learn. What this means to us researchers is that once we have completed our research and attained our novel findings – how would we share these valuable new findings and knowledge with others? Giving presentation is one method that can be used to achieve this. However many of us are not experienced in the effective techniques of a good presentation. Anxiety and stress can make the initial presentation experience difficult for us. Stress makes us sick but we need to overcome this! Stepping in front of an audience and having many pairs of eyes on us can be terrifying. We dread to stand up in front and present our research findings. We are nervous and worry if we completely forget what we are going to say - and be humiliated! These are all thoughts that can lead to stress. Obviously how others think of us matters hugely and we need to overcome our presentation literacy.

4.4.2 The objectives of the module are to achieve the following;

- i. Identify stress and anxiety when presenting
- ii. Learn to put stress work for us, master it and keep it in place
- iii. Explore ways to manage stress so that it clears rather than clouds our thinking

- iv. Demonstrate energized enthusiasm towards giving the best that we could when presenting.
- v. Reflect upon and apply effective and impressive oral communication skills in presentations.

4.4.3 Stress – a Closer Look

What is stress? By definition, stress is said to be a physical, mental, or emotional response to events that causes physical or mental tension. In simple words, stress is an outer force that has a command over inner feelings. The term “stress” was coined by Selye (1950), who defined it as “The rate of wear and tear on the body”.

Giving an effective presentation is more than just coming armed with a snappy, well-rehearsed presentation. External factors, such as illness, audiovisual equipment mishaps, and audience antics, affect one’s ability to command the attention of the audience and to give a flawless presentation. Hence, one needs to prepare to avoid nervousness, handle unforeseen problems, and deliver one’s presentations. Fears and worries add up to stress. Stress is mainly a consequence of the interaction between external job conditions and the individual’s internal psychological responses to these conditions (Cooper, 2001). It is regarded as a subjective perception of an individual, i.e., stress is determined by the individual’s own assessment of external stressors. The implication is that what Researcher A considers threatening; Researcher B may consider positively challenging. As a consequence, the literature differentiates between two types of stress: positive and negative stress (Palmer & Gyllensten, 2008). Positive stress is not necessarily harmful; it is a type of stress caused by self-imposed challenges, which can be stimulating and motivating, as long as it is perceived as controllable. In the opposite case is negative stress, which is not chosen or self-imposed by the individual researcher. Negative stress is caused when demands from the environment exceed the capabilities and resources of the individual (Lazarus & Folkman, 1984). It is a situation where the demands of work or life exceed the belief of the individual in his/her capacity to cope (Cox, 1993; Leung et al., 2008). This module will focus on both positive and negative stress faced during presentations.

The surroundings may be an ocean of doubts, criticisms, jealousy and bitterness. However, we can still navigate this ocean. Giving out presentations

can be pleasant or unpleasant. If unpleasant, this can be draining and deflecting to us, which leads to stress. Not many of us realize that stress is caused by our belief system. Our choices and the way we perceive and react to the experience cause the bulk of our stress. How many of us believe that we can change these beliefs? Have you felt the following responses up in your mind?

- This is my first presentation in front of an audience.
- There's nothing I can do to make the presentation impactful to the audience. They will find me boring.
- The presentation will be a failure.
- I do not have the time to prepare my presentation.
- It is so difficult to summarize my work in this presentation.
- I don't know who the audience will be.

Indeed, everywhere we look, there are stories of people being terrified of giving presentations. We may feel that we have done nothing that would be worth giving presentation about. As such this would be a tough starting point for us. However, with the right mindset, we can actually use our fear as an incredible asset. We need to use the opportunity to do the presentation as motivation to dive more deeply into our research. The chance to speak in an audience may be just the kick we need to commit to the sharing of a serious research project (Anderson, 2018)!

4.4.4 Stress and Personality

Stress does not affect everyone the same way. In exploring the reasons for differences in reactions to stress, researchers have explained some possible theories that may be useful for us; i.e., understanding our personality.

- a. Are we Type A person? If so, we have an intense drive and ambition, aggressiveness, competitiveness, a need to get things done and meet deadlines, visible restlessness and can be impatient. We tend to drive ourselves hard and strive to gain the respect of others. When we need to prepare for a presentation, we tend to feel stress.
- b. Or are we Type B person? Here we are easygoing. We are patient, able to take time to appreciate leisure and beauty. We are not driven

by the clock and are less competitive than Type A. We tend to face less stress when we need to do a presentation.

In order to improve our communication, if we are the Type A person, we may have an aggressive and hostile personality that generates arguments in communication. Type B will feel stress by having the feeling that we are being taken advantaged of by others. As such, for better communication, take a few moments to listen to others and present confidently.

4.4.5 Stress Factors

We may see stress as a wall and stop from going further. Some may see stress as a ladder to be recognized by others. When preparing for a presentation on work done, we need to recognize the symptoms of stress. Some negative indicators of stress would be:

- Communicating less.
- Have less energy, anxiety – especially when knowing the fact that we have to prepare the presentation
- Sleep disturbance
- Appetite disturbance (especially during the day of the presentation!)

All these can lead to burnout and can happen even before we have presented! Other from the above indicators, language can also be the cause of stress, especially if English is not our mother tongue and we are expected to present in English.

On the other hand, stress can also be positive for us when we have to make presentations. This type of stress is referred to as Eustress. Eustress is not harmful; a slightly increased anxiety level can motivate us to do the work needed so that we are effectively prepared for the event: it can make us more alert and energised. There is a range of signs which may indicate that we are experiencing performance anxiety. These signs could begin just before our presentation, hours or days before it, or even at the moment we find out about it. Presenters who are stressed may find ways of how to turn these thoughts into positive thoughts. Just imagine that our body is energized when faced with these various circumstances and will prepare us to meet all challenges. The pounding heart caused by stress is turned now to excitement

and action to perform. We thus become less anxious and will be more confident.

4.4.6 Techno-stress

This is a term used to describe the stress experienced by individuals based on their use of ICTs especially used during presentation. It refers to any negative impact on attitudes, thoughts, behaviors or body physiology that is caused either directly or indirectly by technology. So, are we blaming technology for this kind of stress? Are we computer savvy to prepare our presentation slides? Are we savvy enough to use the LCD projector when doing our presentation with the laser pointer in hand?

This is a modern disease that stresses us researchers. The cause comes from increasing demands from system users; advances in technology and the growing use of information and communication technologies to improve the efficiency and effectiveness on our presentation. There are three techno-stress sources:

- Techno-overload – perceived pressure to work faster and longer due to the usage of technologies. We tend to stress ourselves in trying to put too much information in our presentation.
- Techno-complexity - The regular work hours to do research and prepare for presentation is extended beyond situations when the complex computer systems used for research forces us to spend time and effort learning and understanding how to use new applications and updating our skills.
- Techno-uncertainty – perceived lack of clarity about whether one has to deal with technology-related research activities in our presentation. We are always at the stage of re-learning things very rapidly and often.

4.4.7 Consequences of Stress

When we experience nerves, anxiety or stress about an event, certain physical reactions happen automatically. If we recall a time when made a presentation we may have noticed that we reacted in some of the following ways: (Gallo, 2017)

- our voice trembled;
- we have sweaty palms;
- we experience shortness of breath;
- our heartbeat accelerate;
- we have butterflies or an upset stomach;
- we experience a generalised feeling of fear.

These reactions are driven by the production of hormones and equip us to fight or escape from situations that are dangerous or threatening. This is known as the fight or flight response; our body is alert, ready for action and is preparing itself to cope with the situation. Once the threatening event is over, our body will gradually return to normal. Although this process is designed to assist us during potentially threatening situations, it can cause difficulties, particularly if our level of anxiety is too great and/or it occurs for a long time period.

4.4.8 Ways to Manage Stress

It is impossible (and naïve) for anyone to eliminate stress. The key is to avoid stress when possible and learn to manage it. How we adapt to stress is the key. Learn to recognize the presence of stress. Stress management is an extremely important skill to develop, both for better health and for a better life experience. The following are some ways that will be helpful for managing stress.

a. Self-Management and Positive Self-Talk

Individuals can decide what to think and how to act. When we change our mind about stress, we can change our body response to stress. Cognitive strategies are about thought management and behavioral strategies are about the management of behavior (Manz & Sims, 2001). Individuals can change their own thoughts, beliefs, and assumptions to improve their psychological well-being and joy and to prevent stress (Beck, 1976; Beck & Emery, 1985). The basic assumption is that our emotions are “governed” by our thinking. The key to handling stress is to find balance. Thus, the challenge is not the unpleasant emotions in us, but the thoughts that led to these emotions (Ellis & Dryden, 1987; Ellis, 1994). By improved self-management, we can identify and avoid negative self-talk and self-thoughts that lead to stress.

To change ourselves in time of stress, we need to become our own coaches. We need to learn how to talk to ourselves so that we can turn our external stress factors into internal motivation for change and improvement. Negative, unattended self-talk can be devastating for us. It destroys confidence and creativity. When self-talk is directed, contained and purposeful, it provides light and warmth. When we do presentations, we will find that positive self-talk will have a stress reducing effect. We will be able to speak positively but realistically to ourselves. Positive self-talk can lead to good feelings. We will have the confidence to face the audience. The easiest way we can do when presenting is to clench any tense areas of our body for a few seconds and then relax them. Do not forget to use the positive thinking skills that we have been practising up to the event on the day itself. Tell ourselves we can do it and try not to jump to conclusions about how people appear to be reacting to us. Some people may look stern or uninterested, when they are actually just concentrating very hard on what we are saying.

Activity: (five minutes for this activity)

Read the collection of stressful and unproductive self-talk statements, be aware of our feelings. Read the sentences out loud:

- I can't stand it.
- I just can't deal with it anymore.
- I feel terrible.
- I just don't know what to do.
- I'm always so far behind.
- That is so stupid.
- I shouldn't have to do this.
- There is too much to do.
- Nobody wants to listen to my presentation.
- Everyone is so uncooperative

To overcome these negative thoughts, follow the tips for using nervousness to our advantage:

- To feel brave, pretend you are brave already!

- Concentrate on the subject of your presentation and get your mind off yourself.
- Plan to enjoy yourself. Do not call your feelings fear; call them excitement!
- Curl your toes inside your shoes to release nervous energy.
- Concentrate on your breathing. Do not do deep breathing exercises – you may pass out! Instead concentrate on breathing rhythmically.

b. Bless, Don't Impress

When presenting, focus on the important ideas we hope to share. Do not worry if we do not do it perfectly. The stress will subside when our motive is to bless rather than impress (Grenny, 2015). When communicating in a presentation, experience in self-discipline is the key to success.

To effectively communicate successfully through presentation:

- Know the audience. The key principle is to remember that the presenter's job is to give information to the audience, not take from them (Anderson, 2018).
- Understand needs and motivations of each individual. The presenter needs to put themselves into our listeners' shoes and imagine how best to meet their expectations.
- Anticipate objections.
- Develop support media. Photographs, illustrations, video, audio, graphs, infographics, animation, big data simulations – all can appeal the audience.
- Practice. Make eye contact with the audience and smile. It makes a huge difference.
- Choreograph: Visuals; Eye Contact; Avoid Jargon; Work the Crowd
- Respond to Questions and Concerns
- Summarize the findings of our work
- Close and obtain commitment

c. Practice Makes Perfect

Be realistic. No one expects as much of you as you do (Macdonald, 1997). Avoid putting undue pressure on yourself by considering your limitations. Planning and practising for our presentation carefully can have a number of beneficial effects on our anxiety levels, including helping us to feel more confident and in control prior to the presentation. The better prepared we are and the more we know our material, the more likely we will be to recall it when we are feeling nervous or stressed. Do a practice session based on the length of our presentation, how familiar we are with the material and our level of confidence. Stand before a mirror or video our presentation or find a colleague who will sit through our practice session and give us feedback. Preparing for questions at the end of a presentation may also help to lower our anxiety levels. Read over our presentation notes critically to identify areas of possible weakness and prepare positive answers. Imagine that we are delivering our presentation to an audience that is interested, enthused, smiling and reacting positively. Cement this positive image in our mind and recall it just before we are ready to start.

Try to practice where we will be delivering your talk. Rehearsing lines in various positions *standing* up, sitting down, with arms open wide, or on one leg! The more we mix up our position and setting, the more comfortable we will feel with our presentation. Also try recording our presentation and playing it back to evaluate which areas need work. Listening to recordings of our past talks can clue us in to bad habits we may be unaware of, as well as inspiring the age-old question: “Is that what I really sound like?” (Kim, 2014).

d. Breathe

We can substantially reduce stress hormones in our blood by simply breathing deeply and slowly while assuming a powerful pose. Stand proud and eventually that last minute jitters will go away! Optimism is often the best tool anyone has to manage stress. The power of positive thinking cannot be overstated.

e. Mentorship

This is where we have the presence of a less-skilled presenter, called a mentee or protégé, with a more skilled presenter identified as the mentor. The skilled mentor will guide, support and familiarize the junior researcher

to the art of presenting and communicating. The potential benefits of having a mentor are many. Mentors may help us focus and gain clarity on issues. They may inspire us and provide encouragement and moral support when needed. They may also facilitate access to people in their network that might be a resource for us (Martinuzzi, 2017).

The mentoring can come in the form of face-to-face, formal or informal, in enhancing interpersonal relationship. The mentor will support the training, sponsorship, protection, experience and provide challenging missions to the mentee. Role modeling can be one of the ways. The mentee will imitate the presentation style of the mentor.

As a result of the integration of new technologies, e-mentoring is considered to be a flexible alternative (sometimes as complementary) besides the traditional face-to-face mentoring (de Janasz & Godshalk, 2013; Murphy, 2011; Shrestha, May, Edirisingha, Linsey & Burke, 2009; Single & Single, 2005). This would be establishing and maintaining mentoring relationships using computer-mediated communication tools. The mentee will get guidance from mentors from numerous resources online.

4.4.9 Stress-Managed Presentations

Once we have overcome stress in presentation, we need now to convey our message to the audience on our research output. Communication is the essence of success. Some mistakes the presenters do when we are facing the audience:

- a. Mumble, coughs, have a heavy accent, or do not speak loud enough.
- b. Use confusing scientific or technical jargon that the audience do not understand
- c. Use words open to many interpretations.
- d. Check our speed of delivering our presentation, give some 'space' for the audience to listen, process what have been said and reflect. Presenter needs to 'connect' with the audience. We can ask the audience whether we are going too fast or too slow.
- e. Improve our speaking voice. Ensure effective deliveries to make the voice more pleasing. Emphasize on vocal relaxation and

diaphragmatic breathing. This helps to sharpen our verbalization, expression and to overcome fear in public speaking.

Good communication can help us in our battle against the clock. We probably are given 15 minutes or half an hour for our presentation, however we must prepare well. We would have already prepared our presentation slides, videos etc. However we need also to be aware of several aspects:

- a. Do not take for granted that the audience know as much as we do about our research. Work hard to reach an equal understanding. Know our audience.
- b. When presenting, take a deep breath and take the necessary time to communicate clearly and completely in order to avoid repeating the same information.
- c. Take time to listen to the audience when they ask questions and look at that person directly in the eye. Take time to explain a point or concept so that the other person can benefit from our knowledge and experience relating to the research we are presenting.
- d. Do not spread yourself too thin... meaning, do not put stress upon yourself that you need to cover every single aspect of your research work. The audience would only want to listen to the main presentation on:
 - What is the research about? What is the problem or issue faced?
 - What are the objectives of the research?
 - Literature – a brief mention.
 - Methodology – this part is important to share with the audience
 - Analysis and Findings
 - Discussion and Conclusion

We live in the age of specialization, and we may not have answers to everything being asked about our research. Always not be afraid to say you do not have an answer to a question. Simply say, “I’m not sure of the answer to your question. I will take the time to find the answer for you”.

One way to keep a constant positive attitude in presenting is to be willing to give yourself the necessary credit for the accomplishments already made

through our research. Our mood can influence the audience. When we show self-assurance and a real feeling of confidence, this attitude will create a chain reaction in all the people around us. Remember to always focus on our strengths, our assets and specialization and not on our shortcomings. We are special. Believe in ourselves. We are unique. We may stumble along the way in our presentations, loss of words but so what! All successful presentations show success after dealing with many failures along the way.

Do not be fooled by looking at others in the audience. They may be sizing you up by saying quietly, "He/She is so confident. I only wish I had his/her talents and abilities". These same people whom to us looked so confident are actually filled with the same fears that we have, and are overcoming their fears by concentrating on thinking about their abilities and how they can accomplish their presentations too. Everything good usually starts with courage. It is picking yourself up, deciding that you could be happier, that you want to be happier - and then doing one small thing to get you started and keep you going. Stress management starts with courage. It is the trying that counts.

To summarize in preparation for presentation of our research work, several questions may help to guide us:

- a. On a scale of 1-10, how complex is the information that we want to share? Is our research a qualitative or quantitative type?
- b. On a scale of 1-10, how resistant may be the audience to what will be presented? Participants may be resistant to presentations that are technical.
- c. How important is it that there is high participation from the audience? If we need to have full interaction from them, then our methods of presentation need to utilize high participation.
- d. How much time is available? Be sure to have sufficient time to present. Do not go overboard beyond the time limit given.

Activity 1: Speaker's Corner:

This activity can help us overcome our fear in speaking in front of others. It also put forward the manner in framing our idea into an effective message will build our current speaking skills.

- i. Duration: 30 minutes
- ii. Number of participants: 20 or more
- iii. Process: Each participant is given 3-4 minutes to practise his/her communication skills.

He/she will make a presentation at the speaker’s Corner. He/She is given a chance to express his/her opinion on issues that they deem needed to be made public. The speaker should demonstrate good communication skills while presenting at the Speaker’s Corner.

Activity 2: What Have You Learnt?

Jot 3 learning highlights and action steps that will help you to be a greater presenter

LEARNING HIGHLIGHTS (WHAT I LEARNT)	ACTION STEPS (HOW I CAN APPLY)
1.	1.
2.	2.
3.	3.

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4.5 Non-verbal Communication

Sid Suntrayuth

4.5.1 Introduction

When you present a speech, you send two kinds of messages to your audience. While your voice transmits a verbal message, a vast amount of information is being visually conveyed by your appearance, your manner, and your physical behaviour. Research shows that more than half of all human communication takes place nonverbally. When you speak before a group, your listeners base their judgment of you and your message on what they see as well as upon what they hear.

In public speaking or academic presentation, your body can be an effective tool for adding emphasis and clarity to your words. It is also your most powerful instrument for convincing an audience of your sincerity, earnestness, and enthusiasm. However, if your physical actions are distracting or suggest meanings that do not agree with your verbal message, your body can defeat your words. Whether your purpose is to inform, persuade, entertain, motivate, or inspire, your body and the personality you project must be appropriate to what you say.

To become an effective speaker, you must understand how your body speaks. You cannot stop sending your audience nonverbal messages, but you can learn to manage and control them. Therefore the main purpose of this module is to help you learn to use your entire body as an instrument of speech. As you read on, you will learn how nonverbal messages affect an audience, what kinds of information they transmit, how nervousness can be alleviated by purposeful physical actions, and how to make your body speak as eloquently as your words.

4.5.2 Action Speaks Louder

Your goal in public speaking or academic presentation is to communicate. To be an effective speaker, you must project earnestness, enthusiasm, and sincerity by making your manner and actions affirm what you say. If they do not, the results can be disastrous. What you are is more clearly communicated

through your nonverbal behavior than through your words. When presenting a speech, your listeners will use their visual sense to determine if you:

- are sincere
- welcome the opportunity to address them
- truly believe what you are saying
- are interested in them and care about them
- are confident and in control of the situation.

Part of the impact your physical behavior has on an audience can be explained by the concept of empathy, the ability to share in another person's emotions or feelings. When you speak, the people in your audience tend to mirror your attitudes. They unconsciously feel what you feel and respond accordingly. So it is vital that your body faithfully portray your true feelings.

If you appear relaxed and confident, your audience will also feel relaxed and confident. If you smile at your listeners, they will perceive you as a friendly person and smile back at you. And, most important, if they are convinced you are sincere and trustworthy, they will pay attention to what you say and evaluate it on its own merits.

Of course, this process can work the other way. If you appear uneasy, your audience also will be uneasy. If you frown – even unconsciously – your listeners usually will frown back at you. If you do not look at them, they will feel excluded. And if you fidget, they will perceive a lack of self-control and lose confidence in you and in what you say.

4.5.3 Why Physical Action is Important

When you demonstrate purposeful, effective physical action while speaking in front of an audience, you provide a true barometer of your feelings and attitudes. However there are other benefits as well:

Messages are more memorable

People become bored with static presentations. That is why television newscasts almost always include film showing some kind of action. If a fire, protest demonstration, or some other visually exciting activity occurs, the newscast will usually lead with it – even if it is not the most significant news

story. A newscast focusing on “talking heads” would soon lose viewers, who could get as much information from radio.

People also remember messages that reach multiple senses. We remember more of what we see than what we hear. However, we remember best when both our visual and auditory senses are involved. As a speaker, you can capitalize on these tendencies by providing visual stimuli that capture your audience’s attention and enhance retention of your verbal messages. Gestures, body movements, facial expressions – all of these can be valuable tools when skillfully employed.

Punctuation adds meaning

Written language has a whole array of symbols for punctuating messages: commas, periods, exclamation points, and so on. But when you speak, you use an entirely different set of symbols to show the audience what parts of your speech are most important and to add power and vitality to your words.

Some are performed with the voice. Just as effective are gestures, body movements, and facial expressions. However, to achieve the greatest possible impact, you should coordinate your voice and body, making them work together. The more communication methods you employ, the more effectively you will communicate.

Nervous tension is channeled

Being nervous before a speech is, to a certain extent, healthy. It shows you care about doing well. Many of the world’s top entertainers readily admit they are nervous before a performance. But true fear– the kind that ruins a speech – will keep you from becoming an effective speaker.

Fear and nervousness in public speaking work on three levels: mental, emotional, and physical. A speaker’s mental and emotional fears are conquered by self-confidence – a byproduct of preparation and experience. You can best control the physical manifestations of fear and nervousness, however, through conscious use of gestures and body movements. Speaking in front of audience activates the adrenal glands. Your heartbeat quickens. Your breathing becomes shallow and more rapid. Your muscles become tense. Since the body will do almost anything to relieve tension, you might unconsciously perform mannerisms that will distract your audience – unless you can dissipate the tension.

Gestures and body movements can help you harness your nervous energy and make it work for you instead of against you.

4.5.4 Ways to Make your Body Speak Effectively

There are different ways that you can effectively use your nonverbal tools – gestures, body movements, facial expressions, and eye contact. The following section will outline some of the ways that you can do in order to ensure that your body speaks effectively.

Eliminate distracting mannerisms

Dr. Ralph C. Smedley, the founder of Toastmasters International, wrote, “The speaker who stands and talks at ease is the one who can be heard without weariness. If his posture and gestures are so graceful and unobtrusive that no one notices them, he may be counted truly successful.” When your actions are wedded to your words, you will strengthen the impact of your speech – even if the audience does not consciously notice them. But if your platform behavior contains mannerisms not related to your spoken message, those actions will call attention to themselves and away from your speech. In fact, rather than adding physical characteristics, sometimes the enterprising speaker must work on removing impediments. What are these impediments? At your next Toastmasters meeting, watch the speakers closely. You will probably detect at least a few visual distractions in each person’s delivery.

Some mannerisms involve the whole body, such as

- rocking
- swaying
- pacing.

Others that commonly plague inexperienced or ineffective speakers include

- gripping or leaning on the lectern
- tapping the fingers
- biting or licking the lips
- jingling pocket change
- frowning

- adjusting hair or clothing
- turning the head and eyes from side to side like an oscillating fan.

Most of these actions have two things in common: First, they are physical manifestations of simple nervousness; second, they are performed unconsciously – the speaker is not aware that he or she is doing them. Most of us are aware of our verbal mistakes. But unless we have access to video equipment and can have our movements recorded, many of our distracting mannerisms go unchallenged. The first step in eliminating superfluous mannerisms is to obtain an accurate perception of your body's spoken image. And to do this, you need help.

Your next step is to eliminate any physical behavior that does not add to your speeches. You can accomplish this by being aware of your problem areas and by conscious self-monitoring during future presentations. If you have several problem areas, work on one at a time. As each is eliminated, move on to the next.

Be natural, spontaneous, and conversational

The single most important rule for making your body speak effectively is to be yourself. Today's favored speaking style can best be described as amplified conversation. It is much more informal than the grandiose style that characterized public orators in past years. The emphasis is on communication and the sharing of ideas – not on performance or sermonizing.

Do not try to imitate another speaker. Instead, let yourself respond naturally and spontaneously to what you think, feel, and say. Strive to be as genuine and natural as when you talk with friends or family members.

Let your body mirror your feelings

The “father of modern public speaking,” Dale Carnegie, wrote, “A person under the influence of his feelings, projects the real self, acting naturally and spontaneously. A speaker who is interested will usually be interesting.”

If you are interested in your subject, believe in what you are saying, and want to share your message with others, your physical movements will come from within and be appropriate to what you are saying. By involving yourself in your message you will be natural and spontaneous without having to consciously think about it.

Build self-confidence through preparation

Nothing influences a speaker's mental attitude more than the knowledge that he or she is thoroughly prepared. This knowledge inspires self-confidence, a vital ingredient of effective public speaking. When you are well-prepared, your behavior can be directed outward towards your audience instead of inward towards your own anxieties. You will be less likely to send visual messages that contradict what you are saying, and you will find it easier to be natural and spontaneous. Almost effortlessly, you will project the magic qualities of sincerity, earnestness, and enthusiasm.

Practice and rehearse your material until it becomes part of you, but do not try to memorize your speech verbatim. This can defeat your preparation because the conscious effort required recalling each word will make you nervous and tense. Instead, know your material so well that you need only memorize the flow of ideas. You will find the words will spring forth spontaneously.

4.5.5 How to Use Non-verbal Communication Effectively

4.5.5.1 How to Gesture Effectively

Gestures reflect each speaker's individual personality. What is right for one speaker probably will not work for you. However, the following rules apply to almost everyone who seeks to become a dynamic, effective speaker.

- a) Respond naturally to what you think, feel, and say

When you present a speech, you naturally express yourself through gestures. No matter what our personality or cultural background may be, every one of us has a natural impulse to punctuate and strengthen our words with gestures.

- b) Create the conditions for gesturing – not the gesture

Your gestures should be a natural outgrowth of your own unique thoughts and feelings. They should arise naturally and habitually from your attitude towards the message you present.

- c) Suit the action to the word and the occasion

Your visual and verbal messages must act as partners in communicating the

same thoughts or feelings. When a speaker fails to match gestures with words, the outcome can be wooden, artificial, and sometimes comical. Every gesture you make should be purposeful and reflective of your words. In this way your listeners will note the effect rather than the gesture.

d) Make your gestures convincing

Your gestures should be lively and distinct if they are to convey the intended impression. A gesture performed in a half-hearted manner suggests that the speaker lacks conviction and earnestness. Every hand gesture should be a total body movement that starts from the shoulder – never from the elbow. Move your entire arm outward from your body freely and easily. Keep your wrists and fingers supple, rather than stiff or tense.

e) Make your gestures smooth and well-timed

Any single gesture has three parts: the approach, the stroke, and the return. During the approach, your body begins to move in anticipation of the gesture. The stroke is the gesture itself, and the return brings your body back to a balanced speaking posture. The flow of a gesture – balance, approach, stroke, return, and balance – must be smoothly executed in such a way that only the stroke is evident to the audience.

f) Make natural, spontaneous gesturing a habit

To improve your gestures, practice – but do not wait until the day of your speech! Work on enhancing your gesturing abilities in front of friends, family members, and co-workers. Relax your inhibitions, gesture when you feel like it, and let yourself respond naturally to what you think, feel, and say. Through awareness and practice, you can make appropriate gesturing a part of your habitual behavior.

4.5.5.2 How to use facial expression effectively?

An impassive expression may be an asset to a good poker player, but to a speaker it is a barrier to effective communication. People watch a speaker's face during a presentation. Politeness, of course, is one reason for this, but equally important is the need to obtain visual data that will make the speaker's message more meaningful.

When you speak, your face communicates your attitudes, feelings, and

emotions more clearly than any other part of your body. According to behavioral psychologists, people can easily recognize – simply by observing a speaker’s facial expressions – such distinct feelings as surprise, fear, happiness, confusion, disgust, interest, disbelief, anger, and sadness.

To an audience, your face serves as a barometer for what is inside you. Your listeners will watch your face for clues about your sincerity, your attitude toward your message and your earnestness in sharing your ideas with them. Remove expressions that do not belong on your face. These include distracting mannerisms and unconscious expressions, which are unconnected to your feelings, attitudes, and emotions. Both types of unwanted facial expression usually are manifestations of nervousness.

4.5.5.3 How to use your eyes effectively

a) Know your material

Being prepared – having control over your verbal message – is a prerequisite for establishing effective eye contact with your audience. You should know your speech so well that you do not have to devote your mental energy remembering the sequence of ideas and words. Your projection must be outward to the audience – not inward toward mental turmoil.

b) Establish a bond

When you speak, you are communicating with a group of individual people – not performing before a single unit. So making effective eye contact means more than just passing your gaze throughout the room; it means focusing on individual listeners and creating person-to-person relationships with them.

How do you do this? Begin by selecting one person and talking to him or her personally. Hold that person’s eyes long enough to establish a visual bond – perhaps five to 10 seconds, or the time required to say a sentence or share one thought. Then shift your gaze to another person.

c) Monitor visual feedback

While you deliver a speech, your listeners are responding with their own nonverbal messages. Use your eyes to seek out this valuable feedback. By monitoring these visual messages, you can gauge the audience’s reactions to what you say, then adjust your presentation accordingly. If individuals in the

audience are not looking at you, they may not be listening, either. Sometimes this is because they cannot hear you. If you are not using a microphone, speak louder and see if that gets a positive reaction. Perhaps they are just bored. If so, you will need to regain their attention, perhaps by using appropriate humor, increasing your vocal variety, or adding some purposeful gestures or body movements.'

4.5.5.4 How to make good impression?

First impressions are critical. People meeting for the first time form immediate judgments of one another that forever color their relationships. When you present a speech, the people in your audience will judge you, and the initial impression you make on them will directly affect the success of your presentation.

a) Your appearance

Like it or not, your physical appearance strongly influences how others judge you. When you deliver a speech, your appearance conveys a powerful visual message to the audience – a message vital to your success as a communicator. A good rule of thumb for dress is to be at least as well dressed as the best-dressed person in the audience. If your listeners wear suits and dresses, wear your best suit or dress – the outfit that brings you the most compliments. Make sure every item of clothing is clean, well-tailored, and well-fitting.

b) Before you speak

Part of your first impression is made before you are introduced to begin your speech. As the audience arrives, your preparations should be concluded – you should not have to study your speech. Instead, mingle with the audience, and project the same friendly, confident attitude that will make your speech a success.

c) The first minute

When you speak, especially if you are not well known to the audience, the most crucial part of your presentation is the first minute. During those few seconds, the people in the audience will be making critical judgments about you. They will decide if you are confident, sincere, friendly, eager to address them, and worthy of their attention. And to a large degree, they will base this decision on what they see.



After your introduction, walk purposefully and confidently to the speaking position. Balance your body as you assume your speaking posture. Achieve an immediate connection with the audience by combining direct eye contact with a warm smile. Keep your movements and gestures to a minimum during the first few moments of your speech – let the audience first get accustomed to you.

Reference

Toastmasters International (2011) “How to Become Skilled in Nonverbal Communication Gesture- Your Body Speaks”

4.6 Essential Media Skills for Researchers

Tur Nastiti and Nurul Indarti

4.6.1 Introduction

A researcher has to develop competence and skill to choose the most appropriate media for communicating research process and findings to readers, internally within the research team and externally to various audiences. Good media choice saves time and money, and moreover, builds goodwill. Information will be easily and persuasively transferred in order to build a common understanding between sender and receiver. Accordingly, easy-to-understand information sending through effective media would also enhance credibility and build image of a researcher as a professional or competent person.

Aspects of the essential media skills for researchers are divided into four parts, namely: media richness, strategies for persuasive presentation, and techniques to develop presentation slides. Each part is elaborated in the following sub-section.

4.6.2 Media Richness

A researcher can be an effective communicator by selecting an appropriate media for each message even though there is no one “best” medium defined. Furthermore, a researcher needs to consider information richness for each media. Information richness represents the amount of information that a communication media can carry as well as the extent to which the medium enables the sender and receiver to reach a common understanding.

Face to face communication has highest information richness since it can take advantage of verbal and nonverbal signals to develop the fastest understanding. Spoken communication via electronically transmitted has the second highest information richness since telephone conversation has information rich with tone of voice, sender’s emphasis, and quick feedback, but provides no visual nonverbal cues. Personally addressed written communication has a lower richness than the verbal form of communication, but it is still directed at a given person. Personal addressed written

communication helps to ensure receiver actually reads the message. This type uses common forms such as personal letters and e-mails. Impersonal written communication has the lowest information richness. It is good for sending messages to many receivers where (little) feedback is expected (e.g., newsletters, reports).

A researcher may combine the use of various media based on communication purpose. Taking for an example in a team-based research. In the introduction stage, members of the research team may have face-to-face communication to get to know each other and build team charter. After developing each member role and responsibility, team members may use telephone, email, or social media messages to coordinate among them. Along with the coordination activities, face-to-face communication may be regularly conducted to discuss any strategic research issue. Final report then may be developed through impersonal written communication to disseminate findings to which it may concern.

4.6.3 Strategies to Develop a Powerful Presentation

4.6.3.1 Right Presentation Media for the Message

Final report may also be effectively delivered through presentation. Presentation is chosen as a powerful face-to-face media. People prefer presentation and eager to devote time to be presenters as well as to be the audience. However, just because you have something to communicate and the time slot to fill, does not mean a formal presentation with slides is the right choice. Some audiences may find a thoughtfully written memo more persuasive. Other audience might prefer video presentation. The presenter may combine various media within the presentation for the purpose building understanding.

With the application of presentations as a communication media, a researcher needs to understand that presentations are not limited to a single time or place anymore. Presentations can be taped, broadcasted, streamed, downloaded, and distributed. Accordingly, slides are not a must-have either. Presenters can use handouts, sketches, videos, flipcharts, and anything that will help people receive the message.

The size of audience and the level of interaction should also determine which media is chosen. Therefore, before starting to work on a presentation

software, think about the audience and venue. Would you be speaking to a few team members in an intimate setting? A big crowd in an auditorium? Or a small group who will be remotely connecting to each other? See Figure 4.6.1 for a sampling of ideas on how to deliver messages to a person or many, in a stage or more spontaneous setting.

