

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology and procedures adopted for collecting data. It starts with a description of the research design, followed by the research method, and ends with an outline of the statistical techniques used to address issues of validity and reliability of the instruments used for the collection of data.

3.2 Research Design

This research is qualitative and using the homogenous study. It is more holistic and often involves a rich collection of data from various sources to gain a deeper understanding of individual participants, including their opinions, perspectives, and attitudes. This study collects data qualitatively, and the method of analysis is also primarily qualitative. This often involves an inductive exploration of the data to identify recurring themes, patterns, or concepts and then describing and interpreting those categories. This happens when the researcher first examines the qualitative data thoroughly to find the relevant themes and ideas and then converts them into numerical data for further comparison and evaluation.

According to Beth Lewis (2019), homogeneous groups enable teachers to create lesson plans that are suited to their students' skills and save time by addressing

individual requirements. When students are grouped by skill, they are more likely to have similar questions and problems that may be addressed all at once. When students study with classmates who learn at a similar pace to them, they tend to feel at ease and suitably challenged. Students who are in homogeneous groups are less likely to feel held back from progressing or to fall far behind and struggle to stay up. When done correctly, ability groupings can help students realize their full potential.

Interviews are a qualitative research method that collect data through the use of questions. Interviews involve two or more individuals, one of whom is the interviewer (George, 2020). A research interview involves an interviewer, who coordinates the process of the conversation and asks questions, and an interviewee, who responds to those questions. Interviews can be conducted face-to-face or over the telephone. The internet is also emerging as a tool for interviewing.

This module can be accessed by students (sample) anywhere because it is known as self-based learning which is why A4STEM module is one of the blended learning that have physical and online module. The A4STEM also can be an interactive module because there will be interaction between them in the MOOC before the interview sessions carried out after one month.

3.3 Research Instrument

According to Arikunto (2013), research instruments are tools that researchers choose and employ when conducting data collection tasks so that these tasks become

systematic and aided by them. Arikunto (2013) stated that the most common research instruments used in qualitative research are observation, interview, and document analysis. In this study, the researcher uses interview to collect the data. The flow of data collection will be discussed further in data collection procedure.

3.4 Location

The research location of the study is Kolej GENIUS Insan (KGI), which is located in Universiti Sains Islam Malaysia (USIM). KGI is an institution for the gifted and talented in the country and the second to be built after Pusat GENIUS@Pintar in Universiti Kebangsaan Malaysia (UKM). KGI implements an integrated gifted and talented curriculum based on integration of Naqli and Aqli (INAQ) knowledge. The college has been in operation since 2015. Currently, it has 343 students.

3.5 Population and Sampling

The sample for this research was selected using the purposive sampling technique to obtain raw data and analyse them for results, simultaneously achieving the research goals. The determination of the criteria for the selection of students (Research Sample) for this study was based on the overall academic achievement of Arabic language. The criteria were aimed to help facilitate the data collection for this study.

Thus, 20% of total students from Foundation 2 students as respondents consisting of

boys and girls with their own Arabic language achievement levels (high, medium, and low) to ensure the credibility and objectivity of the results to be generalizable.

3.6 Data Collection Procedure

To find out how are the students interested towards A4STEM module and their Arabic language learning, they were offered to use and review the A4STEM module. These 89 students, from the Foundation 2 (14 years old) batch, have been using Massive Open Online Course (MOOC) platform since the commencing of their studies in the college. Since the A4STEM is an online module and using the MOOC platform, all students are already familiar with the features and characteristics of the online course.

For the purpose of determining the research participants, the subject lecturer will first offer all students to venture with the module. The subject lecturer will also mention that the online module would require the participation of two male and two female students. From the list of volunteers, four students are picked randomly as the research subjects. The students are to study the module thoroughly for one semester. After one semester, an interview session will be conducted to a group student that consist of four students from selected second foundation students that learning the Arabic language.

In terms of ethics, a permission for the students' participation will be obtained from the Human Ethics Committee of Universiti Sains Islam Malaysia (USIM) before the interview is conducted. Once obtained, the researcher will distribute the interview

protocol with a list of general questions, which will be asked during the interview. There will be a briefing with the students to explain the reasons and objectives of the interview.

Once the questions have been evaluated by the experts, the researcher will set the time and date for the session. Since the country is still under Movement Control Order (MCO) due to the Covid-19 pandemic, the session will be conducted online. For this online interview session, the Microsoft Teams platform will be chosen. Microsoft Teams app is provided free to all USIM's students, and they have been integrating this platform as part of their online learning process. Microsoft Teams provides a good and stable video conferencing service. For the online interview session, the researcher will invite the respondents into Microsoft Teams room. It will be set as a private meeting room. The session will be recorded, and the audio will be transcribed and analysed manually for the relevant themes.

3.7 Data Analysis

The researcher will analyse the data collected from the interview session manually. From the interview video, the researcher will transcribe the audio into full texts. Then, the texts will be coded and categorised into suitable and relevant themes as identified based on the research questions and objectives. The interview protocol will be the guide in determining the outcome of the general themes.

The researcher decides not to use any computerised applications for the analysis due to a few limitations. The standard computerised applications such as NVivo and

Atlas.ti would need license purchase. It will also require time and energy to study such complex applications and produce the desired results.

3.8 Conclusion

The piloting process of this research is conducted in two phases. The first phase consists of development, administration and writing of the conceptual knowledge exercise with willing respondents. The second phase is to administer and validate the research instruments. The feedback from interview showed that the conceptual knowledge exercise and concept mapping is valid to be used in data analysis. The conducting of interview and written report would contain adequate information that can be used to assess subject matter content knowledge, educational background, instructional skills, and strategies as well as the effectiveness of A4STEM on Kolej GENIUS Insan students' interest and their Arabic language learning.