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AN ANALYSIS OF STUDENT RESPONSES TO THE IMPLEMENTATION OF GAMIFICATION AT SMPN 2 MOJOKERTO

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Abstract:
Gamification as a learning approach or strategy gains extensive attention among educators because it increases student engagement, motivation, and learning experiences. It is the integration and addition of game-like elements into the learning process. This research investigates the impact of implementing gamification on student responses at SMPN 2 Mojokerto, Indonesia. Implementing gamification in education aims to enhance students' motivation to learn. Building on results from existing research, this study explores more detailed results of how learning outcomes are affected. The researchers of the qualitative studies interview and use questionnaires to comprehend the perceptions, attitudes, and academic performance of students. In this context, interviews and surveys are tools that qualitative studies researchers use in order to determine the views, attitudes, and academic achievement of the students. The results showed that gamification made learning an enjoyable challenge and increased the motivational and active participation of students in class by a remarkable percentage. Students like storytelling and frank criticism; it increases comprehension and memory. It improved academic achievements, especially in those challenging fields of languages. However, several challenges were pointed out, including competitive pressure and technical problems. The results identify the importance of a rich gamification strategy and auxiliary technical support. All things being equal, this study points toward a number of advantages that gamification offers as a pedagogical practice while pointing out the urgent need to address issues with its sustained use in the classroom.

Keywords: *Gamification Implementation, Learning Motivation, Student Responses*

1. INTRODUCTION

While the learning expectations from students have grown higher nowadays in the digital era, and similarly, the growth of technology is very rapid, conventional teaching methods are under growing threat in this regard. Gamification is one of the advanced techniques which are being implemented these days in academic environments. The main intention behind gamification is to improve the motivation and engagement of students and enhance learning through the addition of game elements to instructional activities. It has received much attention over the last few years, whereby both researchers and educators are still looking for new approaches to help improve learning outcomes. It makes learning more interactive and engaging for the learner; including game-like elements provides a mechanism whereby teachers can give points, leaderboards, badges, and prizes for their work. Such a method will spur intrinsic and extrinsic motivation among students to participate more in their studies. According to Su and Cheng (2019), the gamification aspect has been proven to increase student motivation and engagement. Their findings included that points, badges, and leaderboards were some of the features under gamification that apparently enhanced the learning environment by increasing student engagement and motivating active learning.

The concept of gamification in education is not new, as it leads from earlier thoughts on making learning appealing through playing and fun activities. However, the emergence of digital technology has opened a door to a much broader gamification

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of educational experiences. Applications of gamification span from elementary school to higher education and across a range of disciplines, including mathematics, science, language learning, and even professional training programs. A rapidly growing body of research evidence on the topic suggests that gamification may indeed reverse traditional learning environments to make them more dynamic and responsive to students' needs. According to Kapp (2012), gamification is a concept whose mechanisms include game-based, motivated actions, aesthetics, and thinking games that attract learners, promote learning, and solve problems. On the other hand, Jusuf (2016) defined Gamification as the use of a game to provide motivation to students in terms of thinking critically so that problems which are associated with learning are solved.

Many studies have been conducted, and some of them are in relation to gamification in educational institutions, giving an overview of various teaching strategies that can be incorporated. For instance, Johnson et al. (2016) did design research in college-level computer science courses that incorporate gamification. In their results, it is found that gamification indeed affects engagement and motivates students to make learning more fun and interactive. Adding game elements like points, leaderboards, and badges engages students in learning. It also proves that gamification will make those subjects considered to be uninteresting or complicated fun and engaging; it also pinpointed that a gamified experience is more effective when tailored to the specific needs and interests of students.