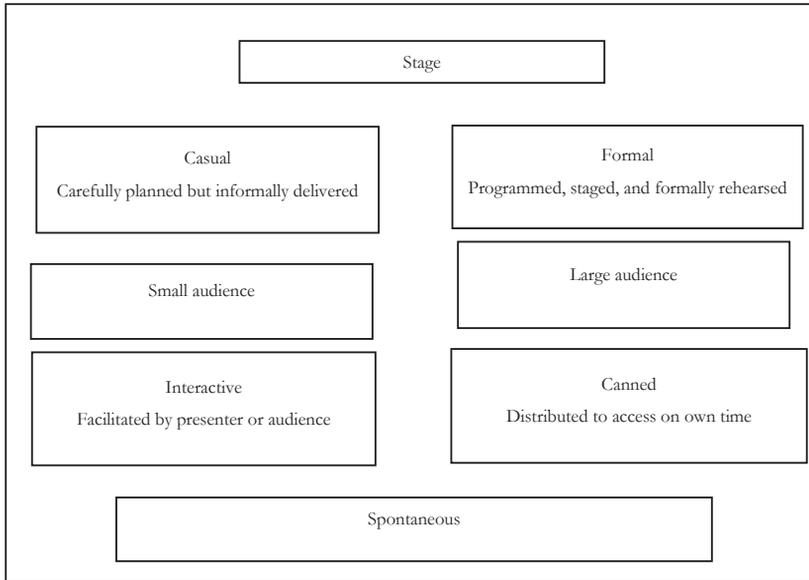


Figure 4.6.1. Presentation Types

Source: Duarte, N. 2012. *HBR Guide for Persuasive Presentation*. USA: Harvard Business School Publishing Corporation.

4.6.3.2 Develop the Most of Slide Software

There are many types of slide software. Two of the most recently used for university students are PowerPoint and Prezi. PowerPoint is a software installed in the computer to give users flexibility to work everywhere, with or without internet connection. Recently, in this world fully covered by internet, online software has attracted more attention. Prezi is a presentation software that uses motion, zoom, and spatial relationship to bring ideas to life and make a researcher a great presenter. With these advantages, creative and imaginative presenters will mostly prefer Prezi.

Presentation software is like an empty shell as a container for our ideas. It is an essential tool to help a presenter, however, it may also become a bad tool in the hand of bad communicators. Therefore, a presenter should use it without abusing it. Know exactly what the presenter is trying to accomplish and rely on the software to achieve that and nothing more.

A presenter can use presentation software to create documents, compose teleprompter notes, and visualize ideas. However, keep those tasks separate to avoid the most common pitfalls. The trick is to show audience members only what they want to see, when they want to see it.

It is called as a slideument. Slideument is a slide fully covered by sentences. Presenter is trapped in this pitfall by thinking that detailed explanation needs to be shown in his/her presentation. However, it is a PowerPoint in which only powerful points need to be in the slide. It is not power sentence. Thus, do not project entire documents in a slide. No one wants to attend a plodding read-along. It is boring and people can read more efficiently by themselves. It is suggested to circulate document before or after the presentation, thus text-heavy slides will not be needed.

If needed, use the presentation software to develop teleprompter notes. It is a slide with bulleted points of the presentation outlines. It is shown to the presenter by a monitor posited only in front of the presenter, thus out of audiences' visual view. It is help for a presenter who has to deliver several presentations per month, each customized for different audiences. Figure 4.6.2 shows an example of slideuments.

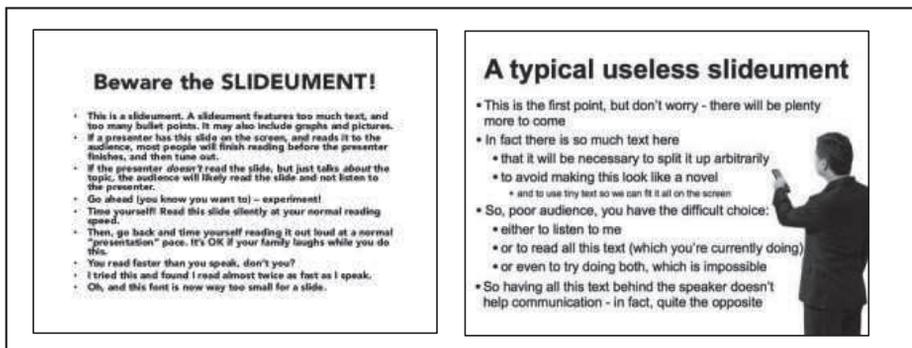


Figure 4.6.2. Slideument

4.6.3.3 Determine the Right Length for a Presentation

A short and concise presentation needs longer preparation. In fact, if you ask around, “What do great presentations have in common?” Then, a consistent answer is “They are short.” Time flies. In *bahasa*, we mention that *‘waktu adalah uang’*, referred to ‘time is money.’ Time is a scarce resource needing conservation and better management with lot of priority considerations. It is no secret that people value their time highly.

Consequently, a presenter needs to invest a longer period to prepare his/her persuasive presentation. But many presenters do not realize that it costs them time to save the audience time. It is easier to be talking active for an hour than to craft a tight presentation. There is no way out except investing longer period to make a short presentation.

There is a hint that psychologically, people can only endure it if it is only 18 minutes. They have 30 to 40-minute presentation tolerance. No longer than that, they will begin to squirm. This hint is relevant to guide a productive meeting for only 60 minutes. With this limitation, a researcher needs skill to prepare a succinct presentation.

Here are five strategies to tighten a talk and keep audiences engaged:

1. Listen to the audience

They are your audience. They have power to determine the success level of your presentation. They have power to work with your big idea delivered within the presentation. Putting yourself in their shoes becomes a requirement. Put more effort to listen to their mind. What is their reason to attend this session, what is their expectation, and what are their activities that contribute to your message? By listening into the audience, a presenter can have ability to measure time needed for the presentation to transfer message and persuade audience.

2. Plan content for 60% of time slot

If there is a full hour session, take no more than 40 minutes to deliver the presentation. That will leave time for Q&A, a panel, or some other form of discussions. It is a challenge to keep audience engaged within 40 minutes. Thus, any interactive media might be included within the presentation session, such as video, figure, or interactive discussion.

3. Trim your slide deck

The presenter may develop lots of presentation slides. However, time limitation is strict. The idea is to put only strategic slides needed and keep the rest slides in ‘slide cemetery.’ It will be shown when needed based on audiences’ requests.

4. Practice with the clock counting up and counting down

It is an idea to measure time period for a presentation. First, keep a timer to count up to set minutes needed to deliver the presentation. After knowing the number, presenter will find gap between his/her original time and demanded time limitation. Think strategies to match both of those periods. Then, do another practice with timer counting down to measure the revised performance.

5. Have two natural ending

Design at least two natural ending for your presentation. Create a false ending (a summary of the ideas covered, for example) and a real ending, perhaps an inspirational story that brings the message home.

4.6.3.4 Persuade Beyond the Stage

Presentation is a multi stage activity. It is not only about a moment talking in front of your audience. It starts from the moment a presenter has committed to speak and it continues after the actual talk, up to the presenter’s follow up with the audience. Thus, if a presenter wants to persuade beyond the stage, think in detail of any related activities before, during, and after the presentation.

Before

After making a commitment to present in an event, think in detail about the purpose, audience, information, benefit, objection, and context of the presentation. Accordingly, awareness on media and time factors will also be necessary. Then, start preparing the presentation. If the audience are colleagues, a presenter might email them a summary of your message and presentation slides before the presentation. If they are external audiences, then, sending biography and talking points will be necessary before giving the presentation. By sharing them the presentation content before the

moment, a presenter decides to orient audience and make it clear how they will benefit from this talk.

During

If a presenter needs to distribute handouts during the talk, bring more than enough and recruit volunteers to pass them out at the right time. Moreover, discussion through face-to-face communication or social media – organized by an assistant – will also be essential. If there is a purpose of external buzz, post slides online along with any videos of photos that support the presentation.

After

Follow up with a thank-you note, a survey, or supplementary reading or viewing material to keep the message fresh in the audience's minds. A survey is needed to find room of development for the presentation. However, you-attitude approach must be applied when communicating with audiences. Make them understand that data in survey are beneficial to provide better services for them and other participants under customer satisfaction purpose.

4.6.3.5 Share the Stage

A single presenter presentation could become a boring monologue. Even you are an acrobatic presenter with lots of point of attractions, a boring monologue could also trap you deeper. The key to getting and holding audience's attention is having a new thing continually introduced. A presenter can do that by, the following two tactics.

Bringing in other presenters

Invite others to join you on the stage or by video. They may be experts or practitioners those willing to share their related experiences. Within a presentation moment, as a moderator, I invite speaker to motivate students finding outstanding career phases. When presenting his material, he invites another speaker – user of his service – to share evaluation comments after using his product. This presentation flow provides audience with various approaches of how to find an interesting career as well as to maintain person's happiness through customer satisfaction.

Mixing up your media

Media richness provides knowledge of various media for effective and persuasive communication. Then, think of any various media could be blended in the presentation. Add video to inject humor, warm-up, vividly explain process, or any related process. Figures and pictures may be helpful as well. Accordingly, if experiential learning is needed than demos or any interactive activities are also valuable.

Technology has emerged and provides a better connectivity among various communication medias. You-tube and others visual-based social media provides images and videos to support the presentation. Kahoot and other free-based game-learning platform facilitate interactive exchanges between presenter and audiences. Superevent and others event based applications enable a blended face to face and social media based communication for the registered event and conference. All these technology-based sources will provide unlimited sharing stage medias for the creative presenter.

All of the above explanations are related with media richness then continued with strategies to develop a powerful presentation. Further explanations in this sub-module of essential media skills will provide insights in developing slides for a presentation. Discussions are scattered in various topics of thinking like a designer, three second test, choosing the right type of slide, developing a storyboard, arranging slide with care, turning words into diagrams, and developing an informative animation.

4.6.4 Techniques to develop presentation slides

Slides may highly be needed in a presentation. Informal and small audience presentations may not need slides, but other various presentations with formal and huge audiences will need the use of slides. A researcher who is taking the role as a presenter should have slide development skill. It is not only about writing but also drawing with imagination. In the beginning of all, an inspirational quote is taken:

At our studio, we don't write our stories, we draw them.

Walt Disney

4.6.4.1 Think Like a Designer

Presentation is one of the most popular business communication tools. They attract clients, researchers, and employees. The most effective presenters think like a designer. Good presenters display data clearly, simply, and compellingly. They select visuals that convey meaning. They create and arrange slides that persuade audience and help them solve problems.

By thinking like a designer, you will not be a master designer. You will make better choices when confronted by empty expanse of a virgin slide. Figure 4.6.3 illustrates a virgin slide and a well-designed slide.

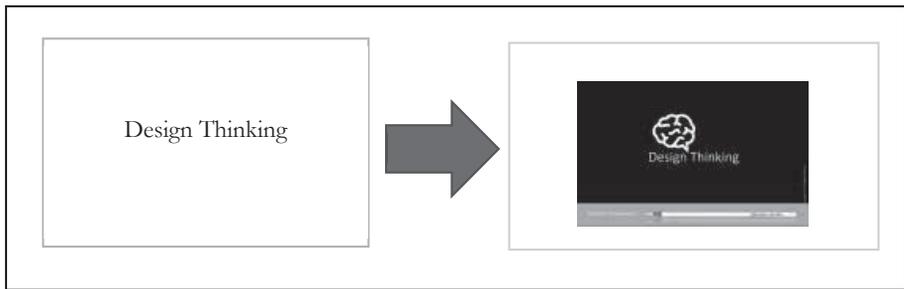


Figure 4.6.3. A Virgin Slide Transformation

4.6.4.2 Create Slides People Can “Get” in Three Seconds

Audience can process only one stream of information at a time. They will either speak or read the slide; they will not do both simultaneously (not without missing key parts of your message, anyway). So make sure they can quickly comprehend the visuals and then turn their attention back to what a presenter is saying.

Each slide should pass the glance test. People should be able to comprehend it in three seconds. To create slides that pass the glance test:

1. Limit your text. Keep the text short and easy to skim. Scale the type as large as possible so the people in the back of the room can see it.
2. Coordinate visual elements. Use a consistent colour palette throughout. Photos should be taken by the same photographer or look as if they are. Illustration should be done in the same style.

3. Arrange elements with care. Align the graphics and text blocks. Size objects appropriately. If one element is larger than another, the audience will interpret that it means the larger object is more important.

Take a look at the slide in Figure 4.6.4 to a sample of three-second test. It is a three-stage in creating presentation. Even detail points are listed, but within three seconds, audience will get into it by knowing major topic of the slide about three stages in presentation. Furthermore, those three stages are research stage, slide creation stage, and polishing stage (as pointed by number 1, 2, and 3 in the slide). After decoding this visual information then the presenter is responsible to provide oral explanation for each stage in the process.

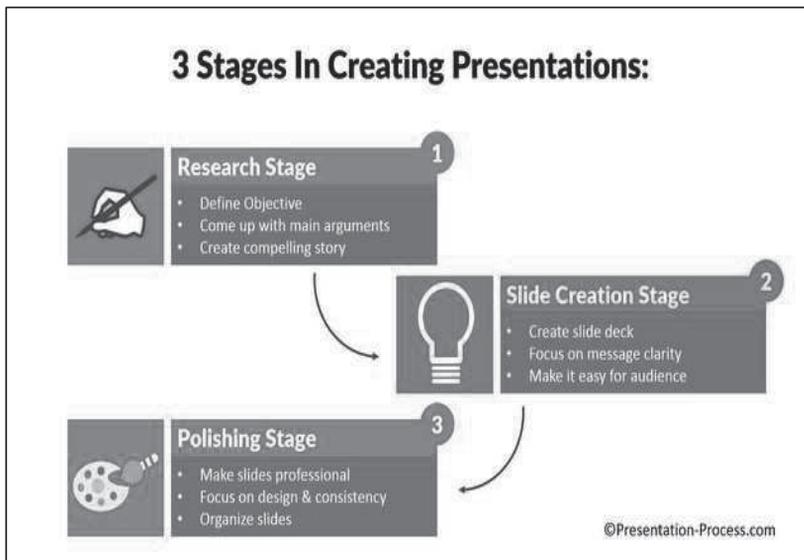


Figure 4.6.4. A Sample of Three Second Test

4.6.4.3 Choose the Right Type of Slide

There are a lot of slide types. A presenter needs to choose the most appropriate one for his/her specific purpose in the presentation. The types are as follows:

1. Walk-in slide. The slide is already up when people enter the room. It creates the first impression.
2. Title slide. It shows the title, your name, affiliation, and event's name. It helps orient and focus the audience.
3. Bullet slide. Use bullets to cluster related ideas into a list, but do not display them all at once. If you do, the audience will get ahead of you.
4. Big-word slide. This type of slide shows a single word or short phrase in large type – the one message or idea a presenter wants to convey at that moment.
5. Quote slide. Project quotes by expert or from important documents to add credibility or factual support to your message, but clearly shows where the materials come from.
6. Data slide. A presenter may need to display data when explaining research or reporting business unit's performance.
7. Video slide. A slide with an inserted video for a specific purpose.
8. Walk-out slide. Leave people with something useful as they exit the room. Something memorable about your presentation.

4.6.4.4 Storyboard One Idea per Slide

Filmmakers sketch out their shots before production begins to make sure they will hang together structurally, conceptually, and visually. Good presenters use a similar planning process before they sweat over their slides.

Keep it simple. Draw small visual representation of your ideas on sticky notes. This is an ideation phase, so doodle work is fine as long as you understand them. Limit yourself to one idea per slide. Make as many as you need to give each idea its own moment on stage. Please refer to Figure 4.6.5 for a sample of storyboard.

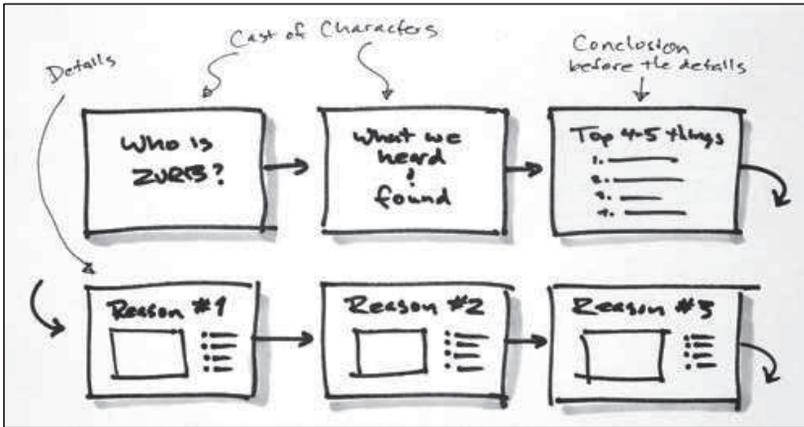


Figure 4.6.5. Storyboard

4.6.4.5 Arrange Slide Elements with Care

By carefully arranging the slide elements, a presenter can help audience process the information easily. Moreover, this frees people to hear what you are saying. Follow this five-design principle when arranging elements to simplify the slides.

Flow

Using slide in Figure 4.6.6, the audience’s eyes will go to the lamp figure first, then move to innovative word, and lastly read in detail of all sentence ‘4 ways to be more innovative.’ This flow helps audience to grab quick focus to innovation topic in this slide.



Figure 4.6.6. Flow

White Space

White space is the open space surrounding items of interest as shown in Figure 4.6.7.

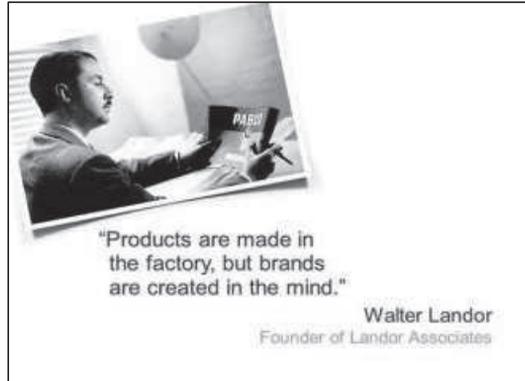


Figure 4.6.7. White Space

Hierarchy

A clear visual hierarchy allows viewers to quickly notice the most important element as shown in Figure 4.6.8 using top-down hierarchy. From the figure, the audience will notice first a disappointed gentleman. Furthermore, the percentage will be noticed, and finally audience will notice the detailed information as stated in the full sentence.

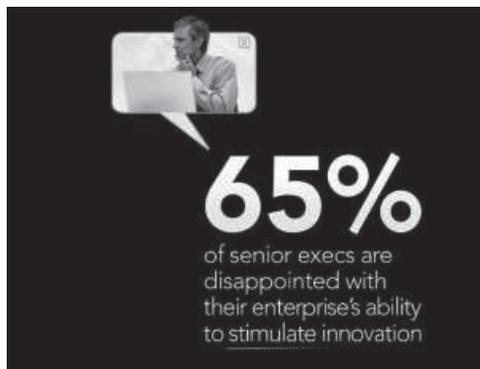


Figure 4.6.8. Hierarchy

Contrast

Use contrast to focus attention as shown in Figure 4.6.9. Notice how the blurred background images set off the white part so they can be processed quickly. Using contrast, audience can focus the attention on a single figure without losing the macro look of the figure.

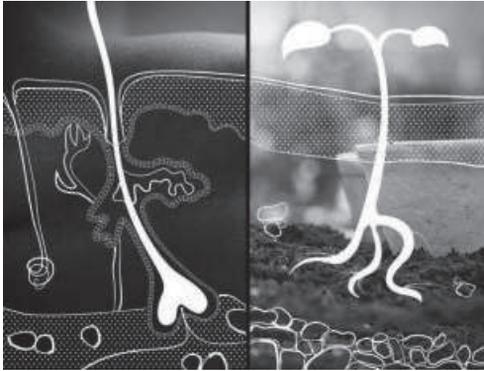


Figure 4.6.9. Contrast

Unity

Slides with visual unity look make message feel cohesive as shown in Figure 4.6.10. Both of these slides use dark blue background combined with white colour word and figure. It looks to the audience that the same person designed the slides.

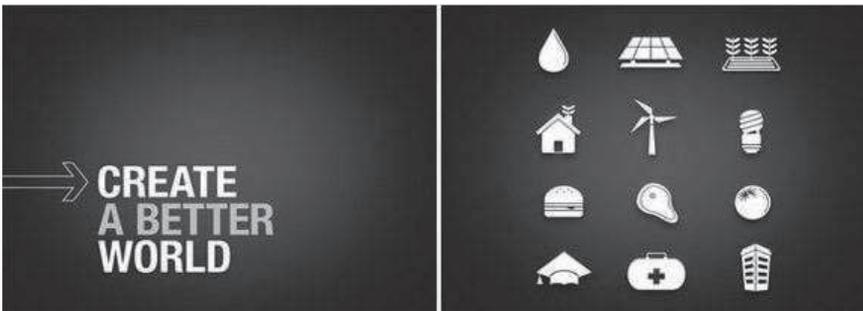


Figure 4.6.10. Unity

4.6.4.6 Turn Words into Diagrams

Creating diagrams, instead of writing bunches of words in slides, will help to reinforce the message to audience. It is easy to translate words into diagram only if a presenter understands the concept and flow of the message. This understanding will help to reconstruct words into several parts. Figure 4.6.11 and 4.6.12 depict the before and after comparison of slide with words and slide with diagram. Audience will be interested most at figures with diagram.



Figure 4.6.11. Before

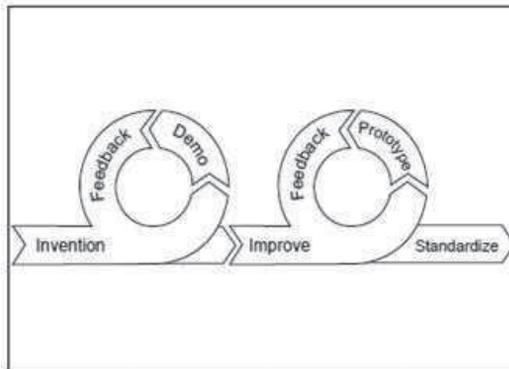


Figure 4.6.12. After

4.6.4.7 Know When to Animate

Animation is a powerful communication tool – but only when applied in a way that enhances your message. Effective animation can show how things

work. Use animation to control eye movement of a sequence stages in a process. Animation may also be helpful to break a boring presentation. Make it aligned and constructed to the story of the presentation. Also, do not use too much of it. It can be annoying.

As a scholar, I found a lot of students' presentations use animation. The animation is inserted among words in a slide. It can be a cut clip coming from a movie scene. Using boomerang technique, it is moving repetitively. A word may also be inserted in this animation. The presenter put this animation in one corner of the slide. Even if it grabs audience attention, it can be annoying.

Take away notes:

1. Message in communication can be delivered by using various communication medias. Choose the best from those media alternatives to create a persuasive communication.
2. When the best media is a presentation, think strategies to develop a persuasive presentation by considering its length, audience size, presentation process, and stage sharing.
3. When slides are needed, prepare the slides by following recommended techniques to develop powerful visuals for the presentation.

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4.7 Oratorical

Sid Suntrayuth and Hugo Lee

4.7.1 Introduction

An academic presentation is a relatively new format which enlarges its spheres of application, being implemented in different types of higher learning. Presentations are adopted as a method of lecturing and evaluating students' progress during the course of studies and final examinations. Presentations of academic essays, reports and master's theses can also be addressed to colleagues and evaluators. Consequently, these types of academic presentations expand their sphere of application (and it is required to) into perfecting (improve) students' presentation skills. Conferences, seminars and discussions are other fields where academic presentations are effective ways of introducing and presenting scientific research results. A presentation combines verbal, non-verbal, sound and visual elements; scenario, structure and slides. An actual presenting includes not only speaking and pronouncing, but also an effective behavior, which implies the use of technical skills and non-verbal means of communication in order to influence the academic audience. Rhetorical features are manifested on a verbal level whenever the presenter combines rhetorical figures and arguments; additionally during a modern academic presentation s/he includes visual metaphors and argumentation. The presenter sometimes prefers photos, video clips, tables, diagrams and figures which are used alongside verbal means. One relatively un-investigated and poorly developed area is the use of academic presentations during distance education and particularly the methodology of these kinds of presentations. Other aspects include how to establish database incorporating academic presentations and how to improve the quality of education in computer mediated communication.

4.7.2 Oratorical and Composition/Oral Presentations

Oral presentations use many of the same techniques that are used in rhetorical writing. Planning your topic, researching, editing, reviewing, and revision are all important steps in producing a good oral presentation; the same as they are when writing an essay or research paper. The best way to ensure that your

speech is a success is to have enthusiasm for your topic and to give yourself adequate time to develop that enthusiasm into a workable talk.

4.7.3 Preparation

Of the several angles that need to be addressed with regards to delivering a speech, the most important thing to keep in mind is, “Who is my audience?” Never underestimate the importance of knowing your audience.

If you are planning to present information about new advances in interactive role-playing games on the Internet to a group of senior citizens, chances are you will need to use different terminology and examples than you would with a college-age audience composed of aspiring Software Engineers. If your audience cannot understand what you are trying to say, you will find it much harder to accomplish your objective.

<p>Who is Your Audience?</p> <p>Consider the following characteristics of your audience:</p> <ul style="list-style-type: none">• Knowledge Base• Age• Race• Gender• Occupation• Values & Morals

This brings us to consideration number two: what is the purpose of your presentation? Is it a call to action? Strictly to inform? To persuade? Just as you will adjust your language for various audiences, you will use different rhetorical strategies to achieve different goals.

In tandem with keeping your information audience-appropriate and on topic, your decision to use visual aids such as Powerpoint, charts, or any kind of props (in the case of demonstration presentations) will have a sizable impact on your audience, and as such should be given careful thought.

A question that you may want to ask yourself is, “How do I want to present the information?” You might want to give a bare-boned speech, have a Powerpoint presentation, or use exhibits to add character to your information. You also may ask, “How much information can I present in the allotted

amount of time?” Sometimes starting a presentation with something everyone can relate to, helps to ease the audience and make them more interested in what you will be discussing. Be sure to “trim the fat” off of your presentation if you are strapped for time. If you are running far over the amount of time that you have been allotted, you may need to re-assess your information and further narrow your scope. One of the most important things you should ask yourself is, “What ideas and thoughts do I want to leave the audience with?” These are the key points that you want to center your presentation around.

Knowing your audience gives you the key to gain and hold their attention, which is a central task for any presenter. Use your knowledge of the audience’s demographics to draw them into the presentation from the very first sentence. By knowing what sort of examples and illustrations you can use to make the contents of your presentation relevant and interesting, you have unlocked the door to understanding and persuasion.

4.7.4 Ways of Beginning a Presentation

When you begin your presentation, you want the audience to feel interested and invested in what you have to share. The more interested you get them right off the bat, the more they are going to pay attention throughout the rest of the presentation. This can be done in a multitude of ways, but it is important to remember to keep your introduction relatively short; wordy introductions can lose your audience before you actually get to the presentation itself. It is also important to remember that whatever opening line you choose, you must connect it to the content of your presentation.

The use of quotations is a tried-and-true way of introducing a subject--if it is done correctly. Here is an example using Albert Einstein:

Opening with a quotation.

“After the nuclear bombs were dropped during World War II, the leading creator of this destructive force said, ‘I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones.’ Albert Einstein stated this after finally seeing the bombs’ full power; for he knew that he very well may have had a hand in the end of the world.”

Startling statistics might help to open the eyes of your audience. Here is an example concerning incarceration rates:

Opening with a statistic.

“By the end of 2004, 724 out of every 100,000 U.S. residents were incarcerated. The United States of America has the highest jailing rate in the entire world.”

Sharing a personal experience is an effective, but risky way of opening an oral presentation. Use this option only if it is the right fit for your audience. For example, if you are presenting to a group of Video Game Design students at your school on the topic of fun game play elements, you might use a personal experience like this:

Opening with a personal anecdote.

“A couple years ago, there was this game that had just came out. Everybody was talking about how awesome this game was and how sweet the graphics were. So, I did what any gamer would do--drove directly to the store, picked up a copy of the game, brought it home, and popped it into my Xbox. My excitement heightened as the game loaded and the intro sequence played. When the game started, I was absolutely astonished ... at how bad the game play was. The game looked cool, but all you did was run around and hit the enemies in the head with a sword over and over again.

That game was not fun; Let’s make a game that is fun.”

Using a joke to start a presentation is often a good idea. You just better hope that your audience thinks it is funny! In most cases, this means keep your joke clean. Also, try to make the joke pertains to the subject you are presenting on. Here is an example that you might use when doing a presentation on football:

Opening with humor.

“Anyone who makes a bad call against the Detroit Lions risks ticking off their last remaining fan.”

If the presentation is more formal, you may just want to give an overview of the main topics you will cover in your presentation. Here is an example using college dropouts:

Opening with an overview.

“Today, I will be discussing college dropouts. I will be going over the current rate of dropouts as well as the many common reasons for it. I will also talk about the reasons to stay in college, like better knowledge, life experiences, and more pay in the future.”

4.7.5 Methods of Presenting Your Presentation

When it comes time to present, there are several methods of delivery to choose from. In most cases, your subject matter will be the main criteria for deciding whether to read verbatim, memorize your script, or work from cue cards. In the case of a scholarly presentation with an extensive amount of detail, you may choose to write out your presentation and deliver it as written. If your goal is to persuade your audience through high-energy speaking and eloquent prose, you may choose to script and memorize your argument. When introducing an informal topic with which you are familiar, you may find that index cards and an outline will suffice. No matter which way you choose to present your speech, you need to be prepared!

4.7.6 Manuscript Speaking

Writing the content of your presentation, out word for word may be appropriate for certain situations. For instance, when you are presenting critical facts or statistics, having the data at your fingertips helps to prevent errors. While misquoting information might sound like a minor offense, under certain circumstances it can have grave repercussions, such as being sued for slander. Though in most cases incorrect information will only confuse your listeners and embarrass you, it is good to remember that such mistakes will not be tolerated in many professions, including law and politics. The drawback to a scripted presentation is that the audience will almost certainly know that you are reading word for word. This has several drawbacks, including decreased eye contact and stilted delivery, both of

which leech power away from your presentation and tend to create a feeling of disconnect between the listeners and the speaker.

If giving a manuscript presentation is necessary, practice is the best way to avoid a bad presentation. By reading your presentation aloud several times, you will become more comfortable with the rhythm and inflections of your writing. Make sure that you are thinking about where and when you can make eye contact with your audience to underscore your points and add emphasis to important parts of your presentation. Particularly with a written presentation, you can add visual cues to remind you when to look up or emphasize certain points.

4.7.7 Memorized Speaking

When a presenter memorizes a presentation, it is basically a manuscript speech minus the paper. Memorizing can improve eye contact with an audience. Body language may also improve because the speaker has more freedom to move about the area, since papers/notes will not be used. A problem posed by memorizing arises when the presenter forgets the speech. This can cause an embarrassing, awkward situation and make the speaker appear inept. Plus, the speaker's tone tends to sound artificial and rehearsed. If you choose to memorize, you might want to have a sparse outline with you just to remind yourself of your talking points.

4.7.8 Extemporaneous Speaking

An extemporaneous speech (extemp speech) is delivered from a prepared outline or note cards. The outline and/or note cards include the main ideas and arguments of the presentation. The only information that is typically copied word for word is quotes. Outlines and note cards should be used for keeping the presentation organized and for reminding the presenter what information needs to be provided. Extemp speaking has many advantages compared to the other methods of delivery.

For one, an extemporaneous speech sounds spontaneous because the presenter is not reading word for word. Glancing at an outline or a note card that has key ideas listed allows the presenter to add detail and personality to the information being presented. Second, similar to memorized speaking, eye contact and body language can increase. The speaker's head is not down,

buried in a manuscript. Third, the speaker is able to take in audience feedback and respond to it as it occurs. An audience tends to change moment by moment, and a good speaker can tell when more or less detail is needed for different parts of the presentation.

In order to ensure an extemporaneous speech's strength, it is important to practice presenting with the outline or note cards being used. Inexperienced speakers tend to worry that they will forget important information if they do not write it out on their outline/note card. Practicing your speech, even if it is just to your pet or mirror, will help increase your confidence level in both delivery and knowledge of the subject.

Leaving the audience with a bang is necessary in order to ensure a lasting impression. Remember, the last thing presented tends to be what the audience remembers the best. The ending of a speech can be as important as the beginning and body. The conclusion should do what the introduction did, except in reverse.

4.7.9 Ways of Ending a Speech

After completing the presentation, the presenter should summarize the main points again without repeating verbatim what was said in the introduction. After that, you want to “Wow” your audience again with one of the techniques for introducing your speech. This can include: a quotation, a startling statistic, a personal experience, a joke, or a formal closure. Particularly if you are presenting persuasive information, you may want to end your speech with a call to action. What are you asking of your audience? What can they do after listening to your speech? Finally, asking for questions is a good way to minimize any confusion that the audience might have or bring to light any relevant connections you may have overlooked.

Thank Your Audience

While this is one of the most important things to do at the end of a presentation, it is also one of the most forgotten things. Remember that the audience has given up their time to listen to you. They could have been anywhere else in the world doing anything they wanted to do, but they were there with you. You should appreciate that. An example of thanking your audience could look like this:

Ending with a thank-you.

“That is all I have for today. I appreciate you giving me your time. Thank you very much and have a great day.”

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4.8 Audience Interaction

Tur Nastiti and Nurul Indarti

4.8.1 Introduction

Communication is generally defined as a process to transfer meaning between senders and receivers in a purpose to develop a common understanding. Accordingly, messages in an effective presentation should be clear, complete, correct, save the audience's time, and build goodwill. By fulfilling those five criteria, benefits of communication will be resulted, such as save time, make efforts more effective, increase efficiency, improve quality, and build a strong goodwill.

The communication process is divided into two general phases of transmission and feedback (Jones & George, 2014). Within this process, some these listed roles are taken:

- **Sender** – person wishing to share information with some other person
- **Message** – what information to communicate
- **Encoding** – sender translates the message into symbols or language
- **Noise** – refers to anything that hampers any stage of the communication process
- **Receiver** – person or group for which the message is intended
- **Medium** – pathway through which an encoded message is transmitted to a receiver
- **Decoding** - critical point where the receiver interprets and tries to make sense of the message

Audience, referred also as receivers, is the centre of communication. Thus, an effective communication should be conducted with an audience-centered principle. Audience-centered communication is a type of communication where a sender analyzes the audience to determine the content, language usage, and listener expectations. It allows effective communication because the speaker can tailor messages to the needs of the listener.

Audience-centered communication is applied by taking principles of you-attitude, positive emphasis, and audience's benefit. You-attitude communication looks at things from the audience's point of view. It respects the audience's intelligence, protects the audience's ego, and emphasizes what the audience wants to know. Sender creates you-attitude communication by talking about the audience, referring to the audience's request or order specifically, avoiding feeling based sentences except to offer congratulation and sympathy, using 'you' more than 'I' in positive situation, and avoiding 'you' in negative situations.

Positive emphasis communication focuses more on positive side of a message. A note is taken that negative emphasis is important to build credibility when giving bad news and helps people to take a problem seriously. However, in a general context communication, a sender should be more focus to avoid negative words, focus on what the audience can do, justify a negative—give a reason or link it to the audience benefit, omit unimportant negatives, and put the negative in the middle and present it compactly.

Audience who benefits from the communication will improve both the attitudes and their behaviors. They make people view a sender more positively; they make it easier for a sender to accomplish the goals. A sender needs to first, identify feelings, fears, and needs that may motivate the audience. Different audience may need to stress different benefits. Secondly, match the benefit of communication message to the audience's expectations.

