

Chapter Four

Findings and Discussion

In this chapter, the researcher presents the findings and discussion of the research which answer the research questions. The first research question is about the strategies in developing students' critical thinking. The second research question is about the challenges that teachers of the EED of UMY face to develop students' critical thinking. The researcher reports the findings and also adds the theories to support this research and to attain the answers of the research questions in the discussion.

Strategies in Developing Students' Critical Thinking at the EED of UMY

To answer this research question, the researcher took the data by interviewing two participants. Based on interviews, the researcher found some strategies that were usually used by both participants to develop students' critical thinking. The strategies were a questioning strategy, classroom discussion and debates, writing assignments, problem based learning, reading assignments, and providing feedback.

Questioning strategies. The researcher analyzed, the questioning strategy can be used to develop students' critical thinking. Both participants believed that the questioning strategy can be utilized to enhance students' critical thinking. The teachers were the ones who decided the topic in applying the questioning strategies and the students answered the topic in classroom. As stated by participant one, "I asked the students to create some questions that would be

answered by themselves with their critical thinking skill” (P1.33). When applying the questioning strategy, the two participants applied similar strategies by giving questions. However, participant one added that sometimes the questions from the students. On the other hand, participant two stated, “I gave the students some questions which can trigger their curiosity” (P2.8). In applying the questioning strategy, participant two gave the students some questions based on what they read and then they must answer in the discussion.

To summarize, the questioning strategy was employed by teachers to develop students’ critical thinking because the strategy has many advantages. This was supported by Groisser (1964), who stated that the purpose of the questioning strategy is to stimulate the students’ interests, test students’ progress, promote understanding, develop new insights, and stimulate their logic and critical thinking. When the students are asked by the teacher, they may use various critical thinking skills such as interpretation, analysis, and recognition of assumptions to make a conclusion. Therefore, the use of the questioning strategy in learning activities helps teachers to evaluate students’ knowledge and understanding of their thoughts and others.

Classroom and group discussion. The data showed that both participants believe that classroom debate and group discussion are the strategy that can develop students critical thinking. As participant one stated, “I used group discussion to increase the students’ critical thinking” (P1.30). In the implementation, the role of the teacher was as an instructor and facilitator. The teacher gives certain topics to the groups of students. Then, the students should

discuss the provided topics with their own group. In addition, participant one said, “I try to accept the students’ opinions to create secure environment” (P1.31). She further stated that when students’ opinion is accepted by teachers or other students, the students feel confident to express their opinion in learning activity. Participant two also used group discussion to develop students’ critical thinking. “Sometimes, I create classroom or group discussion to develop students’ critical thinking” (P2.9). She added that from what they have read before, they will have a discussion in class. She gave the students some cases and then they needed to solve the problem. For example, in one of her courses, she gave an option to students to choose between 2 textbooks, and in the end of classroom activity students had to choose which books was the most suitable of two books based on their idea.

Group discussion conducted at the EED of UMY had many advantages. Besides enhancing students’ speaking skills, group discussion also increases students’ critical thinking. This research finding was actually in accordance with Walker (2003) who stated that classroom discussion and debates can develop students’ critical thinking. Shortly, this research revealed that applying group discussion could increase students’ critical thinking.

Writing assignments. Another strategy used by teachers of the EED of UMY to develop students’ critical thinking was writing assignment. In writing assignments, participant one asked the students to read and write a conclusion based on their understanding of what they read previously. This activity is called a closed book journal activity. Participant one said, “I used closed book journal to

assess the students whether they have read or not” (P1.12). Moreover, Participant one added, “I have to know what my students know. How I know what my students know is by doing the closed book journal” (P1.28). Closed book journal is a strategy to require the students to read. Meanwhile, participants two said “In the end of semester, my students were required to make a text book about what they have learned” (P2.12). In the end of the semester, for the final assignment, students had to make a text book based on their knowledge and understanding of the material that had been learned in one semester.

In writing assignments, the students can enhance and develop their critical thinking skills. This research finding was in accordance with Walker (2003) who stated that writing assignments can encourage the students to think and make conclusion in a written form of their understanding. These assignments promote critical thinking among students because they should present their understanding and their conclusions in a written form.