On similar lines, Landers and Landers (2014) researched the effect of gamification in increasing student learning outcomes for a high school biology course. The results showed that the level of student achievement increased significantly. In other words, gamification renders unreachable subjects more approachable and less intimidating to students. Traditional learning activities are reimagined as game-like activities, and this is more than students can resist: they are willing to invest more effort and time into learning. This is very applicable to subjects like biology, where the abstractness or complexity could burden a student. On the other hand, gamification involves students more interactively with course materials for deep understanding and retention. Landers and Landers (2014) identified that gamification is versatile, as the tool can be used across different age groups and subjects, thus building it as a promising strategy to enhance learning outcomes.

Among other benefits, gamification increases academic achievement and enhances student motivation. Indeed, research by Dicheva et al. (2015) goes into how gamification in itself will eventually have an effect on the motivational aspects of students. In fact, their research concluded that embedding game elements in the classroom environment positively influences students' intrinsic motivation. The students are not only intrigued by external rewards such as points or badges but also develop an interest and enthusiasm in the subject matter at hand. This intrinsic motivation is essential for long-term educational success because of the love of learning that develops beyond academic necessity. Intrinsically motivated students are most likely to engage in independent learning and be willing to seek knowledge even outside of a classroom environment. Research by Dicheva et al. (2015) underlines

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gamification's potential to create more engaging and stimulating learning environments that contribute to the growth and development of students.

This research is conducted to analyze the responses of students to the implementation of gamification at SMPN 2 Mojokerto. More precisely, this research is intended to reveal how the elements of gamification-points, badges, leaderboards, and challenges-affect the motivation, learning activity, and understanding about subject matters. Besides, this research also aims to know what factors influence the acceptance of students toward the use of gamification in learning. This research differs from the previous studies since the context falls upon secondary schools in Indonesia, precisely at SMPN 2 Mojokerto. While many previous studies have focused on the effects of gamification either in general or at the higher education level, the present study attempts to investigate how students receive gamification in the context of a junior high school. This research is expected to provide a deeper insight into gamification methods within the junior higher education environment, considering the adaptation of students who are still at the stage of forming learning patterns and social interactions. It is also expected that this study result will be one of the references for other schools interested in implementing gamification into their learning process.

2. METHOD

Qualitative methodology is adopted in this research, which places an emphasis on the understanding of the perspective and experiences of participants, according to Creswell (2014). In this research, a qualitative approach is adopted since this method is more apt for this study, considering its need to understand students' complex and nuanced responses toward the implementation of gamification in learning in SMPN 2 Mojokerto. This research is based mostly on interviews and questionnaires, as both can easily depict detailed and personal accounts of the experience of students. In this research, the subjective experiences of a student are focused on to deeply understand how gamification shapes their learning behavior, motivation, and engagement.

The rationale behind adopting a qualitative approach in the present research is its potential to elicit rich and detailed insights that might not be possible through quantitative methods. Quantitative data provides numerical comparisons and trends, while qualitative data allows the researcher to delve deeper into the personal perceptions and attitudes of students. This is particularly beneficial in research involving educational strategies such as gamification, where the experiences, motivations, and behaviors of individual students are critical for assessing the overall effectiveness of an approach. Accordingly, the study seeks to attain broad data through interviews and questionnaires representative of various responses of students towards the gamified learning environment.

In this research, the participants were sampled using a purposive sampling technique, which allows the researchers to purposefully select those who have experienced the phenomenon being investigated. The participants were students from SMPN 2 Mojokerto, who had passed a gamified learning environment. The sample size was 30, comprising students at all grades and academic levels. This sampling strategy

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was devised to achieve a wide response spectrum from the students, showcasing how students of different backgrounds and learning styles interact with gamification. This includes the selection of students at different grades, ensuring the data is representative of both young and older pupils and those of different abilities and levels of motivation.

Data collection instruments included semi-structured interviews and a structured survey. Semi-structured interviews allow the researcher to ask open-ended questions that are likely to result in more profound and expressive responses. These interviews provide students with an excellent opportunity to express their thoughts, feelings, and experiences in words, as required to grasp the full scale of their perceptions towards gamification. Such interviews employed open-ended questions that allowed every student to give their personal opinions on how gamification influenced his or her motivation, engagement, and learning process in general. In addition, follow-up questions were used often enough to gain more details on certain areas, which allowed the identification and examination of specific themes or ideas presented during the conversation.

