

CHAPTER III

METHODOLOGY

As a fundamental chapter, methodology guided this research into systematic procedures including the description of the research approach and type, research setting, source of data, and research participants in the initial part. Subsequently, the details of the research procedures cover research instruments, techniques of data collection, and data analysis are also enlightened.

3.1 Approach and Research Design

The research aimed to examine what are English department students' target needs for autonomous learning through the resources of SAC and to study what are their learning needs for autonomous learning through the activities in SAC. To direct the questions, mixed methods were applied using both quantitative and qualitative approaches focusing on discovering students' target and learning needs based on the need analysis model by Hutchinson and Waters (1987) for autonomous learning through SAC resources and activities. The selection of mixed methods research was based on the consideration of its benefit that mixing two forms of data, quantitative and qualitative data produces new and more complete insights or understanding than what might be gained from quantitative or qualitative data alone (Creswell & Plano, 2017). Thus, mixing the methods was used to gain a more insightful understanding of the student's needs by not only relying on the questionnaire results but also reinforcing and triangulating by a focus group interview.

This study was a survey design focusing on describing the SAC users' target needs for autonomous learning through SAC resources and learning needs for autonomous learning through activities carried out in SAC. A survey research design is a quantitative technique by administering a survey to a specific sample or to the whole population targeting to portray their attitude, and/ or perception, toward a specific issue addressed. (Creswell, J. W., & Creswell, J. D., 2017). As a survey design, this research offered the description of English department students' target and learning needs for autonomous learning through SAC resources and activities

by studying the participant perception of their needs for autonomous learning through SAC resources and activities.

The data were obtained from both quantitative and qualitative data. Quantitative data were gained from the results of questionnaire responses in the form of numbers from SAC users within the SAC under the study. In addition to the quantitative data, qualitative data were collected through semi structured-interview in the form of the users' deep view of their target and learning needs for autonomous learning through SAC resources and activities as a triangulation reinforced the qualitative data.

3.2 Research Setting

The research was projected to the self-access center (SAC) users of the SAC under the English Department of a University in Malang. Thus, the setting of research was set naturally within the SAC under study as the open and free-of-charge English learning center for university students. In detail, the site of research was one of SAC at Muhammadiyah University of Malang (UMM) named "American Corner" which is the so-called Amcor.

3.3 Population, Sample, and Sampling Technique

Among all English department students of UMM as the population of the research, 51 of them as the SAC users who have been visiting the SAC during 2022 were selected through a random sampling technique. The whole 51 samples were required to fill out the questionnaires to generate their target and learning needs for autonomous learning through SAC resources and activities. Among 51 samples, 8 of them were selected as interview participants based on each year of the study accommodating students' needs in all levels of the classes to avoid bias.

3.4 Research Instrument

Since this research purposed to describe English department students' needs for autonomous learning through SAC resources and activities, the need analysis model developed by Hutchinson and Waters (1987) involves target needs and learning needs that were adapted and developed to suit the context of students' needs for autonomous learning through SAC. The instruments utilized in this research were a set questionnaire and an interview guide.

3.4.1 Questionnaire

A set of 16 multiple-choice questions has been adapted and modified from Ortiz (2006) to fit the context of the sample of the study. The instrument was modified in both combinations of closed and open-ended questions. Within the multiple-choice questions, one choice was set to be open-ended permitting the participants to fill out the suitable needs based on their perception without being influenced by the choice. The questions comprised two need analysis elements; target need (8 items) and learning need (8 items) under the SAC resources and activities context. In particular, target needs were related to three elements of “necessities”, “lacks”, and “wants” toward SAC resources, while learning needs were associated with students’ preferred interests, learning styles, and learning strategies based on their desired learning situation on potential activities to carry out in SAC. Among the 8 items of target needs questions, “necessities” consists of 4 questions, “lacks” involves 2 questions, and “wants” contains 2 questions concerning SAC resources.

Meanwhile, among the 8 items of learning needs questions, “interest” contains 4 questions, “learning styles” consists of 2 questions, and “learning strategies” involves 2 questions concerning SAC activities. The content of the questionnaire questions related to four aspects; 1) the short and long-term purposes of self-studying in SAC, 2) the resources needed to support their self-studying in SAC, 3) the interests needed in four language skills activities to self-study in SAC, and 4) the learning styles and strategies to support self-studying in SAC.

The validation of the questionnaire as the instrument of this study was applied by determining the validity and reliability of the instrument. Among the various types of validation tests, construct validity was used in this research. Construct validity refers to the extent to which items of research instruments measure the behavior intended to be measured (Weitzman, et.al., 2020). In the construct validity, the 16 questions of the questionnaire with a total of 105 responses as the instrument was assessed by using confirmatory factor analysis confirming the validity of Ortiz (2006) as where the adaptation instrument from. The result of the validity test through the Pearson correlation test showed that the significant

values of items 1 to 105 were the same at 0.00 which was less than or below 0.05. This suggests that all the 105 items were significant and thus they were valid.

Table 3.1 Tests of Reliability Statistics

Cronbach's Alpha	N of Items
.996	105

Additionally, reliability focuses on the degree to which the instruments of the research are constant and consistent results (Carmines & Zeller, 1979). In this research, the reliability was executed through piloting the instruments to a small number of similar characteristics participants who were English department students. The result of piloted data obtained was assessed through Cronbach's Alpha as the most appropriate measure to assess the reliability. For a pilot study, the recommendation of the reliability value is equal to or higher than 0.60 (Straub et al., 2004). Based on the reliability statistics test result depicted in Table 3.1, the value of Cronbach's Alpha was 0.996 which is higher than 0.600. This denotes that the instrument was reliable.

