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Research Article

Gamification in a Virtual Ecology (GIVE): Enhancing Classroom Engagement in Physical Education among Senior High School Students

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ABSTRACT

The study was geared toward determining the influence of integrating Gamification in a Virtual Ecology (GIVE) in enhancing classroom engagement in physical education among senior high school students in a state university in Pampanga, Philippines. This qualitative-descriptive study included a complete enumeration of the Grade 12 Technical-Vocational-Livelihood (TVL) students who voluntarily participated in this qualitative investigation (n = 58) by responding to open-ended questions. Results of the open-ended questionnaire decipher the influence of gamification on students' level of engagement and the barriers encountered upon its inclusion. The study utilized Braun and Clarke's Thematic Analysis strategy, which was aided by computer-assisted qualitative analysis software, MAXQDA Analytics Pro 2022. The study revealed two emerging themes that described the influence of gamification in the students' virtual ecology, namely: (1) the effects of the integration of gamified instruction on students' engagement; and (2) students' problems in using gamified instruction. The findings of this study may predate the institutionalization of the prospective enhancement of the teacher's capabilities through the aid of gamification to improve the classroom engagement of the students in a virtual ecology towards a better understanding of the lessons in physical education settings.

Keywords: *Gamification, Physical education, Student engagement, Virtual ecology*

Introduction

Recent events such global pandemic, widespread school closures, and the sudden implementation of distance learning have heightened the urgency of changing the classroom learning environment, which posed a continuous impact on teaching and learning processes that brought students to feel

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isolated. This leads them to become discouraged, demotivated, and disengaged towards learning (Ortega et al., 2022). As a result of these changes and challenges, teaching and learning interventions are significantly important in providing students with optimal education in improving their virtual classroom engagement. According to Kahu (2013), student engagement is regarded as the pinnacle of learning, with significant implications for perseverance, student satisfaction, in-depth learning, and academic success, which are influenced by contextual factors such as the teacher's learning environment, strategies, and methods. However, in the context of online learning, students' engagement appeared to be more difficult than in face-to-face learning. According to O'Shea et al. (2015), student engagement manifests differently as a result of the pedagogical shift from a physical context to an online context, as well as the strategies in which teaching and learning are facilitated by advanced technologies where students feel less integrated, motivated, and engaged.

Gamification, as defined by Llorens-Largo et al. (2016), is a learning strategy that uses aspects of games or interactive media to empower students and enhance their engagement and enjoyment in the learning process. Furthermore, it is regarded as a means of activating engagement and enthusiasm, facilitating and resolving challenges and issues through the use of game aesthetics, mechanics, and thinking methods, and has been used by teachers in designing a more interactive learning environment for their learners. Also, since games have the potential to increase student engagement, learning, and motivation, integrating gamified learning websites into online information literacy instruction will undoubtedly provide students with an excellent opportunity to build and rebuild their engagement as well as increase their motivation to participate in e-learning. Considering the presence of technology in today's current learning environment, the use of interactive methods, such as the gamification method, could be an effective strategy in uplifting the mood, motivation, and engagement of the students toward learning. Therefore, to meet the needs of learners and minimize the negative effects of the new normal learning setup, gamification, featuring game-based elements is essential in the optimization and increment of students' motivation, performance, and engagement.

Gamification in Education: A strategy to pique Classroom Engagement and Participation

The advent of technology in the education sector has brought several opportunities to improve the teaching profession, particularly in giving suitable lessons and information needed by the students. As a result of today's technological advancements and the current learning modality, educators, scholars, and professionals all over the world are seeking ways to incorporate technology, notably gamification, into several disciplines. According to Ahmad et al. (2020), gamification in the field of education generates an interactive experience that, if adequately integrated with instructional strategies, might boost learners' cognitive assimilation. In the context of students' engagement and involvement, the inclusion of game-like features might help in the said sector. According to Alsawaier (2018), gamification could provide a variety of necessary techniques to motivate learners, and the incorporation of gamified components in instructional settings could offer a range of significant motivational techniques. Mohamad et al. (2018) backed this argument up by claiming that utilizing this technique can provide better instruction and classroom engagement while catering to different students' learning styles. Meanwhile, in the context of e-learning and participation, Hassan and Hamari (2019) found that the effectiveness of gamification virtually produced tremendous development in user engagement. Similarly, Almeida and Simoes (2019) viewed the integration of gamified activities as an instrument in the new normal learning set-up, which resulted in a considerable rise in student participation in classroom activities.

