

A Practice in a Research Methodology Class

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ABSTRACT

There are challenges in teaching research methodology as highlighted by many researchers. Among the challenges are strategies for putting material in context. For achieving this purpose, students' engagement in the learning process needs to be re-looked. This paper shares on a practice engaging students in a research methodology class. The practice aims to assist active learning among the students as informed by the constructivist learning theory. Specifically, a teaching philosophy focuses in applying The Zone of Proximal Development (ZPD) is highlighted. An action research was conducted to investigate how the students learn a topic of research methodology within the practice of ZPD. The action research aims to bridge the gap between research and the practice putting material in the context of learning. The findings of this study showed that students found research methodology a difficult subject, but they experienced good discussion and engaged themselves in the classroom discussion. The discussion assists them in recalling and memorising as well as creating more examples for the context of learning. Nevertheless, they need more meaningful materials to support their learning.

INTRODUCTION

Many students who failed to complete their research project on time found themselves needing more skills in research methodology (Qasem & Zayid, 2019). The challenges have been widely discussed among academicians. Teaching research methodology is a heavy task. It was agreed that more advanced pedagogies in the teaching need to be put forwards (Gunn, 2017). In any instructional study, investigation on the challenges in the learning is always detached from investigation in the teaching. Thus, this study aims to match the instructors' contribution in the teaching and students' view on their efforts made in the learning. Students need to put effort and cooperate in the learning process and not just depend on the instructors' efforts in teaching. Consequently, there is a need to bridge the gap between research and the practice of putting teaching materials in the context of learning. Alternatively it aims to engage students a lot in classroom activities. This paper shares a practice of engaging students in a research methodology class. The practice aims to assist active learning among the students as informed by constructivist learning theory namely ZPD. In a learning process, students' engagement is observed from students' involvement and interest in their learning as well as their connection to the activities in class (Axelson & Arend, 2010). Specifically, this study

aims to investigate the students' perceptions in terms of the delivered content and confidence in the lesson

BACKGROUND OF THE STUDY

21st Century Learning Environment

Today's learning environment incorporates technology to construct and facilitate sharing of knowledge. The learning environment has also emphasized the importance of engaging students in discussion with peers as learners. Hence, working closely among learners and instructors as well as among learners encourages high engagement in the knowledge construction process. Piaget (1969) and Vygotsky (1981) underscored that students gain more and show high desirable outcomes through high engagement in learning discussion. The positive connection between learner engagement and achievement can be explained from learners' development in interaction which ensures that they are actively constructing and spreading their knowledge to more developed and meaningful information. Hence, engagement is seen as students' involvement in interaction and their interest to develop knowledge (Anderson, 2003; Carini, Kuh, & Klein, 2006; Conrad & Donaldson, 2004).

Engaging Students in a Classroom Learning

Students' engagement in learning process contributes hugely to the success of their learning. Aligned closely to creating high engagement among the students, the development of two components, namely (1) quality content of instruction, (2) social interaction in the teaching and learning process needs to be emphasised. Structuring student learning time (SLT) is also an aim to enable the students to engage in learning. Hence, meaningful engagement based on SLT should be emphasized. Setting on the engagement purpose, planning of instruction is expected to expand for more inclusion of activities that engage students in learning so that they can master the content of learning as well as increase their ability to synthesise and analyse the development of knowledge. More importantly, students need to engage themselves in the adaptive learning environment to meet the 21st century skills or lifelong learning competencies, including knowledge construction, critical thinking and teamwork. Thus, it is advocated that students' engagement through structured SLT is needed by ensuring that the students' motivation level is optimal to achieve this objective (Teoh, Koo & Parmjit, 2010).

Applying The Zone of Proximal Development

All students are able to achieve a specific required level of development in their learning with guidance from adult/teacher/more competent person (in collaboration with more capable peers). The believe comes along with the interpretation of *The Zone of Proximal Development (ZPD)* (Vygotsky, 1967;1978;1987). The ZPD is always taken as the main idea associated with end production of learning. The ZPD is a well-known concept which highlights attention on the relation between instruction (material) and development (attainment) within a unity of social and personal aspects.

