Web-Based Gamification: Problems in EFL Classroom of Higher Education Due to Online Assessment Employment

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Abstract: *Gamification is considered new concept in education especially in assessment in which the idea of using elements of game to create engaging assessment. Assessment is really important in education due to its function to get valid and rich information of the students' test which will be utilized as the tool to make betterment in teaching and learning process. This article will discuss gamification application within assessment environment: implementation problems and its solutions. The researcher will use qualitative case study for this research. Qualitative case study methodology offers tools for researchers to investigate and understand complex phenomena in their contexts. The respondents of this research will be students of higher education and a lecturer who has used gamification for assessment for years in his class. This article will reveal the picture of gamification test mechanism. Furthermore, it is able to promote technology in education in this century to facilitate teaching and learning process.*

Keywords: *Gamification, assessment, element of game, teaching and learning process.*

INTRODUCTION

Technology is obviously integrated in every part of human activity in which it is in invented to facilitate human's life. Technology is a real thing in education field and it grows intensively year by year until today. Inevitably, everything will be promoted by using technology including in education. Today's education there are many schools, institutions and universities employ technology assistant in their teaching and learning process including assessment which is really important in education. Assessment is the way to measure how far the students comprehend the subject which the teacher has explained. However, assessment is also for teacher to conduct evaluation of teaching learning process. According to (Linn, and Miller, 2005) Assessment is for students in which teacher collect more information about students' learning progress systematically. In addition, thus, the way the teacher attitude towards assessment will influence how students identify the study content, the class, and their work (Brookhart, 1997).

Designing a good assessment will contribute to the success of teaching and learning process. Consequently, the use of technology in assessment is necessary because it will facilitate the teacher to get a good assessment design. The use of paper bases-test will be fully replaced in the future because the paper based-test is really rigid and not efficient for some conditions. In Indonesia the use of technology in education is increasing year by year. It is encouraged by the government where the curriculum which will be implemented fully in Indonesia based on the computer-based assessment. In 2018 it was the first time of carrying national final examination by using computer in Indonesia. Furthermore, teachers and students should be familiar with technology especially computer and internet.

To engage more students interest, gamification based assessment can be employed because most of the students like playing game. According to Landers and Callan (2011) gamification means the use of elements which are associated with game e.g. game mechanics used for an educational purposes to make engagement of learning. Additionally, Deterding et al. (2011) define Gamification as non-game contexts in using the element of game design. There are a lot of game elements that can be integrated into teaching learning process and assessment such as personalized fast-feedback, scoreboards, points, leaderboards and badges (Muntean, 2011). Each of game elements contribute to students' engagement. Fast-feedback is really helpful for

students as they do not know about things on subject. They can get more comprehension after the teacher gives feedback. Scoreboards and points will engage students to learn more because they can see their progress on some subject. Leaderboard will increase students' competition-sense because they know their rank every moment. Badges is appreciation for students if they accomplish some activity. Moreover, there are more elements of game which can be used to create gamification based test. However, lack of familiarity with navigation controls may negatively influence student performance and student motivation. Rivera & Bauer (2012). Thus, a teacher should give tutorials to his students initially in order that the students are not confused of the system.

There are some previous studies about gamification based assessment which had been conducted beforehand such as the study conducted by Erna Oliver (2017) in Africa entitled "Gamification as Transformative Assessment in Higher Education". The study focused on gamification application within educational environment especially on assessment. The result of the research was that gamification application within education enhance course on higher education and the researcher initiated to promote gamification based assessment as a transformative online assessment tool in higher education. Moccozet et.al. (2013) conducted a study which goal is to create an enabling environment to stimulate learning by peer sharing and formative feedback and Elmahdi, Al-Hattami, & Fawzi (2018) conducted a study which investigates the effectiveness of using the classroom response system Plickers, which is a technology based formative assessment tool, in improving students' learning. The findings showed that using Plickers for formative assessment aid the learning process as it improves students' participation; saves the learning time, guarantees equal participation opportunities, and creates fun and exciting learning environment.

For the aforementioned previous studies, they do not discuss about implementation problems of gamification based assessment. However, in this study, the researcher is interested in the investigation of problems that will possibly happen in gamification based assessment. Finally, the researcher conducted the research in IAIN Surakarta because the lecturer has already used gamification based assessment with Quizizz application for years.

Assessment

Assessment is used by teachers to collect complete information about students' learning progress systematically (Linn, and Miller, 2005). Furthermore, the result of assessment which teachers conduct will also influence the teachers on their teaching method and activity. The performance of students can be measured in many ways (e.g. extended responses (essays), traditional paper and pencil tests, student self-report, teacher observation, and performance of authentic task (Linn, and Miller, 2005). The core of assessment is to gain students' progress towards leaning goal incidentally or intendedly and a good teacher will never ignore his students. According to Brown (2004) there are several basic principles of assessments in order that it can be clear:

- Periodic assessments, informal and both formal, is able to enhance students' motivation and progress toward the learning goal.
- Appropriate assessments serve in strengthening and retention of information.
- Assessments can identify areas of strength areas which need treatment.
- Assessments can offer a sense of constant approach to elements within a curriculum.
- Assessments can promote student autonomy by encouraging students' self-evaluation of their progress.
- Assessments can motivate learners to have goals.
- Assessments can evaluate teaching effectiveness.