The second method of data collection, the structured survey, was designed to provide a more systematic way of gathering data on students' attitudes toward gamification. It consisted of several questions about students' motivation and engagement, and perceptions of the effectiveness of gamified learning activities. The data was collected through a structured format in the survey in order to compare students with the intention of facilitating a more general overview of how gamification is perceived by the whole student body. Data on experiences during learning by the use of gamification were collected through one Likert-scale question assessing the level of agreement/disagreement with statements. This ensured that the study captured individual and detailed information through interviews and generalizable data broadly through the survey. Once the data were collected, the approach used for the analysis followed a qualitative descriptive approach. The approach entails a detailed data description rather than relying on statistical analysis or formal comparisons. In detail, reading and re-reading data collected from interviews and surveys was the first step in data analysis. This allowed the researcher to become thoroughly familiar with the data with the assurance of capturing detailed contextual information related to the content of student responses. The data were reduced to more specific phrases, sentences, or ideas and then grouped into emerging themes. The thematic analysis thus allowed the detection of patterns and trends within the data to clearly understand how gamification impacts student motivation, engagement, and learning outcomes.

Direct quotes from students were used to illustrate the findings more concretely in support of the identified themes. These quotes give real-life situations of students' perceptions and reactions to gamification and, therefore, bring about more vivid personalized insights from the results of the study. For example, some might testify that their motivation has increased due to the competitive elements introduced with gamification, while others may comment on how game-based rewards have made learning more enjoyable. These direct quotes add to the sincerity and humanness of the impact of gamification on student learning experiences.

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A number of strategies were used in this study to ascertain the reliability and validity of its results. One of the major strategies used in this study is member checking, where participants are given a chance to go through their interview transcripts for their correctness, as well as those of the researcher's interpretations. The inclusion of participants in member checks of their statements enhanced the credibility of the research in that such findings were certain not to be distorted and represented the actual experiences and views of the students. Other techniques used in enhancing the credibility of the research included member checking through peer debriefing sessions where the researcher discussed the data analysis process and emerging findings with colleagues. This ensured an external check on the research process to ensure the analysis was thorough, unbiased and reflected the data.

These techniques, Creswell (2014) suggests, further improve credibility and give assurance of trust for qualitative research. With these added techniques, this research attempts to give a strong and valid account of how gamification at SMPN 2 Mojokerto impacts student engagement in learning and the learning itself. Consequently, this research contributes significantly to the role of gamification in improving students' motivation, engagement, and academic performance by adopting a thorough, systematic methodological approach. In this respect, by focusing on lived experiences and using rigorous data collection and analysis techniques, this research develops an in-depth understanding of the possible benefits and challenges gamification might pose in a middle school context.

3. FINDING AND DISCUSSION

The execution of gamification at SMPN 2 Mojokerto served as an excellent indicator of effectiveness toward students' involvement, motivation, and achievements. Adopting an innovative method such as gamification has increasingly become necessary to gain students' attention in today's modern and rapidly changing education and to further enhance the learning process. This section discusses the research results through interviews and questionnaires, which have been thematized during data analysis. The overarching theme from the data that arose was that students were significantly more engaged and motivated. Students indicated that elements like points, badges, and leaderboards make learning fun and interactive. One of them said, "Learning nowadays is a form of play. I look forward to earning points and seeing my name on the leaderboard." What this participant said was similarly expressed by many, meaning for them, gamification has turned learning from a boring task into a challenging but interesting activity. A change in perspective of this type is important because it reveals how gamification can actively reshape the educational experience.