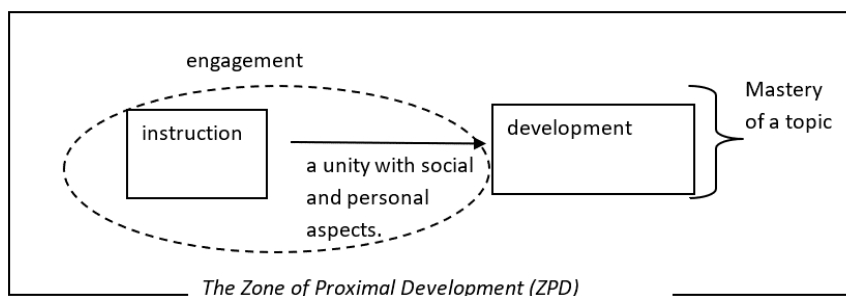


Figure 1: The Teaching Model

It is significantly believed that in teaching and learning, the Zone of Proximal Development applies to any situation of learning, especially in the process of developing mastery of a practice or understanding of a topic (Kilgore, 1999). The process of content mastery requires full concentration. As such, the lesson must be attractive enough to captivate the students' attention to retain the knowledge learnt. This immersion in the lesson is also known as students' engagement. Students' engagement in actions is the main emphasis in the teaching and learning process. The aim of achieving students' full engagement requires some effort of providing organized instruction or material and developing social interaction. Nevertheless, the lack of student engagement among university students is always believed due to less opportunities for daily interaction with each other in learning (Hurst, Wallace, & Nixon, 2013). Hence, appropriate strategies and efforts (as presented in Teoh, Parmjit & Cheong, 2014; Teoh et al., 2013; Teoh, Kor & Parmjit, 2011) need to be performed to create any opportunities for the students to engage themselves in the learning by conducting many activities.

METHOD

Action research involves the process of studying teaching and learning issues or processes and hence provides input on how to improve it (Hensen, 1996; Johnson, 2012; McTaggart, 1997; Mills, 2011). This study aims to investigate students' learning in the topic of 'Population and Sampling' in a research methodology classroom. An intact class of 10 students was involved in this study. The students were currently taking Research Methodology course under a master program at a public university in Selangor. They were observed and interviewed on how they progressed in the class. Their reflections were taken in an interview. The interview was conducted after a lesson was investigated. The students' perceptions in terms of the delivered content and confidence in the lesson Inputs from the interview were further discuss for more improvement. The practice focuses on some specific discussion based on content in the following display.

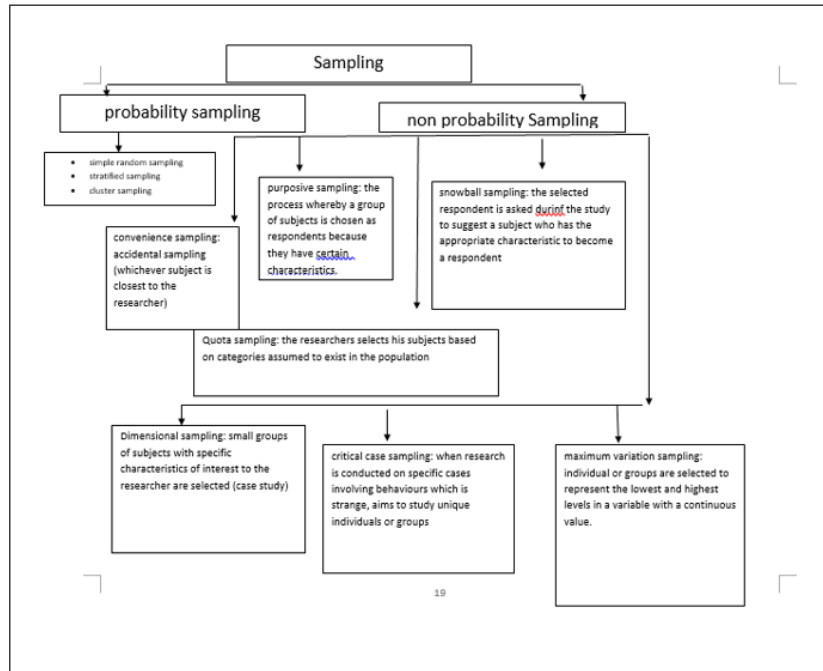


Figure 2: A diagram for the content about ‘sampling’

Students were engaged in discussions on the different types of sampling. They were asked to state the important features of the sampling techniques as well as to describe the differences. They were guided to provide inputs in the discussion by questioning. The instructor guided the discussion systematically by asking simulated questions. The examples of inquiry were done based on the following questioning.

1. What are the major types of sampling? What are the differences among the major types of sampling in Probability sampling? Please find the differences among random sampling, stratified sampling and cluster sampling from the text book (Fraenkel, J.R., Wallen, N.E. & Hyun, H.H. (2012). *How to Design and Evaluate Research in Education*. New York: McGraw Hill Inc.)
2. There are similarities among purposive sampling and dimensional sampling. What are they?