Since then, the education system has embraced and utilized gamification frequently because it spawned new potential and implementations. Motivated by the positive results gamification has provided, specialists worldwide investigate its potential benefits in the context of education. Dichev and Dicheva (2017) termed

gamification in education as a strategy to increase students' level of participation and involvement in an educational context by integrating game-like elements. Conceivably, the inclusion of gamification may boost students' level of motivation and engagement. Since it is an educational trend, most educators use it to promote learners' engagement and participation within their classroom environment. This claim was supported by Kapp (2012) that gamification is often employed to engage and encourage students, enhance students' cognitive ability, and resolve issues. According to several accounts, the incorporation of gamification significantly impacted student engagement in the classroom. At the same time, gamification helps to create a more exciting and enjoyable learning environment. Interestingly, Domínguez et al. (2013) discovered that teachers who employed gamification made the students learn more, experience fun while learning, and receive higher grades than those who did not. That claim contributes heavily, particularly to educators who had doubts about the viability of gamification; the studies cited revealed the beneficial impacts of gamification in the educational sector.

Embracing Gamification in the Philippine Context

Since the world is currently embracing the rise of the digital age, the use of technology has increasingly spread across the globe; it also has a big impact on education because of its ability to improve the teaching and learning process. On the other hand, gamification has been recognized in the Philippine educational sector as one of the supplementary tools in accommodating the diverse learning demands of Filipino learners, bringing up an array of ways for students to engage and interact with the evolving world. Gamification provides a unique alternative to raise and improve the learners' engagement, productivity, competence, enthusiasm, personality, and diverse learning outcomes (Delizo et al., 2019; Dizon et al., 2022; Lanuza, 2020; Tolentino et al., 2018; Tolentino & Roleda, 2019). As determined by Tolentino et al. (2018) gamification enhanced high school students' interest, engagement, and performance in their various subjects significantly. Similarly, Delizo et al. (2019) found that gamified learning aids learners in three aspects of their English as a Second Language (ESL) skills namely: grammatical awareness, vocabulary expansion, and reading and comprehension. Correspondingly, the adoption of gamification in the education system in the Philippines appears to benefit in enhancing learner engagement, enthusiasm, and personality, distinctly among students who are enrolled in science-based courses (Tolentino & Roleda, 2019). Furthermore, Lanuza (2020) incorporated traditional Philippine games as a strategic approach for teaching tertiary mathematics, employing points and experience levels as game-based features. The gamified learning approach implies a unique strategy for improving and enhancing learners' academic performance. Also, Dizon et al. (2022) gamified instruction in their health education course using "*Wordwall*" which they called *interactive buzz sessions* to sustain pre-service teachers' engagement in a virtual platform.

Integration of Gamification in Physical Education

Since the world enters the emergence of the new millennium and the emergence of the digital age, the educational system should adapt to this rapid technological evolution. Numerous adjustments in the sector provided brand-new opportunities for advancement, particularly in physical education. Classroom participation and engagement are vital for a more immersive and engaging teaching and learning process in Physical Education to establish and foster more pleasurable opportunities for the learners. Segura-Robles et al. (2020) discovered that students who experienced interactive teaching practices in physical education had significantly improved their classroom participation, engagement, educational performance, enthusiasm, collaboration, and analytical capabilities. To corroborate, Ortiz-Colón et al. (2018) found that gamified learning improves learners' interest and engagement in their respective PE classes. In addition, gamification in physical education led to a more interactive and participative class. Congruent to the study of Lister et al. (2014), gamification has been used as an approach to provide a deeper

understanding of physical education, including the promotion of health awareness.

However, since physical education focuses on providing and improving students' physical literacy, the current learning environment may discourage students from improving and developing their abilities. Although the incorporation of gamification in educational settings has ignited many conversations within the physical context, it is clear that gamification must be integrated into the current learning environment to uncover the experiences and their influence on student engagement. Despite multiple tries in capturing the use of gamification in the field of education, which has primarily focused on physical classes, more research in an online learning context is encouraged, considering that most schools around the world have transitioned from residential physical classes to online classes. Also, given the current condition of continuous learning amidst the pandemic, it is essential to highlight the exploratory nature of this qualitative inquiry in physical education with a focus on gamification which aims to determine the influence of integrating Gamification in a Virtual Ecology (GIVE) in enhancing the classroom engagement in physical education among senior high school students in the current learning and delivery methods.

