

GAMIFICATION IN TEACHING INNOVATION: PERCEPTION OF TEACHER ADAPTATION WITH THE ORGANISM-RESPONSE STIMULUS PARADIGM

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ABSTRAK

The use of gamification in teaching innovation provides hope to involve students, motivate in their learning study. Most of the previous studies examined the success of gamification for students. However, there are few studies that examine teacher perceptions in adapting the application of gamification. In this study, we used a qualitative approach to delve deeper into the opportunities and barriers teachers feel in implementing learning gamification. The results showed that some teachers could see the benefits of gamification in attracting students' interest in learning and creating more interactive learning. From the other side, some teachers find gamification challenging in its application. The perceived barriers for teachers to use gamification are lack of time in preparing gamification, lack of knowledge about gamification, and inapposite class arrangements for game education activities. There must be a stimulus from related organizations in overcoming this problem, for example by providing teacher training on the benefits of applying gamification to encourage the response of teachers in implementing gamification learning.



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1. PENDAHULUAN

Gamification is a trending topic of education. Innovative educational method to motivate students and improve the learning process (Parreño et al., 2016). The use of games in education several previous studies have shown. Game education help children master their environment, also create imaginary worlds (Piaget, 1962). Games can also be used as a powerful tool in acquiring knowledge, not just for entertainment (Abt, 1970). The origin of the term gamification itself began around 2008 and was increasingly recognized when books on game-making mechanics in various scientific fields were published in 2010 (Deterding, 2011).

Gamification in learning can motivate a generation of students who have grown up of video games (Glover, 2013). The application and use of

gamification in learning activities is aligned with the active learning style favored by the millennial generation and in line with the preferences of a generation that is technology-friendly, team-oriented, and shows achievement. These are some of the factors that should be seriously considered when determining the ideal teaching method for the millennial group (Jain & Dutta, 2019).

The development of technology in teaching is an opportunity for education, but also a challenge for teachers (Gabrielle, 2002). These technology-based educational games have the potential to challenge teachers' attitudes towards technology literacy, the outcomes of gamification in the classroom are also uncertain. Given these mixed learning outcomes, teachers are challenged about their decisions as to whether or not to apply gamification in their

classrooms. The challenges for teachers in applying technology-based teaching methodologies include expected learning outcomes, costs, and benefits. Costs related to teaching, such as preparing new equipment such as computers and the internet and time devoted to preparing new teaching materials (Mena & Parreño, 2017).

The covid pandemic, which has lasted for two years, has forced teachers to be able using technological devices in the learning study (Zhou et al., 2020). Motivating students to keep learning online is a big challenge for teachers during a pandemic like this. Teachers are required to be innovative in providing teaching so the teaching and learning study to runs as well. The game is a common thing that is often used in teaching. However, Gamification uses computer technology tools in implementing it, so computer knowledge is needed in its implementation. Many previous studies that have examined the success of gamification have been carried out, such as (Seixas et al., 2016) which discusses aspects that must be considered in the use of gamification in education, Among other things, Using other gamification strategies, it is also possible to generate student creativity.

The main purpose of this research is to fill in the gaps to find out the teacher's perception of gamification and the teacher's obstacles in using gamification. The structure of this letter is divided into three parts. In the first part, researchers review the literature of gamification and ask research questions. Second, methods and results are disclosed. And in Part 3, researchers discuss arguments, conclusions, research limitations, and future research avenues.

Understanding how teachers adapt to technology-based teaching innovations can using the Stimulus-Organism-Response paradigm as a theoretical lens.

This theory are three elements, (stimulus), the message, (receiver) the recipient and (responses). effects This theory basically assumes that effects are reactions to certain situations. where, one can understand the meaning and purpose of a number of messages conveyed through the received media (Mehrabian & Russell, 1974). To distribute the message against the use of technology is a must. While individuals who are not reached by the message exposure, it is assumed that they will not be affected by the message content. The stimulus research is application of teaching gamification in universities. While the organism or receiver here is the teacher who was chosen to be the informant in this study.

