

RESEARCH METHODOLOGIES IN SPECIAL EDUCATION

(Associate Professor Dr Low Hui Min)

METHODOLOGIES IN RESEARCH

3.1 Introduction

An overview on what will be discussed in Chapter 3

3.2 Research design

1. Explain the research design employed in the study.

Example; Exploratory Sequential Design (Mixed method of Qual-QUAN)

- explain the approach employed in each Qual (i.e interview/ open-ended questionnaire, etc) and Quan (survey/ etc)

2. Explain/ justify the reasons for choosing that particular method.

3. A figure of flowchart can be included to illustrate the research procedure

3.3 Research Location

1. Explain where will the research be conducted. If you conduct it online, you need to explain the area of your research e.g Northern region of Malaysia.

2. Justify why that particular location are chosen. Statement e.g near to house, my teaching school etc is not acceptable. Statement must be formal supported with reference.

3.4 Population and Sampling

3.4.1 Population

1. Explain the overall population e.g ADHD student in USM Main campus is 300 students.

2. Justify/ support your data with reference such as data from Student Department etc.

3.4.2 Sampling

1. Explain the type of sampling (probability/non-probability) then specify into which type that be choose.
2. Justify why that particular sampling technique be used in the context of your study
3. Provide the exclusion and inclusion criteria for sample applied in the study
4. Determine the number of samples size (for quantitative study) using Krejcie & Morgan Table/ G-Power/ Raosoft Sample Size Calculator/ A-priori sample size calculator/ etc and the ways of determining the number of sample size
5. Ensure the chosen number of samples appropriate with the type of analysis that will be conducted.

3.5 Variables and construct

1. Identify the type of variables such as dependent variable, independent variables, mediating variables, moderating variables, controlling variables.
2. Some of particular type of analysis have specific terminology of it variables. Example in Structural Equation Modelling, there is endogenous variables, and exogenous variables.

3.6 Research instrument

1. state clearly the instruments used such as the origin of instruments adapted (the developer of the instruments, previous studies which have used this instruments, the information of validity and reliability obtained, and the number of items.
2. if you are using Likert scale, justify the chosen value of Likert scale that be used in the study.
3. If the items are newly developed by the researcher, then all the procedures in the development process must be described in detail and systematically.
4. A complete set of instrument (after validity and reliability study) should be available in appendix

3.6.1 Validity of instruments

1. Nevertheless, the set of instrument should undergo content validity by experts, and language validity. Validity is important as it identified either the instrument valid to be used in the research or not. Content Validity Index (CVI) can be used to get the agreeable value for the instrument.

2. EFA/CFA then be conducted to check either the particular item is within the designated variable.
3. Amendments to refine the instrument should be done based on the findings of reliability.

3.6.2 Reliability of instruments

1. Reliability is conducted during pilot study to check either the instruments is suitable to be used in the study.
2. an acceptable Cronbach's alpha value should be used as benchmarked in determining the reliability of the instruments
3. the pilot study conducted also able to determine the weakness of instrument, effectiveness of data collection method.
4. amendments to refine the instrument should be done based on the findings of reliability.

3.7 Data collection

1. Data collection is step-by-step procedure of how the data is collected.
2. it should be explained systematically and clearly explain each step e.g approval from ministry and ethics, how the instrument be distributed etc.

3.8 Data analysis

1. after data are collected, a certain procedure must be followed to analyse the data.
2. Explained in-depth the type/category of analysis (e.g deductive thematic analysis, descriptive analysis

a. Qualitative

for qualitative study, a suitable software (e.g nvivo/ atlas.ti) should be specified for coding and identify themes in qualitative data. If a software is not used, then these procedures should be described systematically and clearly

b. Quantitative

For quantitative study study, specify the statistical procedures and the exact label, for example descriptive mean and percentage, t-test, anova, etc together with it statistical software.

- Missing data and outliers
 - o Missing data analysis should be conducted and reported. Outliers should be removed as it can disrupt the output of analysis.
- Classical assumption test
 - o Classical assumption test should be conducted such as normally depending the assumptions lies within the chosen types of analysis

3. A table of summarised of analysis according the RO, RQ and hypothesis could also be included.

Example;

RO	RQ	Hypothesis	Analysis
1. to identify the factors of online learning among ADHD undergraduates	2. What is the factors of online learning among ADHD undergraduates	-	Qualitative Open-ended questionnaire
2. to examine the relationship between IV1 and DV	2. What is the relationship between IV1 and DV?	There is significant correlation with direct effect between IV1 and DV	Quantitative 1. Correlation (Pearson)

3.9 Summary

This section summarized on what have be discussed in the topic

FORMULATING AND REPORTING RESEARCH FINDINGS

1. Do not discuss the findings.
2. Do only report the output of obtained from the conducted analysis.
3. Sub headings are important to hel the readers understand better
4. For qualitative studies;
 - a. it usually begins with descriptions of the sample
 - b. the way of reporting the findings depends on the themes identified in the data
 - c. researchers can also write a summary of the themes, examples of patterns, examples of excerpts and the code of the respondents in a table form
5. Below is the example of outlines for quantitative study.

4.1 Introduction

A brief introduction to the chapter

4.2 Demographic analysis

1. it usually starts with demographic information then followed by statistical description of the variables

4.2.1 i.e gender etc

4.3 Results of RO1 etc

1. then it followed by answering each research objectives
2. tables, figures, graph etc should be presented clearly
3. The use of graphics, diagrams, graphs, table etc are intended to support the text. Thus, each graphics should be preceded by the text.
4. all graphics should be numbered and labelled accurately. Then, it should be explained in the text so that it can integrated with text more effectively. (number of table/ figure i.e Table 4.1 should also mention in the text).

4.5 Summary

This section summarized the Chapter 4.