Problem based learning. The researcher found that the problem based learning is another strategy used at the EED of UMY to develop students’ critical thinking. The data showed that there was only one participant saying that problem based learning became the strategy that can develop students’ critical thinking. Participant two stated, “Sometimes, I used problem based learning activities” (P2.11). Teachers give the students some cases and then they need to solve the problem. For example, in material design courses teacher gives the option for students to choose between 2 textbooks, and in the end of classroom activity students had to choose which book was the most suitable of two books based on

their ideas. Problem based learning aims at giving the students chances to solve their problem. In problem based learning, the students need to identify what they know and need to know, define problems, generate solutions, and test and evaluate their solutions. Those statements proved that the teachers can apply problem based learning to develop students' critical thinking.

In brief, the research finding revealed that problem based learning was applied by teachers of the EED of UMY to develop students' critical thinking. Indeed, using problem based learning has several advantages. This was in line with Torp and Sage (1998) stating that problem based learning increases students' motivation, and promotes higher order thinking.

Reading Assignments. Reading assignments is the strategy used by 2 teachers of the EED of UMY to develop students' critical thinking. Participant one said, "I developed students' critical thinking through reading activities" (P1.8). Participant one added "I required the students to read by expecting the students' to have curiosity about what they have read and learnt" (P1.7). Hence, students can relate their existing knowledge to new information and they get a lot of new information.

Moreover, participant two also used reading assignments to develop their students' critical thinking. Participant two said "I asked my students to read" (P2.7). In reading assignments, the students should be critical thinkers. They were required to read a book, a novel or journal articles, and then they should formulate a conclusion based on what they read. Statements of two participants indicated

that the reading assignments force the students to read and understand what they read.

Reading assignments have some advantages. First, the assignments can also be applied with other strategies to develop students' critical thinking. Usually, reading assignments are followed by writing assessment and discussion. Participant one stated, "After the reading assignments, I conducted a closed book journal activity to assess the students' awareness of reading" (P1.12). Closed-book journal is a reflective writing where students have to read a book and then they express their conclusion by answering questions from the teacher based on what they have read. Moreover, participant two stated, "After reading assignment, students will do discussion in class, in the discussion they will evaluate what they have read, or they will synthesize what they have read" (P2.9). Second, conducting the closed book journal and discussion after a reading assignment was believed as a good strategy because the students practiced it continuously. Participant one said, "Using the closed book journal can encourage students to read and develop their critical thinking" (P1.28).

In further analysis, the use of reading assignments as a strategy to develop students' critical thinking has been proposed in several literature. For instance, this was in line with Tung and Chang (2009), who stated that using reading assignment can encourage students to think critically. Therefore, reading assignments can be said as a good strategy to develop students' critical thinking.

Providing feedback. The teachers of the EED of UMY provided feedback to motivate students in developing their critical thinking. The data showed that there was only one participant saying that providing feedback was a strategy in developing students' critical thinking. Participant one said, "Feedback is the most important aspect in developing students' critical thinking" (P1.29). In this strategy, the teachers gave the feedback on the students' paper assessments. Thus, the students would know which part they should improve.

The research finding revealed that providing feedback was applied by teacher of the EED of UMY to develop students' critical thinking. According to Duron, Limbach, and Waugh (2006) the purposes of feedback is to enhance the quality of students learning, performance and it help students learn how to asses their own performance in the future. Based on the result, the researcher concluded that providing feedback to students was considered as a good strategy to develop students' critical thinking at the EED of UMY.

Challenges Faced by Two Teachers of the EED of UMY in Developing Students' Critical Thinking

This section discusses findings of the second research question. From the interviews, the researcher found that the EED of UMY teachers faced five challenges in developing students' critical thinking. Mainly, the challenges could be categorized into several themes, namely difficulty in incorporating aspects of critical thinking, lack of resources, students' passive behaviors, time constraints, and difficulty in designing class activities. However, in this section, the researcher

discusses the challenges in detail followed by other researchers' or experts' findings.

Difficulty in incorporating aspects of critical thinking. The findings presented that both participants got difficulty in engaging aspects of critical thinking in their lesson. In developing students' critical thinking, the teachers also faced several challenges. The main challenge was because developing critical thinking needs a good strategy and the teachers have to endeavor to design classroom activities that meet the need of all learners. Participant one said, "Connecting subject contents to an activity that increases critical thinking is also challenging" (P1.20). Furthermore, "the students met difficulty in linking their existing knowledge with the materials that they learnt" (P1.23). Participant one revealed the reason why students have difficulties in linking their existing knowledge with the materials that they learn. First, students are not accustomed to think critically. "Students are not familiar with critical thinking that makes them confused" (P1.24). Second, students are trained in schools to memorize the information, and not to think critically. "The difficulty for students to think critically is that they have grown accustomed to memorize information" (P1.25). Third, teacher-centered learning that have been taught in school does not encourage students to be curious. "Teacher-centered learning does not encourage students to be curious" (P1.26).