3. METHODS

The research study uses a qualitative approach in three ways of collecting data, namely: interviews, observations and documentation of teachers' perceptions of learning gamification. Interviews were

conducted using telephone and e-mail networks. Observations were carried out by taking classes organized by informants on a zoom basis, due to the COVID-19 pandemic. While the documentation is a report on the results of student learning outcomes. Data collection was carried out for four months. Informants from this study were 20 teachers who participated. The criteria for selecting informants are informants must be active in teaching at universities and know about gamification learning. The teacher profile consists of twelve female and eight male. The length of teaching is between five to 16 years in various fields of knowledge.

Data analysis An inductive approach is used in analyzing research data in the form of interviews, then processing the interview data into several codes, for example, "Gamification is fun", Adaptation of teaching". The results of the interview are exposed, then analyzed and it can be concluded that the outline is conveyed (Creswell, 2017)

2. FINDINGS AND DISCUSSION

Obtain data related to teachers' perceptions of gamification in learning, researchers conducted observations and interviews with twenty teachers in Banten. They are all currently teaching at six different Colleges. The interview questions are divided into two parts, namely part 1 there is a statement about the teacher's opinion about the application of gamification in learning, and part 2 is a statement to explore the extent of the obstacles to the application of gamification for teachers. The results of these data can be seen as follows:

Table 1. Profiles of Teachers Interviewed

Name	Gender	Years in Teaching	Field Science
DK	Female	12	Economy
DT	Male	8	Computer
HR	Female	10	Accountancy
RC	Female	15	Language of Indonesia
KS	Male	18	Statistics
WB	Female	11	Management Marketing
FY	Female	16	Administration Office
EJ	Male	9	Math economy
LS	Female	8	Taxation
GY	Male	12	Language English
UW	Male	18	Computer
JG	Male	12	Management Marketing
MY	Male	10	computer
RS	Female	7	Technology of Industry
AR	Male	8	Electro
DE	Female	14	Public Relation
IY	Male	12	Advertising
MY	Female	9	Statistic
SK	Female	8	Accountancy
HN	Male	10	Taxation

Teacher's perception of the benefits of gamification 85% of teachers agree that they prefer to teach using gamification. The characteristic of gamification is that there is a system of assessment and reward given, fostering student ambition to be the best. Learning atmosphere is more fun than usual. This is because playing makes students unencumbered while learning and enjoys the whole process with fun. The following is a summary of the

results of the interviews regarding the perceived benefits of implementing teaching gamification:

"I think the application of gamification at the beginning or at the end of learning is quite effective because that makes it, and easier for study to understand the chapter" (DK, Economics Teacher)

"Trigger students' interest and motivation to learn more and Stimulate to recall the material that has been given" (DT, Computer teacher)

"When given questions in the form of plain text, students have difficulty answering questions properly and some students don't even send their answers. However, if given questions in the form of gamification, all students collect and do well" (HR, Accounting Teacher)

"Using gamification applications in the final assessment of students gives the best student scores" (EJ, Economics Mathematics Teacher)

Learning motivation has an important role in triggering students' interest in learning a topic (Mouili et al., 2014). Thus, teachers as agents of change must always know and apply the latest teaching methods to ensure students are impressed in learning. The next question related to the use of gamification applications, the following are the results of the interview:

"There are many gamification applications that can be used online, and they are quite easy to use. I usually use Quiziz for final assessment" (Gy, English teacher). Teachers' perceptions regarding barriers to the use of learning gamification.

Gamification is a learning innovation that is increasingly popular and well-accepted in the learning process, both from the teacher and student perspective. However, the interview results show that 15% of teachers never use gamification in their classrooms. The terms teachers used the most when asked about the main obstacles when using gamification were lack of time, classroom arrangements and no financial support.