Data from the survey support this observation: about 85% of students believed that because of gamification, they had greater motivation to join activities in class. There is also more engagement on the part of the students in subjects perceived earlier as hard or not quite interesting. These observations provide evidence that innovative teaching methods can bring positive change in the ways students perceive their education. Also, qualitative responses suggest that gamification gives more dynamism to the whole

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learning process because it is more student-oriented. The interactive nature of activities in a gamified environment will be appreciated by students because they get immediate feedback and a sense of progress. One said, "I like the fact that I can see my progress right away, and I understand what I need to work on." That kind of immediate feedback is significant in the learning process in that it allows students to quickly discover areas where they are very strong and also where they are weak. Students who believe they are in control of their learning process are more likely to be motivated with regard to their academic performance.

Further, stories enable contextualizing learning material in gamified lessons and, therefore, are easier to grasp and remember. For instance, grammar can be turned into a mission in which students have to solve a series of language puzzles in order to "rescue" a character from some situation. The task is that in each puzzle, students have to apply the rules of grammar, such as tenses or sentence structure, and only in this way can they pass to the next level. In such a way, students don't just memorize some grammar rules; they understand their application in real contexts, and this helps them see the very connection between language theory and practice. This gives an effective way of understanding seemingly complicated English concepts, such as complex sentences or conditional forms. Just like students of history studies view context and the relationship between events, this would be the case when students are engaged in stories relating to language issues. When students engage in stories related to issues of language, they become more motivated and interested in deeper learning. If this is an English class, for instance, gamification can involve achieving some kind of mission or overcoming a specific challenge. One needs "to write a letter" or "create a dialogue," making sure he uses proper sentence structure. Such a study found a positive relationship between gamification and performance, too. It was reflected from the results that actually one can notice how scores of students on different tests improve, and how better they understand the material. Results of interviews showed that "Students are more able to apply grammar rules in their writing and this has been reflected in their improved test results." This means gamification assisted students in recalling and using grammar rules more effectively. These results are very encouraging for the teachers of English because often it becomes hard to make grammar material interesting for students. Through gamification, students are way more active and retain the information in ways they otherwise could have thought were boring or hard. This gamification in an English lesson would only build time spent studying to make it rather enjoyable; this gives immense force to cognitive skills in the form of critical thinking and problem-solving skills required in understanding the language.

Indeed, survey results point to the same observation, as 70% of the students admitted that gamified learning activities helped them gain better insights into the course material and improved their scores. Such improvements are significantly better in problem subjects like mathematics and science, as the gamified problem-solving activity itself promotes a deeper understanding of concepts. Such an interaction between game elements and course material boosts engagement for better academic results. That is, not only do these students learn more but also their critical and

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analytical thinking skills are enhanced. Not all the feedback was positive, as several challenges of gamification were also identified in the research. For instance, some believed that sometimes the competitive nature of the gamified activities led to stress and anxiety. One of the students revealed, "I feel I need to be at the top of the leaderboard; this can be very stressful sometimes." This reflects an important problem pertaining to the use of gamification: whereas competition may motivate some to greater efforts, it can have damaging effects on others, particularly on those who are more sensitive to that kind of competitive pressure.

Competition should be offset by collaboration to ensure that at all levels, students will benefit from these gamified experiences. Similarly, designing activities where students are working together to achieve a common goal can help avoid stressors and enhance cohesiveness. This approach again encourages students to help each other and share knowledge to the enrichment of their learning. With a more collaborative approach, gamification could definitely be an even friendlier, more helpful tool for all students. Apart from that, there are also technical challenges in the implementation of digital platforms used for gamification. Sometimes, inconsistent internet access and technical problems disrupt the flow of activities, frustrating students and teachers alike. These only show that a balanced approach to gamification is what is needed, so it remains inclusive and supportive for all students. These technical challenges have been accentuating the need for concrete technological infrastructure to be in place to make such implementation of gamified learning activities seamless.