3.4.2 Interview Guide

To reinforce the data obtained from questionnaires, a semi-structured interview was projected to a smaller number of participants guided by interview guides. The interview guide has been adapted from Ortiz (2006) by modifying the questions into "how" and "why" to reinforce and support participants' responses in the questionnaire. Also, the interview guides questions focus on three key elements of target needs including necessities, lacks, and wants, as well as students' interests, learning styles, and learning strategies for the learning needs. The content of the interview guide related to; 1) how are their necessities, lacks, and wants for SAC resources able to satisfy their autonomous learning needs, 2) how are their interests, learning styles, and learning strategies for SAC activities able to satisfy their autonomous learning needs, 3) why do their preferred necessities, lacks, and wants for SAC resources satisfy their autonomous learning needs, and 4) why do their preferred interests, learning styles, and learning strategies for SAC activities satisfy their autonomous learning needs.

3.5 Techniques of Data Collection

After the instruments have been adapted and modified, they were then used to collect the data for the research through specific techniques. The techniques to collect the data in this research were a combination of close and open-ended questionnaires and a semi-structured interview.

3.5.1 Questionnaire

To reach the research objective, the research began by delivering the adapted questionnaire consisting of 16 questions to the research sample through google forms to give a wider chance for the SAC users to participate in this research. The questionnaire was modified in both combinations of closed and open-ended questions. Within the multiple-choice questions, one choice was set to be open-ended permitting the participants to fill out the suitable needs based on their perception without being influenced by the choice. The questions comprise two need analysis elements; target need (8 items) related to three elements of “necessities”, “lacks”, and “wants” toward SAC resources and learning need (8 items) associated with students’ preferred interests, learning styles, and learning strategies under the SAC activities context.

The respondents were required to select the provided choices in close-ended questions and add additional responses in open-ended questions by filling out their further responses regarding their target needs consisting of their necessities, lacks, and wants toward SAC resources and learning needs in the form of their preferred interests, learning styles, and learning strategies toward SAC activities.

3.5.2 Interview

In the second phase, the obtained data from the questionnaire both target and learning needs were further explored through focus group interviews as a technique where research participants can convey, show, and describe their views, perspective, perceptions, and attitudes on particular issues under investigation so that a researcher can gain a deep, worthy, potential, and rich insight through an interview session (Mirhosseini, 2020). The use of interviews was to provide qualitative data as supplementary data in addition to the questionnaire results both related to target and learning needs. The data obtained from the interview were

expected to enrich the research process and outcomes by providing a truly further and contextualized understanding of the participants' needs and supporting a triangulation process (Mirhosseini, 2020).

The interview was guided by an interview guide concerning students' needs that inquired the participants to elaborate on their questionnaire responses regarding their target and learning needs for autonomous learning through SAC resources and preferred activities in SAC to provide more insightful and fruitful findings. The semi-structured interview was projected to the interview participants that were selected purposively through maximal variation sampling based on the result of the questionnaire. Additionally, the interview conducted with the interview participant was audio recorded to keep the data on-tracked.

3.6 Techniques of Data Analysis

After all the data was completed, the next step was analyzing each of the data by using techniques according to the type of data obtained. As the data obtained were quantitative and qualitative, two techniques were employed to analyze the data, descriptive statistics and descriptive qualitative.

In analyzing the quantitative data obtained from close-ended questionnaire results, 16 questions were coded into 105 responses. Each 105 responses were numbered 2 for the selected, and 1 for the unselected response. All 205 were then analyzed by Statistical Package for the Social Science (SPSS) version 25 using descriptive statistics to find out the frequencies, mean, and standard deviation for all 105 responses to the questions. Furthermore, the result of the statistical calculation was analyzed descriptively. Besides, content analysis was applied to analyze qualitative data obtained from interview results as well as the open-ended questionnaire results which were descriptively analyzed. Reading and analyzing the data was conducted several times to find the indication of students' need for resources and preferred activities in SAC.

In addition, the data analysis process follows three procedures derived from Miles et al. (2014) condensing data, displaying data, and drawing conclusions or verification. To answer research question number one concerning what are the English department students' target needs for autonomous learning toward the

resources of SAC, the data obtained from the questionnaire and interview were then condensed by classifying the responses into target needs. The results of target need responses were further divided into three categories; “necessities”, “lacks” and “wants”. Meanwhile, in answering research question number two, concerning what are the English department students’ learning needs for autonomous learning toward the activities in SAC, the responses obtained were classified into learning needs and further separated into interests, learning styles, and learning strategies.

After condensing, the data were displayed. The data from the questionnaire was displayed in the form of a tabulation based on the division of the condensation result. Meanwhile, the interview data also were displayed by direct and indirect quotations whenever the interpretation refers to the result of the interview.

To validate the descriptive findings of the qualitative data, both methodological triangulation and theoretical triangulation were used in this study. In methodological triangulation, the data from both the questionnaire and interview were triangulated. The triangulation of both questionnaires and interviews was applied to check and confirm the findings from each method enhancing the findings' reliability. As a theoretical triangulation, the result of methodological triangulation was analyzed for the relevance of previous theories or preceding research. The discussion session was the place of the theoretical triangulation which analyzed major elements of the findings that were finally brought to the conclusion chapter to draw a precise conclusion.

The last step of data analysis was the conclusion drawing by confirming the findings through triangulation. In the conclusion section, the review of all the findings and discussion thereby create a complex picture of the research. Future research suggestion was also added to the conclusion part to pursue the existing research.