The discussion of you-attitude, positive emphasis, and audience benefit in audience-centered communication has taken the application of audience interaction as an essential method to deliver the message. This sub-module will explain strategies to build audience interaction. The discussion starts by discussing communication strategy and communication principle of PAIBOC. Then, as a sender, the person should understand various types of sender. Furthermore, practical strategies can relate to get to know your audience, understand the audience's power, segment the audience, present clearly and concisely, define how you will change the audience, find common ground, develop persuasive content, use storytelling principle, deliver your presentation authentically, and measure of presentation's impact will be elaborated. A special context in presentation, as a media of communication, will be emphasized.

4.8.2 Communication Strategy

The strategic communication planning can be complex or simple, but a presenter should approach it with a clear defined method. The communication strategy framework as shown in the figure below illustrates an approach to establishing a communication strategy that will help presenter to consider all of the angles and anticipate any issues that might emerge to interfere with communicating the message we want to deliver. Furthermore, a presenter needs to consider each of the components in the framework: the purpose, messages, media/forum, audiences, feedback, timing, and communication. All of these components should be aligned to pursue an effective communication.

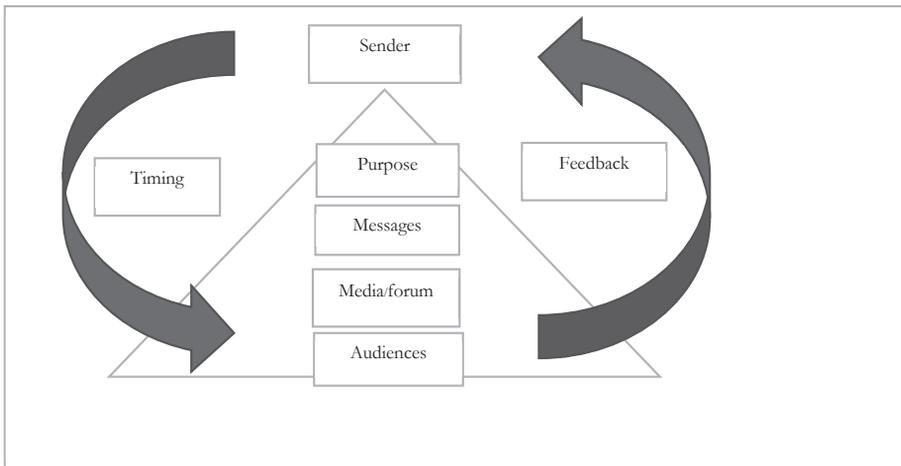


Figure 4.8.1. Communication Strategy Framework

4.8.3 Communication Principle of PAIBOC

The PAIBOC offers acronym for the questions a presenter needs to answer before a presenter begin composing the message. The PAIBOC questions help a presenter to analyze communication context:

- P** What is your purpose in writing or presenting?
- A** Who is (are) your audience? How do members of your audience differ? What characteristics are relevant to this particular message?
- I** What information must your message include?
- B** What reasons or audience benefits can you use to support your position?
- O** What objections can you expect your audience(s) to have? What negative elements of your message must you deemphasize or overcome?
- C** How will the context affect reader response? Think about your relationship to the audience, morale in the organization, the economy, the time of year, and any special circumstances.

4.8.4 Types of Sender

As a person wishing to share information with some other person, a sender also needs to consider their communication type. Beforehand, a sender needs to have logos, ethos, and pathos:

- **Logos:** Appeal based in logic. A sender should be able to explain causes and effects of the information. This ability will help the sender to reconstruct information in various aspects, explain the relationships, and provide a logic thought underlining any taken decisions.
- **Ethos:** Appeal based on credibility. It is all about trustworthiness. A sender should be known as a powerful person in the context. That power may relate to his/her position, expertise, rewards decision, and punishment ultimatum.
- **Pathos:** Appeal to emotions. A sender should have emotional intelligence that takes them in thinking emphatically by standing in

the audience's point of view. Emotional intelligence consists of ability in self-awareness and audience's awareness. Practically, the sender should be skillful to explain how do I feel, what do they feel, and what do they need me to do?

Furthermore, a sender's style of communication is categorized into:

- Visionary sender: move people towards shared goals and dreams. It is appropriate when changes require a new vision or a new direction is needed. They communicate using inspiring conversations.
- Coaching sender: connects a person's wants with the organization's goals. It is appropriate to help an employee to improve performance by building long-term capabilities. Most communication will be based on development.
- Affiliative sender: creates harmony by connecting people to each other. It is appropriate to heal rifts in a team, motivate during stressful times, or strengthen connections. High context communication based on emotional understanding is mostly preferable.
- Democratic sender: value people's input and get commitment through participation. It is appropriate to build buy-in or consensus, or to get valuable input from audience. Low context communication based on measurable contribution will be commonly applied.
- Pacesetter sender: meets challenging and exciting goals. It is appropriate to get high-quality results from a motivated and competent team. Motivating communication based on several constructed stages will be more preferred.
- Commanding sender: soothes fears by giving clear direction in an emergency. It is appropriate in a crisis, to kick-start a turn-around, or problem employees. Directive communication is a must.

An emerging communication style is being a transformational sender. As a transformational sender, s/he emphasizes new possibilities, promotes a compelling vision, and connects with others individually and in groups. There are 4 components to transformational leadership, sometimes referred to as the 4 I's:

- **Idealized Influence (II)** - the leader serves as an ideal role model for followers; the leader “walks the talk,” and is admired for this.
- **Inspirational Motivation (IM)** - Transformational leaders have the ability to inspire and motivate followers. Combined, these first two I’s are what constitute the transformational leader’s charisma.
- **Individualized Consideration (IC)** - Transformational leaders demonstrate genuine concern for the needs and feelings of followers. This personal attention to each follower is the key element in bringing out the followers very best efforts.
- **Intellectual Stimulation (IS)** - the leader challenges followers to be innovative and creative. A common misunderstanding is that transformational leaders are “soft,” but the truth is that they constantly challenge followers to higher levels of performance.

Transformational leaders depend on the following when communicating with internal audience:

- Authenticity and credibility (a positive ethos)
- Emotional intelligence
- Mentoring and coaching abilities

A sender should assess his/her communication style. An understanding of owned style is beneficial to strengthen benefits, minimize disadvantages, and measure limitation. A sender will realize in which communication context s/he will be excellent and oppositely, assign another sender for unsuitable context. A sender will also notice room for improvement in his/her communication style and may take training or any exercise to fill the gap of capabilities. We are not the best sender in all of communication context. By realizing the limitation, we choose the best-suited context and take improvement activities to be a better communicator.

Previous discussion have discussed general concept of audience-based interaction in communication. The definition of communication, audience-centered, communication strategy, and PAIBOC principles have been defined. Further discussion will focus more on practical strategies of audience interaction. It includes topics to get to know your audience, understand the audience’s power, segment the audience, present clearly and concisely, define

how you will change the audience, find common ground, develop persuasive content, use storytelling principle, deliver your presentation authentically, and measure presentation's impact will be elaborated. A special context in presentation, as a media of communication, will be emphasized.

4.8.5 Audience Interaction

4.8.5.1 Get to Know Your Audience

Designing a presentation without an audience in mind is like writing a love letter and addressing it "to whom it may concern."

Ken Haemer, Presentation Research Manager, AT&T

Audience are those listening to the presentation and becoming a hero to apply the message. They are not standing in line; they are in 'the same room' with the presenter and demanding to be fulfilled. Thus, a presentation should be prepared seriously. It should be audience-centered, unless no audience is interested in it.

If I am to speak for ten minutes, I need a week for preparation; if fifteen minutes, three days; if half an hour, two days; if an hour, I am ready now.

Woodrow T. Wilson

A message may have five separated audiences:

- **Primary audience** will decide whether to accept your recommendations or will act on the basis of your message.
- **Secondary audience** may be asked to comment on your message or to implement your ideas after they have been accepted.
- **Initial audience** receives the message first and routes it to other audiences.
- **Gatekeeper** has the power to stop your message before it gets to the primary audience.
- **Watchdog audience** pays close attention to the transaction between you and the primary audience and may base future actions on its evaluation of your message.

A presenter needs to analyse individuals and members of group to know the

knowledge level, demographic factors, personality, values, beliefs, and finally their expectation as receivers of the presentation activity. Accordingly, understanding in the context of presentation, such as culture and climate in organizational scope, as well as politics, economics, social, technology, environmental, and legal in boarder scope are also essential.

4.8.5.2 Understand the Audience's Power

When a presenter walks into a room, it is easy to feel if s/he is in a position of power. S/he is up front, perhaps even elevated on a stage, and people come to hear the speech. In reality, though, the presenter is not the star of the show. The audience is the real star.

Why? The people addressing will determine whether the ideas spread or die, simply by embracing or rejecting it. The presenter needs them more than they need the presenter. Since they have that control, it is crucial to be humble in the approach. Use their desire and goals as a filter for everything you present.

Though presentations and audience vary, one important fact remain constant: The people in the presentation come to see what a presenter can do for them, not what they must do for the presenter. So, look at the audience as the 'hero' of the idea and the presenter as the mentor who helps people see themselves in that role so they will want to get behind the idea and propel it forward.

Thus, a presenter should:

- Give the hero a special gift. Give audience insights that will improve their lives.
- Teach the hero to use a magical tool. Let them pick something that enables them to reach their objectives from the presenter.
- Help the hero get unstuck. Give them ideas or solutions that gets the audience out of a difficult or painful situation.

Again, you are the mentor, and the audience are your HERO.

4.8.5.3 Segment the Audience

Be an authentic speaker by bonding with the audience through interactions. However, creating the bond is not easy. It should be conducted by taking sequential steps:

1. Think using mentor and hero relationship. The power is in the audience's hands.
2. Be passionate about the topics.
3. Be open with the audience.
4. Be connected with the audience.

All of those sequential activities are only effectively conducted under the willingness to know the audience. Audience is not homogeneous. They are segmented and fragmented. They have different demands and expectations. They usually include a mix of individuals in diverse roles with various levels of decision-making authority, from different parts of organizations and each needing to hear the message from different reason. Decide which subgroup is the most important to the presenter. Segmentation can be, but not limited, to:

- Politics: power, influence, decision process
- Demographic: age, education, ethnicity, gender, and geography
- Psychographics: personality, values, attitudes, interest, communities, and lifestyles
- Firmographics: number of employees, revenue, size, industry, number of locations, location of headquarters
- Ethnographic: social and cultural needs

After you have segmented the group, figure out which members will have greatest impact on the adoption of the idea. Pick the one type as the most influence one and focus your presentation materials to fulfil their demands.

Change the way you persuade (Williams & Miller, 2002) notes that one-fits-for-all is no longer an effective strategy on communication. A sender has to segment audience based on their decision-making styles and use different persuasion strategies accordingly. Five decision-making styles are charismatics, thinkers, skeptic, follower, and controller.

4.8.5.4 Present Clearly and Concisely

Some of the audience are senior executives. Senior executives are a tough segment to reach. They are busy and have very little time in their schedules. Though that is true of audience, what sets this crowd apart is that they need to make huge decisions based on accurate information delivered quickly.

Use these following strategies when presenting to an audience of senior executives. Do everything a presenter can to make their decision making easier and more efficient:

- Get to the point. Take less time than you are allocated. High-level findings, recommendations, conclusions, and call to action are necessary coming in front. Hit those points clearly and simply before a presenter move into supporting data.
- Give them what they asked for. Just stay on the topic. They invite you as a presenter because they felt you could supply a missing piece of information, so answer that specific request quickly.
- Set expectations. At the beginning, explain the outlines and expected duration of the presentation. It will help them set expectation of outcomes and time duration.
- Rehearse. Before presenting, run slides by someone who has success getting ideas adopted at the executive level and who will serve as an honest coach.

4.8.5.5 Define How You Will Change the Audience

When a sender presents, the sender is asking the people in the room to change their behaviour or beliefs in some way, big or small. Thus, a big idea of the presentation is urgently needed within the preparation. A big idea of a presentation is information with two components:

- Presenter's point of view. It is information answering why the need for the presentation. It expresses presenter's perspective on the presented subject.
- What is at stake? The presenter also wants to convey what the audience should care about from the presenter's perspectives.

After thinking of the big idea of the presentation, then ask these following questions to the presenter:

- What are the audience beliefs?
- What new belief does the presenter want them to adopt?
- How do the presenter want them to behave differently?
- How must their attitudes or emotions change before their behaviour change?

By thinking of what the audience think before entering the room and who the presenter wants them to be when they leave, the presenter has defined the transformation process. It is the focus of defining how the presenter will change the audience. By thinking so, the presenter will consider the presentation flow, content of the information, purpose, and also the media communication needed to strengthen the presentation. Once the presenter understands the audience, the presenter can demonstrate empathy for the sacrifices the audience may need to move the idea forward.

4.8.5.6 Find Common Ground

Finding common ground is a task to start having an effective communication. Liking is a principle in persuasion technique. People like those like them, who like them. To influence people, win friends through finding similarity and giving praise. Create early bonds with new peers, bosses, and direct reports by informally discover common interest and common understanding. The sender will establish goodwill and trustworthiness. Furthermore, make positive remarks about others. The sender should generate a more willing compliance. Thus, finding common ground makes the sender resonates accordingly with the audience.

All this may sound highly unscientific and touchy-feely, but a presenter can find audience's resonant frequency by doing a little research. The presenter needs to examine:

- Shared experiences. What from your past do you have in common? Do you share memories, historical events, and interests?
- Common goals. Where are you all headed in the future? What types of outcomes are mutually desired?
- Qualifications. Why are you uniquely qualified to be the audience's guiding expert? What did you learn when you faced similar challenges of your own, and how will your audience benefit from that insight?

4.8.5.7 Develop Persuasive Content

Are ideas born interesting or made interesting?

Chip and Dan Heath, Authors of Switch: How to Change Things When Change is Hard.

A persuasive content is a must to persuade audience to achieve common

understanding into sender's purpose as communicated in the message. After defining the big idea, several additional activities should be taken as follows:

1. Generate content to support big idea. Brainstorming is a technique can be conducted to elaborate factors as supported contents of the presentation.
2. Anticipate resistance. Each person has different perception and thoughts on a topic. Thus, resistance commonly happens and needs to be anticipated. Think creatively of logical, emotional, and practical resistances of the audience.
3. Amplify the message through contrast. People are naturally drawn to contrast because life is filled with it.
4. Build an effective call to action. Call to action is an information emphasising things that should be conducted after listening to the presentation.
5. Organize your thought. Presentation needs a structure. It should be logical and interesting through the slides shown.
6. Balance analytical and emotional appeal. Presentation is dealing with technical preparation as well as people's minds and hearts.
7. Lose the jargon. Be clear and easily understood. Minimize buzzwords within a general presentation.
8. Craft sound bites. Repeat phrases during the presentation.

4.8.5.8 Use Storytelling Principle

Apply storytelling principles in the presentation. Stories have the power to win customers, align colleagues, and motivate employees. They are the most compelling platform we have for managing imagination. Those who master this art form can gain great influence and enduring legacy. The application of story telling may include several principles as listed:

- Create a solid structure. There should be a beginning, middle, and end. Within each stage, there will be: what is information and what could be information.
- Craft the beginning. After explaining the condition, a presenter needs to explain the gap to achieve what could be conditioned. The gap creates tension that needs to be resolved.

- Develop the middle. Explain actions needed.
- Make the ending powerful. Use the principle of call to action and new bliss.
- Add emotional texture. Personal story coming from presenter is interesting to bind the message.
- Create something they will always remember (STAR). Be creative to pin point memorable factors of the presentation.

After analysing the audience, preparing the message, and planning the story, this is a moment to deliver the presentation. Activities as listed are necessary:

- Rehearse material well. Get honest feedback from a skilled presenter is beneficial. Meanwhile, rehearse a few times in the slide-show mode is necessary.
- Know the venue and schedule. Be on time.
- Anticipate technology glitches.
- Manage your stage fright. If necessary, take the power of toilet strategy. Quite your mind and find a silent room to manage nervousness before conducting the presentation.
- Set the right tone for your talk.
- Be yourself. Let the audience find the beauty of consistency among the message and gestures of the presenter.
- Communicate with your body and your voice. Let the body movements and voice release energy to motivate audience in a march of transformation.
- Make stories come to life. Let personal stories bound any materials of the presentation.

4.8.5.9 Measure Presentation's Impact

A presentation is a measurable activity. After making preparation and delivering the content, a presenter is dealing with presentation impact. Follow-up activities might be delivered through shaking hand and presenting name card for further connection. Besides, a presenter may also use social media to build further relationship.

Social media channels give the audience a lot of control over the public relation of a presentation. People can broadcast bits of the content to their followers. A presenter may have 30 direct audience, hundreds and perhaps more connected through social media.

A communication using social media before, during, and after presentation is constructive when it:

- Enriches the content of presentation
- Connects people in the room
- Allows people who are not attended to be connected
- Increases the reach to more people

Take away notes:

1. Communication as a process to develop understanding between sender and receiver needs strategy. Use the best strategy to create effective and persuasive communication.
2. Recognize your own characteristics as a sender of a communication. Are you a good sender for the message?
3. Interaction between sender and audience will smoothen process to transmit and response communication content. Build a good interaction with the audience to have a persuasive presentation.

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5. Module 5: Evaluating Research Outputs and Researchers, and Non-academic Impact

John Hudson, University of Bath, United Kingdom

Rosmini Omar, Universiti Teknologi Malaysia

Suzilawati Kamaruddin, Universiti Teknologi Malaysia

Maiizatulaidawati M.Husin, Universiti Teknologi Malaysia

Nor Aizha Mohd Zamil, Universiti Teknologi Malaysia

5.1 Introduction

Rosmini Omar

As the knowledge society of the 21st century endorses research as pivotal in maximizing institutional, cultural and societal wealth, more attention is focused toward research inputs, its processes as well as its outputs. In addition, the outlook becomes more encompassing as funding agencies, governments and the public scrutinize how researchers translate their research results into impacts to relevant stakeholders. Such a development raises commitment among researchers as well as policy makers to identify how best should we evaluate the performance of researchers, their outputs and impacts. Should measurements be contextual in its formulation and form due to the disparate disciplinary demographics? Could we develop inclusively common distinctions as what is generally and scholarly acceptable as the impact?

In responding to such issues of research evaluation, development towards measuring quality research performance matures from the Leiden Manifesto into Research Assessment Exercise (RAE) and Research Excellence Framework (REF) in Europe, and among the latest, Research Impact Assessment (RIA). While RAE and REF focus on European researchers and institutions, RIA (Adam et.al, 2018) spreads its tools to various regions including Australia, Canada, United States, Europe and several countries in Asia such as Iran (Yazdizadeh et.al, 2016) and Qatar (Grant et.al, 2013).

Nonetheless, a specific sub-region that has been left obscured, beyond the microscope of research evaluation is South East Asia (SEA). Most countries in SEA are fostering research and innovation for the purpose of economic growth, innovation and sustainable development. Governments of these countries may also crave for blue-skies research. Yet due to limited budget and pressing priorities, their focus is more honed toward solutions for the real-world issues such as flood controls, anti-corruption policies and framework, cultural and heritage preservation, water and energy usage or entrepreneurial-based innovation. In a transformational manner, governments provide fund for universities' researchers to focus not only in generating academic publications for the grants they received, but also contributing to the progress of culture, socio-economic enhancement, and

environmental sustainability. Hence, there is a critical need to design and implement trainings for developing a critical mass of researchers who is empowered to perform research in tandem with the needs of SEA.

Adding to the spectrum of contemporary assessment for research, the REPESEA project, co-funded by Erasmus+, under the Capacity Building for Higher Education objectively produces this module for evaluating researchers and research input. This module is designed to create awareness on four critical measures for a scholarly research work, namely research 1) environment, 2) agenda, 3) outputs and 4) impact. By the end of the module, we hope researchers will be able to:

- understand the importance of having the right research environment that support research performance
- familiarize with the right research agenda that promote the right research culture
- be aware of how to evaluate a journal publication and other publications.
- judge the quality of a journal so they can best place their own research.
- determine the quality of other people's work and the quality of a department. This can be important in judging which departments to work in.
- aware of how to formulate a paper so as to maximize academic impact.
- develop a ranking of publications which can suit individual countries.
- understand the importance of non-academic impact and know how to achieve non-academic impact.

Based on its contents, this module is designed for research administrators, academic researchers and doctoral students. Hence, the methodology for the training should include interactive workshops with some lectures and discussion reflecting success stories and best practices. Among the generic and transferable skills expected from this module is that learners could later develop initiatives to be champions in their institutions by creating or supporting a positive environment and culture for research. They should

also have the ability to prepare, plan and execute research that demonstrate impacts to specific stakeholders, while knowing how to position and disseminate their research in quality journals, conferences and the modern media. The succeeding sections in this module discuss the phases of research starting with the environment, agenda, output of research and its impacts.

5.2 Establishing a Positive Research Environment and Research Infrastructure

Rosmini Omar and Suzilawati Kamaruddin

5.2.1 Introduction

This chapter first offers a general insight on how to generate a positive institutional environment for researchers to set the right passion, capacity and performance in pursuing quality output from their studies. In setting the right tone in the ecosystem, we then, discusses examples of specific settings that promote and instil the right research culture for researchers of public and private universities. In the UK example, the government draws four initiatives in promoting the right research culture, namely a mission differentiation between research and teaching based university; de-regulation of governance which fosters more autonomy for universities; criterion-referenced faculty recruitment and promotion systems which involve the use of one's ability, qualification and quality of performance in order to secure university employment and promotion; and mixed funding structure which uses block funding or special funding allocation and performance-based funding to encourage or motivate researchers. Meanwhile, mentoring junior researchers, institutional collaboration and networking, and instituting postgraduate and professional development programmes are strategies made under the institutional initiatives in promoting the right research culture. Lastly, this chapter also portrays the training on research from one of UK top university that uses the Research Development Program (RDF) framework, which is a major approach to researcher development that aims to develop world-class researchers and build a UK higher education research base.

What makes a research impactful? Some research measures focus more attention to the results and therefore, volume and quantity of publications, graduated doctoral students and consultancy projects/earnings become a major thrust for individual researchers. The ones who receive stressful impacts are those who least excel. Due to the concern among society toward ranking, audit and evaluation, researchers at times are liken to soldiers, and the less performing ones based on specific criteria would be qualified as

inferior and stumbled long into the “devil effect”(Thorndike, 1920). Others who saw such a ‘velcro effect’ (Coombs & Halladay, 2001) would struggle harder in crossing the chasm of ‘publish or perish’ and later may resort to insecurities, burnout and overly-competitive work behaviours. In some institutions, this also leads to staff exodus (Thorpe et.al, 2017) while others reported implications in sense of identity, traditional autonomy and collegiality due to distinctions in performance and status (Martin-Sardesai et.al, 2016).

Criticism on such an output perspective has precipitated a call for a more realistic outlook of incorporating the research input into measures of output and impact. To illustrate, a study done on research evaluation in Sweden depicts that leadership, communication and good administrative order have a more significant impact on the institutions and group of researchers in comparison to bibliometric data (Karlsson, 2017). This specific illustration strengthens the critical needs to measure precursors of research outputs and impacts. In REF, this is defined as Research Environment. An enhanced measure of an institutional research environment would alleviate the perceptions that academic professions are relentlessly subjected to measurement, criticism and rejection (Alveston et.al, 2017).

In Malaysia as well as ISRIA (International School of Research Assessment, 2018), this similar measure is constructed as ‘research process’ or ‘guidelines for an effective process of research assessment’. Combining the various research assessments leads us to the following list that makes up research environment:

- a. **Context analysis-** This can be assessed from both internal and external environments. The internal environment of an institution that consists of the leadership or support from top management, research strategy, staff and students, equality and diversity, research income, research centre’s support (Karlsson, 2017), infrastructure and facilities, collaboration and contribution to the discipline (Adam et.al, 2018) can become strengths or weaknesses. A strong leadership committed to research for instance, commonly develop a sense of direction toward international visibility, social value through good ethical practice and inspiring working climate (Schmidt & Graversen, 2017). When discussing the internal environment, Thorpe et.al (2017) suggest institutions to incorporate staff satisfaction survey to

know their level of feeling supported. Further focus group sessions could also be held to understand their needs in producing impact-driven research. Likewise, the external environment which universities could apply established frameworks such as PESTLE (political, economic, social, technology, legal and environmental) and STEEPLED (social, technological, economic, environmental, political, legal, ethical and demographic) in order to develop a crystal clear mission, vision and strategies for research. Researchers should be trained to be home-grown, encouraged to endeavour studies that benefit their contexts while the spill-overs could be relevant to larger contexts of the globe. For instance, various nation-states in SEA have yet to be within the league of countries that attain high transparency index and practice good governance.

- b. Clarity of Purpose for Research.** A clear mission and strategy for research at the university and department level should enlighten a sense of purpose in pursuing any case for research. At a time when funding organizations ask for impactful returns to specific stakeholders, researchers must be trained to identify their reasons to pursue any research. Adam et.al (2018) highlight four purposes of research assessment. It can be based on *advocacy*, that is when such panel of assessors evaluate the needs for studies in specific areas. Research could also be assessed from the standpoint of *accountability*. In this instance, researchers must be reminded that they must be responsible and accountable to the tax-payers, donors, sponsors or even crowd-funders who ask for social rate of returns or cost savings. The clarity of purpose that focuses on *allocation* could also play an important role in determining research performance. Is the research project able to provide returns from aspects of environment, socio-culture, technological advancement or political economy of such a specific context? REF process for instance draws these matters seriously in evaluating universities' research performance. Finally, it is crucial for novice and senior researchers to be able to do *analysis* on their individual studies' contribution and connectivity with other past, current and future work. Researchers need to be upgraded in their skills to plan for regional and international collaboration as well as to strategize for impacts.

- c. **Identification of Stakeholders and their Needs.** Research is not a personal indulgence. It is a well-informed action to produce something of a greater value for the individual researchers, collegiate, their institutions and the larger universe of other organizations and context. Hence, excellence in research at both institutional and individual level heavily depends on satisfying priority concerns of stakeholders. They can be funders, research participants, the beneficiaries and research users. Researchers need to engage them as early as possible and communicate development as well as results of the project before, during and after the studies completed (Adam et.al, 2018). With the growth of collaboration and *beyond boundaries* type of projects, it is pertinent for researchers to equip themselves with the right interpersonal skills and inter-cultural competence.
- d. **Stakeholders.** With the recent trends toward participatory and transparent design of research, we need stakeholders in advocating our research journey and being part of owning the solutions. We have to consider them even at the early stage of application process. The Mendelow Matrix opens a window for us to analyse our engagement with stakeholders on the bases of power or influence and interests. In the case of an Erasmus+ co-funding grant for instance, we must ensure flows of information about the projects' progress to be continuous and consistent as the agency has a high level of interests and influence on the project. For projects involving social impacts such as those concerning environment, cultural and heritage, it is crucial that researchers invite them before, during and after the studies in a participatory manner. In this way, they would feel owning the issues, processes for closing social gaps as well as developing the solutions.

5.2.2 Developing the Right Underlying Research Agenda

It is hard to give definition to “culture of research” to higher learning institutions. To sociologist, a **culture** consists of beliefs, behaviours, objects, and other characteristics common to the members of a particular group or society. In short, we can say that culture is a system of widely shared and strongly held value of a group or society. Through culture, people and

groups define themselves, conform to society's shared values, and contribute to society culture. If we want to relate a definition of culture from the eye of a sociologist to that of higher learning's culture of research, we can say that a culture of research for higher learning institution is a system that provides a supportive context in which research is uniformly expected, discussed, produced, and valued among all faculty members and students. In modern-day universities, reputation of a university is built on multiple factors which emphasize strongly on factors such as i) having quality research output, ii) outstanding teaching methodology, iii) having a state of the art infrastructure and iv. an exceptional student experience, when all these factors work together it will produce a rounded and highly employable graduates. Therefore, inculcating the right culture of research in any university is crucial.

More universities around the world are looking to develop culture of research in their institutions that tend to push academics to engage in research. This changes are not surprising as the increasingly competitive higher education marketplace has made faculty research production vital for success at institutional level and faculty advancement levels. Increase in research productivity is well connected to a favourable increase in university ranking. For faculty members, when it comes to promotion, their promotion will be based on how many citations they have and what is their *h* or *i* index look like. Clearly, whether we like it or not, having the right research culture is extremely important to push faculty members and students to keep doing research and publish their work.

In Malaysia for instance, the Ministry of higher education introduced MyRA: an acronym for the Malaysian Research Assessment Instrument in assessing the quality of research undertaken at every university in Malaysia. It is a comprehensive system developed to assess the research capacity and performance of all Higher Education Institutions (HEIs) in Malaysia. MyRA's first objective was to meet the Ministry of Higher Education (MoHE) agenda of identifying 5 universities in Malaysia for the Malaysian Research University (MRU) status. Today, in the National Higher Education Strategic Plan (PSPTN) 2007-2020, the MRU agenda is well enshrined which is to elevate the standing of public HEIs to attain world-class status and to create differentiated higher education scenarios to meet the socio-economic aspirations of the country while being cognizant of the limited resources

available to pursue such goals. To move forward, all HEIs in the country were mandated to participate in the annual assessment exercise to coincide with the opening up of MoHE research grants to all universities (public or private) in the country. In its assessment, all participating HEIs are Document-audited and Site-audited by a panel of trained auditors. All public universities are required to self-access and submit Myra data to Department of Higher Education. MyRa is divided into nine sections (from A to I) as outlined below.

- i. **Section A** is General Information, where the university provides data related to (i) Number of Academic Staff and (ii) Total number of full time students.
- ii. **Section B** provides details on the aspects of Quantity & Quality of Researchers.
- iii. **Section C** details out the information on Quantity & Quality of Research.
- iv. **Section D** focuses on the Quantity of Postgraduates (Master & PhD by Research).
- v. **Section E** elaborates on the Quality of Postgraduates
- vi. **Section F** promotes Innovation & Intellectual Property.
- vii. **Section G** details out income generation activities through Professional Services and Gifts/Endowment.
- viii. **Section H** lists all the Networking and Linkages being successfully forged by the universities and CoEs.
- ix. **Section I** highlights all the Support Services available to the University.

Due to the importance of research in academia, more universities are being classified as Research University and Teaching University due to the believe that nations with strong research universities are more capable to compete internationally in terms of new knowledge and innovation. Therefore, university in the ASEAN countries need to inculcate the right research culture to promote research agenda for public and private university. In order to successfully create the right research culture, which ultimately will create more

productive faculty, it is important to understand what are the characteristics and requirements needed so that we could plan for the right resources, infrastructures, and strategies that make research prosper in universities.

5.2.3 Characteristics and Requirements of a Successful Research Culture

Creating a productive faculty member, that are so good in research, needs the synergy between all the three levels which are i) the institution; ii) leadership style; and iii) individual faculty member characteristics. It needs the synergy between all the three characteristics on each level to produce a high research productivity environment in a faculty/institution. Success at only one level is not sufficient to account for successful research productivity. Hence, universities should aspire to develop relevant characteristics at all three levels and are discuss as below.

5.2.3.1 Institutional Characteristics

At institutional level, various research found 15 characteristics for stimulating a successfully culture of research:

1. In recruiting and selecting of new staff, great effort is put together to make sure that the new member of the faculty has the training, goals, commitment, and socialization that match the institution;
2. Goals are clearly coordinated and shared among faculty members;
3. Research are equally emphasis and prioritise with other goals;
4. All members are bonded by research-related values and practices culture;
5. A positive group climate is crucial to assure that all faculty members have high morale, support of innovation, great work ethics, open to new ideas, and ease of interaction and cooperation with each other where even disagreement is discussed openly;
6. Mentor and mentee system - established scholars assisted and collaborated with beginning and mid-level faculty members;
7. Faculty members are actively communicating on their research with each other;

8. Faculty members have sufficient resources in terms of research funding, facilities, and research assistants;
9. Faculty members are given sufficient time to devote to their scholarly activities;
10. A diverse background of faculty members will offer a diverse approach to problems solving on academic and also administrative matters;
11. All members feel informed by a clear forms of communication;
12. Research is rewarded equitably and in accordance with defined benchmarks of achievement; potential rewards include money, promotion, recognition, and new responsibilities;
13. Continued growth and vitality opportunities are routinely and proactively offered to members to assure of their professional development;
14. Governance structures are flat and decentralized where participation of members is expected, and favourable governance features that encourage strategic vision, innovation and flexibility, which enable institutions to make decisions and manage resources without being encumbered by bureaucracy;
15. Assertive Participative Governance - Clear and common goals, assertive and participative leadership where active participation of members is expected, and effective feedback systems are utilized.

It is well known that all prestigious university in the world shared similar characteristics as discussed above. As a result, their research output are highly read and cited. With good publications from the faculty members, more distinguished professors around the world joined these universities and later produced a ground-breaking research. Most faculty members managed to secure large competitive research grants or funds and greatly disseminate and translate knowledge back to the industry, government and community members and organisations.

World's top universities are very selective in offering postgraduate students placement. They pooled only the very best, talented and committed students. These prestigious universities such as Yale, Harvard and Massachusetts

Institute of Technology, to name the few, are highly selective in order to ensure that admitted students are of a high standard. The acceptance rate at Harvard University and Yale University, is at large less than 8% of its total applicants. The same practice goes to Oxford and Cambridge University in UK where their acceptance rate is less than 20% of its total applicants. This suggests that talented students are central for successful research institutions to facilitate the performance of an innovative research with collaboration of their supervisors.

Successful research institutions around the world provide efficient research and learning environment to students and faculty members. Which include leading edge collections of books and other materials in its libraries, classrooms, seminar rooms, high-tech laboratories and superfast internet connections to communicate and access diverse and rich data. It is well known that the Bodleian Library at the University of Oxford, is UK's largest and most prestigious library. It holds more than 10 million volumes of library collections and grants more opportunity for accessing online databases and publications than any other UK universities. All these facilities are made possible because these top notch research institutions received huge percentage of their country's GDP for research and development (R&D) activities. Countries like United States, China, Japan, Germany, Republic of Korea and the UK allocated more than 10% of their GDP's for university's R&D.

5.2.3.2 Individual Characteristics

A faculty member who portrays certain characteristics below have proven to be productive as researcher that will contribute high impact research and publications. These characteristics are:

1. Sociable person who understands and respect the values, norms, expectations, and sanctions affecting established faculty;
2. Highly motivated in contributing to the society through innovation, discovery, and creative works;
3. Familiar with the research area that he/she involves in from numerous published works of the experts, the projects that being conducted by experts, different school of thoughts by experts in the area, key researchers in his/her area, and where to find the predominant funding sources related to his/her area.;

4. Have strong foundation in basic and advance research methodology;
5. Simultaneously engaged in several other research projects in case one project fail and could learn from it;
6. Always committed to both internal and external academic activities;
7. Still committed in assisting the faculty although with limited time in between fulfilling one's goals as successful academician;
8. Always established productive scholarly habits early on in one's career.

5.2.3.3 Leadership Characteristics

Last but not least, leaders at university play an important role to instil good research culture. Leadership, especially the participative leadership style is found as one of the most important style that could boost motivation among workers as concluded by prominent researcher in leadership. It is well known that if a group or team is led by an effective and good leader, most likely that the team as well as the organisation's goal and objectives will be met. Therefore, a dean who is a participative type leader will distribute responsibility among faculty members, empower group members, and aiding the group's decision-making process.