RESULTS

This study aimed to investigate the students’ reflection in the classroom learning. The data was analyzed according to the interview questions.

Interview Question 1: Do you find the diagram clearly displayed in terms of the content about sampling?

Students need more description of the **contents** for the discussion. Content of instruction convince students on the knowledge they gain. They need more examples with more descriptions. Details of information is highly expected as described by R1 that “...the diagram is quite complicated. Maybe it can be divided into two pages. Probability for one pages and non probability one pages”; The students were not confident of their level of understanding without going through examples as prescribed by R2 that, “I will understand better about each

sampling if it has examples. As for the arrow for probability in non probability sampling, it is a bit confusing because it too close to each other. If the diagram has more distance then it will be okay. Also, the diagram still lacks some sampling such as confounding sampling. The Instructor's role is significantly important to bring in the content since the written details are required among the students. R3 defines in her text that "For me the diagram is good in terms of how it is separates the types of sampling. But the content in the diagram is too short and I would not understand if there was no example provided."

Interview Question 2: How do you find the learning in the 'population and sampling' class? (eg: like it, satisfaction, find it a bit confusing) Describe it.

The students agreed that they learned a lot from the discussion. The discussion was conducted in a responsive manner. The students were freely given the opportunity to discuss under the instructor's supervision. The instructor provided hints and more description following up from the students' points. Among the guidance was instructing the students to refer to certain pages in the text book; the students were instructed to provide differences of the sampling as they viewed the text. They found that their counterparts did help their studies by stating that "The lesson about sampling is quite confusing because there are several sampling which look similar to each other. But examples from Dr and my classmates plus the textbook examples helped me to understand a little bit."—(R3). The discussion can help them to recall as stated by R2: "I only remember some of the sampling that had been discussed in class such as when Dr. explained with a diagram and arrow for confounding an intervening sampling." As well as R1: "Yes of course it is confusing a little bit. But when we discuss with each other the examples like snowball sampling from Suraya, I still can remember what she explained."

Interview Question 3: Do you have confidence to differentiate the types of sampling after the lesson?

They found themselves more confident in facing their examination. They found that their confidence came from discussion - "...Have confidence for some sampling only. When I read in the textbook, I didn't understand the types of sampling. But when we discussed together with the examples, I got it. But I just remembered for sampling that we discuss with the example only."-(R1)

Interview Question 4: Any comment about the lesson.

They like guided discussion. R1 found that she remembered and could recall the content since the discussion helped her to memorize. R1 shared the following: "I like the process of the lesson when we have a lot of discussion with examples. Sometimes when I read, I don't understand. But after the discussion with examples, I clearly understand and automatically can remember until now. R2 also stated that: "I like it when we discuss with each other in class because we can share some knowledge that we had before this." However, R3 found that more allocation of time is required for them to have more discussion. He stated: "I like it when we discuss with each other in class because we can share the knowledge that we had before this".

DISCUSSION AND CONCLUSION

The students found that it **is interesting to join the lesson in terms** of discussion. They found that they could remember certain concepts through **more given examples**. Nevertheless, they need more description or **contents** for the discussion. They also need **more time**.

This teaching practice is echoed in studies done by Leach and Zepke (2011) and Waters (2009). The students were engaged to be successful, confident and responsible individuals. They took their responsibilities seriously and put in their own efforts to guide themselves as well as their peers in the discussion. The responsibilities included putting their own efforts to source information from their text book and collaborate it with instructor's guidance to add more content. Even though the content was limited without any diagrams or any conceptual organiser but they were properly guided and they took charge to allow themselves to acquire the knowledge through the text book used in the discussion. They provided more examples themselves and the examples were validated by the instructor. In this case the instructor played a major role to increase their level of confidence by adding some points and guiding through the lesson. The contents and inputs need to be focused since they are crucial in any environment of learning (Nipper, 1989). On the other hand, learners' experience was seen as worthwhile since it fostered students' thinking and helped them to understand better. Carrasco and Torres (2018) categorized students' who have higher exposure to classroom discussions as students who have more tolerant attitudes to other people and they have more egalitarian values to make the lesson enjoyable and challenging, regardless of their prior attainment and background. Technically speaking, discussions which require interaction is now becoming an important element in learning since it has become a crucial role in fostering students' thinking. Further investigation is suggested to look into how the interaction plays a major role in learning as well as learning community (Bernard et al., 2009; Moore, 1989).

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