

CHAPTER III

METHODOLOGY

This chapter is the Methodology, which contain the guidelines and path or way in which this research will be carried out. As Chapter 2 (Literature Review) discusses the theories and frameworks, reviewing the past work done in relation to blended learning, this chapter illustrates how this research will be conducted, starting from the method of data collection, which include both primary and secondary data, the design of the questionnaire, sampling population and plan, and how the data collected will be analyzed using the SPSS software.

3.1 RESEARCH DESIGN

The main instrument for this research is the questionnaire which served as the source of primary data. A 5-point scale was used to determine the level of relevance of a particular item. The lowest point of the scale represents “Strongly Disagree” while the highest point of the scale represents “Strongly Agree”. Since the model of inquiry for this research is positivist, quantitative method of research was adopted. The questionnaires were distributed randomly among the students of the Faculty of Science and Technology (FST), Universiti Sains Islam Malaysia.

3.2 ETHICAL OVERVIEW

The researcher will be vigilant of ethical needs in every step it takes. Despite the research not involving any hazardous or harmful implications, it will be conducted or carried out in the best possible manner and approach in such a way that participants (Students) are not pressurized or harassed. It will also be ensured that the selection of

the participants or respondents is not bias and any contribution of suggestion from others personalities on the way that will be relevant in getting accurate result will be fully considered, welcomed and appreciated.

3.3 PILOT STUDY

Pilot study, is a small scale introductory study carried out in order to evaluate the feasibility, time, cost, adverse events, and effect size statistically in an attempt to predict an appropriate sample size and improve upon the study design prior to the performance of a full-scale research analysis (Hulley, 2007).

Before the beginning of any full research, it is a good step in the success of the research and a strategic approach for researchers to be able to know if their study is valid as well as whether their research design and tools used will capture the data and information they are looking for. The best approach is in conducting a pilot test (Lancaster G. et al, 2004). Pilot testing involves research conducted on a small percentage of the sample population or targeted population of the research. Some researchers conduct pilot testing mostly on just less than 5 or 10 % of the targeted population. This will enable the researcher in having the big picture of the outcome, and can predict the outcome of the research before the main research with a minor deviation or differences. A pilot test will enable researcher to know how appropriate and accurate the research is going to be.

Another advantage of conducting a pilot test is to identify any deficiency or/and mistakes, flaws in the methods and approaches of the research so that they can be addressed before the main or larger research (Wheeler, 2010). The pilot study of this research was carried out on a population of the students of Faculty of Science and

Technology (FST) of Universiti Sains Islam Malaysia, to respond to the questionnaire designed.

3.4 LOCATION OF THE RESEARCH

This research will be conducted within the State of Negeri Sembilan. However, Universiti Sains Islam Malaysia (USIM) was chosen for the research due to time factor.

3.5 SUBJECTS

Any good and appropriate research to be conducted must bear in mind who are the respondents who wishes or targets to respond to the research questions. Malhorta (2011) acknowledged that any targeted population must contain the information that is relevant and accurate to the research as well as being capable of responding to the requests or inquiries by the use of any research tool. There are no specific rules for the researcher, but the researcher must rely on logistic and judgments. In a research environment, it is almost impossible to include all the population in a given area or institution, but by sampling, those who are included have represented the ones that are not selected to respond to the research conducted.

The targeted population of this research was both undergraduates and postgraduate students from FST of Universiti Sains Islam Malaysia (USIM). Students or respondents from all fields of the majors will be selected with no discrimination by either gender, race, religion, physique or other differences as the case may be. As it is previously mentioned that the method of questionnaire was adopted and it was distributed to the targeted population to respond, it was carefully distributed to

respondents that are most likely to respond on time and that are composed and attentive in their daily endeavours. This research focuses on both the undergraduate and the postgraduate students in the said faculty of the chosen institutions, excluding the pre-degree foundation students due to their most likely inability to respond and provide or supply the research with the relative accurate or appropriate result; this may be as a result of lack of maturity. The designed questionnaire was distributed to both undergraduate and postgraduate students in the above mentioned institution. A total of 520 questionnaires was distributed which will cater and reach the quota of the sample or target population for the research based on an appropriate and quality level. Included in the questionnaire is some basic information about the respondent on the front page and the subsequent questions will be based on the research topic.

3.6 DATA COLLECTION

During data collection, the source of data or information for this research is the use of primary data or information which is a questionnaire. This questionnaire was designed to answer the relevant questions on the subject matter and which will support the research.

Primary Data

This research uses a questionnaire as a tool and method of getting data. The use of questionnaire is one of the commonest sources of capturing primary data. These questionnaires will be used in answering or responding to the relevant questions about blended learning. It is targeted for both degree level and postgraduate students bearing in mind that they are intelligent and good academic standards to tick the right option or suggest good answers from university mentioned above which resides in Malaysia.

- Advantages of questionnaires

The main advantages of using quantitative research method is that questionnaires are not time consuming and are easier to conduct since the respondents are more likely to respond to short questionnaire where detailed information are not required.

- Disadvantages of questionnaires

However, respondents that are not willing to complete the questionnaire honestly or cannot be bothered to complete the questionnaire might just simply answer those questions without further thoughts. This will affect the validity and accuracy of the research and might have some impact on analyzing the final result.

The questionnaire will be designed for students as follows:

The questionnaire will be produced in a friendly manner which containing about 30 questions in a simplified English for easy understanding and filling up by any respondent.

The questionnaire is designed in 4 sections.

Section A is the respondent personal information and deals mostly on demography like age, sex, education, marital status etc.

Section B is seeking the student's perception on computer mediated instructions in their university.

Section C is seeking the student's/learner's perception on blended learning adoption in their university.

Section D is seeking the student's view towards computer security issues in their university.

The questionnaire appears in the form of closed questions, which is in 5 likert scales (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree)

3.7 PROCEDURE

Five hundred and twenty (520) printed questionnaires was distributed to the students of FST. Five hundred and fifteen (515) responses were gotten from the respondents. Hence, five (5) questionnaires were left unreturned. As a result of this, the research study was carried out on the five hundred and fifteen (515) questionnaires.

3.8 DATA ANALYSIS

To make meaningful inferences from the study, after collecting or capturing the data with the aid of the questionnaire tool from the various respondents, the data collected was analyzed and interpreted in order to be into meaningful information. This analysis was done with the aid of statistical data analyzer software called SPSS (Statistical Package for Social Sciences). Values and data were keyed into the SPSS and these data were transformed into statistical charts and diagrams based on the statistical tools used. The software produces or brings out the information about a conducted survey or research.

3.9 QUESTIONNAIRE VALIDATION

The questionnaire was based on items drawn from a classroom survey of students Engagement (CLASSE, n.d.), which is an adaptation of the National Survey of Student Engagement; the student survey questionnaire in the appendix of Garrison and Vaughan's (2008) book *Blended Learning In Higher Education* (pp.189-193) and

student survey from Cook, Owston, and Garrison (2004) COHERE study and modified by the researcher to suit this research study.

TABLE 1: Questionnaire Validation Table

Questions Number	Reference
SECTION A A1 A2 A3	Garrison and Vaughan (2008)
SECTION B B1 B2 B3 B4 B5 B6 B7 B8 B9 B10	Sana'a and Ilhaamie (2010)
SECTION C C1 C2 C3 C4 C5 C6 C7 C8 C9 C10	Owston (2013)

SECTION D	
D1	Sommerville (2011)
D2	
D3	
D4	
D5	
D6	
D7	
D8	
D9	
D10	

Source: Garrison and Vaughans, 2008