In summary, inculcating successful research culture is not a straightforward activity. it requires synergy at the institutional, individual and leadership level. Well planned policies and actions produce desirable outcomes that make some institutions and countries more prominent and successful in research than others.

5.2.4 Institutional Strategies in Establishing Research Culture

5.2.4.1 Mentoring early career researchers

Many universities used the mentor-mentee approach to assist junior researchers to widen their research knowledge and skills. This approach will facilitate early career academics to master the research skills required of them quicker. Most successful research university in the United States used this mentor-mentee approach as an essential component of a capacity-

building exercise. They urged other higher education institutions (HEIs) to include mentoring as an indispensable component of research activities.

5.2.4.2 Institutional collaboration and networking

Collaboration and networking is another strategy in the development of a research culture in HEIs. Collaborations and networking with other HEIs will make possible of various programs such as students mobility and staff exchange. Countries like Canada, Japan, Germany and Russia, to name the few, are increasingly integrating internationalisation by establishing Research Chairs and Postdoctoral Fellowships positions with a purpose of attracting senior researchers and excellent young researchers throughout the world. Sweden and the United States, on the other hand regard international collaborations and networking as an important strategy to link researchers from different disciplines to stimulate researchers intellectually and as an intermediary for external opportunities and grant funding.

5.2.4.3 Instituting postgraduate and professional development programmes

Instituting postgraduate and professional development programmes provide a conducive environment for members of academic staff and students to improve their research skills and later foster their confidence significantly in producing more high impact research. The following section presents an example of training at University and faculty level to sustain research culture at among UK University.

5.2.5 How did Universities in UK Train their Researchers?

All universities in UK, used Research Development Framework (RDF) in assisting academic staffs in research. This framework is made possible by the extensive research by *Vitae*, a non-profit research organisation in UK. The Researcher Development Framework is a professional development framework for planning, promoting and supporting the personal, professional and career development of researchers in Higher Education. The RDF has been created from empirical data, collected through interviewing researchers, to identify the characteristics of excellent researchers expressed in the RDF as ‘descriptors’. The descriptors are

structured in four domains covering the knowledge, behaviours and attributes of researchers. It sets out the wide-ranging knowledge, intellectual abilities, techniques and professional standards expected to do research, as well as the personal qualities, knowledge and skills to work with others and ensure the wider impact of research. Within each of the domains there are three sub-domains and associated descriptors. briefly below describe the four domains.

1. Domain A is on knowledge and intellectual abilities to do research.
2. Domain B describes personal effectiveness qualities and approach to be an effective researcher
3. Domain C defines the knowledge of the professional standards and requirements to do research
4. Domain D illustrates the knowledge and skills required to work with others to ensure the wider impact of research.

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5.3 Research Output

John Hudson and Nor Aizya Mohd. Zamil

5.3.1 Evaluation Research Output Based on Quality

For academics, research is part of ensuring the scholarly distinction. A research output is a particular dissemination, publication, presentation, communication or pathway in which research is made available to people other than the author (University Research Centre, University of Auckland, 2016).

Various methods are being used to measure the research output. It can be measured qualitatively or quantitatively. In general, the research output can be measured qualitatively through evaluation of expert. However, the evaluation seems very subjective as it may be influenced by conflicts of interest, disciplinary or local favouritism, insufficient competence in the research area, or superficial examination (Sahel, 2011). Thus, quantitative measurement can be used to enhance the credibility of expert evaluation. Amongst other, to measure the quality of the publication, various quantitative methods (i.e. bibliometrics) that are being used including journal impact factor, total number of citations, average number of citations per paper, average number of citations per author, average number of citations per year, the number of authors per paper, Hirsch's *b*-index, Egghe's *g*-index, and the contemporary *b*-index (Sahel, 2011). In a nutshell, sources of academic impact comprise of (1) the quality of the publishing outlet and (2) number of citation. The quality of the journal/publisher is important for both sources of academic impact. The knowledge on academic impact would assist trainee in judging the quality of the journal and it would be useful to administrator in designing reward system to the academic staff.

5.3.2 Evaluating Academic Impact

Journal ranking is a tool of research evaluation. It evaluates the academic journal's impact and quality. It is a quantitative method of evaluating the impact and quality of journal article. Bibliometric is a statistical tool that is commonly used to analyse citation. The most commonly used citation

metrics/indexes are impact factor and h-index. Journal ranking would reflect rank of journal within its field, the relative difficulty of being published in that journal, and the prestige associated with it.

The act of ranking journals is highly associated to number of citations. Number of citations refers to resources for compiling times cited counts. Each publisher would have their own citation metric where it will be used to measure the impact of a certain journal. Since it uses the citation to measure the impact, it is called citation based metric. Citation based metrics can be found in various databases such as Scopus, Web of Science and other databases. Factors that influence the citation-based metrics are:

- The size of the journal
- The type of articles it publishes
- The language of the journal, access to the journal articles (i.e. open or closed), and even the sub-discipline of the journal

Further, it reflects a contribution of each journal measured through its citation impact (Mahmoud, 1971). It started to be used in the academia from 1971 and it developed thereon. Current development witnessed an array of publishers that introduced citation based journal ranking.

The idea of having journal rankings enhances information to academics. By this, academics could learn that there is specific method used to create journal ranking. Later, we will discuss further on the characters of these rankings, possible pathways to create journal rankings for SEA academics and how to position our papers to get published. Journal rankings are also developed based on discipline. It is a way for researchers to build their forte and expertise in specific discipline.

5.3.3 Discounting by the Numbers of Authors

The trend in the authorship in academic journal evolved from two decades ago. It was centred to single-authored and move towards multi-authored paper (Hudson, 1996; Woods et al., 2010; Lozano, 2013). These authors highlighted that this trend occurs in various disciplines. The trends towards more than one author per published article were due to (1) changing patterns of funding; (2) the desire of researchers to increase their own popularity, visibility and recognition; (3) escalating demands for the rationalization of

scientific manpower; (4) the increase in more complex instrumentation; (5) increased specialization; (6) the demand for higher levels of scientific inquiry; (7) the growing professionalism in academia; (8) the need to gain experience or train apprentices; (9) the desire to cross-fertilize across disciplines; and (10) the need to work in close proximity with others in order to benefit from their skills and tacit knowledge (Katz and Martin, 1995). Woods et al., 2010) further discuss the reasons to be due to (1) increased emphasis on collaboration and collaboration across discipline, (2) researchers' desire to increase their own popularity, visibility and recognition, (3) increased specialisation and growing professionalism, (4) need to work in close proximity and the desire to train young scholars, (5) expectation from the administrator where it creates pressure to the scholars to publish more articles, and (6) research activities become more time-consuming and/or more difficult/complex work.

The trend of single-authored, co-authored and multi-authored highlights issues pertaining to how we should credit each author. This issue may raise the issue of how administrators should give credit to their work as well as it would connect with the reward system (Lozano, 2013)? In order to address this issue, various measures have been applied to address the existence of more than one author. Various authors develop index or formula to address the issue of multiple authorship. Batista et.al (2006) for instance identify individual h-index (hi) as dividing the raw h-index by the average number of authors of the papers in the raw h-core. On the other hand, Schreiber (2008) suggest counting papers in the h-core fractionally, dividing them by the number of authors, which then leads to “an effective number” that can be identified as the hm-index. In a more current work, Harzing, 2010) divide the number of citations by the number of authors (for each paper), then round that number down to the nearest whole number, and finally place the papers in order of citations per author. Harzing's work is also referred to as the individual h-index (hI), namely the number of papers (n) with $> n$ citations per author.

5.3.4 Ranking Publications, Books, Journal lists and Citations

This section focus on the methods which, Scopus for instance, uses to create journal rankings and how the individual academic should regards such rankings. One of the most meticulous subjective journal ranking exercises

was that undertaken by the Australian Research Council (ARC), which set out to rank thousands of journals in all, or at least virtually all, disciplines. This proved controversial and the ARC has since abandoned this attempt. Part of the problem lies in distinguishing between two journals which are actually very close together and saying this is a 4* and this is a 3*. In part to overcome this Hudson (2013) has produced a list of, e.g. 4* journals, probable 4* journals and possible 4* journals.

Fifty years ago, there were relatively few economics journals, or indeed journals in any discipline, and the discipline was not so wide that an economist might be able to be at least passingly familiar with all of it. To varying extents, this would have been true of other disciplines. This is no longer so, and when judgements of quality relating, e.g. to promotion or appointment, need to be made, some heuristic is useful. Journal rankings are one such heuristic and have become an important part of academic life, along with ranking individuals and departments. Thus an individual's or department's worth is largely determined by evaluating the quality of their best publications on the basis of where they were published. The underlying logic of this is that a paper in a 4* journal is much more likely to make an impact than one in a 2* journal. This is to varying extents true of many disciplines, although some have taken to journal rankings more than others.

Hence they are particularly useful in evaluating recent papers which will have garnered relatively few citations. However, for many in the professions, a paper is published may be more important than the number of citations even in the long-run. There are several lists which rank economics journals. Many of these are based on objective criteria. However, it is not so for the Keele list. It is a subjective list compiled by Tim Worrall, initially for the Economics Department at Keele University. In this respect it is just the views of a small group of people. But it is widely used in UK economics departments, suggesting it does both reflect and inform views on journal quality. In this analysis we explore the objective factors which underlie this list. One of the most meticulous subjective journal ranking exercises was that undertaken by the Australian Research Council (ARC), which is also used in some departments both in the UK and elsewhere, and we shall supplement the analysis of the Keele list by also analysing the ARC rankings. The Association of Business Schools (ABS) list also ranks many economics journals. Despite its business perspective, it too is used by many economics

departments. All of these rankings allocate journals into one of four tiers. There are also other lists, many of which are based more on metrics and considerable effort has been expended on deriving ‘the best metric’.

Hudson (2012) for instance, used the Keele database to construct another ranking based on more up to date data. Apart from current bibliometric measures such as the impact factor and Scimago’s SJR, Hudson (2012) included factors such as the subject orientation, the age of the journal and the extent to which it is focused on the economics discipline. These were the right hand side variables, with the left hand side being the Keele ranking. Apart from the ranking responding to the various metrics such as the SJR, it became apparent that theory journals had higher rankings than other journals, as did older journals. This emphasis on theory is consistent with a perception that in economics, ‘theory is king’. However, there is also evidence that this is beginning to change. Thus Fourcarde et al. (2015) argue that for much of the period since 1945, a theoretical approach based on rigorous mathematical modelling was the main path to establishing scientific purity in economics. However, in the 1990s and 2000s there occurred a shift in emphasis from theory to empirical work. Einav and Levin (2014) potentially link this shift to a substantial increase in data availability.

Taking the predicted values from this ordered probit regression we were able to produce rankings, based partly on metrics which reflect the economist’s values, but which remove some of the problems inherent in purely subjective lists such as the Keele list. We assumed that the ordinal ranking of such lists reflects a continuous measure of journal quality, with the categorisation being done on the basis of critical values dividing ‘excellent’ from ‘good’. Nonetheless, as with all such exercises this leaves open the possibility that journals which are actually very close on the continuous scale, are allocated to different tiers. This becomes particularly problematic when using ranked journal quality to assess the long term impact of individuals and their papers. Hence, we questioned whether a simple ordering of journals into different tiers is entirely appropriate. But equally we recognise the value of such tiers as a heuristic. Thus, we suggested ranking some journals ‘unambiguously’ into a tier. Others were viewed as ‘probably’ in a given tier or ‘possibly’ so. This implied that if one wants to evaluate a paper in a journal ranked in one of the two latter categories then it should best be looked at by the evaluator.

Many countries and universities have now gone down the route of producing lists of journals. In some cases, the list is virtually just two categories, acceptable and not acceptable. This is probably not good enough. To place the best local journal on an equal footing with the best journals in the world is not satisfactory. But equally, it is unrealistic to accept that many people in emerging university systems can publish in the world's top journals. When people do, they need to be particularly well rewarded, but also too when they publish in a second tier world journal or a leading local journal. Hence there needs to be a ranking of at least 1 to 3, and possibly more. And the local incentive structure needs to reward different types of publication differentially.

How then to produce such lists, which will differ between countries reflecting what are the best local journals? In economics and business this would be an easy task, by simply adapting lists such as the Association of Business Schools (ABS) or the list produced by Hudson (2013). But this is less easy for some other disciplines where a recognised hierarchy of journals is not so clear. One solution is to base this on metrics such as the Web of Science's impact factor. This, however, tends to base all citations as equal and is also open to abuse with poor journals linking in a citations ring to artificially boost citations of all the journals in the ring. An alternative is to use something like the Web of Sciences Eigenfactor score. The Eigen-factors core and 'article influence score', found on Thomson Reuter's ISI, are both based on the Page Rank (PR) iterative algorithm method developed by Brin and Page (1998), as is the SCImago Journal Rank (SCR) indicator. The Eigenfactor score is the sum of normalized citations received from other journals weighted by the influence of the citing journals (**Franceschet, 2010**). It will tend to be larger for bigger journals. The article influence measure corrects for this and divides the journal Eigenfactor score by the number of articles published by the journal. Other measures have also appeared such as the Source Normalized Impact per Paper (SNIP) which weights citations based on the total number of citations in a subject field. The impact of a single citation is given higher value in subject areas where citations are less likely and vice versa (Moed, 2010).

A further key factor is what to base citations on? Which index? There are three major contenders: Web of Science, Scopus and Google Scholar. In reality, Google Scholar is difficult to use in ranking journals. However,

journals can easily be ranked on the other two (Web of Science and Scopus). If however we are trying to rank a specific individual it is more difficult. We can only get an overview of an individual's publications on Google Scholar if they have chosen to create an identity.

Google Scholar may be suitable for those academics who have chosen to have such information shown. In any case it is often not that accurate and many people have papers included on their web page they did not write. Not because they are deliberately cheating but because it just happens. The Web of Science (WoS) can be difficult to use as it does not give information on a specific 'Jane Smith' but all Jane Smiths. It is possible to narrow the search criteria, but not straightforward. Hence the only alternative is Scopus. But this too can, on occasion contain information on papers "Jane Smith" did not write. And again Scopus is biased to Western, English Language journals. Hence, perhaps the best way is to ask each individual to rank their own papers using Google Scholar.

The number of authors on a paper has been growing substantially over the years. In the early 1950s single authored papers were very much the norm in economics. But slowly over time their number has grown (Hudson, 1996). Other papers followed showing that this was a trend common to many disciplines. In part this may be due to the increasingly complex nature of the different disciplines where different people can bring difficult skill sets to the research. But often it is a case that people have the same skill sets and find working with others profitable. In part too, it may be due to the increased ease of joint papers facilitated by IT, which allows people in different institutions to readily combine and also to understand the changes one author makes to a document. But not only has the number of authors been growing substantially over time, there are also very large differences between disciplines.

Box 5.3.1 Issues of Discounting by the number of authors

There are very wide differences between the medical sciences, sciences, social sciences and arts and humanities. Typically, the medical sciences have the largest number of authors followed by the sciences and social sciences a long way third. But the largest number of multiple authors appears in

physics. The mean is pulled up by some very large number of authors, the largest being 3269, for a paper on the Higgs boson. But there are large differences within these larger disciplines. Thus in geography the average number of authors was 4.4, compared to just 1.3 in the law. Economics and business lie within these two extremes.

Now clearly it is absurd to equate two authors as having equal impact when both have only a paper with 100 citations, but the one is solo authored and the other has 3000 authors. This suggests that we should discount for the number of authors on a paper when judging someone's impact. But explicitly we do not, if implicitly we do. The fact that there is no explicit discounting may be one reason people work together. In this situation, there is clearly a professional incentive for individuals to combine, despite the possibility that their combined publications may have less value than the sum of what each would produce on their own. If professional rewards tend to favour a lengthy curriculum vitae, then collaborative work may be undertaken under pressure for quantity rather than quality. The actual discount rate that the profession implicitly applies to a multi-authored paper as opposed to a single-authored paper is a subjective notion, and one that is difficult to quantify other than by asking what economists feel about certain papers and individuals.

Things to Ponder: What makes collaborative writing for a journal paper satisfying and effective? Think through your good and bad experiences especially in expecting and dealing with reviewers. Do you face it alone? Or your co-authors support you until the final success, namely publication?

The growth in the number of authors on a typical paper raises problems for the authors in how to order the names. In economics, the convention is that this is done alphabetically. In other disciplines, even agricultural economics, this is less common. In this case something else must dictate author order and in any cases this is likely to reflect the relative contributions to the paper. Still, one suspects too that if one of the authors is very senior and has a degree of power over the other authors, for example a head of department, it is they who are first regardless of contribution. There are advantages to being first. Thus if there are more than three, sometimes two authors, the paper will be referred to in the text and possibly in conversation as Smith et al., with Smith being the first author. There is evidence that promotion and appointments are based on first author contributions. In some cases, for

example China, only first authors get credit. Thus this is particularly problematic in economics where we have the position in the paper decided alphabetically. In economics there is a suggestion that this affects researcher's strategy, with individuals with initials at the end of the alphabet less likely to co-author at least with a large number of authors, because they will always be at the end.

But it does pose problems for people assessing others for the purpose of promotion or hiring. Could they or should they, give most weight to the first author? If so, how much? Or should they adopt the position that all four authors on a paper, for example, contribute equally. In some intuitions, this depends upon the number of authors. Given three authors, they can be happy to equate all equal weight. This may even be the case for four authors. But if say a paper has twelve authors, then this becomes more problematic.

Things to Ponder: Reflect on your own experiences in a multi-authored project. How well are you satisfied with your own contributions, and others?

5.3.5 Constructing Journal Lists for Specific Countries

The first thing that needs to be said is its probably best not to reinvent the wheel. If a journal list exists in a particular country which is government sanctioned, then producing an alternative list may well not be necessary. Nonetheless, even then such a list could be evaluated against the criteria below to see if it could be improved. The lists discussed above including the Economic Journal may not be suitable for many Asian universities, as well as many universities outside Western Europe, North America and Australasia. There are several problems. First, they are English language biased. The very best of local, non-English language journals are unlikely to be ranked anything more than a 1*, if that is so. Secondly, there is the further problem that if we base the ranking on a measure such as the eigenvalue then you are weighting publications by the quality of the journal they are cited in. Almost inevitably that means a North American or West European English language journal's advantage. Many citations for Korean academics, for example, are likely to be in Korean journals. Using the eigenvalue method right at the outset means that these citations are downgraded.

In developing a journal ranking for South East Asian (SEA) countries, we would like to suggest the following principle:

Principle 1: we would suggest basing the ranking on the simple impact factor for the journal, which weights all citations equally.

We illustrate the results for the category business finance based on the ISI Web of Knowledge. We chose this category as there were 98 journals, not that small but not too big to make presentation difficult.

The journals are ranked according to their journal impact factor (JIF). An alternative ranking is given by the Eigenfactor score and it is particularly useful in lifting *Revista de Contabilidad-Spanish accounting review* from 96 to 68th. Although one suspects that local journals still suffer from tending to be excluded from the ISI data. Note that the journals at the top of a ranking have been labelled H (High), and this smooths the transition from one ranking to another.

Principle 2: We would suggest that this list should form the core for all countries.

This is the second principal. Thus, a paper in *Geneva Risk and Insurance Review* is rated 2* in all these countries. Note 2* is the lowest ranking, as being part of the ISI WoS is an achievement in itself. The question remains on how to convert this core into a journal list usable for a specific country such as Malaysia, Thailand and Indonesia. Let us develop this from the context of Malaysia. Two initial questions need answering. How many Malaysian journals do we have to rank? Call this NML. Secondly how many non-Malaysian regional journals are there to rank? Call this NMR. These regional journals are the ones which Malaysian academics have published in, or are likely to publish in, and need a ranking. The task is now to produce a ranking for NML Malaysian journals and NMR regional ones. We would suggest that no regional nor national journal should be ranked 5*. This would put them on an equal footing with the best journals in the world and, despite the biases Asian journals suffer from, this is probably unrealistic. It is also likely to destroy ambition of being in these top journals. But it seems less unrealistic to categorise the best as 4* and others as 3* and so on.

In moving ahead, academics in each SEA nations, depending on their discipline could conduct brainstorming sessions and workshops to rank the journals. The more academics involved, the more we are able to reduce bias. In developing such lists, the academics must not forget the local lists of journals. It is pertinent that local journals have its priorities and positions as SEA academic communities develop the new rankings of journals.

5.3.6 Writing to Maximise Academic Impact

First of all, the paper must be good. It must be well written and say something new. In other words, there has to be some sense of originality and theoretical implications. The author and co-authors should be able to summarise in a couple of sentences what contribution your paper makes to the literature. What is its big idea(s)? Apart from that what constitutes a good paper varies from discipline to discipline. In economics and some related disciplines, for example, part of business studies this means the techniques it uses must be advanced, relevant and well implemented. For economics, for instance, two types of techniques are relevant: econometrics and game theory.

A piece of advice we would give to any young economist whilst doing their PhD is to become familiar with some advanced technique which they can apply in future work. Then every ten years or so, reinvest in updating that technique or finding a new one. For other disciplines, this approach may hold the same too. However, in sociology and politics technique in general is often not that important, but that said there are some very technically sophisticated pieces of work found in those journals.

It is well worth the time to go to the very best journal in your field and spend some days. It is very important to read through a paper, understand every word and being able to reproduce the work yourself. Then you will have a better idea of what is the format in your discipline. This may all sound a great deal of work and writing a top quality paper can easily take many months, perhaps even a year if data has to be collected. But in publishing in top journals, you are competing with the best in the world. It is not meant to be easy. Then choose a journal and make sure you follow their style in terms of headings, formatting of references, the abstract and diagrams. Your diagrams should be clear and self-explanatory. To illustrate, for Economics, if you have two curves of data over time, one which varies from 0 to 100 and one which varies from 0 to 5. Then, if you use the same scale, the second will show very little variation being confined to the bottom of the diagram. So, have them on separate scales. Always make sure that the diagrams are drawn to clarify your conceptual framework, and do not copy someone else's and paste it.

Hudson (2016) has analysed the data for REF2014 in terms of the titles of the journal papers submitted. Hudson argues that economics journal paper

titles tend to be relatively short, on average 64 characters and receive few citations. Economists tend to use colons less often than the rest of the social sciences. But this was more than the sciences. Similar comments apply to the use of question marks. Finally, they tend to use longer words than the social sciences and the arts but not as long as the sciences. However, some of the non-journal papers would have been working papers rather than books or book chapters, which would not have been ranked highly. Yet again, we come back to the most important element. Use clear, plain English in the abstract, the introduction and conclusion that you have contributed to the literature.

Rejections in the journey for publication should be taken positively and reflectively. Do not get discouraged of rejection. Referees can be wrong. Akerlof's lemons paper, one of the most cited papers in economics for which he ultimately received the Nobel Prize was rejected by several journals before being published in the *Quarterly Journal of Economics*. Firstly it was rejected by *The American Economic Review*, and then, *The Review of Economic Studies*. The explanation given was that 'the paper was trivial'.

The next rejection was from the *Journal of Political Economy*, which sent two referee reports, carefully arguing as to why the paper was incorrect. The most important point was that if this paper was correct, then economics would be different. Akerlof may have despaired, but he did not give up. He sent the paper off to the *Quarterly Journal of Economics*, where it was accepted and then went on to have a massive impact on economics. The different working patterns of academics as reflected in their journal titles is interesting, but are there any implications? The answer is yes.

We can see that in economics, for example, citations increase with the number of authors, increase with the use of a colon and decline with the title length. We may get similar results for other disciplines, and on occasion use of a question mark significantly reduces citations. Why should this be? The answer lies in the purpose of a title. It is there to both attract a reader's attention and to convey information. The longer a title is, the more difficult it is to absorb information, although intuitively the title can also be too short. The use of a colon helps split the title. The first part is to attract attention and the second is to provide information, thus achieving both the purposes of the title. The more authors in the paper, the more chances there are for self-citations, or publicizing the paper. Although it is not impossible

that paper quality increases with author numbers, at least to a certain extent it does.

This discussion should alert us to the need to think carefully about each and every aspect of a paper. We write to influence people. We should want to maximize that impact. Apart from considering the title, the following are also important. Key words, the context of the abstract will be picked up by Web search engines. The abstract should reiterate key words from the title, and use common phrases from your field to connect with other researchers interested in this topic. The abstract is where we sell the title. On search engines many people read the abstract but never download the paper. Use the abstract to sell your paper. There is research to suggest that more references will increase citations. Why? Because the people we cite will pick up on this. This will make them aware of our research, and they are in a similar field, and they may return the citation in their own work. Once the paper is published, continue to sell it. We can do this via social media, write a blog, write a newspaper article, television and radio interviews.

5.3.7 Evaluation of Research Performance through Altmetrics System

Altmetrics system is where a journal is rated based on scholarly references that is added to academic's social media site. Altmetrics can be viewed as alternatives to citation counts and indicators of non-scholarly or societal impacts (Thelwall, 2018). On the other hand, some have opinions and evidence which is based on research (example: Allgaier et.al, 2013; Priem et.al, 2010) that altmetrics may find its way to scholarly impact. This system provides data with speed and can be a useful strategy to navigate an academic's personal impact or branding in the eyes of practitioners, policy makers and the public. For instance, the Building Buzz Communicating Science in New Media Environments through its study found the link between scientists' public engagement and citation rates (Liang, 2014).

Among the advantages of Altmetrics are namely

- its capacity to accumulate faster compared to traditional citation counts.
- it can be expanded beyond books and articles to include software, videos, presentations, posters and more.

- it provides a broader measurement for impact of research which is something funders and university administrators are starting to note
- it can be used to augment traditional metrics

Despite the advantages, Altmetrics can be easily distorted or misinterpreted. Altmetrics are attention indicators that may not be measuring scholarly quality or impact. Some examples of Altmetrics are as follows:

- Discussion--Twitter, Facebook, blogs
- News--News outlets, newspapers, wire services
- Shares--Twitter, Facebook Views and downloads publisher website, repositories
- Ratings--Amazon.com, Speaker Deck Likes/dislikes--Youtube, Slideshare
- Holdings--Worldcat (number of libraries worldwide own a particular book)

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5.4 Research Impact

Maiẏaitulaidawati Md.Husin, Rosmini Omar and John Hudson

5.4.1 Measuring Impacts of Research

Scholarly impact will always be of most interest and importance to academics. However, we do not live in a vacuum from real world problems; problems to which the academic via their research can make a fundamental contribution in generating pragmatic solutions. In this manner, impact should be measured based on an ideal world and then outline the difficulties in doing this and suggest a practical alternative. This is done from the perspective of research done in the UK. It is probably fair to say that no study has provided a satisfactory monetarised estimate of the total impact of research funding at the aggregate level. Even at the simpler level of specific projects, such estimates tend to be lacking. We argue that Total Impact (TI) is the sum of all the net benefits attributable to the research converted into monetary terms *discounted over time and space*:

$$TI = \sum_{i=1}^I \sum_{t=0}^T \sum_{s=1}^S \alpha_{its} B_{its} d_{it} d_s \quad (1)$$

Research needs to be transformed into innovation. This include product, process or policy innovation and α_{its} is the proportion of the innovation which is attributable to the research. B_{its} are the net benefits of the innovation in impact i , period t and spatial location s . This relates to a single piece of research which has I different impacts⁵ such as revenue, jobs, health and the environment. d_{it} , the time discount factor which is assumed invariant over spatial location and between uses.

To a large extent, equation (1) is also consistent with much of the literature in the econometric tradition of evaluating research, apart from the concept of spatial discounting. S denotes the number of spatial locations. For UK research these could comprise (i) the UK, (ii) the EU, (iii) developing countries and (iv) non-EU developed countries. If one is interested in

⁵ I being the upper limit in the summation in (1), the sub-impacts thus combine in determining overall impact.

determining impact per se then there is arguably little justification for spatial discounting. But if one is seeking to determine the benefits, of the public funding of research of UK based institutions, it becomes more relevant.

If more than one firm is engaged on research, the net benefit of research needs to take cognisance of the fact that all firms incur research costs. These firms are then part of the counterfactual as discussed earlier. For example, in the pharmaceutical industry, it is sometimes the case that several firms are developing an identical drug and the successful one is the one that wins the patent race (Anand, 2011). In this case the only gains are to the researchers who hold the patent. If the rival researchers are in another country, then there will be GDP impact, but possibly not a health one for the researcher's country. Even if rival drugs are not being developed, close substitutes often exist and are being marketed⁶. The health impact then needs to be evaluated on the therapeutic advantage of the developed drug over the alternatives. Finally, there is a need to avoid double counting, when the social benefits are already partially included in the revenue benefits.

This ideal is impossible at this point in time and may never be possible. Thus in the REF, impact was established via impact case studies. It is essentially stories of impacts. In the sciences, they may involve a patented product leading to a new innovative product generating hundreds of millions of euros in revenue and hundreds of jobs. Establishing impact in the non-sciences is often more difficult. But there are examples of impacting on government policy and in the case of a history study, improving the visitor attraction of Hampton Court Palace in London as one of the UK's major tourist venues.

Over the last decade, the discussion of universities' research impact on society and the economy, extending beyond academia has gained importance. This can be seen as the research impact is evaluated in securing government funding for research projects especially within the university sector. The important of research impacts is real as it is required to be declared both when the researcher apply for research funding, in reporting on the use of funding. In some cases, the researcher also needs to provide details of the strategy for achieving impact. In Malaysia, the government invests around £3 billion annually in research, and requires funding applicants to demonstrate the contribution of their research to society and the economy.

6 For example in 2012 there were approximately 20 beta blockers on the market (Bloom, 2012).

When considering and measuring a research impact, it is important for researchers to understand the word “impact” itself. In general, ‘impact’ contains no normative assessment, yet many seem to be using it as a synonym for benefit. Impact is regarded differently by each community.

For academics, the word “impact”, is normally related with the research impact factor that is assigned to the journal in which the research report is published. Academic’s journal impact factor is computed based on the average number of citations that have been made to its recently published articles. The impact factor is an indicator of the importance of a journal whereby journal with higher impact factors are considered better and has ‘value’ compared to those with a lower impact factor.

In contrast to the academic perspective of research impact, practitioners hold a very different view. HEFCE (2011) defined impact as “an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia”. Australian Research Quality Framework (2006) on the other hand, defined impact as “to achieve social, economic, environmental and/or cultural outcomes. This is not to be confused with impact in the academic domain, which is seen more as an indicator of the intrinsic quality of the research on scholarly or academic measures” while Wolff (2010) described impact as, “making a demonstrable difference in a non-academic context”.

Research can have many different kinds of impacts depending on the discipline and the research organisation. In an attempt to assess research impact systematically, we will need to start to account for multiple impacts. To determine research impact, a new approach for evaluation is necessary. Adequately, analysis should be based on the direct and indirect interactions between researchers and stakeholders.

There is a number of qualitative and quantitative measurements adopted and are being developed. In some institutions, the use and impact of using social media are also evaluated. The emergence of evaluative systems, including the traditional mechanisms of bibliometric, data and peer review systems must remain fit-for-purpose and meaningful in the research ecosystem. We project a sample of impact assessment pathway for medical research as this discipline is one of the leading discipline in determining social impacts. Their processes of assessing studies could potentially

provide insights on how we develop steps toward evaluating social impacts on research. From the perspective of this module, impacts can be assessed in many dimensions including community and society, business and industry, policy maker, environment and also cultural and heritage. Figure 5.4.1 depicts these impact zones.

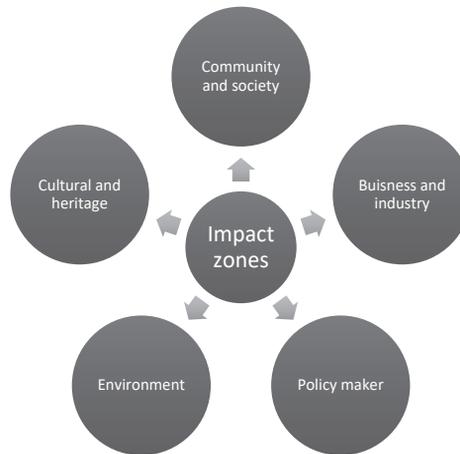


Figure 5.4.1. Impact Zones
Source: Authors' Depiction

Depending on when they occur, research impacts can range from immediate, to short and long-term. It can also be visible or invisible, progressive or regressive, and intended or unintended. Despite various efforts to measure impacts, one's may face challenges in determine the methodology in measuring impact. Among the methodologies are time lags, attribution and contribution, marginal differences, transaction costs, and unit of assessment (Adam et al., 2018).

5.4.1.1 Research Impact and Research-Intensive Universities

The Research Excellence Framework (REF), previously known as Research Assessment Exercise (RAE) is the UK's system for assessing the excellence of research in higher education institutions. The initial drive of the RAE, which was introduced in 2008 was to produce quality profiles for each submission of research activity made by institutions.

In an attempt to enhance the capacity of research impact, Universitas 21 (U21) was developed to lead the global network of research-intensive universities. Their main aim is to empower their members to share excellence, collaborate across borders and nurture global knowledge exchange. Founded in 1997 at the University of Melbourne with only 11 members' universities, it has grown to 26 members as of 2018. The members' universities are committed to promote the value of internationalisation and multinational collaboration through various means including research project.

U21 also initiate numerous programmes, activities and initiatives, which could not be delivered through a single university. By having collaboration with various universities, impactful research would further enhance the reputation of U21 members' universities.

To evaluate impact, thorough assessment was developed to measures how their members contributes to the parties beyond academia. Among the assessment units are summary of the impact, underpinning research, references to the research, details of the impact, and sources to validate the impact.

How U21 research could impact the societies, policies, industries and other parties? Measuring, documenting, disseminating and publishing research impact are among the keys to running excel research projects and contribute to other parties outside academia.

5.4.2 What is Social Impact Assessment?

The United Nation Public Administration Network (2006) as well as Rietbergen-McCracken and Narayan (1998) defines Social Impact Assessment (SIA) as advanced endeavors in evaluating implications of specific policy actions that impact society. This includes programs, projects, adoption of new policies and relatively actions taken by government. The focus is on developing interventions that is based on informed decisions involving a wide range of stakeholders whom are impacted by specific social issues.

Social impact assessment become critical for university researchers as being part of a society, they somehow involve themselves in projects and studies that reflect the ways specific under-studied community a) cope with life through their economy, social systems, and cultural values, b) use the natural

environment, for subsistence, recreation, spiritual activities, cultural activities, c) use environment for shelter, making livelihoods, industry, worship, recreation and gathering together, d) sustain and preserve social and cultural institutions, beliefs and community identity e) build art, music, dance, language arts, crafts, and other expressive aspects of culture f) develop the societal values and beliefs about appropriate ways to live, family and extra-family relationships, status relationships, means of expression, and other expressions of community and finally g) craft the aesthetic and cultural character that is acceptable as the societal ambience.

In assessing social impact, we could derive at some common concerns:

- a. Who are the stakeholders of the project/proposed action?
- b. Are project objectives consistent with their needs, interests and capacity?
- c. What social and cultural factors affect the ability of stakeholders to participate or benefit from the proposed policy or project?
- d. What will be the impact of the project or program on the various stakeholders, especially women and vulnerable groups?
- e. Are there plans to mitigate adverse impacts?
- f. What social risks might affect project or program success?
- g. What institutional arrangements are needed for participation and project delivery?
- h. Are there plans to build capacity at appropriate levels?