"I find it difficult to adapt the subjects being studied by applying gamification" (RC, Indonesian Language Teacher) "To use gamification in learning will take a lot of time in the process of designing teaching activities" (KS, Statistics teacher)

"It was difficult to teach of game to my students, so I only used gamification for learning." (WB, Marketing Management Teacher)"

"I don't use gamification in learning, because I have problems with devices that don't support it" (FY, Office Administration Teacher)

Gamification applications require technological devices and internet networks in their application. This results in a lack of teacher interest in applying gamification. Due to the limitations of teachers in operating computer or mobile devices.

"Some gamification applications are too complicated to use, I don't know where to start with them" (LS, tax teacher)

Discussion in this section, the researcher will discuss the findings of this study from the point of view of the stimulus-response organism theory. SOR is a concept about how a stimulus gets a response. Our findings show that how the understanding of gamification learning in higher education teachers shows that they are very good with a percentage of 85 % and have been able to apply teaching gamification in their courses. The ability of teachers to use technology-based gamification can provide benefits in the process of student learning motivation while online during this pandemic, such as reports of increased learning outcomes compared to before using gamification. Research on increasing student motivation and achievement in using gamification has been discussed in research (Su, 2015). And the results show that students can use gamification to incorporate learning activities. The teacher's ability to apply teaching gamification is a good response to the surrounding stimulus to the benefits of teaching gamification for students. The stimuli obtained by these teachers came from training, peer information and reading the research of learning gamification.

Any stimulus or message delivered by a communicator to a communicator may be accepted or rejected. Communication occurs when communicative attention is present. It means the causes of attitudes that can change it, depending on the extent to which the communication is noticed, understood, and accepted. Based on the survey, there are 15% of teachers who experience obstacles in using gamification. This is because they do not fully understand the benefits of gamification and believe that the game is only applicable to certain subjects. The teacher's obstacles in implementing teaching gamification are responses that do not arrive from the surrounding stimulus or the absence of a stimulus that conveys a message about the benefits of teaching gamification for students. The role of the institution to provide stimulus information on the benefits of teaching gamification is very much needed for teachers. Online learning requires a variety of teaching so that the learning atmosphere is dynamic and fun. Teachers should continue to seek information regarding fun teaching methods.

In the process of attitude change, it appears that attitudes can change, if the stimulus received is really good by including three components, namely: attention, understanding, and acceptance (Hovland et al, 1953). The stages of interest in the use of teaching gamification that will be passed by the teacher are the cognitive stages where the organism knows what teaching gamification is, the benefits of gamification, how to apply gamification in the classroom, what gamification applications are appropriate and can be used, Then the next stage to be passed is the Affective stage, where the organism has begun to believe in the benefits of applying gamification, and has even begun to be influenced and apply gamification. After going through the

stages that affect the interest, then the organism responds. The response can be in the form of a positive response that is interested in teaching gamification, and a negative response in the form of not being interested in the application of teaching gamification. The role of institutions is needed to encourage stimulus back to the obstacles in the application of gamification.

4. CONCLUSION

Based on the interview results, we can conclude that applying gamification to learning has positive benefits when students show more enthusiasm for actively participating in learning activities.

Gamification can be applied to all courses, the role of information about the benefits of gamification is needed as a stimulus for the application of gamification in all courses at tertiary institutions. Teachers as agents of change must always know and apply the latest teaching methods to ensure students are impressed in learning. The response to barriers to the application of gamification requires the role of institutions to provide teaching gamification training.

Interest in using gamification in the classroom has grown over the past decade. This study contributes to teachers' perceptions of gamification in the classroom in terms of perceived benefits and barriers to using gamification. It was found that the assessment of learning outcomes using gamification gave the best score. The need for further development of the application of gamification in each subject so that it can be an example in teaching. For the next research can use qualitative methods with a larger sample of the factors that hinder teachers in the application of gamification.

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