Methods

Research Design

This study utilized qualitative research to provide an in-depth and interpreted understanding of concepts, experiences, and opinions of senior high school students about the influence of Gamification in a Virtual Ecology (GIVE) in enhancing classroom engagement in physical education. According to Bhandari (2021), qualitative research is well-suited to better understand concepts, experiences, and opinions by collecting and evaluating non-numerical data to gain a deeper understanding of a topic and generate new research ideas. Correspondingly, according to Aspers and Corte (2019), qualitative research is an iterative process in which the scientific community gains a better understanding of the phenomenon studied by making new significant distinctions as a result of getting closer to the phenomenon. As mentioned by Hassaji (2015), descriptive qualitative research is holistic and typically requires a rich accumulation of information from a multitude of source materials to gain a deeper understanding of the participants, including their opinions, perspectives, and attitudes. Therefore, descriptive qualitative design is best suited in the provision of an in-depth and interpreted understanding of students' classroom engagement during Health-Optimizing Physical Education (HOPE) 4 lessons in the context of Gamification in a Virtual Ecology (GIVE).

Participants

The study included a complete enumeration (census) of Grade 12 students (n = 58) enrolled in a Technical-Vocational-Livelihood track in a state-funded higher education institution in Pampanga, Philippines. According to Surbhi (2017), complete enumeration or census is a sampling method in which procedures for gathering, recording, and analyzing information about members of the population are well organized. Similarly, complete enumeration, according to Glen (2018), is a type of purposive sampling technique that entails looking at the entire population for a specific number of characteristics such as experience, exposure to a specific event, skills, specific attributes or traits, and knowledge. This technique is the best option for the researchers because the participants all share a common set of characteristics, such as experience and exposure to the event, to discover the influence of Gamification in a Virtual Ecology (GIVE).

Instrument

The researchers utilized an open-ended questionnaire as a primary tool of data collection in this qualitative research. The open-ended questionnaire was distributed to participants through a multimedia platform, specifically Google Classroom, as an assignment with two aspects of inquiry: (1) to identify the influence of the integration of gamified instruction on students' engagement; and (2) to identify the students' problems with gamified instruction. The open-ended questionnaire supported the researchers in gathering authentic responses and interpreting the influence of

gamification on student engagement in Health-Optimizing in Physical Education (HOPE) 4.

The following questions were asked:

1. Does the use of gamification (game-based activities/applications) assist you in staying engaged in class? In what way?
2. What significant problems have you encountered while taking part in gamified instruction?

Data Collection and Ethical Considerations

The research began with the creation of a letter of consent to the school head, per academic protocol, requesting permission to conduct a study in enhancing the classroom engagement and participation of senior high school students through Gamification in a Virtual Ecology (GIVE). In light of their status as partners in the study rather than simply recipients of information, participants were given informed consent about the study's intent and goals, the rationale for conducting the research, and its confidentiality. The open-ended questionnaire was administered through Google Classroom, a learning management system designed to simplify the creation, distribution, and grading of assignments, as well as engage students in online learning. It likewise allows students and teachers to organize and manage assignments, collaborate, go paperless, and, above all, communicate. The above-mentioned learning management system was used to gather information from participants about their experiences with gamified instruction in their Health-Optimizing Physical Education (HOPE) 4 classes. The participants were given three days to respond, which gives them enough time to consider their options. The data were collected, analyzed, and interpreted after the open-ended questionnaire was completed.

Strict adherence to ethical considerations was considered in this study. According to Chetty (2016), ethical considerations are important in research as they ensure that disciplinary standards and practices are followed. Furthermore, throughout the research process, ethics should be depicted and consulted to adhere to the established ethical standards and maintain the confidentiality of the participants. Meanwhile, in collecting the data from the participants, the researchers complied with the provisions of the Philippine Republic Act 10173, or the Data Privacy Act of 2012. All data collected from participants were kept confidential and used solely for academic purposes. Subsequently, the researchers established rapport and a trusting relationship with the participants before the data-gathering procedure.

Data Analysis

The data derived from the participants' responses were methodologically gathered, transcribed, organized, analyzed, and examined yielding valuable conclusions using Braun and Clarke's (2006) Thematic Analysis strategy. According to Braun and Clarke (2006), this method is frequently used in qualitative research because it provides insightful and comprehensive results. These key steps include "familiarization, coding the data, generating initial themes, reviewing the themes, naming and defining the themes, and writing up the report".