The above list of concerns need to be considered when we evaluate any social issues and intervention. We need to 1) characterize the existing state of aspects being studied, 2) forecast how they may change if a given action or alternative is implemented and 3) develop means of mitigating changes that are likely to be adverse from the point of view of an affected population.

The output could be any measurable results from an organization's activities, e.g., units of housing, number of people placed into employment, number of youth served, etc. The outcomes would be the specific changes in attitudes, behaviours, knowledge, skills, status, or level of functioning that result from enterprise activities, such as finding a job, avoiding getting sick,

or reducing emissions by a certain amount. Social Impact Assessment uses any of the tools of social science, program evaluation, or business practice to determine the social outputs, outcomes, or impact of an intervention, program, organization, or company. Many a times, these make use of workshop-based methods and participatory assessment methods.

There are several benefits for conducting Social Impact Assessment, namely:

- Identifying project/ programme stakeholders
- Identifying and prioritizing social issues associated with project
- Mitigating negative impact on communities or individuals
- Enhanced benefits to those affected
- Avoids delays and obstruction in gaining development approval
- Acts as a precautionary measure and avoids costly errors in the future
- Builds the trust and cooperation between community and stakeholders that is necessary for successful implementation of the project.

Process of Evaluating Social Impact

Based on the United Nation Public Administration Network (2006), Social Impact Assessment can be achieved if it is done in a systematic process. It concerns a series of activities in which the focus is to (i) inform and consider the key relevant social issues which we plan to formulate “*mitigative*” measures, and (ii) incorporate a strategy for participation of wide range of stakeholders. Social Assessment is an iterative process that has to be organized in a phased manner in several stages. Rietberg-McCracken and Narayan (1998) coined the needs to identify the project context encompassing issues of stakeholders, social factors and relevant communities in the public domain. Figure 5.4.2 provides an overview of the social assessment process featuring various phases of actions of the social assessment process.

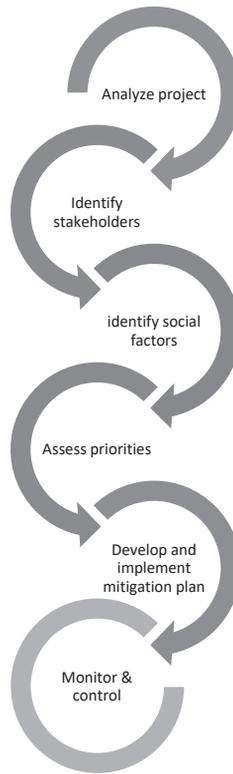


Figure 5.4.2. Social Impact Assessment Process

Adapted from: Rietbergen-McCracken, J. and Narayan, D. (1998):
Participation and Social
Assessment: Tools and Techniques, The World Bank, Washington DC.

The process of evaluating social impact is similar to the Environment Impact Assessment process. There are various steps which we need to perform any social impact assessment. However, in reality researchers somehow collapse some of the steps involved. The activities are overlapped as they were pursued in a sequentially continuous manner. Once we are clear about what is social impact assessment, why we do it and the processes involved, it is also imperative to know how to do it (UNPAN, 2006).

5.4.3 Some Social Dimensions that Motivate Social Impact Assessment

5.4.3.1 Impact on Community & Society

Society is increasingly looking to research for answers to help solve and prevent current and future challenges. Society's expectations of the impact of research are different for different disciplines. In order to analyse research impacts, it is useful to consider the different roles of research in community and society. Ones may relate research impact to society to the improvement in the 'quality of life'. Quality of life may enhance society's well-being, which includes but not limited to human understanding and world view, wealth and prosperity, basis for decision-making and also practice development.

Among the impacts of research on society are opportunity to generate knowledge and capacity to learn, and also ability to network and collaborate. However, different research field has different impact to the society. For example, the contribution and impact from technology disciplines will never give the same impact from the humanities and social sciences.

Prior to measuring the research impact, it is important to ensure that the society are aware of the impact of research and the potential it carries. In measuring quality of life. Most studies employ quantitative research methods whereby statistical processes is used from numerical evaluations conducted. Using qualitative methods in measuring quality of life is significant as it is dealing with people's insights, feelings, views, judgements and ideas regarding the research issues.

In Vienna, scientist from Medical University of Vienna has proposed a tool to rate the impact of research publications on society. The impact is calculated from the evaluation of research project, whereby ratings will be determine based on four main factors which are (1) the aim of the published research; (2) the extent to which authors attempt to translate their scientific findings into societal action; and (3) the level, status and target group of the research project's translation. However, the tool came with a few challenges including problems in computerize calculation and inherent subjectivity (Niederkröthaler et al., 2011). As different field provide different impact, evaluations of societal impact should also be varying between discipline.

Public engagement was a category of impact in the UK REF 2014 and we

draw on that in discussing it. The REF guidelines stated that evidence should be provided about dissemination, as well as a clear explanation about the significance or the benefits to audiences. The activity should go beyond 'business as usual' engagement or involvement (for example, there was active involvement of service users and/or the public, the activity informed the focus of the research or created widespread interest, was particularly innovative, or created legacy resources). Wherever possible, quantitative indicators should be included, for example if giving a public lecture how many attended.

Currently, not much is known on who devise the formulaic approach to measuring non-academic impact. As a matter of fact, there have been very few attempts to measure impact at all. The British REF looks at case studies of impact, effectively narratives of impact. An expert panel looks at these and evaluates the impact on a scale of 1 to 4. As we progress we would expect metrics to become more important. For example with public engagement, the number of 'reads', 'like' and 'tweets' can be presented. But some form of peer judgement is almost inevitably going to involve subjective peer evaluation. But in many respects it could be argued that this is not as subjective a factor as it could be in judging publications, which are often highly specialised. It is difficult even for an economist to be able to read and fully understand any single paper published in the discipline. It may be using econometric techniques they are not familiar or game theory they are not familiar with and it may be in development economics of monetary economics areas which they know little about.

Impact is more general and is often something that can be appreciated and valued by a non-expert. 'My work led to the start of a new firm which now employs 100 people', In most people's eyes that would be at least 3* impact and probably 4*. Whilst, 'I gave a 15 interview to my local radio station with an audience of 25,000 people' is hard, on its own, to value as more than 1*. Although, cumulatively 20 such interviews together with some for the national media could reasonably be ranked more.

So this raises the question how can an individual on their own personal web page judge the value of their impact? It may not be necessary to do so, just get academics to record the impact and let others judge its worth. But we will persevere with how to measure such impact. As we have said there is no metric, such as with a journal publication where one can put the journals

impact factor according to some measure and also some ranking. You could often see this on individual CVs, although less so on home pages. But you never, or at least almost never, see impact ranked. On many CVs or home pages you seldom see any measure of impact at all. Yet we believe it is important that impact is included; that academics are at least partially judged on their impact and that they themselves should start to give more thought to their non-academic impact than in years gone by. Our solution to this problem is original and in academia without precedent, although there are echoes of it in international management standards. The EFQM (European Foundation for Quality Management) model was created in 1998 by 14 of the biggest European firms. It is used to evaluate a firm's performance according to the development of their TQM (Total Quality Management) philosophy and system. It is based on self-evaluation and establishes a frame of reference which allows organisations to evaluate themselves based on specific criteria grouped (Heras-Saizarbitoria et al., 2011). Heras-Saizarbitoria et al. (2011) conclude that the using the EFQM model results in an improved view of the firm, improved internal efficiency and an improved decision-making process. It also influences leadership, motivation and internal communication. The firm also improved its planning and management capacity and employees' became more involved and had improved attitudes to work. Hence, although based on self-evaluation, it has produced tangible results and changed behavior. However, Heras-Saizarbitoria et al. (2011) also note that the problems experienced by organisations in using the EFQM model were related to their resources and the complexity of the model itself.

This suggests that one way forward to the problem of measuring individual's non-academic impact might be to place the task on the individual academic themselves. In order to help with this guidance can be provided, which we do later. But bearing in mind the problems noted in the use of EFQM model, these guidelines and directions should be kept as simple as possible whilst giving the necessary guidance. The question arises whether the individual academic or their department, faculty or university should do it. We believe the individual academic should do it for a number of reasons. Firstly, the academic knows the research and the impact better than anyone else. Secondly, getting them to do it raises in themselves the awareness of the importance of impact. Thirdly, there may be an element of bias or favouritism, if done by somebody other than the individual. You can easily see that if one person were to rank the whole department, they would tend

to come out high. Will there not be such bias when an individual judges their own impact? Of course, but there are constraints on this. The nature and extent of the impact, as noted before, will generally be of such that others can easily judge. To make claims which will substantially overstate the reality will open the academic up to ridicule both in their own institution and the wider academic community.

Hence the proposal is that the guidelines present a number of different headings for impact. Each individual can list the impact they have had under each heading. If they have had no such impact under that heading, then it can be omitted. There are a number of points they have to establish. Firstly, what is the contribution of the academic to the impact. Is it through a specific paper with that paper having had a profound impact on knowledge? For example, in the last REF 2014 Andrew Oswald is able to claim that his work on wellbeing was fundamental to the development of the subject, whose growth in popularity saw it influence government policies where they not only had to impact on GDP, but more specifically wellbeing. This is more like the traditional route of academic impact.

Things to ponder: Reflect on all your past and current research and publications. Do you have specific, thematic and consistent non-research impacts or that you move your ideas along your co-researchers and/or co-authors?

It is relatively seldom that the academic achieves impact themselves. Sometimes as with a TV interview this can be done, but even then you need to have made contacts with the TV station beforehand. If the impact is for a government department who introduces a policy based in part on an academic's work, then the entrepreneurial partner is the TV producer or person(s) in the department responsible for introducing the policy. Often the individual may do consultancy work for the private sector. To illustrate, the firm may be a specialist in the pharmaceutical market. Its main role is in providing data on specific sales of a specific drug. Suddenly, the firm decides there is extra profit to be made by producing forecasts based on its considerable data set. The academic has the technical expertise to do this. In this case it is probably not based on any specific paper but on their econometric, statistical skills. The work can however result in an academic paper. Hence, having an entrepreneurial partner is often critical to the academic producing non-academic impact.

5.4.3.2 The Role of Consultancy

Consultancy plays a very important role for academics. It provides a link to the outside, non-academic world. This link can enrich academics' own knowledge and experience of that world, which can in turn inform their research as well as their teaching. It brings them into contact with entrepreneurs, defined in general terms, and are a route to impact. It also allows the academics to supplement their pay, which in many countries is far too low. The academic can impact on a country, its economy and society via their own research. But there is another route. As an academic they are away of the most recent developments in their field, that is the latest, important research done across the world. Making firms, private and public sector organisations aware of this research is an important form of knowledge transfer. To illustrate, the latest developments in electronic government or E-government can be passed on to their own public sector organisations to improve the efficiency with which they act. Similarly, the latest research on tax evasion and the adverse effects of social media can inform policies in their own country. This is particularly important in our current times, when technology advances very rapidly.

Nonetheless, there are dangers of capture. If, for example, you do work for the tobacco industry does this then restrict your ability to take an independent and potentially critical view of that industry's activities? Worse still, if the money from the tobacco industry is partly in the form of a grant does that restrict the ability of other academics within the university to take a critical perspective of the industry? In addition, there are dangers too of being captured by government, with academics reticent to criticise government because of the adverse financial impact on the university. This might seem like a good idea at the time to the government. But in the long run the country, will suffer if the critical voice of the academic is silenced.

5.4.3.3 For the individual, the department and the university, how to maximise non-academic impact

Given the previous passages the way to maximize impact is reasonably clear. Beginning with the individual, the first point is to be aware of impact. So when you do research ask yourself, is there any potential non-academic impact here? Could it be of interest to any private or public sector organization.

If not, then is there a public engagement angle? If you do work for a private firm or a government agency, then try to get details of how they have used it. Do not just hand in the report and collect the fee, leaving it at that. Be in touch with your contacts to see what impact it is having on their policies or, if a firm, their practice. Can you put a monetary value on that? Finally make sure your impact is evidenced on your web page and possibly the CV. The latter part needs to be done carefully. There should be a quick summary of the impact, possibly omitting the self-evaluation part.

For departments they should require that individual academics have an impact part of their web page. We would recommend a self-evaluation component for all the reasons outlined earlier. As indicated earlier individual academics may find constructing such an impact part of their web page difficult. We all know how to list our publications. Listing and evaluating impacts, providing evidence that you have been partially responsible for the impact and then judging the impact itself is something many academics will initially find challenging. It is important that help and guidance is given either by the department or elsewhere in the university. The role of the department however, does not end there. We have seen the importance of networks in research, academic networks can facilitate the research process itself.

The non-academic networks, linking the academic to businesses and senior people in the public sector is also very important in maximizing the impact itself. A regular reception at the university inviting local and national businessmen is one way forward. It is also particularly important that elder academics with good contacts help the young academic in this respect. Universities can provide much of the help we have already listed for departments. In addition, they set the tone for everyone in the university to follow. If the rule states that individual academics need to keep a record of non-academic impacts, which can be evaluated when considering promotions, then academics will take it seriously. There could also be an annual impact awards ceremony.

The role of the university is changing just as it has done throughout its history. The early European universities were keepers and discoverers of wisdom. Still, there are still parts of society out there who view academics offer wisdom which not of particular relevance to the state or the economy. This is the early views of universities in that they serve to educate small elite. As we move through the nineteenth century there was a growing need to

educating an expanding middle class serving the legal, medical and finance systems as well as an expanding public sector bureaucracy. Universities become to engage in research which was actually of use in developing new products – although much was still done by ‘the gentleman scientist’ working on their own. Then towards the second half of the twentieth century the importance of human capital in generating growth saw a steady expansion of the number of undergraduates and postgraduates passing through universities. Universities’ role in research and innovation became increasingly emphasized as illustrated in the triple helix model, with firms and governments being the other two part of the helix. Universities are now central to a country’s R&D program and R&D is pivotal to the country. These same priorities also reflect the role of universities in Asia. Originally many may have been set up in part as a symbol of a mature country. But now their role and importance extends far beyond that.

The universities are often working closely with firms on this, either in the form of individual scientists or by the firm sponsoring the research. In many respects universities have become the research arm of large, particularly multinational, firms. Much of modern research is highly multidisciplinary. Robotic and artificial intelligence research, for example, involves bringing together knowledge from many different technologies. Universities, almost uniquely, have access to this diversity of expertise in house, which maybe one reason why firms have chosen to become so closely linked with universities. This development of Triple Helix continues. Within the pharmaceutical industry, in 2012 Bristol-Myers Squibb announced collaborations with ten cancer research institutions in Europe and the USA. GSK has had several partnership deals including ones with University College London (UCL), Cambridge and Nottingham Universities in the UK, as well as Yale in the USA (Hudson and Khazragui, 2013).

This raises serious questions of academic freedom and independence, and also whether the universities are getting a fair return on their expertise, particularly when the firms involved are foreign ones and the research will not benefit the country where the university is based in terms of creating employment. This involvement with firms is also blurring the lines between the roles of firms and academic researchers in innovation. Universities also play a key role in the secondary research. This is not research directly related to the eventual production of the innovation itself, but research that helps

asses its use, safety and impact on people and society. This secondary research often highlights potential or actual problems or opportunities, and is then a spur to governments to introduce regulations and regulatory bodies to counter the problems or exploit the opportunities. This secondary research is often not done by academics of the same disciplines who were involved in the primary research activity, but may be, and frequently are, social scientists.

As a consequence of all these changes, universities too have changed and their role has been changing. In the 21st century, universities are seen as a key part of a country's research capacity which can be used to secure the economic prosperity of the country. They are using more and more of a country's resources. But as a consequence, countries are demanding evidence that this is money well spent, not just in the sciences and engineering, but in the social sciences too. Governments are aware of the role universities can play in improving the economy and society and they want evidence, that they are meeting that potential. This is where the impact agenda comes in. In research terms, the emphasis has switched from blue skies research, to more targeted research, solving specific problems or in specific areas government thinks important, and which facilitates firms to be internationally competitive.

It is debatable whether this is wholly a good thing. The pressure is on academics to publish and publish regularly and for that published research to have societal or economic impact. Hence the days when an academic could spend 20 years researching a single issue with few publications may well be gone. Piero Sraffa was an Italian economist based in Cambridge. He had two major publications. One in 1926 and one in 1960. Their impact on economics has been substantial. It is unlikely Piero Sraffa would survive in today's academic world. But this is the world of the modern day academic. Universities and academics need to prove their worth and at this point in time they are not as successful as they need to become. We need to encourage our academics to engage in non-academic impact and then advertise and promote that impact so it is visible to the whole world.

5.4.3.4 Further impacts to Business and Industry

Research continues to give impact to business and industry in various ways. This includes opportunities to generate knowledge and capacity to learn

ability to network and collaborate. In particular, ones cannot overstate the importance research impact to businesses and industry prior to starting a business or spending money to grow or improve an existing business. Determinants of customers' demand, factors affecting competitors'success, predictors to future markets, challenges and problems in business growth are all requires facts and figures from business research. In applied research projects, focuses mostly goes on development of industrial tools, prototypes, products, and production process where some researches contribute directly or indirectly to more than one industry. In foresight, this connectivity between universities and industry will consistently to prosper. In some contexts of SEA such as Malaysia, there is also growing trend of professors turning into university-entrepreneurs by opening their own spin-offs or start-ups with support from the universities' innovation centres. However, the most important things to ponder is, how researchers are ensuring that their work has an impact? Direct collaboration with industry is the main key. In some developed and developing countries, university-industry collaboration models have been established. However, this is not the case for undeveloped countries as poor quality of education and lack of university funding are among the important issues to be addressed. In such countries, university-industry collaboration tends to be more informal and to focus on job employment of university graduates rather than research. As academia and practitioner's minds collaborate, numerous R&D projects can be initiated and implemented; transfer of knowledge is made possible and both parties able to rely on each other for their strengths.

5.4.3.5 Government and Policy Making

Researchers often live in very separate worlds from policymakers. They are both has different values, languages, time-frames, reward systems and professional ties. Therefore, the impact of research and evidence from research are often ignored when policies for development are formulated and practices shaped. Thus, to ensure dissemination of research impact and evidence, the policy-makers should also be ensured to understand the effects and impact of research and the potential it carries. This is important as many decisions at national and international levels are depending on the policy making process, which in turn will affect the political, economic and social aspects.

The role of research in informing policy begins by defining the contours of a problem. However, prior to measure the impact of research to policy maker, public and respective stakeholders need to understand that research provide results from the investigation and exercise conducted using methodological tools and appropriate models. As the results from the research helps policy makers interpret data, set targets, predict change, and mitigate unforeseen risk, researchers should provide further inputs and evidences in the policy making process. The question now is, how can researchers access policy makers? Several strategies can be implemented including submitting the research evidence to scrutiny bodies, contributing to public consultation exercises by government policy makers and other statutory bodies, and also correspond directly with relevant authorities about the research findings. Another important question to ponder is what kind of inputs and evidences are important to the policy making process and how the research is used by the government and policy makers? Wider availability of resources, source and type of political judgements are among the relevant inputs and evidences needed by the government and policy makers as they can the disseminate the findings via online resources, social media and other relevant dissemination channels.

5.4.3.6 Environment

The environmental impact of research increasingly needs to be taken into account in design and execution. Various research claims to have impact through directly informing environmental management activities. There is always a debate on how environmental impacts of doing research should be addressed. How we measure the research consistently? How can we ensure the research is valid? What should be included and what should not? What units should be measured? Thus, to make valid comparisons, we need to have a consistent metrics to value the process and outcome of research.

Prior to measuring research impact on environment, an enhanced understanding of ecosystem services in environmental systems is needed. This is important as it can help researchers develop more holistic solutions that benefit both people and nature. In environmental research, one of the key reasons for doing the research is to improve our knowledge to improve and sustain the mother nature. Therefore, it is more straightforward to measure environmental effects and impacts at the product, user or household

level than to measure it at the industry or national level. Sala et al., (2012) suggests three main areas where environmental research impacts can be evaluated; which are human health, the natural environment (ecosystems) and natural resources.

Environmental impact may also be differentiated between direct and indirect impacts. Direct impacts are measured by influence to a quantitative change of environmental pressure, such as the use of material, land, water and of the level of emissions of CO₂ and other harmful substances whereby the indirect impacts on the environment are measured by influence tangible products, infrastructures and individual or collective practices that cause measurable environmental pressures (Miedzinski et al., 2013). Despite whether we focus on direct or indirect impacts, the effort toward measuring it is critical as it determine how serious we are in sustaining lives on earth.

5.4.3.7 Cultural and Heritage

Cultural and heritage from the definition of the Council of Europe (2005) is “a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time”.

Heritage science research includes a variety of activities which can be divided into several stages including exploring the materiality of heritage objects, investigating the use of the objects, evaluating the issues of perception and interpretation, examining assessment of risk and also decision-making proses (Katrakazis et al, 2018). In term of the research work, it can be in the form of several methods such as lab, desk, or field based and is informed by numerous sources including testimonies, social norms and opinions.

Research impact on culture and heritage is not confined to the arts and humanities. It is diverse, and can be measured in different ways. Although it is difficult to define in exact and measurable terms the actual nature of the benefit delivered to society through cultural heritage, the most important question in measuring the impact is to define “effect of what”. The growing interest of research focusing on cultural heritage has caused variety of methods in assessing the non-research impact. However, most of the

impacts are only focusing on the economic dimension. According to Katrakazis et al (2018), evaluating the benefit of research to culture using conventional economic terms is not easy as the two do not really fit well together. Carnworth and Brown (2014) and CHCfE Consortium (2015) further expressed that cultural value cannot only be expressed in terms of economic value but should be considered from other pillars including environmental and social pillars of sustainability. In addition to that, it is essential if one's could also consider promoting educational, social and archaeological and aesthetic values which then will give impacts and provide benefits for the community.

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5.5 Conclusion

Nor Aizya Mohd. Zamil

With the increasing number of academic publications, question is raised pertaining to the quality of the academic research published in academic journals. Besides focusing on the number of publication for individual academic commitments and achievements, importance have to be place on the quality of the research. In addressing the issue of quality of research this module addressed the three basic elements that are (1) research input: research environment and research infrastructure, (2) research output: research quality and academic impact and (3) non-academic research impact. In producing quality research, this module suggests the importance of having the right research environment. These indicate the commitment of the institution in supporting the right culture to its people. Also, it becomes the motivating factor to move its people forward with the right mind set. Research output should be evaluated through its academic and non-academic impact. Academically, the research impact and quality is evaluated from the number of citations, journal ranking according to discipline and discounting the impact in accordance to the number and list of authors. It is also suggested that it is useful to have journal rankings at country level to further assist academics who publish papers in national journals. In addition, in the current environment, there is also suggestion in using altmetrics as an alternative to citation count. Besides academic impact, this manual highlighted the non-academic impacts. The non-academic impact is highly important as it extends the quality of the research to the community as a whole. It is that there are ways to maximise the social impacts to various groups/themes that will affect the businesses, industries, government and policy makers, the environment and cultural and heritage. The whole idea is based on the effort to provide a better platform in honing the research culture and quality of research to ensure the impact will benefit society in sustaining vital resources.

6. Module 6: Effective Use of Technology for a Successful Academic Career

Wiryoно Rabarjo, Universitas Islam Indonesia

Hangga Fathana, Universitas Islam Indonesia

Irma Windy Astuti, Universitas Islam Indonesia

Rizki Farani, Universitas Islam Indonesia

Tan Peck Leong, Universiti Teknologi MARA, Malaysia

Haliyana Khalid, Universiti Teknologi Malaysia

Agnieszka McCaleb, SGH Warsaw School of Economics, Poland

6.1 Introduction

While we may argue that academics use relatively the same methods of teaching as that of a century ago, the fast development of technology has made significant differences. They who were born in the 1960s to 1970s could share their stories about the lots of time they had to spend in the library to get references for their assignments. Today, students can access those references within seconds from anywhere in the world, using their laptops, tablets, or smartphones. However, does such swift access to the vast information guarantee the quality of their work? Certainly it does not, because the information is not always useful. Students need to have the ability to select and analyse information to respond to their research questions. This module is thus intended to assist students to enhance their skills in using technology to support their writing and research assignments. Specifically, the objectives of this module are as follow:

- To build and scale up the capacity of researcher in developing their critical thinking by means of argumentative analysis.
- To develop the skills of researcher in using technology for enhancing their data collection and analysis preparation.
- To scale up and expand the researcher's capabilities on effective teaching methods.
- To improve the researcher's skills in developing the instructional technology for teaching and learning

To achieve the above objective, the module is designed to cover three sub-areas, namely developing critical thinking, making the most of technology in research, and effective teaching. Each of these areas becomes the section of this module, i.e., **Section 1** discusses how to develop critical thinking ability; **Section 2** delivers the training on the optimum utilisation of digital technology in research; while **Section 3** deals with effective teaching.

By the end of the training, participants are expected to gain the following abilities:

- To identify the elements of critical thinking.
- To develop argumentative analysis.
- To utilize an online platform for data collection.

- To avail themselves of an online platform for analysis preparation.
- To be able to improve their dynamism and enthusiasm for teaching.
- To be able to stimulate, direct, and pace interaction with the class during the teaching process.

6.2 Developing Critical Thinking

Wiryo Rabarjo and Hangga Fathana, Universitas Islam Indonesia

This section defines the notion of critical thinking and how such ability can be cultivated and developed. It consists of six parts; the first part defines critical thinking, followed by four sub-sections that discuss the place of critical thinking in scientific writing. It involves analysis of critical thinking in reading and writing and mapping the arguments, using some case studies of academic writing. Although the use of technology is discussed in depth in Section 3, this section uses K-Chart and Open Knowledge as tools to incorporate the notion of critical thinking in the research process.

6.2.1 What is critical thinking?

Woods (2002) argues that critical thinking is “the process of using reasoning to discern what is true, and what is false”. Woods (2002) further asserts that such process “involves being familiar with logic and logical fallacies”. It also involves the ability to distinguish between facts and opinions, and to be open-minded when dealing with certain issue, i.e., not accepting or rejecting any claim without examination. To give a better understanding of building critical thinking capacity, Paul and Elder (2010) have developed a model that explains the critical thinking process (Figure 6.2.1). This model will be used as the base for developing this sub-module.

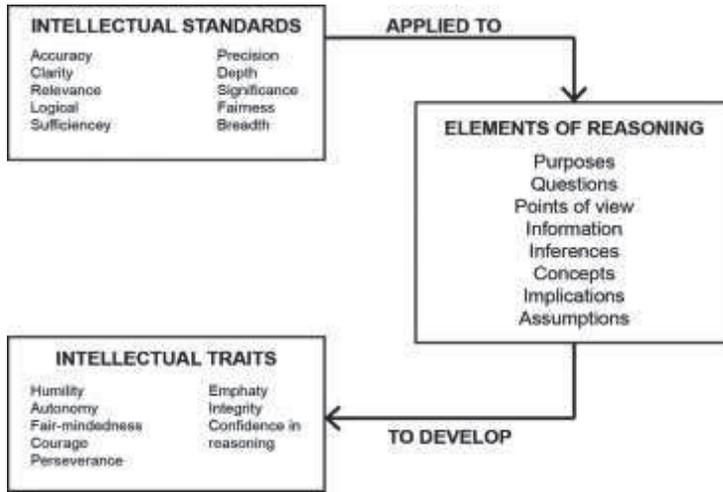


Figure 6.2.1. Paul-Elder Critical Thinking Model

Source: reworked by the author from <http://louisville.edu/ideastoaction/about/criticalthinking/framework> accessed on 15 July 2018 (use the QR code below)



Figure 6.2.1 shows the every elements of reasoning has a **purpose**. Reasoning is also an effort to formulate some **questions**. It is done from some **points of view**, based on **assumptions**, and based on **information** (evidence). Every elements of reasoning is expressed in the form of **concepts** and ideas. To enable us drawing conclusions, all of reasoning must contain **inferences** (interpretations). Furthermore, all reasoning has **implications** and consequences (See the above QR code for the original source of reference

<http://louisville.edu/ideastoaction/about/criticalthinking/framework> first accessed on 15 July 2018).

Examples of Critical Questions

The end of the critical thinking process is intellectual traits, which can be gained through the application of intellectual standards into the elements of reasoning. Examples of questions that can be regarded as the core part of intellectual standards are described in Table 6.2.1. These questions can be used for developing exercises on critical thinking delivered in teaching sessions.

Table 6.2.1. Elements of Reasoning

Elements of Reasoning	Sample of Question
Clarity	<ul style="list-style-type: none">• Could you elaborate?• Could you illustrate what you mean?• Could you give me an example?
Accuracy	<ul style="list-style-type: none">• How could we check on that?• How could we find out if that is true?• How could we verify or test that?
Precision	<ul style="list-style-type: none">• Could you be more specific?• Could you give me more details?• Could you be more exact?
Relevance	<ul style="list-style-type: none">• How does that relate to the problem?• How does that bear on the question?• How does that help us with the issue?
Depth	<ul style="list-style-type: none">• What factors make this difficult?• What are some of the complexities of this question?• What are some of the difficulties we need to deal with?
Breadth	<ul style="list-style-type: none">• Do we need to look at this from another perspective?• Do we need to consider another point of view?• Do we need to look at this in other ways?
Logic	<ul style="list-style-type: none">• Does all of this make sense together?• Does your first paragraph fit in with your last one?• Does what you say follow from the evidence?

Significance	<ul style="list-style-type: none"> • Is this the most important problem to consider? • Is this the central idea to focus on? • Which of these facts are the most important?
Fairness	<ul style="list-style-type: none"> • Is my thinking justifiable in context? • Am I taking into account the thinking of others? • Is my purpose fair given the situation? • Am I using my concepts in keeping with educated usage, or am I distorting them to get what I want?

Source: reworked by the author from <http://louisville.edu/ideastoaction/about/criticalthinking/framework> accessed on 15 July 2018 – use the QR code in below to access the original source.



In order to achieve the desired end result (Intellectual Traits), this sub-module is delivered in six parts: **(1)** Displaying critical thinking in reading and writing; **(2)** Using evidence critically; **(3)** Cultivating argument mapping; and **(4)** Developing argumentative analysis.

6.2.2 Displaying critical thinking in reading and writing

In this part of the module, we are going to deliver material on how critical thinking is applied to reading and writing. Reading is an interaction between the brain and the pages of a manuscript, which involves two actors: readers and writers. In other words, readers and writers are two inseparable actors who communicate through the manuscript. A good manuscript is the one that could generate critical thinking abilities in both readers and writers. The sections below display what are the important aspects of writer-reader communication:

6.2.2.1 Readers and their expectations

Before we begin the writing process, it is important to understand the target of our manuscript - who will read it? Booth et al (2003) suggest us to think like a reader when we are in the process of writing. Some tips we as a writer need to comprehend while writing is as follows (Booth et. al. 2003: 32-33):

1. Who will read my report? Professionals? General readers, who are well informed? General readers, who know little about the topic.
2. Do they expect me to do what I intend to do? Should I entertain them? Provide new factual knowledge? Help them understand something better? help them do something to solve a practical problem in the world?
3. How much can I expect them to know? What do they know about my topic? What special interest do they have in it? What are they likely to expect me to discuss? Is the problem one that they already recognize? Is the problem that your audiences have but they have not recognized? Is the problem not theirs, but only mine? Will, they automatically take the problem seriously, or must I labour to convince them that it matters?
4. How will readers respond to the solution/answer in my main claim? Will it contradict what they already believe? How? Will they know some standard arguments against my solution? Will they want to see the steps that led me to the solution? Do they expect my report to follow a standard format? If so, what is it?

6.2.2.2 Critical thinking within the manuscript

While tips in the above section are essential for narrowing the direction of the writing process, the quality of our manuscript is shaped by the way we incorporate critical thinking scenario in the manuscript. In order to see the critical quality of communication between writers and readers through the manuscript, an example of critical thinking analysis of a book written by Harlan Cohen (2009) – titled “Undercover Parents” – cited in Barnet and Bedau (2014: 21-24) is presented below:

Paragraph 12 and 13 (p. 22):

Will your teenagers find other ways of communicating with their friends when they realize you may be watching? Yes. But text messages and cell phones don't offer the anonymity and danger of the Internet. They are usually one-on-one with someone you know. It is far easier for a predator to troll chat rooms and MySpace and Facebook.

There will be tough calls. If your sixteen-year-old son, for example, is visiting hardcore pornography sites, what do you do? When I was sixteen, we looked at Playboy centrefolds and read Penthouse Forum. You may argue that's not the same thing, that Internet pornography makes that stuff seem about as harmful as "SpongeBob."

A citation of critical thinking analysis of the above paragraphs is presented below (p. 23-24):

- The title, "The Undercover Parent" is provocative, attention-getting.
- *Paragraph 12* begins with a question ("Will your teenagers find other ways of communicating . . . ?"), and this question again indicates that Coben is walking in the shoes of his readers; he knows that this question is on their minds. His answer is twofold, "Yes," and "But." Again the "but" is a sign of critical thinking, a sign that Coben has a clear sense of position A but wants to move his reader from A to B .
- *Paragraph 13*, beginning "There will be tough calls," is yet another example of Coben's demonstration to his readers that he is aware of their doubts, aware that they may be thinking Coben has simplified things.

Another example from the same source is cited below (p. 22-23):

And you're probably right. But in my day, that's all you could get. If something more graphic had been out there, we probably would have gone for it. Interest in those, um, topics is natural. So start a dialogue based on that knowledge. You should have that talk anyway, but now you can have it with some kind of context.

Parenting has never been for the faint of heart. One friend of mine, 15 using spyware to monitor his college-bound, straight-A daughter, found out that not only was she using drugs but she was sleeping with her dealer. He wisely took a deep breath before confronting her. Then he decided to come clean, to let her know how he had found out, to speak with her about the dangers inherent in her behaviour. He'd had these conversations before, of course, but this time he had context. She listened. There was no anger. Things seem better now.

Citation of critical analysis of the above paragraphs is presented below (p. 24-25):

- *Paragraph 14* (beginning “And you’re probably right”) continues his demonstration that he is aware of how his readers may respond—but it is immediately followed with a “But.” Again, he is nudging us to move from position *A* to his position, position *B*.
- *Paragraph 15*, like several of the earlier paragraphs, shows Coben is sympathetic to the real-world problems of his readers (“Parenting has never been for the faint of heart”), and it shows that he is a person of experience. In this paragraph, where he refers to the problem of a friend, he tells us of the happy solution. In short, he tells us that life is tough, but experience shows that there is hope. (The letter-writer, Carol Weston, strongly implies that this bit of experience Coben offers in this paragraph is *not* at all typical.)

The above critical thinking analysis shows Coben’s engagement to his readers. He has predicted how readers might react to his writing, and how he invites his readers to think critically of his passages. **The citations presented above are just examples of how the instructor may develop a similar method of showing the way writers express their critical thinking ability.** The work of Barnet and Bedau (2014) titled “Critical Thinking, Reading, and Writing” is an excellent example of a reference to further develop variations of assignment to be delivered to the trainees.

