

CHAPTER V

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

This chapter provides several points to be discussed, including conclusions, limitations, and recommendations. The first section is the conclusions of the findings, which highlighted some important points of the previous chapter and elaborated the answers to the research questions. The second section is the limitation of the study that explains some gaps in some areas. The last is recommendations for teaching and learning practice as well as suggestions for future studies on promoting students' higher-order thinking skills in online learning.

5.1 Conclusions

The present study reports teachers' attempts to promote students' higher-order thinking skills through online learning as well as the challenges they encounter. This study investigated the type of questions that appeared during the lesson and the assessment, the learning methods chosen by the teachers, and the challenges of promoting students' higher-order thinking skills in online learning from students, teachers, and technical support aspects. This study was conducted at a secondary level and concluded several main findings.

Concerning the first research question, "how do teachers promote students' higher-order thinking skills through online learning?" this study found that the teachers conducted several strategies to promote students' higher-order thinking skills. First, teachers assisted the students to understand the concept and context of the learning materials. Pictures and questioning were utilized to stimulate them to think. They argued that pictures should be relevant to students' world to help their understanding regarding the materials. After the students had understood the concept and context of the materials, the learning process could proceed to more complex stages.

Secondly, teachers provided higher-level questions that involved analysing and evaluating thinking process. The teachers' effort of promoting students' higher-order thinking skills appeared in the learning and assessment process. Despite multiple-choice assessments, the teacher managed to provide analysing and

evaluating questions. However, some teachers might not successfully construct higher-order thinking questions due to the learning materials. For instance, they usually have much difficulty to promote or construct higher-order thinking questions for the grammar lesson. The students ability is one of the factors that teachers take into account. Direct teaching, such as lecturing, was illustrated more efficient to be implemented to teach grammar. It did not benefit students' higher-order thinking skills, but positively contribute to the time management. Regarding higher-level questions, creating skill was not successfully demonstrated. Perhaps, the teacher misunderstood creating skills with merely writing activity. If the prompt only required students to rewrite or summarize the text, it did not count as creating since it did not show students' original ideas.

Third, the teachers implemented inquiry methods to promote higher-order thinking in online learning as it created a student-cantered learning environment. They provided prompts and questions that covered remembering, understanding, analysing, and evaluating to stimulate and facilitate the thinking process. Promoting students' higher-order thinking skills did not mean eliminating lower-order thinking questions. Remembering and understanding questions were utilized to assist students' understanding of the learning materials or text before getting into higher-level questions. Unfortunately, the learning method sometimes was not conducted appropriately. The data collection and processing were not demonstrated when the teacher gave a lecture to teach grammar. It affected the class activity and the assessment process, which were limited to remembering and understanding skills. The other teacher managed to provide students to collect and process the data regarding the problem given, but the activities took much time. The teacher also could not conduct her task to monitor students' work progress. It implies that teachers' ability to manage learning time greatly contributes to successful online learning.

Regarding the media, both synchronous and asynchronous were used in online learning. Synchronous media were mostly used to check students' understanding and explain the learning materials. The teachers believed that synchronous media facilitated them to create real teaching and avoid the stereotype that teachers' role during online learning was only sending assignments. However, technology support

and literacy played a crucial role. Synchronous media would not be available for every meeting due to the internet connection, and it affected the interaction between teachers and students that was time-consuming. In addition, the teachers did not fully explore the features provided in the media, such as utilizing interactive features. The issue with the learning media was related to the teachers' ability to utilize the media and design the learning process.

Regarding the second research questions, the challenges of promoting higher-order thinking skills in online learning generally involve three main factors. First, the nature of online communication caused the students to be more reluctant to communicate and be active in the learning process. It prevented the teachers from monitoring what was going on with the students, whether the camera was purposely turned off or disconnected. Besides, the teachers were unable to facilitate lower-achiever students well as they might slow down the learning pace and take much time to respond. Meanwhile, asynchronous media was only used to deliver the assignments and class instruction. Although the teachers were invited the students to ask questions both synchronously and asynchronously, there was no online discussion or interaction that demonstrated higher-order thinking skills.

Secondly, it was related to pedagogical issues such as the teachers' understanding of higher-order thinking skills and the online learning design—one of the teachers still associated higher-order thinking skills with difficulty level instead of thinking complexity. In addition, the teachers did have much time and immediate support to consult their problem in designing the online learning or constructing higher-order thinking items in the assessment process. To decide the class activities, the teachers seemed to rely on the textbook and did not make much modification; meanwhile, the textbook was not designed for online learning.

Last but not least, the technology support needed improvement. For instance, the unstable internet connection contributed to the learning pace, and limited internet data demanded the learning process to be conducted as efficiently as possible that the online learning process was about teachers' instruction and assignment.