Findings and Discussion

Influence of Gamified Instruction on Students' Engagement

Theme 1: Effects of the Integration of Gamified Instruction on Students' Engagement

The integration of gamified instructions in education has provided several positive outcomes in terms of the learning acquisition of the students. Since the education sector has been severely impacted by the COVID-19 pandemic, one of the serious issues a teacher may face is low learner engagement and motivation to learn. To address the latter, gamification is important to consider since it allows learners to build and rebuild their engagement and motivation for learning. In this study, as recounted by the participants, the presence of gamification in physical education during online classes increased their motivation and engagement while also allowing them to improve their learning abilities and styles. The presence of competition in the classroom as part of gamified instruction piqued students' interest while also empowering them to participate and be engaged in the lesson, which became their mo-

tivation to learn. It also assisted them in developing adequate classroom skills such as collaboration, creativity, and critical thinking. Surprisingly, numerous studies have found that using gamification improves student engagement as well as motivation to learn. In the study of Papp (2017), students who took gamified classes were revealed to have increased classroom engagement and motivation, as well as the drive to learn and understand the lesson shared with them, where the inclusion of game-like features such as rewards, challenges, and even experience points had a significant impact on student engagement. This study discovered five positive effects of Gamification in a Virtual Ecology (GIVE) in physical education classes: (1) increases student motivation to learn, (2) capturing learners' interest, (3) enhances students' learning styles, (4) competition can pique motivation, and (5) promotes higher order thinking skills.

Subtheme 1.1: Increases Students' Drive to Learn. This subtheme emanated as a result of the effects of integrating gamification and its features in physical education settings. As recounted by the participants, the use of gamification in physical education classes has a significant impact in incrementing their hurl toward learning. Gamified instruction has provided both students and teachers with an avenue toward better teaching-learning processes. Furthermore, the intervention assisted students in becoming more actively engaged with the lesson, as evidenced by increased attentiveness in listening and speaking, participation, and motivation to learn. As reviewed, a myriad of literature has shown that employing gamification serves as a tool in encouraging students to learn. This sentiment was backed up by the study of Sailer and Homner (2020) who discovered that the use of gamification had a significant impact on steering students' motivation and interest in learning. Meanwhile, in terms of metacognition, gamified instructions brought a promising effect on it. In support of that, the inclusion of gamification in classroom instruction cultivates a perspective that enables learners to uplift their engagement and drive to learn by providing them with not just sole learning but also a fun way to learn and acquire knowledge (Su & Cheng, 2015). Furthermore, Klabbers (2018) concluded that the use of gamification in learning helps to escalate the attention and interest of the students in learning.

"This gamification helps me, personally, be attentive in class. It also gives me entertainment, especially during morning classes. The games made my mind lively and energetic which is more likely to keep me engaged for the whole session." (P. 37)

Subtheme 1.2: Capturing Learner's Interest. This subtheme arose as a result of the influence of integrating gamification in a virtual ecology in physical education. As recounted by the participants, the use of gamified learning websites piqued their interest, causing them to be engaged with the lesson. It likewise uplifts their motivation to learn as well as their ability to comprehend the lesson completely as it provides fun in learning, making even the most difficult lessons more enjoyable. Gamified instruction has also been shown to keep students awake, energized to participate, and entertained throughout the session. Various findings across the context have shown that a teacher who incorporates game-like elements into the teaching process is more likely to pique the learners' interest and attention. Zainuddin et al. (2020) presumed that the use of gamification can potentially assimilate students' interest to learn by improving student achievement, fostering collaboration among the learners, and allowing them to build self-directed learning skills. Meanwhile, Gómez-Carrasco et al. (2019) found that the use of gamified instructions among students has statistically provided a positive effect in driving students' interest to learn and comprehend the lesson shared with them. To corroborate, Korkmaz & Öztürk (2020) found in their study that the use of gamification in the educational context has been a good way to attract the interests of the students and make classroom discussion an interesting avenue to learn.

"This helps because the topic becomes more interesting and the class is more interactive, unlike when it's just a normal discussion, it's easier for the students to be distracted from

other things. Students become more active when there is a game." (P. 4)

Subtheme 1.3: Enhances Students' Learning Styles. This subtheme ensued as an implication of integrating gamification in the teaching-learning process of physical education. Learning styles are generally viewed as a group of factors, behaviors, and attitudes that facilitate one's learning in a specific context. It likewise refers to students' methods of absorbing, comprehending, processing, and remembering information in solidifying their ideas. The findings of this study, as uncovered by the participants, revealed the presence of game-based activities in this new modality as one of the key factors that allow them to enhance their learning abilities and styles. Jarvis (2020) supported the idea that gamification can facilitate learning by providing meaningful experiences in the form of non-competitive play. Subsequently, students' knowledge and skill mastery were further enhanced by additional readings, video viewings, and practice activities. Correspondingly, according to the findings of the study by Barata et al. (2013), students who participated in gamified instruction toward gamified learning experience became more participative, vigilant in the forums, and paid close attention to the lecture slides, indicating a deeper engagement capturing different learning styles, which was also supported by students' feedback, denoting that the lesson is more motivating and interesting if it incorporates game-based elements.