6.2.2.3 Checklist to critically fine-tune the writing quality

Writing is a repeated process where the writer does check and recheck on the manuscript to ensure that the result satisfies readers. A “checklist of paraphrase” below developed by Barnet and Bedau (2014:45) can be useful for writers to fine-tune the quality of his or her work:

1. Do I have a good reason offering a paraphrase rather than a summary?
2. Is the paraphrase entirely in my own words – a sort of word-by-word translation – rather than a patchwork of the source’s words and my own words with some of my own rearrangement of phrases and clauses?

3. Do I not only cite the source but also explicitly say that the entire passage is a paraphrase?

6.2.3 Using evidence critically

Why evidence is important? Booth et al (2003) argue that a good claim needs to have two supports, namely **reason, and evidence**. They further assert that both reason and evidence are the key factors for the readers to judge whether our argument is shapeless or not. Furthermore, a collection of evidence will help readers to decide whether they accept or reject our reason. Figure 6.2.2 shows the connection between claim, reason, and evidence. The reason often consists of sub reason before leading to the description of evidence.

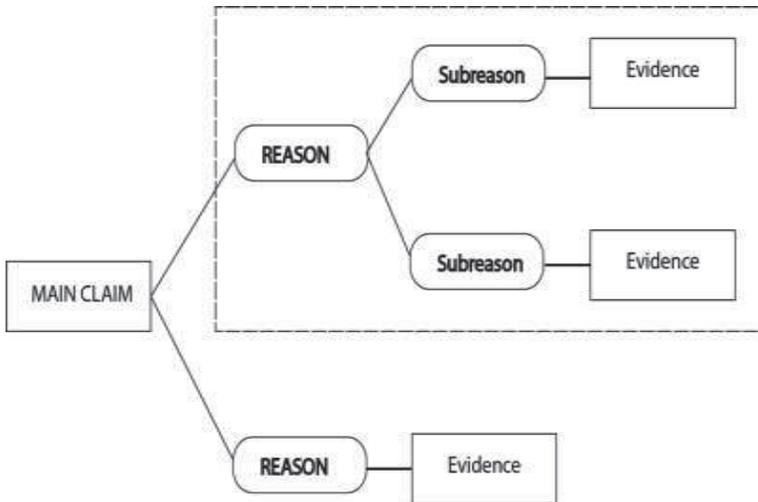


Figure 6.2.2. The connection between claims, evidence, and reason

Source: reworked by the author from Booth et al (2003:139)

The use of the word “although” to begin a sentence and “because” as a word to begin the conclusion may well clarifies the above concept. Here is an example:

Although violent crime is actually decreasing, regular TV viewers overestimate by as much as 150 percent both the rate of crime in their neighborhood and the personal danger to themselves and their families,

because local TV evening news regularly opens with graphic reports of mayhem and murder in familiar locations, making many believe that crime happens nightly outside their front door (Booth et al, 2003:130)

The slippery distinction between reasons and evidence

Booth et al (2003) further argue that distinction between reason and evidence is often “slippery”, which we need to be careful. Below is an example of it (p. 140):

- I want to see the evidence that you base your reason on.
- I want to see the reason that you base your evidence on.

Writers also need to pay attention to cases that show how a writer treats a common sense which he or she believes it is a *fact* but critical reader may ask such writer for a piece of more solid evidence in the form hard qualitative information. Here is an example:

American higher education should review its “hands-off” policy toward student drinking off-campus, claim because high-risk binge drinking has become a common and dangerous form of behavior. reason Injuries and death from it have increased in frequency and intensity, not only at the big “party” schools but among first-year students at small colleges. evidence (Booth et al, 2003:141)

The bold sentences show what Booth et al call it a fact resulted from frequently appeared news, which may be “hard enough to treat as evidence”. However, it may be debatable for some sceptical readers (p. 141). For further reading on the use of evidence critically, Booth et al (2003) provide some excellent examples.

6.2.4 Cultivating argument mapping

6.2.4.1 Why argument mapping is important?

Many have asserted that argument mapping has a pivotal role in enhancing the skill of critical thinking. It is considered as an efficient technique to help researchers in conceptualizing their judgments. While critical thinking is much focused on enhancing the quality of analysis, argument mapping is a tool to level logical and well-structured justifications.

Argument mapping also has a number of benefits in improving teaching methods. It makes the explanation easier to grasp, as the map reflects the hierarchy of the judgments. It also enables researchers to identify important issues easily, in particular when they demonstrate objection. Moreover, argument mapping also allows teachers to easily classify arguments and to provide focused feedback.

Moreover, to fully understand the importance of argument mapping can be seen by 6 main reasons:

- Argument mapping will help researchers build their critical thinking skills and general reasoning
- Argument mapping will help researchers make a clear, strong and well-organised argument. It would be necessary to do to defend their argument. The better argument mapping that they make, the stronger the argument that they will produce.
- Argument mapping will help the researcher to deliver a message to the readers.
- Argument mapping helps researchers to do an evaluation of reasoning, so they will know directly whether their arguments are good or bad.
- Argument mapping can also be used to resolve disagreement rationally. By using argument mapping, researchers would minimize the chances of misunderstanding from readers.
- Argument mapping is used to help researchers to make a better decision. To analyse the difficult topic, they will need argument mapping to find a solution to the problem.

6.2.4.2 How to make argument mapping?

Generally, making argument mapping can be started from the creation of argument organization. Argument mapping should consist of at least three key elements as follows:

1. **Position**, defining the main issue, whether to be accepted or rejected.
2. **Reason**, describing information that directly supports the Position.
3. **Objection**, elaborating information that counts against the Position.

Argument organization helps researchers to identify and classify their arguments. It also allows researchers to develop their critical thinking. To fully understand how to make argument mapping, please scan the following QR Code:



In making argument mapping, researchers are allowed to use several data as a supporting source of argument mapping. The main features in mind maps are images and topics, and concepts as the main relationship in concept maps. Argument mapping is also useful to increase researchers' skill in criticizing a topic. In way to make argument mapping, researchers can use software such as bCisive and Rationale. The devices allow researchers to create graphics, edit and can be viewed by them and their peers (Kunsch, 2015, pp. 403-406).

Exercise 1

The development of China's economic and military sectors becomes a challenge for the superiority of the United States. Some researchers are even have predicted that China in several years would become the leader of the universe outperform the US.

Based on the statement above, build your argument mapping to show your agreement or disagreement.

Exercise 2

The tension of trade war between the US and China has given a serious impact on the economic sector in many countries. Some researchers are even have predicted that the continuity of that tension would be able to create a global crisis which was last happened in 2008.

Based on the statement above, build your argument mapping to show your agreement or disagreement

6.2.4.3 What aspects should be considered in creating argument mapping?

The main aspects, which should be considered in creating argument mapping, is the development of critical thinking. Overall, critical thinking can be explained as an ability to create a clear and logical connection of three elements such as beginning premises, relevant facts and warranted conclusion. In other words, critical thinking is a sceptical view by thinking deeply and questioning the validity about the ideas that researcher finds in books, lecturers course material and any other sources (The University of Melbourne). Several ways can be used to improve researchers' critical thinking skill such as:

1. **Previewing the text:** It needs researchers to understand the **whole text** to build their perspective of the context. It is useful to help researchers to read more critically. In this context, researchers should understand the disciplinary context to grasp author's perspective, find out about the author to know author's conceptual framework, note the publication date to ensure researchers get the latest resources and not the publication format either the source is a book or journal.
2. In increasing researchers' critical thinking skills, they need to develop their habit of **asking and answering a question** that can be made by themselves. The following question consists of:
 - a) **Author's purposes:** what the author wants from their material? What messages that the author would like to deliver?
 - b) **Author's approach:** What is the assumption of the author regarding the writing? Are these explicitly stated?
 - c) **Value:** What is the nature value of the content? Are they delivering a piece of information, telling someone research or presenting an argument?
 - d) **Framework:** Is an obvious, logical framework used to set the material?
 - e) **Format of the writing:** what style that the material shows to the readers? For example, is it formal/informal, critical analysis, didactic, encouragement, or narrative? Those questions above could be used in any sources such as article, journal, and book.

3. The last method in developing critical thinking skill, **is to develop researchers' original review.** Their knowing and impression can help them to expand their critical thinking analysis skill. To develop an idea in criticizing a text, they can make a group discussion tutorial with their friend or classmate. They will be useful to clarify researchers' thinking regarding a specific topic.

6.2.4.4 When to differentiate concept mapping, mind mapping and argument mapping?

In developing researchers' analytical and critical thinking skill, they can use software-mapping tools under variants: concept mapping, mind mapping, and argument mapping. Those variants have differences in the application. Mind mapping is able to make researchers figure and roam the relations between concepts, Concept mapping enables researchers to know the connection between concepts, Argument mapping permit researchers not only to connect between propositions and contentions but also to evaluate them based on validity of the structure of an argument and the soundness of argument premises (Davies, 2011, pp. 281-286).

6.2.4.5 Mind mapping

Generally, mind mapping is used to associate the main ideas of a text or to brainstorming (RMIT University, 2014). Several techniques can be used to make a mind mapping:

- Placing a picture or topic in the centre by using 3 colours
- Using symbols, images, dimensions and codes in the researcher's mind mapping
- Selecting the main words and print it using upper and lower case letters
- Each word/image is put on its own line
- Connect the lines starting from the central image
- Arrange the length of the lines as the word/image
- Using colours as a code of mind map
- Developing a personal style of mind mapping

- Using stress and showing associations in mind mapping
- Maintain the mind map to stay clear by using numerical order or outlines or radial hierarchy.

6.2.4.6 Concept Mapping

Concept mapping is different from mind mapping. Concept mapping is a structured and less pictorial variant in a software. The focus of concept making is to outline the relationship between ideas. The distinction between mind mapping and concept mapping is in the precision and formality level (Brigham Young University, 2018). Mind mapping is not too formal and structured compared to concept mapping which is more formal and structured. Concept mapping also has several techniques such as:

- Develop a question declaratively
- Map out a “parking lot” of drafts and ideas that are connected to the concept of a topic and the question. This process is useful for brainstorming.
- Put concepts in a provisional map hierarchically.
- The concept of hierarchy from top to bottom provides link lines
- Plan an appropriate cross-link for main concepts in the map. Phrases are usually used most frequently are verbs, prepositional/prepositions.
- Give a sample to the terminal point of a map reflecting the concepts.

The concepts above are usually be used in academic disciplines for example Engineering, Accounting, Nursing, medicine and other academic fields. To make a better view of how to make a good concept map, please scan the following QR Code:



6.2.4.7 Argument Mapping

Argument mapping has difference application with both previous variants. Argument mapping put a focus on a claim being defended and not either the causal or other associative relationship between another. Argument Mapping is can be explained as a statement (premises) which is combined to result from a final claim (conclusion) (The University of Sheffield, 2018).

The following is a table to understand the differences between those three variants:

Table 6.2.2. The Difference between Mind Mapping, Concept Mapping, and Argument Mapping

Name of Variants	Purpose	Symbol	Linking devices	Linking Words	Granularity of the words
Mind Mapping	Relations among: ideas, topic or things	<ul style="list-style-type: none"> • Picture • Charts • Words 	<ul style="list-style-type: none"> • Lines • Line thickness • Colours • shading 	Associative Words: <ul style="list-style-type: none"> • Use • Colours • Links 	Loose
Concept Mapping	Connections between concepts	Boxes	Arrows	Relational Phrases: <ul style="list-style-type: none"> • In relation to • Is composed of 	Medium
Argument Mapping	Conclusion between claims and support	<ul style="list-style-type: none"> • Boxes • Stripes 	<ul style="list-style-type: none"> • Lines • Colours • Shading 	Inferential linking words: <ul style="list-style-type: none"> • Because • Not • However 	Tightly constrained

Source: Davies, 2011, p. 289

Based on the explanation above, it can be seen that the variants within the software-mapping tool have a difference in their application. By using the argument mapping, researchers are expected to be able to develop their critical thinking skill. Besides, they also can use argument mapping to analyse a specific topic by thinking deeply.

The use of argument mapping becomes important especially for identifying

the problem in the specific topic. Argument mapping is consisting of many aspects such as the structure of an argument to increase the clarity and strengthen of an argument that has been made by researchers. An argument allows the reader to identify the main point of an essay or report that must be followed by a convincing argument.

Table 6.2.3. Where can we learn more about argument mapping?

Topics on Further Reading	Link
Computer-Assisted Argument Mapping	https://www.jstor.org/stable/25622155
Concept mapping, mind mapping and argument mapping: what are the differences and do they matter	https://www.jstor.org/stable/41477852
Climate Ethics: Structuring Deliberation by Means of Logical Argument Mapping	https://www.jstor.org/stable/10.5325/jspecphil.25.1.0064
Teaching Critical Thinking: Some Lessons from Cognitive Science	https://www.jstor.org/stable/27559216
Concept mapping as a follow-up strategy to learning from texts: what characterizes good and poor mappers	https://www.jstor.org/stable/23372818
Effectiveness of Computer-assisted argument mapping for comprehension, recall, and retention	https://doi.org/10.1017/S0958344017000337
Argumentation and Distortion	https://doi.org/10.3366/E1742360007000159
Ethical argument and argument analysis	https://doi.org/10.1017/CBO9780511491306.003
An empirical argument: the computational argument	https://doi.org/10.1017/CBO9781139174374.004
Argument and concepts	https://doi.org/10.1017/S002222670001625X

Exercise 3

After Trump was elected as a President of the United States, he made a lot of controversies in his policy such as making a big wall on the borders of Mexico and the United States, limiting iron and steel import from countries all over the world which caused trade war between US and China, immigration policies and other controversy policies.

By using argument mapping, researchers are requested to make argument mapping to analyse Trump controversies whether they agree or disagree with Trump's controversial policies.

Exercise 4

After the last meeting which was held on June 2018, Kim Jong Un as the President of North Korea has emphasized many countries that he will open his country to the global market. Besides, he would like to make North Korea be a friend of many countries.

By using argument mapping, researchers are requested to make argument mapping to analyse North Korea's position after the meeting whether they agree or disagree with Kim Jong Un statement

6.2.5 Developing argumentative analysis

6.2.5.1 Why argumentative analysis is important

In way to develop argumentative analysis, it is important for researchers to understand what argument is usually used either in academic writing or daily life. In general, the argument is used to describe our position whether we support or against an issue that needs comprehensive analysis (Flinders University, 2013). Most researchers believe that argument is used only to say disagreement, but it also can be used to:

- Supporting something that we think relatable: a position, a perspective, an object, etc.
- To influence someone or the readers that something might be useful to do (or not to do) – a particular action (The University of Iowa, 2018).
- Convincing someone that something is justifiable, likely to be true

or probable - a result, a fact.

- To show problems or difficulties to someone – an approach, a theory
- To make someone change their mind or their practice in a particular action.

6.2.5.2 How to develop an argument

a) In developing an argument, researchers' need to have a lot of evidence to support their opinion. The using of evidence is also useful to convince someone that his or her opinion is true and can be justified. Besides, the main reason why researchers need to collect more evidence are:

- To expand a position after reading and shaping their own perspective regarding the topic
- To present researchers' position to the reader, the use of evidence is useful to persuade the reader that their argument analyses are justifiable (University of Maryland, 2011).

In choosing appropriate evidence that can be used to develop an argument, researchers' need to consider several indicators such as:

Table 6.2.4. The aspect of evidence (University of Sydney, 2000)

Aspect of evidence	Some possibilities	Examples
Origin	<ul style="list-style-type: none">• From their personal experience• From someone's experience	<ul style="list-style-type: none">• Their own idea and perspective• Someone else's speculations and opinions
Mode	<ul style="list-style-type: none">• Electronic• Print• Verbal	<ul style="list-style-type: none">• Internet, email, social media, etc.• Either academic or general publications• Conversation or interviews

Purpose	<ul style="list-style-type: none"> • Academic • Non-academic 	<ul style="list-style-type: none"> • Textbooks, journal, article, news, etc. – anything is devoted to researchers, student, etc. • Magazine, news media, etc. – for general publications.
Source	<ul style="list-style-type: none"> • Primary • Secondary • Tertiary 	<ul style="list-style-type: none"> • Letters, lab notes, literary work • Comments on a primary source: journal articles, etc. • Textbook (in general), encyclopedia

b) In developing an argument, besides evidence, the researcher can also use theory to increase their confidence in answering a question (University of Bradford). Before using a theory, several things that need to be considered by researchers are:

- Competing theories are not equal: the use of theories is conditional depend on what kinds of evidence, so different theories are useful in different types of context
- Do not mix the theories together as they will contradict each other. Researchers need to understand the topic before using a theory.

c) In developing an argument, the researcher needs to concern with the use of proper language. Several languages that can be used to develop an argument are:

- A Claim or Position: Researchers need to emphasize their point of view of the topic, so it would help readers to understand the argument.
- A reason: as it is in academic writing, researcher must have a lot of evidence that will support their argument or claim.
- An Objection or counter-argument: it means researchers need to have evidence against the claim
- A rebuttal: It is used to reject a counter-argument

- A rejoinder: it refers to how researchers would be able to strengthen their evidence in order to create a good conclusion.
- A Simple Argument: It includes a single reason to support the argument, followed by supporting evidence.
- Multi-reasoned argument: It means that in order to make a good argument map, researchers need to make several reasons to support their claim, followed by supporting evidence which consists of different sources (University of Bedfordshire).

Exercise 5

School is the most significant and right place where bullying, violence and promiscuity are produced. They will give a serious impact in determining students' behaviour whether in social life or in a family. It is because the student spends more time in a school compared to a family. This claim comes from a position of social constructionist that view several negative impacts are produced in a school rather than in a family.

In a small group or pair, come up with argumentative points and evidence, write your own ideas in analysing that issue whether you agree or disagree.

Exercise 6

University is one of the most important places for a student to develop their personalities such as soft skill or even hard skill. Besides, it also a place where a student could expand their knowledge so they can be wiser in responding to an event. In many areas, parents believe that getting a job is more important than continuing their children education into university.

This claim comes from a position of social constructionist that getting a job is better than continued study at the university level.

In a small group or pair, come up with argumentative points and evidence, write your own ideas in analysing that issue whether you agree or disagree.

6.2.5.3 What aspects should be considered in developing an argument

The purpose of an agreement, as already stated above, is to get people to believe in what researchers or any other academic actors are asserting or

claiming (UNSW Sydney, 2015). Something that needs to remember is that an argument is not necessary to describe something, listing certain items and explaining how something works correctly. In developing a good argument, researchers' need to consider several things as follows:

The Quality of Argument

A good argument should be convincing, so it would help researchers' in influencing the reader's mind or practice (University of Bradford). Researchers need to believe in their own argument or finding the reasonable conclusion that entails several things:

1. The premise is acceptable and reasonable (The premises are based on true facts). This would help researchers to build a structure of argument and to convince the reader that the premises might be true.
2. The evidence or reasons are connected to the claim. It would be useful to support the accuracy of premises that already given in the first page of research.
3. Sufficient accurate reasons will lead the reader to accept the claim.

Besides those three things above, in making a good argument, researchers also need to consider 5 things as follows:

1. Make it greatly clear what position or viewpoint researchers are taking. What will they be claiming or arguing?
2. Find out more data to support their argument including supporting evidence. Researchers also need to the right language or formal language to make a good argument.
3. Find out the implications: Why am I saying this here? What is the point I am arguing? What does the evidence show to the readers?
4. Comment on what they are doing and what they include as they write.
5. Ensuring their essay has a good, obvious, and logical structure.

The use of proper language

Most people will automatically refuse researchers' argument if they use informal language, so in influencing the reader, they must use formal

language that includes the right connectives, indicator words and discourse markers (University of Bradford). To support their argument, they can use several words such as: because (of), given that, the reason is that, not only... but also, whether or not, due to, since, in order to, in order that, rather than, if, then.

Examples:

Given that..... The president should have more time to build infrastructures. Or

The government should have more time to build infrastructures because of

For conclusion, researchers are able to make use of words like so, therefore, thus, then, it follows that.

Examples:

Wearing a helmet reduces the risk of injury. Therefore...

Given that wearing a helmet reduces the risk of injury, then....

Usually, the introduction is the only part where researchers can use I (unless they are writing a self-reflecting paper which requires them to write their personal point of view or reactions). Some researchers are even do not use it at all. The examples of how to use “I” appropriately and how to avoid using it at all can be seen below.

The use of ‘I’

In this article: I will discuss / I discuss

I argue / I will argue that

I refer to the perspective/theory by

I will show that

I will present

I will put

How to avoid the use of “I”

This paper discusses ...

The idea was to

This essay puts forward the claim that.....

The intention of the research was to.....

This article argues that

*Researchers can use those alternative words or can also use **passive voice** such as:*

It will be discussed that

For articles will be analysed

It was noted that

Besides the use of I correctly, researchers also need to consider how to use a different word that can indicate the logical connection between their ideas. This is known as logical connectives. Logical connectives have consisted of three main ideas such as citing evidence, showing agreement and disjunction. Below is the example of those three main ideas:

Citing Evidence

Example: *According to previous research*

This argument supported by....

Nash claims that

There is evidence to show that

As Nash claims/ shows/ illustrates

Showing an agreement

Example: *Further to*

Furthermore

As a consequence

In support

As indicated

Showing disagreement

In contrast

however

On the contrary

Contrast to

Disjunctions

Example: Despite this

Even though

Although

By comparison

In spite of this

Nevertheless

Regardless of

Table 6.2.5. Where can we learn more about developing argumentative analysis?

Topics on Further Reading	Link
Ethical argument and argument analysis	https://doi.org/10.1017/CBO9780511491306.003
A general method of argument analysis	https://doi.org/10.1017/CBO9780511818455.004
Logical Reasoning and Analysis of Arguments: Performance Components	https://doi.org/10.1017/CBO9780511611445.008
Teaching and learning argumentative reading and writing: A review of research	https://www.jstor.org/stable/41228654
Developing “Real-world intelligence”: Teaching Argumentative Writing through Debate	https://www.jstor.org/stable/4128845
Analysis of Argumentative Writing at Two Grade Levels	https://www.jstor.org/stable/27540471
Peer talks as a ‘double opportunity space’: The case of argumentative discourse	https://www.jstor.org/stable/42889314

From visual reasoning to logical necessity through argumentative design	https://www.jstor.org/stable/41413096
The Teaching and Learning of Argumentative Writing	https://www.jstor.org/stable/374051
A Critical Thinking Heuristic for the Argumentative Composition	https://www.jstor.org/stable/3885321

Exercise 7

In the 21st century, the problem of global warming is getting an increase and even more dangerous. Most people stated that the main factor of the increase in global temperature is the use of plastic as household things.

Based on that argument, build your argumentative analysis whether you agree or disagree with that statement that the use of plastic is the main factor which causes global warming

Exercise 8

Globalization is an inevitable trend that people in the world should face. It brings a lot of advantages and disadvantages for many people. Nevertheless, in many countries, globalization has changed the way of life of many people. Consequently, local culture is threatened with extinction.

Based on that argument, build your argumentative analysis whether you agree or disagree with that statement that globalisation is dangerous for local culture

6.2.6 Using K-Chart and Open Knowledge to develop critical thinking in research

The critical thinking theories and exercises described in sub-chapters 2.1 to 2.5 are not directly linked to the use of technology. It is meant to give trainees a foundation on how to express critical thinking through writing the analysis. This sub-chapter aims to integrate technology in developing critical thinking skills by giving trainees knowledge on how to develop critical thinking ability using examples of research process applied on offline and online platforms. This module will focus on the use of K-Chart and Open Knowledge.

6.2.6.1 The K-Chart Approach

While K-Chart may not be considered as an online application or software, it actually gives advantages to the trainee who plans to initiate a research project. The main advantage is that the chart helps the researcher to separate the main issue of research activity from the rest of the issues that has a little or no relevance to the intention of research. It also helps the researcher to outline the flow of thinking from stating the title to drawing the conclusion. In general K-Chart for research consists of four “layers”, namely General Title, Scope, Methodology, and Results (see table 6 below):

Table 6.2.6. K-Chart for research

No.	Layer's Name	Descriptions
1	General title	The proposed title of the research, which must include the subject of the proposed research.
2	Scope	Issues that underline the importance of proposed research.
3	Methodology	Choices of how the researcher conducts the research.
4	Results	The output of research as a response to the research questions indicated in General title.

Source: adapted from <http://pesona.mmu.edu.my/~hairul/files/Research%20Methodology/EPH7112%20K-Chart%20Tool.ppt> accessed on 20 December 2018.

The above table suggests that in order to create the chart depicted in Figure 6.2.3, we must first set the proposed title of research – the **FIRST LAYER** of the chart. In this case, the title is “Factors influencing the performance of motor vehicle”, which suggests that the main subject of research is the vehicle. The vehicle can then be regarded as the starting point of the **SECOND LAYER**.

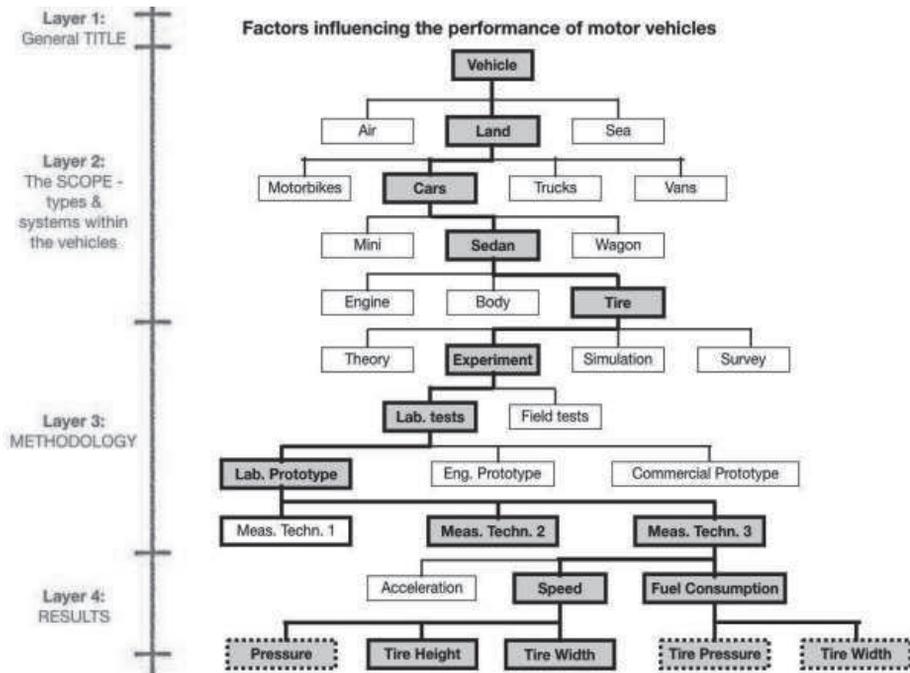


Figure 6.2.3. An example of K-Chart presentation

Source: redrawn and modified by author from Abdullah et al (2006: 127).

The main task of the second layer is to explain our intended research focus. The more detail we focus on the better, as we make less assumption. In this case, we choose “car” then focus our research on “tire” as an element that contributes to a car’s performance. This choice will then lead to the description of the methodology, which falls within the **THIRD LAYER**. In the third layer, we explore a range of research methods, which we choose experimental one, using laboratory test followed by a laboratory prototype. Finally, the end of the process – the **FOURTH LAYER** – looks at the result of our laboratory prototyping. In Figure 6.2.3 the result suggests that tire has influenced car performance in speed and fuel consumption. The speed is influenced by the height and width of the tire, while tire’s pressure contributes as well but not as much as its dimensions (the dashed line indicates a possible role). Furthermore, the fuel consumption is presumably influenced by the pressure and width of the tire as well, but we put the dashed line, as they do not give a direct impact.

6.2.6.2 The Open Knowledge Maps

Open Knowledge Maps (<https://openknowledgemaps.org>) is a visualization of a topical overview of your search term. It incorporates 100 most relevant documents based on your search term. It is an instant overview of a topic depicting the main areas of research at a glance, and papers related to each area. The clustering of information into several sub-topics will make finding the references for our research faster and easier. To start the search for papers related to our research topic, go to the website above (the QR code depicted below can be used to access the site), then type keywords that represent our research topic. For instance, if we type “Informal Housing” in the search form then click “go”, we will get the result displayed in Figure 4.



The result, as depicted in Figure 6.2.4, shows us clusters of information about the work related to “Informal Housing”. Each cluster consists of suggested reference(s) to be used for developing the sub-topic. If we click one of the clusters – for example, the cluster titled “Informal Development Case Study” - then we will get a number of paper related to the case studies of informal housing as depicted in Figure 6.2.5.

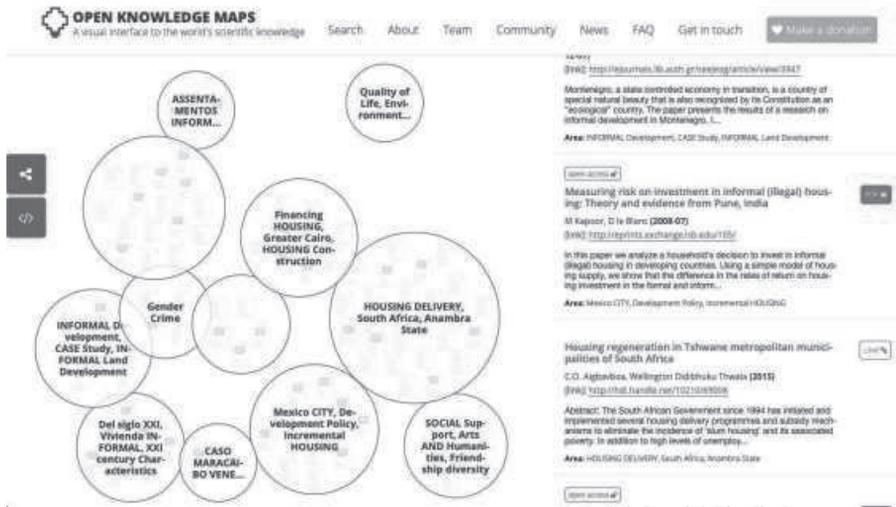


Figure 6.2.4. Example of a screenshot showing mapping result on the topic of “Informal Housing”

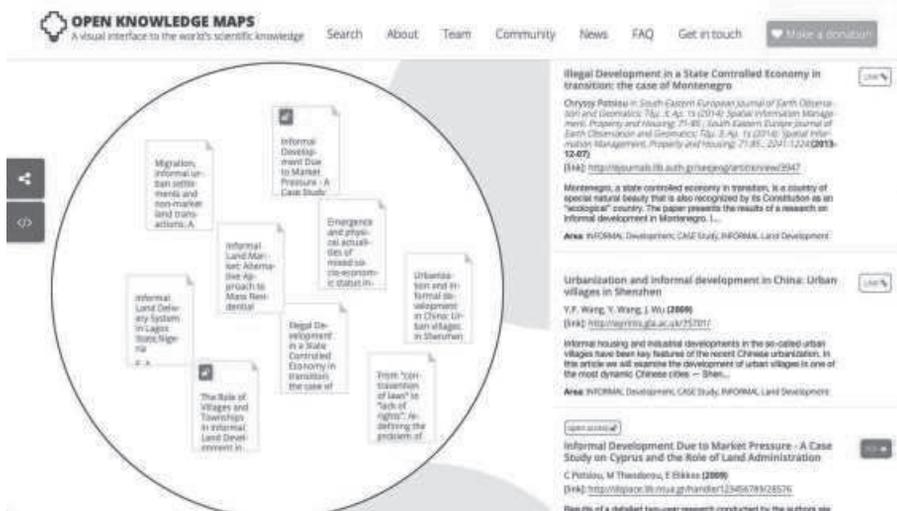


Figure 6.2.5. Screenshot of a detailed view of the “Informal Development Case Study” cluster when we enlarge the circle by clicking it

The exercise above will help us to conduct a literature review on each of sub-topic to find the current state of research on the sub-topic and to find the gap that we may use to strengthen our research findings.

6.2.6.3 Incorporating the K-Chart Approach and Open Knowledge Maps

The discussion on K-Chart earlier in this sub-chapter suggests that K-Chart only help us to map the keywords that direct our research process. It does not show how will we develop each keyword into scientific writing. In response to this gap, we can use Open Knowledge Maps. Take an example from the K-Chart depicted in Figure 6.2.5, we find that the choice of methods we will use for our research is “Experimental Methods”. We want to write about it to explain to the reader about what is the current state of such methods. What we do is to write the words “Experimental Methods” in the form depicted in Figure 6.2.6. We will then get the map displayed below (Figure 6.2.6).

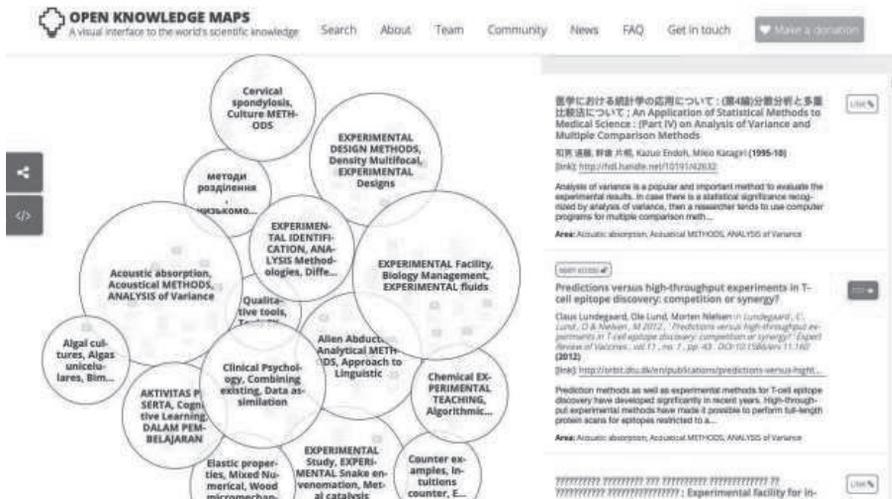


Figure 6.2.6. Screenshot of mapping on “Experimental Methods”

Based on the above map, we can then choose what cluster we want to use to be developed into paragraphs for our report and paper. Each of those clusters will display further readings on the field.

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Internet sources:

<https://depts.washington.edu/owrc/Handouts/Claims%20Claims%20Claims.pdf>

<https://openknowledgemaps.org> (an online platform for research mapping)

Wood, Robin (2002) Critical Thinking in <http://www.robinwood.com/Democracy/GeneralEssays/CriticalThinking.pdf>

6.3 Making the Most of Technology In Research

Tan Peck Leong & Haliyana Khalid

In recent years, the uses of online tools to support the research process have been increasing and tend to become mandatory. While online tools undoubtedly give advantages, such as reducing the cost of a survey and speeding up the time needed in reaching the wider area of survey coverage, it also gives some disadvantages, particularly in acquiring information from subjects who have no internet access or knowledge. This section is aimed at enhancing the capacity of trainers in optimizing the use of Internet technology in research. It consists of five sub-sections, which begins with the discussion on the advantages of using online research tools and ends with the utilization of online platforms in research dissemination. The platforms used in this section are certainly not the only means available in the market. Trainers are encouraged to seek alternatives as a way of cultivating critical thinking.