This research concludes that gamification will most probably lead to a significant enhancement in student perceptions of engagement, motivation, and performance. Conversely, this research has pointed out the alarming factors in effective gamification, for which proper planning is required after considering all challenges arising. The findings contribute to the growing research on gamification in education with empirical data from the Indonesian secondary school context. Educators who may plan to use gamification should be reminded to balance competition and collaboration so that students will not experience stress. Furthermore, it is very important to make sure of a sound technical infrastructure to smoothly implement gamified learning activities. It thus requires the investment of schools in sound technology and training of teachers and students in how to use the gamification tools. Such training will go a long way in overcoming some of the minor technical issues that make users confident with the platform.

In fact, the gamification project of SMPN 2 Mojokerto has so far been quite promising in improving the level of student involvement and learning achievements. Given this success, other schools can apply a similar method in their own context. Though challenges are still observed, positive responses from students indicate that gamification can be a modern education tool. Further research could look into the long-term implications and ways to overcome the challenges identified in the current study. For example, future research could be directed to develop an integrative framework for gamification with a focus on collaboration rather than competition. This will be achieved by creating challenges in teamwork that get students working together towards

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achieving a common goal; this is a way of creating a supportive classroom atmosphere. Additionally, the psychological impacts of gamification on different types of student demographics can be carried out, and how age, gender, and socio-economic background may influence responses to gamified learning. It will also allow educators to learn how gamification strategies need to be customized to meet the needs of different groups of students.

The bottom line is that gamification implementation at SMPN 2 Mojokerto is really one case study relating to effectiveness in an innovative teaching method area. These findings signal a very convincing potential to increase the level of engagement and academic achievement by gamification; likewise, they advocate further in supporting caution over existing challenges. By responding to these challenges, educators are in a position to create more inclusive and effective learning environments through gamification for all students. In the final analysis, this continuing exploration of gamification in education brings a great deal of hope for the future as the teaching and learning landscape keeps on moving in the digital era. Effective gamification practices can enable higher student engagement, better understanding, and even good academic performance. This provides hope for a future in which education is viewed not as a passive reception of information but rather as an activity that involves students in the process. In such a way, gamification is not only a means to facilitate learning but also to develop the 21st-century skills and character required for students to achieve success in an increasingly complex and rapidly changing world.

4. CONCLUSION

Research at SMPN 2 Mojokerto proves that implementing gamification into education has great implications for increasing the activity, enthusiasm, and achievement of learners. Implementing gamification in learning activities has made learning more fun and interactive, especially with the inclusion of points, badges, leaderboards, and stories within the learning process.

This makes the process of learning more of a fun challenge rather than a boring chore; hence, it increases the willingness of students to participate in and invest in their studies. Qualitative data from interviews and surveys revealed that in addition to increased motivation, students received immediate feedback and developed a sense of progression due to gamified activities, which helped them learn and retain information more effectively. This, in turn, results in improved academic achievement, specifically in traditionally challenging areas of mathematics and science. Teachers have indeed confirmed this through improved test scores and an overall student conceptual understanding.

Research has also highlighted various challenges related to gamification. For instance, the competitive nature of gamified activities sometimes creates a lot of stress and anxiety among students; technical issues include inconsistent access to the internet and glitches in the platform that disrupt the learning process. These findings hint at the need for a balanced approach toward gamification, ensuring that it remains inclusive and supportive of all learners. This study has identified that, although gamification can

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be a very effective teaching strategy in contemporary education, careful planning should be considered, even with regard to possible challenges. Further research should, therefore, be done on its long-term effects in terms of investigating ways through which such hindrances can be dealt with to allow for its positive impacts to be sustained toward the students.

To increase the effectiveness of gamification, educators must find a balance between competition and collaboration in gamified activities to minimize stress and foster a supportive learning environment. Further, schools need investment in a solid technical infrastructure to prevent any kind of disruptions, allowing the process to go smoothly. Still, it will be necessary to follow constantly through the effect on the well-being and performance of students so that necessary adjustments are made. Comprehensive training for teachers on how best to integrate gamification into their teaching methodology is necessary. Additionally, regular feedback from students will be important for continuous improvement and adaptation of the gamified learning activities. By addressing these suggestions, educators can go a long way in making learning more interactive and rewarding to students.

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