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There are two of the most common types of educational assessment namely formative and summative assessment which each has a very specific purpose as well as notable differences. Formative assessment is the evolution of assessment which is defined in reference to the inferences of assessment result which educators are able to do further action. The formative assessment was later integrated into mastery learning (Bloom, Hastings, & Madaus, 1971). In addition, Formative assessment is evaluation the process of developing students' competencies and skills in the form of help to accelerate students' growth and progress of learning (Brown, 2004) and Feedback from formative assessments is considered as intrinsically motivating (Ames and Archer In Wei, 2014).

While summative assessment aims to measure, or summarize, what a student has grasped, and typically occurs at the end of a course or unit of instruction (Brown, 2004). Summative assessment is an overview of previous learning' (Garrison et, al., 2007) given by teacher to determine a specific point in time what students do not know and know periodically. Students understanding towards some subject in the period given will be tested to know whether or not student has accomplished objectives which is to ensure whether or not students deserve to go to the next level. It is in line with (Christopher et.al, 2015), they say that the focus in summative assessments is on determining if the examinees are competent to progress to the next level. Both types of assessment will be easier as the teacher us technology which based on online. Teachers can obtain massive information of learners' progress and they can manage into storage in which it is accessible everywhere they are as long as there is internet connection.

Computer-Based Testing

The use of computers and electronic devices has become popular all around the world, especially in evaluating the language proficiency of English learners, the most precise and available way is through computers and on-line process (Fleming & Hiple, 2004). Such developments in computer technologies have influenced many areas including educational settings such as online learning, testing and assessment (Pommerich, 2004).

The integration of computers and several electronic devices grow rapidly in this world including in evaluation of the language proficiency in which online process are utilized (Fleming & Hiple, 2004). However, the development of ICT influences educational settings especially how teachers teach and assess their students' progress on some subjects by online. Teachers will try improve the efficiency and effectiveness of what they will do. Inevitably, they will use technology to meet their goal.

Computer-based testing is known as computer-assisted or web-based tests which massive test-takers are able to be involved to the test (Brown, 2004). It is one of the ways to conduct a test which will be taken by many people. It will not offer more loos than paper-based test. Testers do not need lots of paper to buy and do not need to hire many people to be supervisors. All is replaced by using technology. According to Brown (2004) Computer-based testing offers a lot of advantages as follows:
- Classroom-based testing self
- Directed testing on various aspects of a language (vocabulary, grammar, discourse, one or all of the four skills, etc.)
- practice for upcoming high-stakes standardized tests
- some individualization, in the case of CATs
- large-scale standardized tests that can be administered easily to thousands of test-takers at many different stations, then scored electronically for rapid reporting of results

- In addition, according to Richard (2015) students can do the test from everywhere they want as long as they have computer with internet connection.

Although, it offers many advantages, there must be any disadvantages as well. Brown also mentions some disadvantages of CAT as follows:

- Lack of security and the possibility of cheating are inherent in c1assroom-based, unsupervised computerized tests.
- Occasional "home-grown" Quizzes that appear on unofficial websites may be mistaken for validated assessments.
- The multiple-choice format preferred for most computer-based tests contains the usual potential for flawed item design. In addition, multiple choice test has a greater possibility for students to cheat (Fask, Englander, and Wang 2014; Styron and Styron 2010).
- Open-ended responses are less likely to appear because of the need for human scorers, with all the attendant issues of cost, reliability, and turnaround time.
- The human interactive clement (especially in oral production) is absent.

In addition, According to Linden and Guo (2008) Time delay was a factor of cheating behavior in computer-based test because students can memorize the items of the test.

Gamification

Gamification is considered a new term which appeared in the form of computer software in 2008 which based on online (Zicherman & Cunningham, 2011). Furthermore, the term gamification gained popularity and attention the year after 2010 in which the idea of gamification referred to integration of social aspect and reward of games into software. The term of gamification is from Zicherman and Cunningham (2011) defining that the gamification as the transformation of the mindset and the use of gaming rules to enhance students' interests and problem solving.

Landers and Callan (2011) give definition on gamification as "the use of elements associated with game such as game mechanics to an educational purposes to create more learning engagement". Additionally, Deterding et al. (2011) define Gamification as "it is non-game contexts in using game design element". Gamification can also be used for the purpose of improving user engagement, motivation and instruction (Kim, 2015). To create a gamification system that increases student motivation, it is necessary to focus on fundamental elements that make video games appealing to their players (Dominguez, et al., 2013).