Another challenge was also stated by the other participant. Participant two said, "I got difficulty in formulating some questions that were suitable for the students" (P2.5). Hence, formulating some suitable questions suitable for the

students also became a challenge. Moreover, Participant two said “It was difficult to give questions which can encourage students to respond the questions and to state their opinions” (P2.6).

In a further analysis, the researcher found that the challenge found in the EED of UMY was actually in line with a study of Choy and Cheah (2009). They maintained that teaching critical thinking is challenging because teachers get difficulty in incorporating aspects of critical thinking into their lessons. It is difficult to design learning activities that meet the needs of all learners, and to seek out strategies that foster students’ ability to learn and process information.

Find the right resources. In developing students’ critical thinking at the EED of UMY, the teachers also faced several challenges. Mainly, in developing students’ critical thinking, the challenge was that the teachers have difficulty in finding right resources for students. The data showed that there was only one participant who said that selecting the right of resources for students was the challenge in developing students’ critical thinking.

First, students were hard to understand the resources when they got materials in English. Participant one said, “The challenge was finding the right resources or materials for the students that were not too easy and not too hard to understand” (P1.9). Second, it was difficult for the students to understand if the resources were in English. “To find some resources or materials in the English language is quite difficult” (P1.10).

Thus, it can be concluded that the challenges in developing students' critical thinking is due to lack of resources. The challenge was actually a common challenge in teaching non-English students. Moreover, according to Mimbs (2005), many teachers lack of adequate resources. The teachers do not have a wide variety of learning activities due to lack of resources. Therefore, it can be concluded that there will always challenges in developing students' critical thinking.

Students' passive behaviors. Another challenge in developing students' critical thinking was that the teachers faced students who have passive behavior during learning activities. Both participants answered that teaching students who have passive behaviors are the challenges to develop students' critical thinking. As stated by participant two, "Students' awareness to read is low, so when asked to read by teachers before the class started, they started to read in class instead" (P2.2). Hence, students did not have much information and opinion to express in the learning activity because they did not read enough. Participant two added, "Only a few of students were active in the classroom activity" (P2.3). Most of students keep quiet and do not participate in classroom activities; this situation makes the classroom activity not run well.

Besides, the students' performance in the class also becomes a challenge in developing their critical thinking. Based on the interviews, a research participant said that there were a few students who were willing to think. Participant two stated, "Only a few students tried to think when the teacher asked a question" (P2.4). Another challenge was also stated by the other participant.

Participant one said, “Students were accustomed to memorizing information” (P1.25). Participant one added, “teacher-centered learning does not encourage students to be curious” (P1.26). Hence, it will be difficult to develop students’ critical thinking because they are accustomed to memorizing information rather than thinking critically.

Paul (1990) stated that students are used to passing classes and tests without thinking critically. Hence, the students get used to relying on their teachers to provide them with the information. Consequently, this habit stunts their ability to analyze. Therefore, developing students critical thinking is challenging when teachers meet students who have passive behaviors in the learning activities.

Time constraints. The research findings presented that time constraints is another challenges in developing students’ critical thinking. The data showed that there was only one participant who said that time constraints was the challenge in developing students’ critical thinking.

Participant one said, “Giving feedback is challenging because it takes a lot of time” (P1.13). Feedback is one of the strategies used by teachers of the EED of UMY to develop students’ critical thinking. This was supported by Mimbs (2005) that enhancing critical thinking during learning activities takes much time and many efforts. Hence, teaching critical thinking is challenging for teachers because it takes a lot of time and patience.

Difficulty in designing class activities. In developing students' critical thinking, the challenge was difficulty in designing class activities. The data showed that there was only one participant who said that difficulty in designing classroom activities was the challenge in developing students' critical thinking. Participant one explained "designing teaching activities is challenging to develop students' critical thinking" (P1.21). Actually, designing class activities is important.

Based on the aforementioned results, the researcher concluded that designing classroom activities was included as a challenge in developing students' critical thinking at the EED of UMY. According to Mimbs (2005) challenges using critical thinking in the classroom is the students' interest in points only. Most teachers find difficulty in designing classroom activities which meet the need of all learners that can enhance students' critical thinking.