6.3.1 Advantages and Disadvantages of Using Online Research Tools

There are many advantages and disadvantages of using online research and computer-aided tools in research. These advantages and disadvantages with some mitigation to overcome the disadvantages are listed in the following paragraph. There are three main advantages of using technology in data collection, namely accessibility, time and cost. The online research tools allow the researcher to access to wider of respondents from anywhere and anyone in the world who is Internet-connected. Furthermore, according to Wright (2005), online survey tools allowed the researcher to target specific and unique population required by the researcher. For example, respondents who have special interest like fishing, reading, etc. can be found in specific websites or blogs, or online platform (access the QR code below). Therefore, this allows the researcher to reach out to any population of interest easily.

QR Code for A Website Blog For Anglers



Second, online research tools require less time than conventional research tools because the dissemination of the questionnaire can be posted to thousands via email or via social media platforms such as Facebook, Twitter, Instagram, WeChat or Whatsapp in a matter of seconds. Researchers do not even need to leave their office to carry out their fieldwork. A researcher can also invite the targeted population to participate in their survey through popular social media advertising such as Facebook, Youtube or through a search engine like Google. Furthermore, once respondents complete the questionnaires, the same online research tools will also collate the information in a spreadsheet that can be easily downloaded for further analysis. For example, all research information collected by google form can be downloaded into a comma-separated-values file, which can be used in most statistical software such as SPSS or Eviews or STATA or in much other statistical software. This reduces the tremendous time and effort of data entry and furthermore, some online research tools also present the information in graphs and or tabulate them into tables for a quick presentation. In short, researchers can save much time in data collection and data entry by simply using online research tools.

Third, the cost of carrying out data collection exercise using technology is only a small fraction of the cost of using a conventional method in data collection. Researchers can carry out their research from their office or home and do not need to hire any interviewers or field workers to carry out field works. Furthermore, the cost of data entry is also minimized when data collected through an online survey is automatically coded in a readable file. Imagine research fieldwork that may take months and thousands of

dollars can be done in days with a minimum cost. This will enable researchers especially social scientist to generate and carry out much research in a very short time without the need for a big research grant.

On the contrary, there are limitations and disadvantages of using online technology in data collection (Andrews, Nonnecke, & Preece, 2003). One of the main disadvantages is sampling issues. It is hard to get a sampling frame and hence, random sampling may be impossible and the results from this research may not be generalized to the population. Only those who are internet-connected or have an email account can be approached Those who fall in the population of studies and may be important to the research may be excluded if the researcher is not able to identify them and to contact them to participate in the research. Furthermore, we may not even know the complete demography background of respondents but only limited to certain demographic characteristics.

This may also lead to self-selection bias where only those who are interested in the survey will respond. Only those with Internet access or Internet knowledge can participate in the survey and this may exclude older people who may not be technology savvy. Hence, technology-assisted data collection tools may not be suitable for survey involving those who are not technology savvy. We are also not able to ascertain that the one who completed the questionnaire online is the actual respondent or someone else completes it. For example, secretary or personal assistants answer research questions that require information from top management. Therefore, the information collected may be skewed or it may only represent an only certain group of the population. In short, we are not able to select the respondents randomly (which is an important assumption in many research) and ascertain the accuracy of the information collected via online technology tools.

Nevertheless, technology-assisted data collection method is the way forward in research as the world's ability and the access to the Internet is improving rapidly. Essentials mitigations steps must be taken to counter the problem of sampling. Information collected through online is no different from another conventional method like a face-to-face interview or postal survey or phone interview if the research design is carried out according to the standard and conventional research method. Respondents can be identified via a random process if the researcher can obtain or establish a complete or close to complete research framework. This can be done if rigorous efforts

are made to first identify and build the research framework prior to implementing online research. For example, a researcher may obtain members or participants registration list from various blogs or websites administrators to build the research framework. Another possible way is to do cluster sampling or quota sampling to select sufficient representation from the population. Hence, respondents selected may be close to the random selection method. At the same time, self-selection process can be avoided if the researcher can encourage research participation through some form of gift or lottery or through prior phone call invitation prior or personal email invitation to encourage respondents to participate in the research. In short, an online survey is definitely the way forward to carry out research compared to conventional survey if it is carried with steps that minimize sampling bias and response biases.

6.3.2 Choosing the Right Online Data Collection Tools

There are many online tools for survey available for researchers. They are different in term of cost, types of questions, limits of questions and responses, the access to the responses from the survey, the results from the survey, allow collaboration among researchers etc. The most popular online survey among the researchers is Google Form and SurveyMonkey. Google Form is free and has many features, which are normally available in other tools for a fee. It is easy to use with the what-you-see-is-what-you-get (WYSWYG) interface. Most researchers or teachers who use Google Form will integrate it with Google classroom. Google form is integrated with Google Spreadsheet allowing researchers to access a spreadsheet to view of the collected data.

Unlike Google Form, the free version of SurveyMonkey has limitations on responses and number of questions. However, SurveyMonkey offers a better user interface and more selection of templates compared to Google Form. SurveyMonkey also offers many useful features such as Questions Bank or templates of questions, which provides help with wording questions and Logic Options.

In terms of reviewing and analyzing data, both platforms offer the capabilities; SurveyMonkey compared to Google Form provides a more in-depth analysis, in which researcher can slice-and-dice their data within the platform (see Figure 6.3.1).

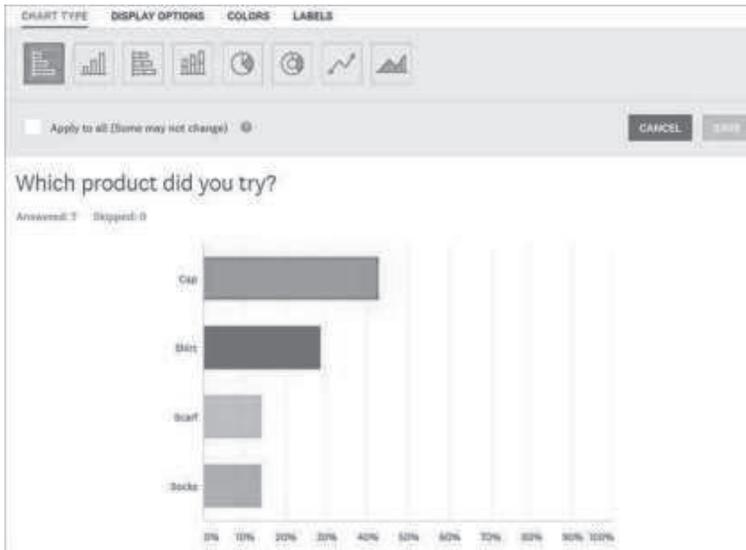


Figure 6.3.1. Result from SurveyMonkey

Note: SurveyMonkey's trademarks (such as SurveyMonkey, People Powered Data™, and any logo versions of those marks) are owned by SurveyMonkey Inc. and its affiliates in the United States and other countries.

Another data collection tool, which is gaining popularity among researchers and industry practitioners, now, is Typeform. It was launch in the market in 2012. Although it has the data collection, reviewing and analyzing capability similar to Google Form and SurveyMonkey, its uniqueness lies in its user-friendly interface and intuitive features, this makes the 'fill-up survey form' experience more interesting and engaging.

It focuses on presenting and asking for information using conversational language, and feeding questions one at a time and getting answers in return and tailoring subsequent questions based on those responses (see Figure 6.3.2).



Figure 6.3.2. The Interface of TypeForm

Note: Screenshot obtained from TypeForm: www.typeform.com

All survey forms mentioned can be shared through email, integrate into personal website or link to other social network platforms.

Choosing the right online survey depends largely on the purpose of survey, the number of questions, the number of responses required, the availability of research fund and the research time frame.

Marrs (2017) listed down the best seven online survey tools in her web blog. These online tools for the survey are Client Heartbeat, Zoho Survey, Survey Gizmo and Survey Planet, Type Forms, SurveyMonkey and Google Forms. According to Marss (2017) paid online survey tools are better off than free ones in term of survey logic, export data, custom logo and more question types. Please refer to her website for detail comparison between these seven types of online survey tools. Nevertheless, Marrs recommended Google as the best free online survey tool compared to other tools. However, among the paid online survey tools, the best is either Typeform or Client Heartbeat.

In summary, the factors considered when selecting the suitable online survey tools are the cost, the question types, the export data, and the survey logic.

The rule of thumb is one should always try out the free version before committing to any paid online survey tool.

6.3.3 Learning how to use Google Form

In this section, participants will learn how to create an online survey questionnaire using both Google Form and SurveyMonkey because both are the most popular online survey tools. Google Form is totally free while; SurveyMonkey free version has limited functions.

ACTIVITY 1 – Creating a Google form from an existing questionnaire.

In this activity, participants will learn how to create many types of online questions such as closed-ended and open-ended questions. The multiple-choice question, Likert scale question, logical flow question, multiple answers questions, and ranking question and open-ended questions will be introduced. The following steps are required in creating a google form.

Step 1: Preliminary Preparation

- a) You must have a Google account or registered a Gmail account to access Google drive. Create a new Gmail account if necessary. Go to website: accounts.google.com
- b) Once you have created a Google account, go to Google apps icon. This icon is located at the top right of the Gmail interface. Then look for the icon of Drive (refer to Figure 6.3.3).



Figure 6.3.3. Google Apps in Gmail

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Step 2: Creating a new Google form

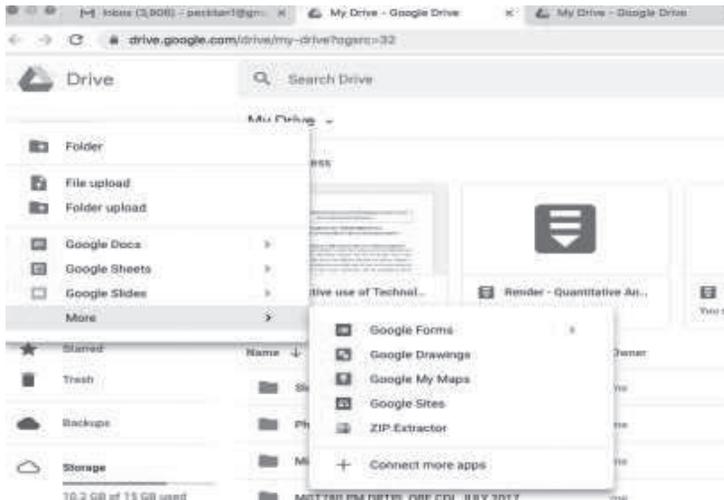


Figure 6.3.4. Google Form in Google Drive Application

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Step 3: Name the Survey and give a short description/introduction to this survey

The short description of introduction will inform the respondents about the purpose of the survey and ensure respondents that all information collected will be used for this research only and will be kept confidential. Contact of researchers should be included to allow respondents to ask further questions.

Step 4: Create questions. There are 5 types of question – short answer, long answer, multiple-choice, and dropdown. Refer to Figure 6.3.5, on creating different types of questions.

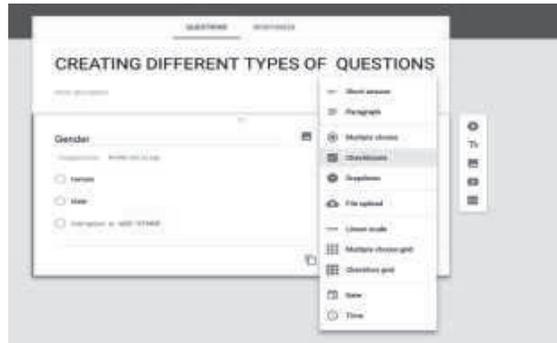


Figure 6.3.5. Creating Different Types of Questions

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Step 5: once the questionnaire is completed, sending the URL address to respondents' email or by sending directly from Google by key in the email respondents' addresses as shown in the figure 12 below can send the survey to respondents.

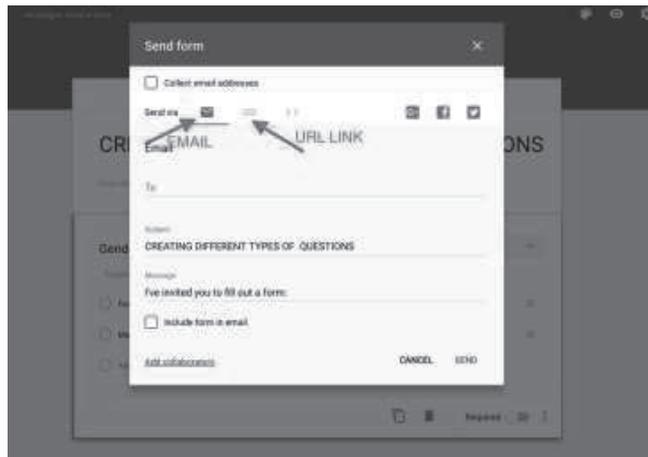


Figure 6.3.6. Sending the Google Form via Email or URL Link

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ACTIVITY 2 – create research collaborators and distribute online questionnaire via Google Form

Google Form also allows the researcher to include research collaborators to work and amend the questionnaire. This can be done by easily adding the collaborators' email address in the “Add Collaborators” option. The researcher can choose to allow collaborators to amend the questionnaire, to download the data or to distribute the questionnaire or even to assign collaborators owner of this research. In this activity, respondents will learn how to add research collaborators and distribute their online questionnaire to respondents. Refer to Figure 6.3.7 below.



Figure 6.3.7. Adding Research Collaborator

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ACTIVITY 3 – Create a SurveyMonkey Form

In this activity, the participant will learn how to create a questionnaire, send a questionnaire to respondents and also add research collaborators using SurveyMonkey.

Step 1: Create a SurveyMonkey Account

The participant has to first create a SurveyMonkey account to access this application. (Please go to <https://www.surveymonkey.com>). This registration is necessary to access and use the SurveyMonkey tool. Once this is done, the participant is ready to create an online questionnaire.

Step 2. Create Different Types of Questions

In this activity, participants will learn how to create many types of questions such as closed-ended and open-ended questions. Type of questions such as a multiple-choice question, Likert scale question, logical flow question, multiple answers questions, and ranking question and open-ended questions will be introduced.

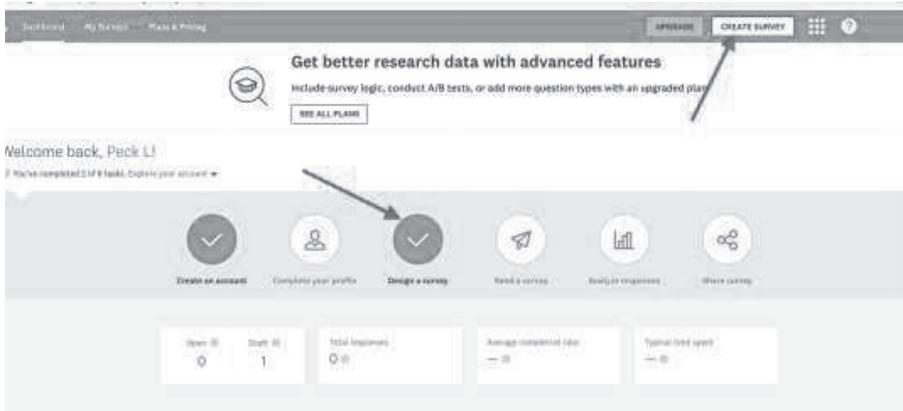


Figure 6.3.8. Design and Create Questions using SurveyMonkey

Note: SurveyMonkey's trademarks (such as SurveyMonkey, People Powered Data™, and any logo versions of those marks) are owned by SurveyMonkey Inc. and its affiliates in the United States and other countries.

The researcher can design their questionnaire from scratch or use existing templates to create the questionnaire (refer to Figure 6.3.8). SurveyMonkey also has the recommendation options for how questions should be worded. The existing templates have ready questions for various researches. Although the questions are limited but it allows the researcher to have a head start in designing their questionnaire and simply modify the existing questions. The only set back is some of these templates require subscription payment.

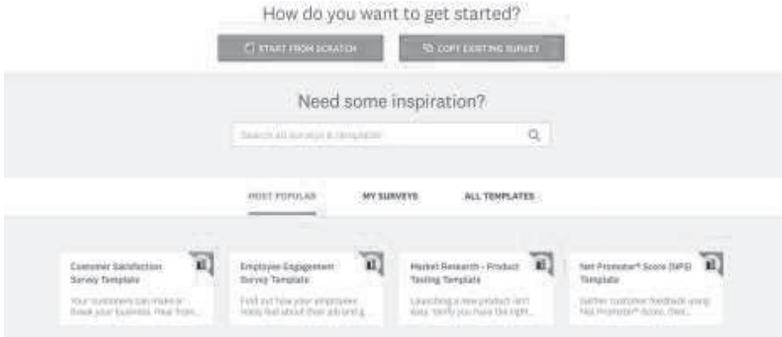


Figure 6.3.9. Option to choose Existing Questionnaire Templates or to Start from Scratch

Note: SurveyMonkey’s trademarks (such as SurveyMonkey, People Powered Data™, and any logo versions of those marks) are owned by SurveyMonkey Inc. and its affiliates in the United States and other countries.

Step 4 – create research collaborators and distribute online questionnaire using SurveyMonkey

In this activity, respondents will learn how to add research collaborators and distribute their online questionnaire to respondents. SurveyMonkey allows the researcher to allow other researchers or collaborators to comment on the questionnaire prior to distribution. However, under the free version, the researcher cannot add or manage collaborators.

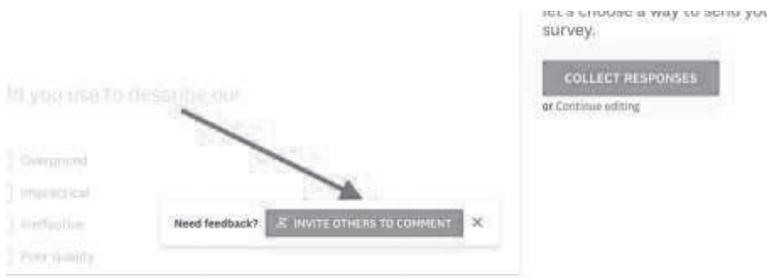


Figure 6.3.10. Invitation Button to Invite Research Collaborators

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Step 5: Distributing Questionnaire

Once the questionnaire is completed, the participant will then send it out to respondents through emails, social media (such as facebook, twitter) copy URL address or even buy data from existing global respondents (refer to Figure 6.3.11). The researcher can also add or input the data manually. Nevertheless, for the free version, SurveyMonkey only allows 100 responses for each survey created.

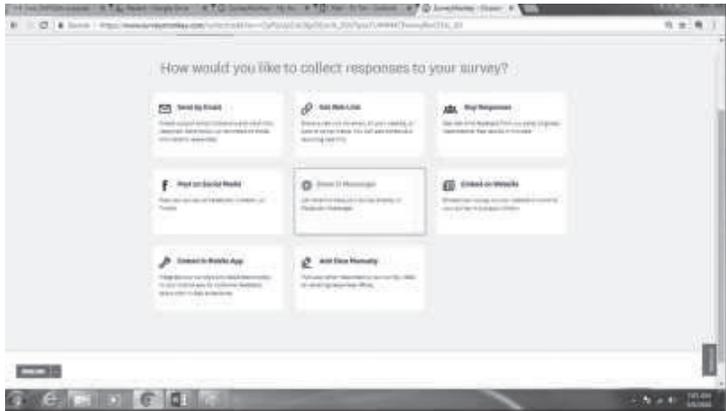


Figure 6.3.11. Ways of forwarding using SurveyMonkey

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Step 6 - Slice and Dice your data using SurveyMonkey

In this activity, participants will analyse their data within the tool the use to build the survey. SurveyMonkey automatically presents data in three formats, which are question summaries, data trends and individual responses. For the free version, all these can only be viewed from the online and not downloaded for further analyses. However, with a subscription of the basic plan, the researcher can download the raw data, summaries and data trend in many formats such as Microsoft Excel, PowerPoint, and PDF.

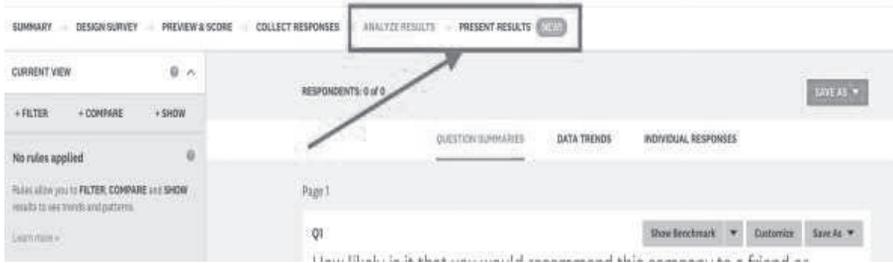


Figure 6.3.12. Analyses and Results Option Button

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SurveyMonkey can analyse and present the data collected in graphs and tables. However, there are limitations on the free version applications where analyses and results can only be viewed on the SurveyMonkey website and not downloadable.

6.3.4 Data Preparation for Analysis

All responses collected through Google Form and SurveyMonkey can be download in spreadsheet format such as in Microsoft Excel or in comma-delimited value (CSV). Once the data is downloaded, it needs to go through the data coding process prior to data analysis.

However, responses from Google Form must be coded as all responses are recorded as information given or selected by respondents. Therefore, proper codebook must be prepared and used to recode all the responses. The easiest method is to use the “find and replace” function to turn all responses to code.

Unlike Google Form, responses from SurveyMonkey can be downloaded in value or code and not in the format of information given by respondents. Therefore, the information collected can be used for further analysis without any further hassles.

ACTIVITY 1 – Prepare a codebook and download responses from Google Form

In this activity, participants will learn how to prepare codebook and also how to download responses obtained from Google Form into Excel format. A codebook will consist of all values used for each variable (regardless whether there are categorical, Likert, interval or ratio data)

Subsequently, participants will transform all responses to codes using find and replace function. Once all the variables' values are coded according to the codebook, the file will be saved as a comma-separated-values (CSV) file (Refer to Figure 3.13). The file will then be used in statistical software such as SPSS, Eviews or STATA. The researcher can download all responses received using download option and it will be saved as CSV format which can be open using Microsoft Excel. The only setback is the responses are displayed as code but as an answer given by respondents. Hence, the researcher needs to replace all the responses with code before it can be analysed using statistical tools.

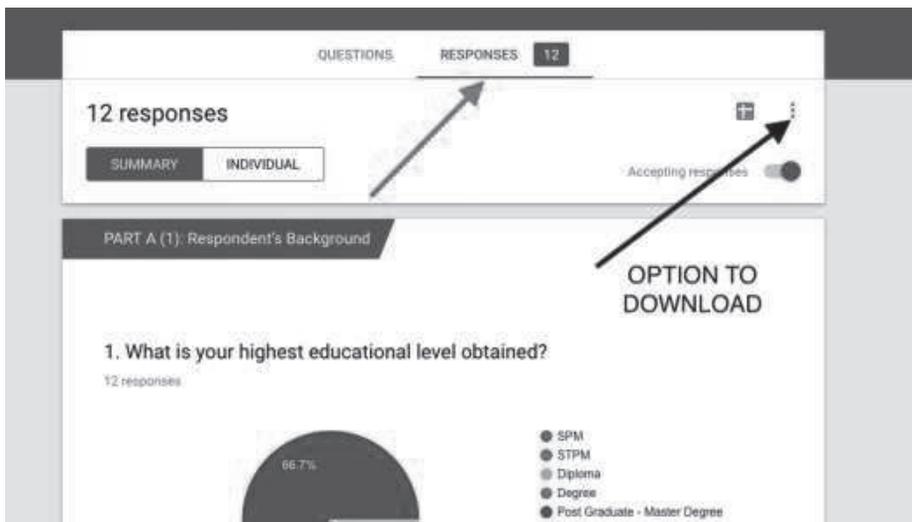


Figure 6.3.13. Download Responses from Google Form

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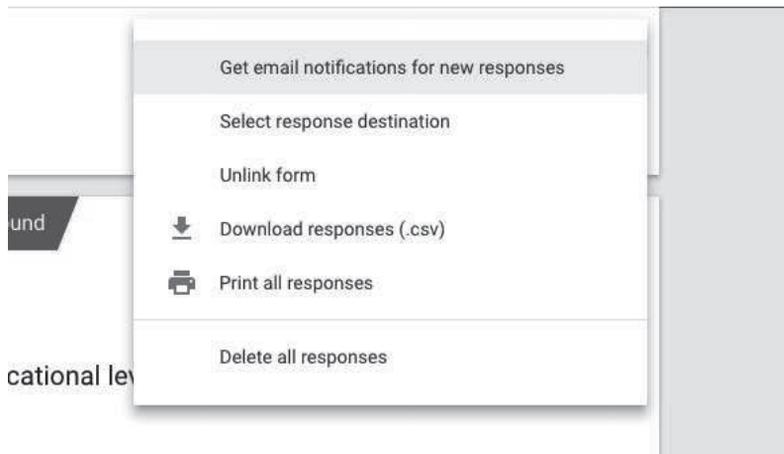


Figure 6.3.14. Download Responses in CSV format

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Activity 2 – Download responses/Results from SurveyMonkey

In this activity, participants will download responses from SurveyMonkey in different formats such as CSVB, PDF or XLS. However, this is only possible if the researcher subscribes to Advantage version of SurveyMonkey that is about USD200 per year. Nevertheless, researchers can access to all the results and report online. In this activity, the participant can view all results and also use one filter to find the hidden trend in the results

6.3.5 Data Cleaning

The results from any analysis are only as good as the information used, in other words, garbage in garbage out. Therefore, thorough cleaning of the data is imperative to ensure that data is reliable and accurate before any statistical analysis is carried out.

The data cleaning process is to eliminate any error due to data entry, data responses and data omissions due to non-responses.

There are two important steps in data cleaning. The first step is to detect and confirm missing any missing value. The second step is to examine any illogical responses (Example, respondents who reported age above 100 years old).

Missing values and illogical responses and all errors must be checked against responses received and if possible and if needed, the researcher may have to solicit or to confirm with respondents on the information given.

Activity 1 – Data Cleaning

In this activity, participants will use either SPSS software or Microsoft Excel (Filter Function and Pivot Table Function) to detect errors in the data set. Once error is detected, rectification and correction must be carried out to clean the data set. First, we will obtain frequency tables for all variables and will check for missing values for each variable. Then, we will determine any data entry error and do the necessary correction. Corrections to check the necessary logical sequence of the answers can only be done by referring to the original data set.

6.3.6 Data Transformation

Once the data set is clean of all errors, data transformation will be carried out to turn the data into meaningful information for analysis. Some of the data transformation methods are recoding, regrouping and grouping open-ended questions into meaningful groups that can be generated into meaningful results.

ACTIVITY 1: Data Transformation

This activity will allow participants to use all data transformation method to create a meaningful data set prior to data analysis using either SPSS or Microsoft Excel. This activity will begin with recoding variable with open-ended questions into meaningful groups.

Step 1: Recoding Open-Ended Questions

First, the researcher has to extract all open-ended questions from the CSV file. Go through all the answers and group them into meaningful groups. Subsequently, recode all the answer according to the new meaningful group.

Step 2: Regrouping Variable and Transforming Variable

Variables that have many groups can group into a smaller group either into the same variable or as a new variable. This activity will also carry out data transformation using mathematical operations such as logarithm or addition. For example, we can transform income variable into log income variable or

we can add all the household member's income together to obtain total household income.

6.3.7 Technology in research dissemination

New technologies are transforming the way we disseminate research. Although traditional ways are still prevailing, new technologies are gaining popularity among the researchers to disseminate their research. The Web is an important part of research and education in many parts of the world. It is now largely used as one of the primary platforms of disseminating research data through e-print archives, online conference proceedings, online repository and digital libraries.

In the following, we will present some major trends and innovations in research dissemination.

6.3.8 Dissemination Using Social Media

To date, there have been some growing interests on how knowledge is being produced, accessed and disseminate in the light of the social media. Leveraging social media is very effective for researches' communication especially with people in a diverse and remote location.

One good example of a research team that has utilized technology in disseminating their research findings in the Canadian Journal of Emergency Medicine (CJEM) Social Media (SoMe) Team. The team have collaborated with many prominent medical websites to promote the journal articles using podcasts and infographics, which can help to trace the citation and readership (Thomas, B et.al, 2018).

Infographics (see Figure 6.3.15) *are graphic visual representations of information, data or knowledge intended to present information quickly and clearly* (Wikipedia, 2013). Infographics are normally chosen as a medium to illustrate research findings because it offers appealing visualization with compact information. It shows data, level of data, maps, present many numbers in small space, thus encourage the eye to compare different sets of data.

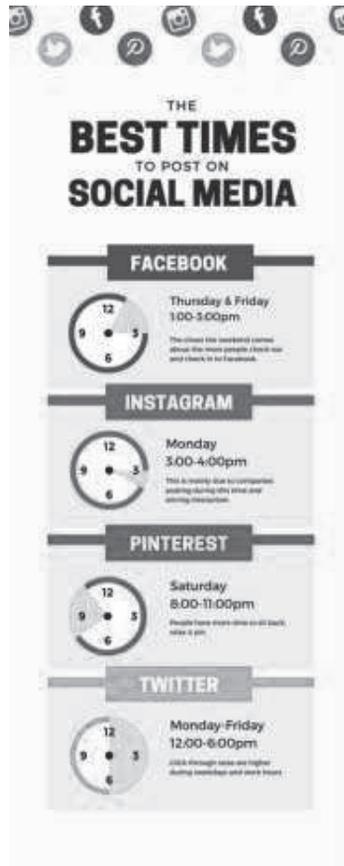


Figure 6.3.15. Infographics (author’s own collection)

Using infographics is especially important in the field of emergency medicine, where SoMe trainees and practitioners used tools including Twitter, Facebook, blogs, and podcasts, are frequently to disseminate their research progress and findings. The SoMe team have run an infographic initiative organised by BoringEM.org (now CanadiEM.org) translated the 2015 American Heart Association guidelines into a pool of infographics. The blog post where these graphics are published has been viewed well over 60,000 times. This is one example of how the dissemination of research work using social media platform garnered bigger audiences as compared to traditional tools.

Social Network Sites (SNS) or social media is a web application for collaboration, interaction among people with the same personal interests, activities, background or real-life connection.

Various studies have identified how Facebook can be used as a platform for research dissemination because of its low cost, engaging community and effective communication. Facebook group for researchers helps to connect researchers with the same interests, disseminate information to others and identify potential collaboration. An example of a Research Group on Facebook can be accessed through this QR Code below.

Access to active Research Group on Facebook



Quick dissemination and discussion of research are one of the advantages of using the Internet and Social Media for research. These advantages offer strong cooperation and improve the research rigour (Bukvova 2011; Putnam 2011). The numbers of research groups flourishing in Facebook signify communities of practice, where a group of people with the same interest and ideas share their work and collaborate for future actions. The communities help to disseminate new scholarly materials and resources for practitioners.

Twitter is another form of social media that is being used by some researchers to promote their research work. Apart from data dissemination, Twitter is a popular data source platform for Web science research.

QR Code to Access to #research page on Twitter



There are several reasons why Twitter is a good platform for research. Twitter is the most used social media platform in the world, with multiple languages and hashtags. It offers an abundance of data to analyse from. The ability to re-tweet makes sharing information more robust and fast.

However, using technology like social media is not without its disadvantages. According to a report by Charleston Observatory (2010) information shared in social media lacks clarity and reliability due to various factors including acceptance, authority, moral rights, and copyright (Charleston Observatory 2010). We will explain further about this in the last section.

6.3.8.1 Dissemination Through Institutional Repository

Every university has its own research repository that is responsible to collect, preserve and disseminate a digital collection of their academics' intellectual output. This includes academic journals, monographs, course materials, theses, datasets, administrative documents and conference proceedings.

The publication in the repository aims to increase the global visibility of the institutions and provide an open-access to its intelligence collection. QR Code below shows an example of a university online repository.

Institution repository will automatically retrieve information about our research from our record and archive them in the database. Anyone with access to the repository will be able to view the document.

Main Page of UTM Repository Page (<http://www.utm.my>)



6.3.8.2 Dissemination Using Personal Website

Researchers can use their own website to disseminate the findings of their research. In every university, researchers are given a dedicated website for them to create and disseminate information about them. Most research on websites shared passive modes of dissemination. Shared resources such as research reports, summaries and multimedia, although maybe good, only allow one-way interaction. (Cooper, 2012; Chavkin & Chavikin, 2008; Cordingley, 2008; Belhodja, et al., 2007). However, the existence of a personal website helps in disseminating the research work to a greater audience. It also helps in improving the online visibility of a researcher.

The personal website also can be developed using free website templates such as Wix, WordPress and Google Web. Personal website (example Figure 6.3.16) is important not just to disseminate research, but it also will improve personal branding.

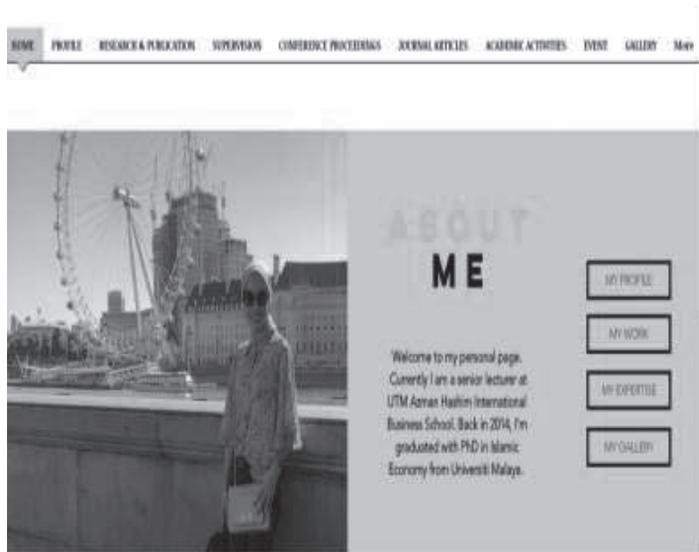


Figure 6.3.16. Example of Personal Website (author's collection)

6.3.8.3 Dissemination Through Blogging

Blogging is a distinct form of authorship that can support the goals of higher education institutions and can complement and contribute to traditional forms of scholarly publication. Blogs can also be used as tools to facilitate research, collaboration, and the sharing of knowledge (Park et al. 2011).

Blogging will help academics to establish writing as a routine. Having a brief but constant writing can help to improve academics' writing skills. Blogging can take less time compared to article writing. However, the visibility is greater than journal as it more viewers. In a couple of days, post can be written, publish and get feedback. This cycle can be good motivation for building and sustain a regular style of writing. Blogging also helps us to be concise, since the post is normally small and identify our target reader.

Blogging is the best way to reach out to the public audience and share our research findings. One good example is London School of Economics and Political Science blog site (access using QR code below).

QR Code to access to the blog site of London School of Economics and Political Science



This blog site is a platform for their researchers to share their thoughts and findings on current issues and research. Topics in this site are categorised based on several topics such as politics and policy, careers, health and social care, equity, diversity and inclusion and global investment. The ‘voice’ in the blog is more casual than academic writing, make it easier to understand, adapt and learn.

6.3.8.4 Dissemination Through ResearchGate

It is a social networking site for researchers and scientists to share papers, projects, find collaborators and inquiry about research. Although there are other social networking sites for researchers, this platform is the largest academic network with active users. Members of this site are able to upload their research output such as conference papers, journal articles, negative output, methods, presentation, book chapters and software source code. The platform also allows a user to post and find a vacancy in the education sector.

