CHAPTER V
CONCLUSIONS, IMPLICATION, AND RECOMMENDATIONS

The conclusion of the research is written based on the sequenced research question. The highlighted findings in the discussion are reported in a body text with the comparison between the GBL groups thematically, including the benefit and drawback. Also, the direction of future research and the anticipation of the unexpected occurrences during the implementation of GBL is presented briefly.

5.1.   Conclusions

The experimental research conducted in this research was aimed to figure out the implementation of game-based learning. Technological use in the classroom changes rapidly. Thus, teaching innovation has come to question the effect of games for teaching writing.

The result indicates various results. From the two experimental groups that were conducted, only one game-based learning group which reached the level of significance, and the other one did not reach significance for some reason.

The means of the three groups was increased from the pre-test. Nevertheless, only GBL with inquiry strategies reached level of significance compared to the control group. The collaborative group did not reach a significance value compared to the control group. It indicates that within the GBL framework, the group with inquiry strategies is better than the collaborative strategy.

There are some explanations that the researcher drew from observation. The factors had made the difference between inquiry and collaborative group.

First, the collaborative group requires preparation. It takes much time to finish a task. While the students in the inquiry group progressed fast on doing the task on hand, the collaborative group was much slower.

Second, the collaborative group had more error during game section, which disturbed the progress of the whole team. Because the inquiry group worked individually, it did not depend on the other student. On the other hand,

when a collaborative team encounters a technical problem, the whole flow of learning affected.

Third, the hype with the competitive environment was tremendous in the collaborative group. The students cheered, yelled and celebrated their achievement, resulting in higher energy expenditure high during the gameplay. Not to mention that it was bad side, but it requires a specific way to deal with the transition as well, especially when the lesson was transitioning from exciting into explanation mode. Also, the hectic environment affects the teacher as well. Compared to the inquiry group, the collaborative group spent more teaching energy. The energy expenditure was high during the competitive game. On the bad side, the teacher wasted some time to reset the classroom condition to calm the hype.

In contrast, students enjoy learning with game-based learning. When they were in touch with the game application, they immersed in what they played. As they focused on doing the task on hand, the teacher's job was less stressful. Part of the job that the teachers do in a class was substituted by game. For example, in the game design, the integration of automatic scoring to e-mail can reduce administrative task. Using PHP programming, the score can be saved into an online database. Unfortunately, until this research was finished, it was still in unresolved. Other researchers can try to develop the game further by integrating the result into an online database that connects with LMS like Moodle, Blackboard, etc.

The data from the questionnaire and interview reveals that the students had a good experience during learning. As they clearly see the objective in the gameplay, they also received personalized feedback from the game. Besides, the game is acting as scaffolding to their content and context understanding. When positioning the player with intentionality as the protagonist, the player started to think themselves as the person whose decision was matter; they built efficacies from the gameplay. In the game design, the Transformational Play framework has been successfully integrated with a riddle for teaching English.

The riddle can be a medium for teaching. Puzzle riddle allows the player to think for their choice. By integrating the riddle element with the

"Transformational Play" framework, the researcher had found it worked to create a joyous learning experience.

It is worth to note that while the students were playing the game, they were actually reading the content. For some students who did not like reading in the second language, it shall be a problem. Conversely, the result in the interview and questionnaire indicated the opposite, and the students enjoyed reading as part of the gameplay. Puzzle riddle has the potential to develop students' schemata about a particular case and, with a narratively rich environment in puzzle riddle, the students were aroused as they tried to solve the problem.

5.2.   Implication and recommendations

The use of technology has been regulated under Indonesian Education Minitrial Law no. 16 the year 2007. It is imperative for all teachers to develop teaching with technology pedagogy. This research has a contribution to the utilization of game as digital educational technology. When the experiment was conducted, the researcher asked the students "Do you want to study with games again?" The students answered "We do!" enthusiastic. Their response was quick, which implied that game-based learning provided a joyous learning experience. Hence, the researcher encouraged the education practitioner, especially the teachers, to use game-based learning as a part of the teaching program in a semester.

Currently, there are limitations for teachers to find a game that matches with teaching material. The education ministry can mass-produce a game that matches with the educational goal. Hence, the teacher can have a library to choose a suitable game that relates to the syllabus. Producing a game individually takes much time and requires many resources; the government can share the spending on the development of teaching media for all teachers in the nation.

Though, the researcher appreciates the ministry's program to develop a game for teaching-learning. The researcher also notices that the Indonesian government had begun many contests to make a game for teaching since 2012. However, the contests were not specifically designed to meet the need of classroom resources. As uploaded at www.m-edukasi.kemendikbud.go.id, some

software size is too big for the classroom. Light software that encourages interaction and participation can be another alternative for the next development program. It is essential because the implementation of GBL is considering the file size for the ease of use.

Pedagogically, the utilization of GBL for the classroom has been easier by the current technology. Some free simulation games can be used as the medium of instruction. The value in game-based learning is in the opportunity for students to take action where the students' choice is matter. Unlike other teaching media, game-based learning has high interactivity with the content of the game resulting in high engagement.

However, there are some obstacles when the game was implemented in the classroom. To some extent, the obstacles can be fatal without a proper solution. Anticipating the obstacle during the implementation can help teachers to implement game-based learning as well. Some notes for the implementation are:

1. The game size has to be light for all devices to load.
2. Teacher's assistance helps the technical difficulty when troubleshooting.
3. The connection has to be available for an online game. This research used mobile tethering and students' data connection. Alternatively, mi-fi or modem can be used for sharing connection purpose.
4. Mobile phone's low power problem can be anticipated with the availability of power bank.

Despite the problem during the implementation, the researcher had found that riddle and "Transformational Play" match well with teaching writing. For other subjects, more research on this field shall be conducted. As an interviewee mentioned, not all subjects are suitable for game-based learning. Nevertheless, it is also a challenge for other researchers to conduct this research on a different subject.

For other researchers, some evidence on the improvement of students' writing had been presented. The researcher is also sure that the implication to other skill can be improved as well, though, it is worth testing. However, it is

encouraged that the examination of writing skill shall be more specific, like onto the writing's fluency, accuracy, and complexity.

Also, the other researcher can try other strategies for game-based implementation. Inquiry and collaborative strategies cope well with game-based learning. Although collaborative strategies did not achieve level of significance in this research, the students had a positive attitude toward game-based learning. In the researcher's assumption, a different strategy will provide a different result.

The researcher also admitted that the sample in this research was limited to only 37 students. Although 10-20 samples are acceptable for experimental research, a bigger number of samples are expected to be more reliable.

Finally, long term experiment is expected in the future to see the changes in the students' behavior toward game-based learning. There is also a new media effect that occurs in this study. While the new media can impress students with a positive attitude, long-term study is worth experimenting for the implementation of game-based learning.