"I enjoy sessions when my teacher incorporates games into the classroom because I believe it helps me remember lessons better and makes the class less drowsy and boring." (P. 12)

Subtheme 1.4: Competition Can Pique Motivation. This subtheme arose as a result of the influence of gamification in teaching physical education on student learning. It was discovered that competition in the classroom as part of gamified instruction piqued students' interest which empowered the students to participate and engage in the lesson. The presence of competition in the classroom was recognized by the participants as an important part of their learning, as it also became their motivation to learn. Henceforth, Muntean (2011) concluded that gamified instruction helps students gain motivation to study, and because it provides positive feedback, it pushes them forward, causing them to become more interested in, and stimulated by, the material being learned, as it becomes a powerful motivator for students to learn while having fun. However, Sepehr and Head (2013) investigated the role of competition and discovered that while most students found the competition to be very motivating, losing a competition caused them to feel less satisfied and enjoy the activity less. Similarly, Ejsing-Duun and Karoff (2014) discovered that competition motivates some students but that it is dependent on the gamified setting

"Gamification is effective in my opinion because it boosts my competitiveness, critical thinking, and participation in the discussion. It awakens my mind and body just like it serves as an encouragement for me to listen carefully to answer the questions correctly." (P. 40)

Subtheme 1.5: Promotes Higher Order Thinking Skills. This subtheme emanated as a result of the game-based features employed by the teacher in the class. The influence of gamification, as recounted by the participants, has empowered them as it gives them an avenue to improve their higher-order thinking skills. The participants disclosed the notion that the use of game-based activities in teaching physical education helped them transform into students with sufficient skills in the classroom such as collaboration, creativity, problem-solving, logic, and analytical thinking, which pushes them to think critically and smartly. As evidently supported by Asigigan and Samur (2021), game-based activities positively and significantly influenced students' problem-solving skills such as analysis, synthesis, and evaluation. Subsequently, Smiderle et al. (2020) discovered that the gamified system changed students' behavior, resulting in a significant improvement in the quality of their submitted solutions and greater accuracy of the answers submitted, indicating that when

students participate in gamified instruction, they will be encouraged to do better by engaging in deeper thinking to achieve good results.

"The gamification in education enhances my level of engagement. It optimizes my learning and improves my skills like problem-solving, logical and analytical." (P. 1)

Students' Challenges in Gamified Instruction

Theme 2: Students' Problems in Using Gamified Instruction

In a world shattered by the COVID-19 pandemic, the development of gamified teaching strategies may appear to be a promising option for imparting knowledge and increasing student engagement. In this day and age, some factors make gamified instruction appear difficult to students. In this new mode of learning, it is inevitable to experience unfaithful moments where the continuity of learning is jeopardized. The abrupt shift in learning with the integration of gamified instructions discloses a few unfavorable elements that significantly impact students' classroom engagement in acquiring physical education skills and knowledge. As recounted by the participants, these consequences include insufficient access to technology and time limits of the initiated game. First, the initiated game using an application or software does not always work properly on their devices, making class participation more difficult. Second, the game's duration also appears to be a barrier to students' gamified experiences, performance, and engagement in class. These moments can be linked to students' financial situations, technology, connection, environment, and learning strategies and styles.

Subtheme 2.1: Inadequate Access to Technology. This subtheme emerged as a student's problem in using gamified instruction in physical education. Inadequate access to technology in online learning in gamified instruction is regarded as a negative factor influencing students' classroom engagement. In this day and age, one of the requirements for survival in online learning is having sufficient gadgets with advanced specifications and a stable internet connection. In addition, this inability to obtain such resources is a major issue for students' continuity of learning. This notion was supported by the study of Noor et al. (2020) that the most pressing issue confronting students in these difficult times is the lack of gadgets, online study materials, and no access or slow internet connectivity, as well as load shedding. Correspondingly, inadequate access to technology can have negative consequences on education, such as low motivation, low student engagement, and low classroom participation, all of which can hinder students' understanding of the lesson (Ogbu, 2015). Furthermore, according to the study by Dridi et al. (2020), a poor and persistent internet connection was identified as a problem that both teachers and students faced. Aside from that, limited access to technology, bandwidth issues, and insufficient telecommunication devices can be a hindrance to students and teachers, particularly when it comes to learning.