QR Code to Access ResearchGate Profile Page



6.3.8.5 Dissemination Through Video

One of the main objectives of the research is to have an impact on society and its development. However, publication in the specialised journal will only yield a small number of audience, thus limiting its impact and reach. Video published through social media platform like YouTube will yield a bigger number of audiences. At the moment, Youtube has the highest engagement rate on social media. For instance, the total number of people who use YouTube is – 1,300,000,000. These huge numbers give potential for wider audience and engagement.

However, not all researchers have the skills in producing their own video-log. Besides, much modern research builds on scientific dialogue, making it hard to be translated into a simple presentation using laymen style of languages for society. As a consequence, many findings lack visibility thus unable to reach an audience beyond the academic world, that is corporate and business organisations that may well benefit from the research findings

For instance, a study by a group of researchers on how to reduce the number of Tuberculosis diseases in Malaysia has used YouTube channel to disseminate its findings. Videos were created to inform findings from research as well as a video on awareness of Tuberculosis. The video with duration of 1 minute plus was created using a web-based video editor called Powtoon.



Figure 6.3.17. A video created by a group of researchers on Tuberculosis. It was delivered in the Malay Language to target people in Malaysia (author's collection)

To date, there are some research groups in the world that leverage Youtube channel as a medium to disseminate their work. One of them is Economic and Social Research Council, United Kingdom. This council started to publish their videos on Youtube since 9 years ago. Now the channel has more than 1.4K subscribers with 130 videos published.

QR Code to access ESRC Youtube Channel



To date, creating video does not require extensive video editing skills. Video sharing platform such as Youtube allows the user to create a video with few clicks and drag-and-drop features. On top of that, free online video marker software such as Magisto (access to QR code below), Powtoon and Kizoa also offers a user-friendly video creation platform. Magisto is more suitable for creating videos using some audios, photos and video.

QR Code to Access Magisto Landing Page (<http://www.magisto.com>)



On the other hand, Powtoon is a great tool if we want to present our research findings in animated form (see Figure 6.3.18).

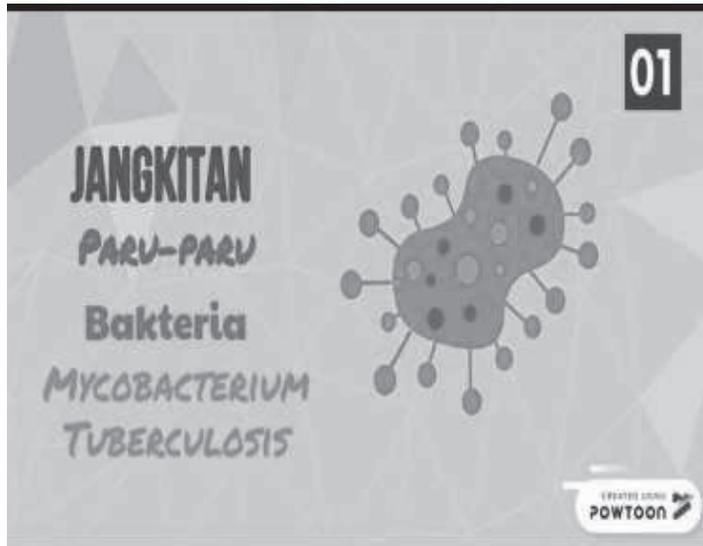


Figure 6.3.18. Example of video using Powtoon App (author's own collection)

Current smartphone technology allows us to capture, edit and disseminate our videos conveniently. It is very handy and easily transferable to desktop or laptop for editing. There are also some mobile apps video editors such as Quik and iMovie that will allow us to edit video via mobile phone.

6.3.8.6 Dissemination Through Google Scholar

Google Scholar is a web-based search engine available free, which helps researchers to gain its visibility. It simultaneously indexes individual academic papers and other scholarly literature from all broad areas of research.

Google is the best platform for search engine. It is the most useful search engine in the world. This has given big opportunities for people to increase their business, organization or personal visibility. Researchers will use Google to search for certain topics that they wish to gain more information using some keywords. Our record can be track and view by others when they want to search for a particular topic that is relevant to us. The credibility of information is verified making it a reliable source for information to know more about one researcher.

QR Code to Access to a researcher profile in Google Scholar



Google Scholar benefits to research and research dissemination are summarized as follow. First, since it is a prominent search engine, researchers' profiles are easily accessible with their track records. It allows users to identify a collection of articles based on a researcher and a particular research topic. It provides the number of citations of articles. It also connects scholarly research and social media platforms.

6.3.9 Challenges in using technology for research dissemination

Using technology like social media is not without its disadvantages. As mentioned earlier, publishing in social media have risks of lacks of clarity and uncertainty related to various factors including acceptance, authority, moral rights and copyright (Charleston Observatory 2010).

Another disadvantage is dissemination effort requires a budget. Some platforms require payment for dissemination, thus limiting the chances to publish if budget is an issue. Dissemination effort should take consideration of the message account, the audience and the channel. For digital dissemination, the researcher needs to identify the suitability of content with its audience. Different platforms will have different content to target their target audience. For instance, publishing an article in a journal and social media will have a different presentation in terms of the language used. Posting about research findings on Facebook and Twitter also will require a different style of writing. In Facebook, the message can be lengthy but it is shorter and compact on Twitter. Compared to journal publication, languages used on social media is more simple and normally written in laymen terms so it will reach a bigger audience.

To make research more impactful, planning for research dissemination is required. Discussion with stakeholders on the platforms to disseminate is best done at the early stage of research. The planning for dissemination also is required to gain stakeholders support and involvement.

Lastly, using technology in disseminating research not only requires awareness but practical skills are needed to implement it. For researchers in the current millennials, it is important to recognize the importance of using technology for dissemination in order to promote meaningful research findings and to achieve intended purposes.

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6.4 Effective Teaching

Irma Windy Astuti, Rizki Farani & Agnieszka McCaleb

In the last sub-section of Section 3, we have discussed how research is disseminated through online platforms. This section is a direct continuation of the modes of dissemination discussed above, but in this section, we bring trainers into the realm of teaching. Despite the increasing use of online platforms in teaching, direct communication between teachers and students is conventionally seen as the common practice of teaching. This section focuses on direct communication between teachers and students. It is intended to give trainers understanding on how to effectively deliver teaching material – including disseminating research – to the classroom. The section consists of five sub-sections, ranging from the methods of delivery to the methods of evaluation. The key issue of this section is how to create and maintain the students' engagement in the learning environment. This section will also sketch the need to utilize the technology in enhancing the interaction between teachers and students through VS (my.vocabularysize.com), Kahoot, Google Classroom, and VARK.

6.4.1 Acknowledging individual differences

6.4.1.1 Individual Differences Aspects

In several instructional design model, analyzing learner character states as one of the components to determine learning strategies. Smaldino, et, al (2005) describe learner analysis as the first step in designing instruction as a reference to determine the appropriate method, media and material based on learner characteristics. Meanwhile, Dick and Carrey (2009) include learner analysis as the second steps in the instructional design process. The analysis plays a role as a basis to determine the sub-skills and entry skills of the learner. Based on the models, it shows that it is important to investigate the audience before constructing instruction in learning since every learner has special characteristic.

Smaldino et, al (2005) categorize three aspects to analyze learner:

- a) General Characteristics (Age, Gender, Skill level);

- b) Specific entry competencies (prior knowledge)
- c) learning styles (Audio, Visual, Kinesthetic).

There are **some strategies** to analyze individual differences; such as **reviewing academic records, interview, entry test, discussion, pre-test and modifying instructional methods to personalize learning**. These data can help teachers to select learning objective, method, material and media for students. On other words, learning will be more effective if the instructional design matches their need regardless of their differences. However, elaborating individual differences can be challenging. As stated in his study about ontologies for personalization, Altun (2012) said that one of the challenges in designing instruction today is one learner require not only one instruction. It means educators need to provide various kinds of activity to maximize learner's potential.

One example of categorizing learning activities based on individual differences is Gregore's model of Mind Styles, synthesized by Butler (1986) in Smaldino, et.al (2005). He grouped learner based on concrete versus abstract and random versus sequential styles. He described that **concrete sequential learners** prefer to use direct, hands-on experience in a logical order. Teachers can use workbooks, programmed instruction, demonstrations and structured laboratory exercise. Meanwhile, **concrete random learners** depend on the trial-and-error approach and taking a conclusion from exploratory experience. They like games, simulations, independent study project and discovery learning. Furthermore, **abstract sequential learners** tend to decode meaning from verbal and symbol in a logical sequence. Reading and listening activity is appropriate for them, especially in presentation format. The last category is **abstract random learners** who have competency in presenting meaning through audiovisual media, such as discussion, lectures, question and answer, videotape and television. Analyzing learners' differences help learners to select learning objective, material and methods.

Activity 1

Select one video about classroom activity from *Youtube.com*. Watch and observe the students' characteristics during learning. Categorize them by using Gregore's model of Mind Styles.

Activity 2

Correspond to your video in activity 1, What is your opinion about students' activity during the learning process? Do you think the activities match students' individual differences? Explain your reason.

6.4.1.2 Acknowledging Individual Differences: Best Practice

1. VS (my.vocabularysize.com) is a web site which provides vocabulary test for students to know their particular language ability through the level of vocabulary they achieved. In addition, it allows teacher, students and researcher to use the test in different purposes. For students, this is very useful and easy-to-use, an event for students who are not familiar with it. Indeed, the role of teachers is not only as a checker, but teachers can also create a customized test session to measure students' vocabulary size in a group setting or at their own home (www.my.vocabularysize.com). To be able to try the test, we do not have to create own user. It is very easy to start the test by “click” the blue button in the middle of the site. There are several webs which look similar to this, for instance, BBCiWonder, Vocabulary level Test – Oxford Online English, and arealme.com. In essence, these webs have a similarity which helps teacher, students, or anyone who wants to know their vocabulary level. However, if we analyze them in detail, they have a different amount of questions as the same as a different form of questions. For example, my.vocabularysize.com provide 100 questions which show words and support them with an example of the sentence. Meanwhile, Oxford Online Test provides questions into different forms such as antonym, synonym, and complete some blank sentences. Other than that, there are other sites that you can visit to test your vocabulary, such as The Compleat Lextutor, _lognostics, It is All in a Word, and etc.

In result, these apps can support teacher to identify the students learning needs to analyzing the result of their vocabulary test. After conducting this test, teacher and researcher can also use the data to support an instructional design by selecting appropriate teaching strategy, activities, media, sources, etc.

Access QR Code to Homepage of my.vocabularysize.com



2. Google Forms is a great way to collect and organize information to the community based on our purpose. This is the media to support you to conduct a survey or collect any information. Users can decide their own purpose such as making a survey, manage event registrations, create a pop quiz, and much more. It does not take a long time to be able to use this App. In addition, the use of Google forms helps us to get easy to reach the community and collect the response easily. You can also create your own unique form by selecting a photo or logo and other stuff that are related. Google Forms also some options for Q&A which gives you more choices. Other features are also available to maximize your forms. Presenting the data will be easier because the responses are automatically collected in the forms, with time response info and charts. User can also connect with other Apps in Google such as Docs, Sheets, and Slides (www.google.com)

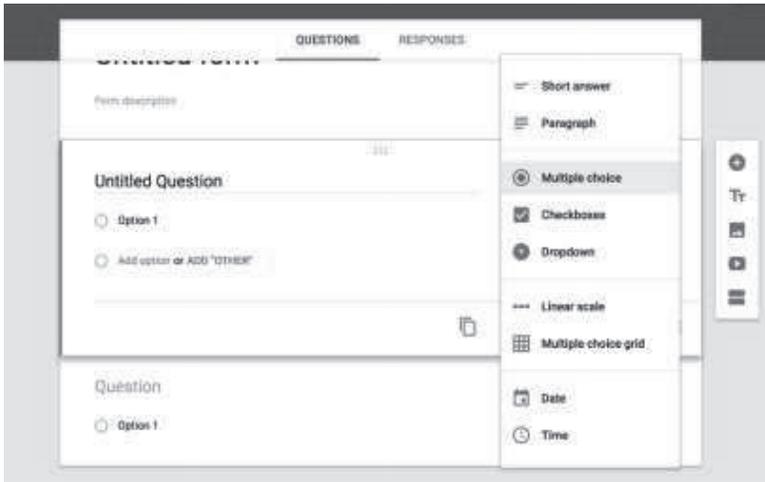


Figure 6.4.1. Option for Survey

Note: Google and the Google logo are registered trademarks of Google LLC, used with permission



Figure 6.4.2. The example of the survey tool

Note: Google and the Google logo are registered trademarks of Google LLC, used with permission

3. VARK tells you something about yourself that you may or may not know. It also can be used to understand your partners, your parents, your workmates, yourself, and other people that you want to know. This

App is simple and practical for users. It provides various questionnaires which have different purposes to understand particular people or community. Specifically for teacher and students, this web site can be used to understand the students' needs in learning or what the students have as the part of their characteristics. We may not able to customize the questionnaires because it has already provided by the VARK team. Meanwhile, we can see that the questionnaires are updated by looking at the “version” on the page. Indeed, respondents are not to be worry to spend much time, because VARK only provided less than 30 questions for each questionnaire. Furthermore, the questionnaires are suitable to assess the students' characteristics, specifically their skill, interest and learning style (www.Vark-learn.com)

QR Code to access Homepage of VARK



Activity 3

Design a simple learning activity to accommodate all individual differences based on Gregore’s model of Mind Styles.

6.4.2 Using a range of pedagogies: from old school to gamification

Nowadays teaching shifts from old-fashioned approach, where teacher delivered a lecture, telling the content to the students who had to master it, to new methods applying case studies, games, e-learning, blended learning as students/adults are known to learn best when engaged when emotions and personal experiences are involved. Gamification is an example of an innovative way of motivating students to study, enhancing their experience and engagement. Kapp (2012) defined gamification as “game-based

mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems” (in Siirilä, 2017, p 13). Recently gamification became popular in teaching as it appeals to students who are called the Millennials, Digital Generation or Digital Natives. These names describe their relation to communication technologies, the importance of the Internet, smartphones and social media in their private and work lives, as opposed to the older generation that uses those technologies to a lesser extent (as a consequence they are called Digital Immigrants) (Bielenia-Grajewska 2015; Jackson 2016). Current students are also called “less is more generation” characterized by no limits related to a place, time or social and communication barriers (Bielenia-Grajewska 2015). Finally, that generation is used to play some type of online games. According to the Pew Research Center’s survey carried out in 2017, 60% of Americans aged 18-29 often or sometimes play video games (Pew Research Center 2017).

Gamification in teaching relies on elements characteristic for games of which some are also typical in teaching. For example, in games people play to obtain a goal and to win, students study to achieve certain learning objectives; in games, players move from level to level depending on their scores, students must have to complete prerequisite courses and exhibit some level of knowledge to progress academically (Jackson 2016). The extant research on the effectiveness of gamification in teaching shows that it has positive effects on learning performance (Jackson 2016). But some gamification tasks can also serve other purposes than strictly attaining learning objectives such as having students attend the lecture where attendance is not obligatory, coming to classes on time, working in groups etc.

Why is gamified course attractive for students? Stott and Neustaedter list gamification characteristics (concepts of game design) that make gamification successful in teaching: the freedom to fail, rapid feedback, progression, storytelling. Students are free to participate in a game and even if they do not perform well in the game it is not affecting their final grade. They feel free to take risks and experiment which moves them to focus on the process of learning. Feedback is found to be important and motivating element of a game, especially important in teaching current generations (Siirilä (2017). It can be done through points, progress or badges. To be effective the feedback should be frequent and targeted. Progression (through missions, levels)

helps to guide students through a course by organizing information into sections/categories. For example, the tasks should be arranged from is going from simple to more advanced tasks/skills while more advanced tasks require prior/simpler knowledge (ex., from identifying, understanding through analyzing, evaluating to composing, creating) (Stott and Neustaedter). Another aspect that makes the game more interesting and makes learning more efficient is incorporating a story to the game as it happens in the games (ex. Monopoly – story of getting rich). While designing a gamified course we can think of some The story should be that can be connected with the content of the course (ex. Course on Multinational Corporations could have a story of small family firms internationalizing into global corporation. OtherSome teachers add other game characteristics that are enticing for students such as fun, collaborative processes, and competition. Game tasks can be very practical allowing to apply knowledge into real-life problems solving and thus teaching students critical thinking.

Why is gamified course attractive for teachers? Designing tasks within a gamified course allows the teacher to have more fun teaching it, engaging with students in discussions, revealing parts of the material that are more difficult. Most importantly, gamified course guarantees regular learning process which results in students mastering the knowledge and understanding of the course material that stays with them longer as each portion of the material is sequenced within game and student cannot progress without mastering previous parts. This allows the teacher accompanying the students in the learning process. Obviously, the challenge for the teacher is the time one has to dedicate for designing the game and later on during the course the teacher has to have time to provide instant feedback without which students may lose interest and quit the game.

In order to plan well gamification activities (plan variety of types of tasks) and understand key behaviors of students playing the game it is worthwhile to understand the types of players. Bartle developed 4 categories of players (Game Development 2013):

- **Killers** – like to provoke and cause chaos in the game, feel dominance over other players.
- **Achievers** – have a competitive nature, enjoy beating difficult tasks. Achieving maximum results.

- **Socializers** – most interested in establishing relations with other players, often engaged in the community aspect of the game.
- **Explorers** – interested in discovering the gaming world, the rules of the game, its mechanism, tricks, secrets and short-cuts.

It should be noted that most people are socializers, not killers or achievers. Thus, our gamification should not be too competitive.

Elements of mechanics used in designing games (based on Jackson 2016; Cyrklaff 2016):

- **Levels:** levels should be designed in such a way so that at the beginning of the gamified course levels are achieved fairly easily and quickly but with each higher level become increasingly the difficulty is increasing to obtain later in a game; certain levels may be a source of pride and result in admiration of other players.
- **Achievements:** challenges (bonus tasks), available when certain level or number of points are collected later in a game (at different points over the game), their achievement allows the player to get more points, rewards, badges etc.
- **Badges:** obtained for different achievements, teacher can award badges to award “for challenge achievements and participation achievements, for learning, collaboration, time management, and carefulness, for contributing to discussion, threads and reading / voting on content, or for artistic/fun presentation performance and fun.” (Jackson 2016).
- **Virtual (in-game) currency:** can be spent on hints for tasks or homework, assignment delivery extensions, possibility to pass a failed test quiz, extending delivery deadlines without penalty, etc.
- **Score charts/progress tracking** – showing progress during the game and towards the goal, showing the best players, which may have has motivation effect for other players.
- **Virtual goods and places** - mostly interesting for players playing for social reasons.
- **Leader boards** – there are mixed results about the effectiveness of usage of leader boards; for some students, they increase engagement

and for some became social pressure and were demotivating (Siirilä (2017)).

- **Social engagement loop** – chat rooms, forums, group tasks.
- **Physical wards** – attractive and fun can be physical awards such as stickers, candy, etc. (Mytnik and Glac 2017).

More game elements with their definitions and purposes can be found at Siirilä (2017).

According to a study by Siirilä (2017) recommended game elements to be used in higher education courses are achievements, environment, feedback, goals, levels, performance graph, progress bars. Least recommended are avatars, badges, competition, time tracking.

When thinking about types of players and psychological needs that game elements can fulfil, we need to consider game elements and types of needs such as competence, autonomy and social relatedness that they relate to (refer to Siirilä (2017) Table 4. Page 29)

There is no such list of game elements that can always work to motivate students to participate in the game. It is thus necessary to plan and design the game elements carefully. In fact, the teacher learns what works and what do not while carrying out a gamified course.

Gaming activities/elements should have the following characteristics:

- The activity can be repeated in case of failure. The ultimate goal is that students learn so the ability to repeat should be a standard option. Besides, repetition enhances students' chances of improving the skill or acquiring specific knowledge.
- Feasibility – gamification tasks must be achieved so they need to be adjusted to the skills and knowledge of students (possibly to be performed).
- Rising difficulty of tasks – each successive task should be more complex, demanding more efforts from students and requiring the usage of new knowledge and skills they just acquired during the course.
- Multiple paths – students should be able to attain goals by various

paths as they need to develop diverse skills. Students should be able to create their own strategies as to how to achieve the objectives. The active role of students in choosing their way through the learning process is one of the main traits of active learning (Jackson 2016).

Some gamified course practitioners claim that connecting game results with the final grade of the course increases the motivation to participate in the gamification (Glac 2017; Landers 2014). It is also said that constant usage of points, badges and leader boards is not enough to evoke students' creativity and allow them to collaborate. Participation in the game should not be forced – students should have the freedom to choose if they participate or not in a game. At the same time, there cannot be any type of penalties (no negative points or impact on student's final grade) for students who do not want to take part in a gamification. Such students who do not play the game complete the course in a traditional way.

Each gamified course must have the book of rules to which students and teacher refer during the course. These rules are also referred to as game mechanics and consist of rules, goals, rewards and interactions. It can be supplemented with the map of the game where students can see what tasks are planned at which given moment of the course and plan their participation according to their own goals (there should be multiple benefits available for playing the game so students have a choice and so that they match different needs of different students).

Game dynamics are another important part of gamified course. Dynamics is defined as user behaviour, how users react to mechanics of the game. Some key gamification dynamics are rewards, status, accomplishment/fulfillment, self-expression, competition, and negative behaviours (Siirilä, 2017 - page 24)

Aesthetics of gamification is understood as design features providing audio, visual or fantasy elements to the player.

6.4.3 Implementing Gamification into a Course

The first step is to characterize the students and the ways in which they learn to best adjust tools and techniques within gamification. A teacher should also consider the skills necessary for gamification (utilization of internet

applications, etc.). Next, learning objectives should be clearly defined. The third step is the creation of teaching content and gaming activities. Next step is called, after Huang and Soman (2013), “structuring the experience”. During this stage, the teacher identifies “the right stages and milestones to sequence the knowledge effectively and quantify what students need to know to move forward. Breaking the material down into a series of smaller manageable goals and rewarding students for their success is key for student motivation and learning” (Jackson 2016). In gamification individual achievement as well as social aspects of tasks are equally important (competition and cooperation). It is motivating for students that progress and achievements are made public.

General rules of gamified course are there are no penalties for game participants (no negative points and no impact of game result on student's final grade). Gamification activities can be performed both in class and at home, the activities should be diverse in form so that all types of students can select their preferred method of collecting points/playing the game (all types of students as for example there are those who like speaking in the class and those who prefer to write), teachers who just start gamifying their course should start with simple gamification, simple tasks and game rules as they need to learn the process and they should bear in mind that gamified course requires much more of their time than “standard” course.

6.4.4 Building positive interaction

6.4.4.1 Learning Interaction in the Digital Era

Interaction in learning plays important role to control learner, providing personalized learning output based on students' need (Sims,1999 in Anderson, 2008). The development of technology offers more techniques in building interaction during the learning process. Teacher and students do not only communicate during classroom activity but also sharing ideas by using an online platform, for example, social media, email, LMS (learning management system) or instant text message. As the impact, the teacher needs to build certain environment to keep the interaction on the track.

There are six types of interaction, proposed by Anderson (2008): a) Student-student interaction; b) Student-content interaction; c) Student-Teacher interaction; d) Teacher-Content interaction; e) Teacher-Teacher interaction

and f) Content-Content interaction. These interactions provide an opportunity for teachers and students to use many instructional media to keep learning progress in the context of online learning or blended learning (the combination of an online and offline meeting).

Table 6.4.1. Six Types of Interaction

Interaction Type	Description
Student-student interaction	Student-student interaction is effective to build communication skill and interpersonal competence through collaborative work or peer learning
Student-content interaction	Students access information from many resources, not only textbook but also online resources. Thus, the content should be supported by user-friendly access centre (ex: online library), guidance to access and read the content and clear instruction to conduct activities.
Student-Teacher interaction	Student-teacher interaction during offline learning usually more “teacher-centred feedbacks” because students expect direct suggestion from the teacher but online interaction provides a wider opportunity on allowing other students or tutor/teaching to assist the learning process.
Teacher-Content interaction	Teacher “interact” with content when she/he designs instructional documents as one systematic process. Procedural lesson plan describes how teachers present their ideas to enhance learning.
Teacher-Teacher interaction	Teachers’ collaboration allows them to support each other in the classroom or improving professional development.
Content-Content interaction	One material consists of the elaboration of some information based on various facts and data. The improvement of technology offers a multimedia resource to cover one topic.

Based on the table above, building positive interaction defines as one complete process of interaction to support learning. It does not limit the

interaction to teacher-student or student-student interaction but also involves interaction with hardware/ software, learning application, online games or other digital media to support learning outside the classroom.

6.4.4.2 Interaction Model

To maximize the use of technology, there are two potential interaction models to facilitate various kinds of interaction, they are: a) collaborative-community of inquiry model and b) community of learning model (Anderson, 2008). **Collaborative-community of inquiry model** facilitates the learner to master content by exploring various kinds of resources (offline and online resources). They build their understanding by interacting with content and other learners. Teachers' role in this model is preparing relevant content and clear instruction. Meanwhile, the **community of learning model** highlights on independent learning. Students interact with content to practice their understanding. Based on the illustration, collaborative-community of inquiry model is appropriate for content delivery meanwhile community of learning model emphasizes on practice.

6.4.4.3 Applying an interaction model for a classroom activity

To apply an interaction model, proposed by Anderson (2008), teachers can elaborate model with learning categorization by Mark Prency (2001). Mark Prency (2001) in Anderson (2008) apply interaction based on "How do students learn content?".

Table 6.4.2. Learning activities based on the interaction model

Interaction Model	Activity
Collaborative-community of inquiry model (building theories, factual knowledge, conceptual knowledge or metacognitive knowledge)	Finding Facts Analyzing Content Explain Procedures Explain Process Constructing Skills

Community learning model (creating a product based on creativity and innovation)	Observation Create a design Building reasoning Performing/Role Playing
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In sum, teachers need to select effective activity to support positive interaction.

6.4.4.4 Building Positive Interaction: Best Practice

1. Digital Resource (Ted Ed/ed.ted.com)

QR Code to Access Homepage of Ted-ed



In 2012, TED-ED has been available on the TED web site. TED-ED provides various educational videos to support teachers in teaching “flipped” classroom experience with interesting animations to help students understanding the material easily. The flipped classroom is an instructional strategy which combines offline and online learning. In this case, students will learn the material outside the class and discuss it in the class with their friends and teacher. Most important, the use of TED-ED is supported by several features such as “Share” feature to post selected videos to public (or specific group), “Think” feature provides multiple-choice questions or open-ended questions related to the video, “Dig Deeper” provides other sources of learning, and “Discuss” is an online forum to conduct a discussion with particular community. By using these tools, teachers have a deeper

context in conversation, engage students while watching the video, and provide deeper discussion whether in online or offline (Russell, 2016; Ahluwalia, 2018; & Graham).

Other than that, TED-ED is also available to copied and customized specific material with your own students. For instance, if you want to find a video from Youtube, you can upload it in your box TED-ED as long as the video is accessible. Moreover, teachers can also “customize” existing lessons by editing the text of the lesson, add and remove questions, resources, discussion, even excluding section entirely (Graham).

In line with it, several types of research have been done to illustrate the implementation of TED-ED to build positive interaction. Pink (2009) in Rubenstein (2012) argues that engagement will be achieved if students have the opportunity to select their own interest. Involving TED-ED could support this strategy which started from asking the students to select their own video and driving questions before the class, then use the class time to conduct a meaningful conversation. In other words, according to Dan Mayer (2010) in Rubenstein (2012), the videos that were provided in the site (or we are created) would not only support the students’ but it was also useful for other teachers to evaluate their textbook to make sure that they were not missing something. Similarly, Cox (2011) in Russell (2016) explains that the use of blended learning (using TED-ED) could support students to have a better interaction between other students and lecturers. In this case, the interaction can occur through the discussion in online or offline. As a result, TED-ED supports teacher and students to build interaction through the feature of the site or conducted directly interaction through discussion, and question answers.

6.4.5 Learning Media System (Google Classroom)

“Google Classroom helps students and teacher organize assignment boost collaboration, and foster better communication”. This statement is taken from the official website of Google Classroom (edu.google.com) which is known as an educational tool. Google classroom is available in 2014 and is cooperated with Google Apps. This tool is to facilitate teacher to make teaching more productive, collaborative and meaningful. Also, it connects the teacher and students in ‘classroom’ in a virtual class. As you can see in

the image below, the classroom is illustrated into different box-colour with several amounts of students.

Shaharane, Jamil, & Rodzi (2016) conducted research to 100 students and it revealed that Comparative performance of Google classroom gave better areas of communication, interaction, perceived usefulness, ease of use, and overall students' satisfaction. In addition, for users who are familiar with Google classroom argues that it was helpful to improve the teacher-student interaction during the learning process.

The research found that Google Classroom is easy-to-use and is helpful to build interaction. Heggart & Yoo (2018) reported that Google classroom supported collaborative learning in order students could participate to leave comments. In this case, students can interact in the comment section to respond to the material or to respond to the other comments. Then, every student has a voice to respond something based on their thought. Compares with the traditional class which might some student dominated a discussion, Google Classroom allowed all students to say what they want to say. Therefore, the researcher found some students who enjoyed participating in the discussion electronically, rather than verbally.

6.4.6 Digital Games (Kahoot.com)

Involving game based in learning is needed to help students enjoy and interest in learning. As stated from (Locorish et al, 2018), GSRs or Game-based Student Response Systems (e.g, Kahoot!) is used to support learning, engagement, motivation and fun during the learning process. Further discussion in their research found that interaction and engagement became a benefit that Kahoot! gave to students and teacher. They explained that most of the participant were agree that Kahoot! increased their interaction and involvement in the lecturers through discussion, competition and anonymity.

In the discussion, students interacted and engaged through answering questions, participating in quizzes, and discussions. Moreover, students felt that they were deeper engagement in a learning environment with friends, other classmates, the lecturer or with the whole class. Kahoot is one of a learning game that provides a multiple questions game related to a particular topic. In the context of **competition**, students motivated be to engage with

the material and they also encourage them to interact with their peers. In the context of **Anonymity**, this was a benefit that students could feel comfortable when they answered the question right or wrong without worried to be judged. They were allowed to choose funny names to make it fun, while it was also important to keep the student's attitude to select appropriate name within the game. Based on the explanation, the use of Kahoot! allows a teacher to build positive interaction for students in the context of students-students, students-teacher, and students-lecturer.

Activity 1

1. Identify kinds of media technology to support six type interactions below.

Type of Interaction	Media (offline/online)
Student-student interaction
Student-content interaction
Student-Teacher interaction
Teacher-Content interaction
Teacher-Teacher interaction
Content-Content interaction

Activity 2

1. Find one example of each interaction model based on recent research findings Analyze the interaction by using the template below. (cite the resource)

Interaction Model	Activity	Media
Collaborative-community of inquiry model
Community learning model

Activity 3

According to research findings in Activity 2, What is the strength and weakness of the interaction? Explain your answer. Modify the weakness to solve the problem.

6.4.7 Monitoring progress and providing feedback

Monitoring learning progress and providing feedback are unquestionably among the central components that constitute high-quality education. Range of educational researches have, not only, documented and confirmed findings on the important and strategic roles of monitoring learning progress and feedback provision, but also, on the ways in which they need to do effectively.

Improving learners' performance might begin from and involve constant monitoring of their learning, for it means, "finding out and recording how learners are progressing in their learning as they proceed from entry to exit point of a [] course." (Brown, 1999). In fact, it is believed that there is a link between monitoring learners' progress and their improved achievement/academic performance (Cotton, 1988). The feedbacks that learners receive as part of the instructors' monitoring and observations indicated the presence of learning accountability in ones' course or class, in which, learners are being held responsible not only with regards to the product but also with the process of learning. This, in return, could cultivate better awareness among learners to be more responsible with their own learning. Additionally, giving a constant and systematic check toward students' learning also serve the instructors well on understanding the students' state of current knowledge as the basis for its upgrade. Furthermore, it helps educators and/ or instructors to become more aware of the effect and the effectiveness of ones' instructions, as reflected through the progression of their learners.

While standardized testing and summative assessment have almost always been regarded as a way of providing seemingly accurate picture of learners' current competence and performance (served as the predictor of their academic achievement), formative assessment which involve variety of ways of monitoring learners' progress has also been a significant part of educators/ instructors' day-to-day classroom practice, which in some cases,

they may not always realize of performing them. Informal and formal monitoring of learners' progress, thus, need to be made systematic and an integral part of the curriculum and course design as well as the instructors' instructional strategies, for there is a strong need for a course to generate and be able to present evidence of learning signifying that an accountable learning process is taking place. This is especially true and speaks volume in the context of the student-centred and competency-based curriculum.

Monitoring learning progress and feedback provision are not certainly an end in themselves, instead, they serve as the mediums that aid instructors in re-examining and improving their course design and instructional strategies. The ways in which they are done are also no less important. The body of educational research literature has identified various ways of tracking learners' progress which, among others, involve:

1. *Periodic classroom review*, in a form of various ways of questioning and probing techniques, as well as in a form of quizzes. These particular techniques could help detect any knowledge gaps and/ or misunderstandings on the part of learners
2. *Monitoring seatwork*, with instructors circulating and checking among students during class time
3. *Assigning, monitoring, grading and giving feedback to learners' homework*
4. *Reviewing and interpreting learners' performance data*, for examples, via classroom recording and learners' portfolio.

Earlier researches have also strongly confirmed that the combined use of the above monitoring methods contributes to even more effective monitoring results (Cotton, 1988). Further and attached to those monitoring learning methods are some principled elements that have to be present for qualities of effective feedback (Cotton, 1988; Brown, 1999; Kritek, 2015):

1. Set in a high, yet achievable standard.
2. Communicate clear expectation and guidelines.
3. Conducted systematically; in a regular fashion and in a form of focused or specific feedback.
4. Closely related to the subject or topics being learned

5. Linked to learning's goals.
6. To be addressed promptly.
7. To be trialed and reviewed
8. Display honesty, balanced views and non-judgmental.

Given the above-principled techniques and methods of monitoring learners' learning progress and providing them with feedback will not automatically ease the instructors' attempt in integrating and managing both of them into ones' teaching. Besides the relative and, at times, inadequate amount of class time, the not-so-ideal class size, and the loads of other responsibilities that are likely faced by many instructors, there are also other factors that may hurt any attempts in trying to come up with effective monitoring and feedback which the educational institutions must take into consideration. The universities' support systems can, therefore, take part and take charge in providing, among others:

1. Awareness building on the importance of feedback provision and monitoring of learning for its educators/ instructors.
2. Adequate training for instructors in monitoring learning and giving feedback
3. Relevant and useful tools that instructors can employ in their attempts to check learning and to vary their feedback provisions.

Finally, it is also as important to instil the significance of monitoring one's learning in learners' mind and to teach them to self-monitor their own progress. The notion and techniques are to guide the students through the process of life-long learning and to have ownership as well as the responsibility of their own learning. These, among others, can be done by helping learners to set their own target or personalize their learning goals (against the course learning objectives) and introducing them to simple, time-effective, flexible and achievable self-monitoring system and tools.

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