CHAPTER V

CONCLUSIONS, PEDAGOGICAL IMPLICATIONS, LIMITATIONS OF THE STUDY, AND RECOMMENDATIONS

This chapter presents the conclusions, pedagogical implications, limitations of the study, and recommendations of the study. The conclusions section concludes the result of the study related to the research questions. Besides, the pedagogical implications section implicates the relation between the research findings and the implication for the practice of learning. Then, the limitations of the study section explain the limitations related to the implementation and the research findings of the study, which are required to solve. Last, the recommendations section explains recommendations for the schools, teachers, and researchers related to the research limitations.

5.1   Conclusions

This study had investigated the teacher's metacognitive regulation in designing HOTs-based questions to enhance the students' HOTS. From the investigation result, some conclusions have been raised. Seeing from the teacher's implementation of metacognitive regulation in designing HOTs, the teacher implemented the metacognitive regulation types, which consist of planning, monitoring, and evaluating starting from the beginning to the ending of the teaching process. In detail, the teacher implemented metacognitive regulation type of planning as the beginning phase of the teaching and learning process. In this phase, the teacher's metacognitive regulation in designing the questions can be inferred from how the teacher sets his particular goals, selects appropriate strategies, and schedules the time. In setting the learning goals, the teacher designed the questions related to the desired outcomes. Since the learning goals were about asking and giving opinions, thus the teacher designed the questions to facilitate the students expressing their opinions. In this phase, the teacher also activates the students' prior knowledge to encourage them to think.

Besides, in selecting appropriate strategies, in both two meetings, the teacher implemented several teaching strategies to help the students understand the

materials. Some teaching media were presented, such as pictures, videos, audio, and games. The use of those teaching media was used to activate and encourage the students' thinking process. In scheduling the time, the teacher properly allocated the time to achieve the learning goals. In this part, he expressly set different time allocations for each exercise in the teaching process to have sufficient time to complete the learning goals.

Then, concerning monitoring as the second metacognitive regulation type found in the main activity phase can be inferred from how the teacher monitors and controls the teaching and learning process. In this phase, the teacher assessed how helpful his teaching strategies were and how far the students understood the material provided. Subsequently, dealing with the evaluation as the last teaching and learning phase, the teacher evaluated the students' accomplishments to see whether they achieved the learning goals or not. This achievement reflected how successfully his teaching process regulated himself in designing the questions to enhance the students' HOTs.

In implementing this metacognitive regulation in designing HOTs-based questions, some particular challenges have also emerged. These challenges were classified into four categories: the challenge from the school, teacher, students, and technical aspect. In detail, the teacher often found the school's challenge about the time allocation for each learning material. To overcome this, the teacher utilized the limited time properly to convey the material and enhance the students' HOTs effectively. Then, the challenge from the teacher was related to the teacher's difficulties in selecting the native language pattern materials to design the appropriate questions. As a solution, the teacher chose the material carefully and changed the topic if the suitable materials were not found.

To some extent, the challenges from the students cover several points, such as the students' language switching in answering the teacher's questions. Rather than forcing the students to use English, the teacher preferred to please them to speak in Indonesian language and respond to it using English to improve their skills and provide them beneficial input. Then, the teacher also found the challenge related to the students' less motivation in the learning process. As an impact, the students were not motivated to answer the teacher's questions. Relating to this case,

the teacher often provided the students with some follow-up questions to activate and motivate the students' thinking process. Besides, the teacher always praised the students' answers to motivate them to actively participate in the learning process, encouraged their self-confidence, and provided a variety of exercises. Aside from the students' language switching and less motivation, the teacher also faced the students' grammatical errors as another challenge. Facing this phenomenon, the teacher always provided the students direct feedback to improve their asking and giving opinions. Later on, the teacher also found the students' wait time in answering the teacher's questions. The students took a long time to finally pop their answers up. Dealing with this, the teacher frequently called the students' names repeatedly until they spoke up. It was helpful to encourage the students to stimulate their thinking process and express their opinions. The last was the challenge from the technical aspect, it was related to the need for internet stability to maintain the teaching and learning process. As the solution, the teacher showed the students an appreciation of their works to encourage their engagement in the learning process. Ultimately, those challenges were well-solved by the teacher through implementing his metacognitive regulation in teaching.

Moreover, another focus of this study was about the impact of the teacher's metacognitive regulation in designing the questions on the students. The way the teacher designed the questions significantly impacted the student. The impacts could be seen from the students' understanding of the material provided by the teacher. Through the teacher's questions, the students could stimulate their thinking process to increase their knowledge and understanding. Besides, the teacher's questions also improved the students' focus of attention. This students' attention positively influenced the students' HOTs because by paying attention to the teacher's questions, they could easily activate their thinking process. Later on, the teacher's questions also impacted the students' active involvement in the teaching and learning. The students were engaged in expressing their opinions so that it improved their thinking process. Aside from those three impacts, the teacher's questions also impacted the students' interests. In designing the questions, the teacher presented engaging learning media to make the learning process enjoyable.