"One of the problems that I encountered is that sometimes you can't play or run the game if you have a slow internet connection or if it has high requirements on devices because not all of us have phones that have high specs to meet the standards of the game." (P. 42)

Subtheme 2.2: Time Limits of the Initiated Game. This subtheme emerged as one of the difficulties encountered by students while participating in gamified instructions in their respective physical education classes. Since then, the concept of limitation has become contentious, whether with or without the use of games in the classroom, due to its impact on students' coping ability. The presence of limitations in game-based features prevents students from processing important information at a faster rate; some are left behind due to time limits, and some are unable to understand the instruction or the entire activity. As recounted by the participants, the time constraints of the initiated game have become a disadvantage that has significantly impacted their classroom engagement and participation in the gamified instruction. This contestation was experienced by the participants, leaving them with a sense of confusion, rattling, and even pressure, which

influenced their level of participation, classroom engagement, and performance. In support of this, Yildirim (2016) stated that a game's time limit can cause the player to feel pressured for time. It may also be a challenge in the sense that it may provide "perceived poor satisfaction" among users. Correspondingly, Widmer et al. (2012) supported the claim that time pressure can bring about several negative attributes that the user may perceive. These include stress, discomfort, and even user impediments.

"I don't have any problems except for the slow internet connection and in other gamification, there is a limited time (if I'm not mistaken) to respond, which can be confusing at times.) (P. 24)

"Sometimes, the duration of the game is what really affects my performance and engagement in the class." (P. 30)

Conclusion

Gamification was discovered to be a key factor in increasing classroom engagement in physical education classes among senior high school students, capturing aspects of motivation from the competition, learner interest, styles, and higher-order thinking skills. However, due to the lack of devices and game duration, students perceived gamified instruction to be somewhat difficult, which had a significant impact on their classroom engagement in acquiring physical education skills and knowledge which were linked to students' financial situations, technology, connection, environment, and learning strategies and styles. This implies that the intervention using gamification could be advantageous or disadvantageous to some. However, in terms of the teaching-learning process, gamification does increase students' motivation to learn and keeps them engaged, active, and responsive in the classroom, resulting in more meaningful learning comprehension and improved overall performance. It likewise has had a synergistic impact on students' academic and overall performance in physical education settings. Also, the intervention of this study deciphers a more enjoyable and efficient classroom discussion, and became synergistic pedagogical relief, particularly to the current normal learning setup in education, which deteriorates learner motivation and engagement.

Recommendations

The findings and discussions of this study have practical and theoretical recommendations for teaching and learning and future research undertakings, involving gamification in instilling an effective and high-quality education in the virtual ecology of learners. Teachers should use educational games or gamification as an intervention to increase students' engagement in learning while taking these factors into consideration: (a) Which learning outcomes do learners need to achieve? (b) In what context is the game useful? (c) What types of learners can the game accommodate? (d) Is the game appropriate for the sex, prior knowledge, age, and comprehension level of the students? (e) How many minutes should the game last for students to learn the necessary skills, knowledge, and behaviors? (f) Which language is better for students to learn, English or their native language? Teachers should likewise need to explore various gamified activities and features to capture learners' motivation and interest to sustain the student's level of classroom engagement. This is in the sense that it could bring new learning experiences, refrain from the monotonous flow of the class, and could probably pique the students' attentiveness which can be vital in obtaining new knowledge and information. Localization and contextualization of the games should be explored by the teachers in order to develop and explore relevant and appropriate games in sustaining learners' engagement towards learning. In the event of an emergency, teachers and students should prepare a backup plan, such as pocket-Wi-Fi or cellular load in consideration of the potential challenges that may arise along the way, such as a poor internet connection, device lag, limited access to technology, and time constraints for virtual classes.

Future research should examine the impact of gamification on different student groups from different contexts. It would be fascinating to see how gamified instruction differs when

viewed through the lens of other students. Future research should also expand the implementation of gamification as an intervention to increase student engagement. Future research should employ different types of research design, instrumentation, and other methodological procedure to validate the phenomenon that adheres to different perspectives.

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