At this stage, teachers and educators should consider improving technology literacy in education as technology is rapidly growing and becoming one of the students' needs, despite the learning subject. There is also a factor that is far more important than just understanding the technology, which is understanding the concept of higher-order thinking skills in the learning process. No matter how sophisticated the technology is provided, if the teachers do not understand the principles of higher-order thinking skills, the learning process will unlikely help students develop their higher thinking skills. Last but not least, successful online learning is sometimes dependent on students' autonomy and efficacy that are out of the teachers' control. Teachers found it difficult to carry out the monitoring process through online learning, so those students' autonomy and efficacy are crucial in learning success.

5.2 Limitations

This study investigated the teachers' attempts to promote students' higher-order thinking skills in online learning as well as the challenges. The prompts and activities that demonstrated higher-order thinking skills during the learning process were categorized based on revised Bloom's taxonomy (Anderson et al., 2001). Regarding the shortcomings of the bloom taxonomy explained in the literature review, the results of the study are not able to provide a detailed description of the thinking processes appeared in the findings. Moreover, this study concerned with the cognitive domain and ignores other domains. Although there might be some more sophisticated and up-to-date thinking taxonomy designs, this study still adopted Bloom's taxonomy since the curriculum that guide the teachers in the research setting refers to Bloom et al. (1956) as the ground theory to promote higher-order thinking skills.

The institution where the study took place has not carried out online learning for long. In other words, online learning activities were new issues to the participants. Thus, the results of this study will only relate to the same settings, not to those well established in conducting online learning.

Regarding the research methodology, this study involved two to three meetings for one learning topic. Due to the chosen learning topic and limited observation

time, the participants might have more strategies and challenges to promote higher-order thinking skills that were not presented during the study.

The findings of this study also could not present the discussion or students' interaction. The participants allowed students to discuss in pairs online and it was not observable. Hence, the findings only present interactions that appeared during online learning through synchronous media only.

5.3 Recommendations

This current study offers some pedagogical implications to be considered by the teachers and educators, as well as some suggestions for further studies that concern promoting higher-order thinking skills in online learning. In the light of pedagogical implications, this study highlighted several points. First, the study showed that creating skill was not present in the learning process, whereas it necessarily appeared in the learning process due to the learning objective. The learning objective involving studying a particular text usually require students to compose the same text. Composing activity that is stated in the lesson plan expects students to compose their original essay not to summarize a text which occurred during online learning. It implied that the teachers might misunderstand creating with merely writing. To avoid such misunderstanding or confusion, the teachers and educators may be provided a guideline in a more simple form, such as a table consisting of the goal, keyword, and main activities that represent each thinking skill. It is more practical to use while constructing questions or prompts rather than using a guideline book or syllabus which contains more pages.

Second, addressing the challenges during synchronous online learning, the teachers might try the flipped-classroom method (Alsowat, 2016; Bergmann & Sams, 2012). In the first meeting, teachers deliver the materials such as texts, video, or audio to be observed and analysed along with a few questions. It will provide much time and space for students to think and discuss individually or in a group. Teachers invite the students to present their works or opinions at the next meeting. Through these activities, higher-order thinking will be supported while the students deliver their opinions and reason. This method allows the synchronous meeting to

be less time-consuming, but at the same time, the teachers are able to serve their monitoring function.

Third, the grammar learning illustrated in the findings did not support the higher-order thinking process. It might be true that lecturing or direct teaching seems a better option for a big-size class with lower language skills, but at least the assessment process could be supplemented with analyzing, evaluating, or creating processes. For instance, at the end of the learning process, students are required to make a video of them talking about a past event in their lives (Lestari & Wardani, 2019) or write a short story based on picture series (Lestari & Azizah, 2020). Teachers could emphasize the certain tense so that the students pay more attention to the verb form. Through this activity, students are encouraged to present their own ideas based on the lesson taught in the class.

Fourth, if this online learning is to be continued, the technology support and literacy should be improved rapidly, especially the internet connection. In the study setting, all students and teachers have been equipped with sufficient devices but a stable internet connection, which is very important to maintain interaction, deliver tasks, collect data, and so on. Technology literacy is related to how sophisticatedly an individual utilizes available technology, which is also a challenge for teachers. The teachers did use pictures in the learning process, but following prompts and contexts were neglected. The teachers also did not use the interactive features available in the application. Thus, teachers' training and workshop regarding the technology in the educational field need to be conducted to introduce the recent application, software, and digital features that could work well on online learning, especially in language learning.

Regarding future research, this study provides several recommendations. First, this study used Bloom's taxonomy to identify the higher-thinking process and only concerned with the cognitive domain. Future research might explain the issue from broader perspective or use other cognitive frameworks such as Webb's depth of knowledge and Marzano and Kendall's taxonomy. Secondly, regarding the study setting, future research might choose an institution that has established online learning for a long time. Most distance learning studies in Indonesia are a sudden

and new phenomenon. There are very few institutions that might thoroughly and fully support the online learning process regarding the technology or media used, the learning methods, the textbooks, and even the curriculum. It could be a great reference for further development of distance learning. Last but not least, this study limited the data collection to only one topic for each teacher. Future research might present the data containing more learning topics and learning meetings to present more data regarding the teachers' strategies to promote higher-order thinking skills in the online setting.