As an impact, the students were willing to be active and responsive to the teacher's questions. It was beneficial to stimulate their thinking process.

Therefore, as mentioned above, the teacher's metacognitive regulation was implemented in the whole teaching and learning process. Although several challenges were found, the teacher using his metacognitive regulation could overcome the challenges encountered. The teacher's questions have the same connection to the students' HOTs since the well-regulated teacher in designing HOTs-based questions provided significant opportunities for the students to think at a higher level. It can be said that how the teacher designed the questions impacted the students' academic achievement.

5.2   Pedagogical Implications

Concerning the result of this study, it is essential to provide particular attention to the pedagogical implication of this research. Teacher's metacognitive regulation is one of the essential aspects of the successful teaching and learning process. This metacognitive regulation remains as a beneficial factor that the teacher needs in regulating themselves in the instruction before, during, and after conveying the lesson to maximize the learning process (Hartman, 2001). Having substantial attention on metacognitive regulation has become an important educational field goal. How the teacher regulates his thinking process may impact how he conveys the materials to the students. It is inherently related to a more active cognitive process and a better understanding that directly improves someone's performance (De Backer et al., 2016).

Facilitating a well-regulated learning process becomes essential to achieve the desired outcomes in the teaching and learning process. This can be executed by designing the appropriate questions. Giving substantial attention to design the questions is considered as an important factor to improve academic achievement since these questions can help to enhance the students' thinking skills (Assaly & Smadi, 2015). Even more importantly, the teachers' questions can help the teachers improve the teaching and learning process in their classrooms (Ahmadi & Kurniawan, 2020).

The metacognitive regulation is beneficial to help the teacher in regulating the learning process starting from the beginning until the end of the learning

process. The whole process can be well-regulated through the process of planning, monitoring, and evaluating. Hence, the teacher can significantly plan, monitor as well as assess the learning process by regulating his thinking process.

To sum up, this study also pinpoints that the well-regulated teacher in designing the questions can significantly improve the students' thinking skills. Through this strategy of metacognitive regulation, the teacher is able to design HOTs-based questions, which are essential to improve the student's HOTs. As a result, it fulfills the demands of 21st Century development in which HOTs become a primary concern.

5.3   Limitations of the Study

The implementation of the study cannot be avoided from several limitations. These limitations cover several main points, such as collecting and analyzing the data. Since this research was conducted in online learning due to the government regulation of the current pandemic situation, the data collection techniques, including observation and interview, were gathered in the form of online meetings. For the observation, the limited time of meeting due to the school regulation also contributed to the limitation of this study. This study was conducted in the form of two meetings in the form of online learning. Due to this online learning, the researcher was hard to directly observe the learning process, which influenced the investigation of the research questions. To some extent, the researcher also interviewed the research participants via WhatsApp voice call. As an impact, the internet connection that was not stable also influenced the interview process. The researcher was required to re-explain the questions to the teacher and the students to help them understand in order to get more valid data.

Furthermore, related to analyzing the data, the researcher was quite hard to analyze and measure the data. As explained this metacognitive regulation as the primary variable of this study covers an implicit way. As clarified by Teng (2019) that the analysis of metacognition is quite challenging because it is not an explicit way. Thus, the researcher found it was pretty hard to analyze and measure the data findings of the study.

5.4   Recommendations

Concerning the results and limitations of the study, several recommendations are considered essential to be focused on. The recommendations are pointed to several stakeholders, such as the schools, teachers, and future researchers. For the school, it is essential to give the available longer time for the teacher to teach English, especially in enhancing the students' HOTs. This learning process requires more time for implementing and strengthening the students' HOTs since it requires particular attention as stated by Zohar (2013) that the implementation of HOTs in classroom settings needs more substantial attention than adopting a new curriculum due to its requirement in changing the way teaching and learning practice be implemented.

Then, for the teachers, it is essential to mainly focus on regulating themselves in the teaching and learning process due to its effectiveness in achieving the desired outcomes. The teachers' awareness of planning, monitoring, and evaluating the teaching and learning process significantly impacts their skills, abilities, and performances. When they have good skills, abilities, and performances, they can significantly improve the learning results.

As explained before this study mainly focused on the teacher's metacognitive regulation and is considered as an implicit way. Thus, more data collections will be required to fulfill the research needs to get more accurate data findings as clarified by Veenman (2005) cited in Jin and Kim (2018) that more than one method is essential to study the metacognition. As a result, future researchers must gather the data using multiple data collections to get rich data findings. Examining more than one teacher as the research participant is also suggested to improve the research findings. Ultimately, several stakeholders must execute several recommendations to provide the betterment of the research findings.

5.5 Concluding Remarks

This chapter has presented the conclusion of the study to conclude the research findings, pedagogical implication to explain the research implication especially for the educational field, limitations of the study and recommendation to provide better improvement.