Gamification applies characteristics of video games, such as game mechanics and game dynamics to non-game applications (Buckley & Doyle, 2014). Game mechanics are tools, techniques, and widgets that are used as building blocks of gamifying a website or application. According to Ifenthaler et al. in Oliver & Erna (2017) on the advantages of gamification in an educational environment, specifically focused on assessment are the following: Assessment while learning in a game-based environment mostly focuses on the process.

Designing a good gamification strategy for assessment is really important to create successful assessment. One of the main challenges is to create immersive gaming scenarios that can be used as evaluation tasks, provided that they meet the quality criteria of evaluation (for example, considerations of fairness, validity and reliability) (Rivera & Bauer, 2012). However, one of the challenges for the developers of these tools is the effort required to implement those game mechanisms:

- The complexity of using information from outside the scope of a single assessment tool or even a single course, e.g. keeping track of the progress of a student along an entire degree.

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- The need to re-define or re-implement gamification features in a variety of tools, without the ability to reuse those features

METHOD

The research will use a descriptive case study with a single case design that investigates a specific case, explaining and describing the case or event. Having a case study will provide the researcher situation happening in the classroom during teaching and learning process that had not been exposed (Yin, 2003). The data will be collected in the field in which participants experience the problem or issue of the study. The researcher collect the needed data by using questionnaire and interview to a lecturer and 2 students as the representor or the sample of the population in the class. After the data are collected, the researcher analyze them to get findings and conclusion.

FINDINGS AND DISCUSSION

After collecting the data by employing questionnaire and interview to students and a lecturer, the researcher obtained main data which would be analyzed further to get the conclusion. Quizzizz is a platform which provides an online assessment by using elements of game to make the assessment engaging. The lecturer has been using this platform to gamify his assessment for years and the students has completely gone through gamified assessment with Quizzizz for a year. The first result of the research question is that cheating often occurs in online test. It happens because there is no a supervisor which can monitor the students while doing a test in real time. It is in line with what Brown (2004) that Lack of security and the possibility of cheating are inherent in c1assroom-based, unsupervised computerized tests. In addition, multiple choice test has a greater possibility for students to cheat (Fask, Englander, and Wang 2014; Styron and Styron 2010). Furthermore, students can be easily do what they want because the test is conducted not in exactly in the same place. Some students prefer doing a test in their home and some prefers in the university which is available internet. According to Richard (2015) students can do the test from everywhere they want as long as they have computer with internet connection. Its flexibility encourages students to do cheating.

The second result of the data collection is still in the relationship with the first result in which Students easily ask to their friends about some answers of the questions. It is possibly happens as well. It happens because there is time delay which gives students a chance to do cheating. According to Linden and Guo (2008) Time delay was a factor of cheating behavior in computer-based test because students can memorize the items of the test. Consequently, they can share it to other students who do not take the examination yet.

The following result is that Lack of familiarity with navigation controls influence students' performance. According to Rivera & Bauer (2012) Lack of familiarity with the system and the controls of navigation will negatively influence students' performance and students' motivation. Every platform has its own system and design. Thus, there will be any differences to operate it. The students should familiar with every system in every platform including Quizzizz. Lack of familiarity with the navigation control lead the students having errors in doing a test and it will discourage them to do a test and the impact will be their score. They will get a bad score from the test they passed. A teacher should give tutorials about the system for familiarization process.

Having no gadget will be a problem as well in implementing gamification based assessment because the test is in the form of digital and it needs gadget or laptop to access the test. As

students do not have the device, they cannot join the test. Thus, as the teacher wants to employ gamification, they should make sure that all students have the device to access the test. In the other word, teachers should be able to provide the device for their students.

For the teacher, selecting correct elements of game for a test is somehow difficult. The elements of game should meet the goal of assessment. According to Dominguez, et al. (2013) said selecting game element will create students' engagement to do a test so that it is necessary to focus on fundamental elements. Selecting wrong game elements in assessment means failure. Thus, the teacher should be careful. Even the teachers may not design the software but they have to be able to find and use the suitable elements and system in every assessment platform in internet. There are many platforms for assessment besides Quizzizz such as Schoology, Moodle, Edmodo. Etc. Which are free in internet.

CONCLUSION

From the finding and the discussion, the researcher can conclude that the main problems in implementing gamification based assessment such as Cheating often occurs in online test, Lack of familiarity with navigation controls influence students' performance, Students will easily ask to their friends about some answers of the questions, Students have to have gadget to do the test, Having internet trouble influence students' motivation to do a test and Selecting elements of game for a test is difficult. Those all abovementioned contribute to the assessment failure. Teachers should consider them the most if they want to employ gamification based assessment.

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