Reflective Piece

Using Mobile Gaming in Virtual Physical Education: Challenges and Opportunities

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ABSTRACT

Recent research into education during the Coronavirus (COVID-19) pandemic has revealed several structural inequalities leading to problematic implementation of teaching and learning programmes globally. However, while the use of communication technology has been used to bridge the physical distance between teachers and students, certain subjects, such as Physical Education (PE), pose logistical challenges since this entails actual development of physical skills on the part of the learner. This reflective piece examines the use of mobile gaming as an alternative to traditional PE programmes. Specifically, we argue that mobile gaming helps develop peer engagement, critical thinking, and communication skills. On the other hand, challenges such as a need to engage in more physical activities, addiction, and access to technology were encountered.

Introduction

With the impact of the COVID-19 pandemic, educators around the world have made attempts at finding viable solutions in delivering effective instruction using technology. While the pandemic has brought about both challenges and opportunities (Adedoyin & Sokyan, 2020; Rospigliosi, 2020; Kim, 2021; Thembane, 2022), studies suggest that sustaining student engagement, curricular adjustments, and innovative lesson design have been the main concerns among teachers in adjusting to teaching in the new normal (Code, Ralph & Forde, 2020; Filiz & Konukman, 2020; Gonzalez-Calvo, Barba-Martin, Bores-Garcia & Hortigŭela-Alcala, 2021).

Although the initial response of educational institutions during the pandemic was to implement remote emergency learning, studies suggest that teachers have engaged in innovative practices in delivering lessons through different platforms resulting in unique presentation formats, sustained student engagement, and innovative assessment techniques (Mante-Estacio, Valdez & Pulido, 2018; Carrillo & Flores, 2020; Vargo, Zhu, Benwell & Yan, 2020; Tan & Mante-Estacio, 2021). In the case of PE, the nature of the course lends itself to problems in terms of implementation. Specifically, since PE requires physical activity among teachers and students, the inability to conduct face-to-face classes has prompted educators to rethink curricular goals, confront issues on readiness of teachers in designing lessons fit for an online modality, and address space constraints in conducting physical activity among teachers and students. One promising direction is the use of mobile gaming as an alternative in teaching and learning. At the onset of the pandemic, online gaming was encouraged as a means to address the need to maintain stay-at-home orders to prevent further spread of COVID-19 (Amin, Griffiths & Dsouza, 2020). Although online gaming through e-sports was intended as a means for entertainment (Kim et al., 2020), the effect of the pandemic over an extended period has prompted educational institutions to consider online gaming as part of the teaching and learning process.

As in other countries, the education sector in the Philippines has been greatly affected by the pandemic and the difficulties cited can be "associated with poor online teaching infrastructure, inexperience of teachers, the information gap (i.e., limited information and resources to all students) and the complex environment at home" (Carillo & Flores, 2020: 466). In order to address the challenges of the pandemic, the Department of Education (DepEd) and Commission in Higher Education (CHEd) in the country implemented flexible learning arrangements (Tarrayo & Anudin, 2020; Ugalingan, Edjan & Valdez, 2021), given the diverse conditions in schools. In this arrangement,

schools are given the autonomy to make the necessary adjustments in lesson delivery. As such, the use of printed modules, production of instructional videos, and use of different learning management systems were pursued as courses of action. In this paper, we report insights on the use of mobile gaming as a viable alternative to virtual PE courses during the pandemic. Specifically, we argue that mobile gaming helps in the development of student engagement, critical thinking, and communication skills. On the other hand, challenges such as access to technology, addiction, and the need to engage in more physical activities were encountered.

Course Development and Implementation

In response to the increasing number of cases of COVID-19, the Philippines government announced an enhanced community quarantine in March 2020. Similarly to other institutions, schools needed to close and shift to remote emergency learning. At the early stages of the pandemic, students and teachers struggled as adjusting learning outcomes, lesson design, assessment techniques, and material resources were significant issues in pursuing online learning. As a result, flexible learning arrangements to accommodate diverse learning conditions were pursued. In the case of PE, our unit developed a course on mobile gaming with the intention of facilitating classes in an online environment.

During the development of the course, the intended outcome was to implement an individualized exercise routine together with sessions on the game 'Mobile Legends' to allow student interaction online and develop soft skills which are essential in team games. The game 'Mobile Legends' was selected since this did not pose additional costs for the students and faculty in terms of subscription and can be accessed via mobile device or personal computer. Further, the game allowed students to interact with each other during sessions which provided the teachers opportunities for feedback in developing soft skills in team sports. For the exercise component of the course, lessons were pre-recorded to show the correct implementation of physical activities at home. In turn, prior to undertaking gaming sessions, students were required to present their exercise routine videos for feedback from the faculty. In the conduct of the course, we documented challenges and potential opportunities for future improvement.

The succeeding sections elaborate on the challenges and potential opportunities in using mobile games as an alternative to virtual PE.

Challenges

Challenge 1: Need for more physical activities

Prior to shifting to online learning during the pandemic, PE classes were facilitated through a combination of lessons on health and wellness, execution of predetermined exercise routines, and development of soft skills through sports. However, students have identified that while playing mobile games addresses varied home conditions of learners, there is a need to incorporate more physical activities in online classes. Analogous to the observations of Zhu and Dragon (2016), although technology can demand attention, provide novel challenges, and stimulate motivation through rewards, it is difficult to ascertain if students will be able to develop continuous routines of physical activity through technology use.

Challenge 2: Addiction

Authorities around the world restricted movement among populations to prevent the spread of the virus. As such, gaming was one of the options people pursued. Aside from social engagement, research suggests that gaming can help in the development of cognitive skills such as problem solving, logical reasoning, and awareness of social and physical environments. However, extreme gaming may pose problems such as greater distractions for learners to confront necessary tasks (Amin et al., 2020). Therefore, the appeal of gaming, coupled with the convenience of its use, may lead to unfavourable behaviours such as addiction, as well as the inability to manage time and tasks. In our case, some of our students had difficulty in managing their tasks, extending to other subjects.

Challenge 3: Technological limitations

Limitations on material resources have been a constant concern in educational systems around the world. Specifically, the absence of suitable sports equipment and adequate space at home are considered as significant limitations for the successful implementation of virtual PE classes. This problem was encountered widely when restrictions were put in place and schools needed to shift to remote emergency learning. Due to varying material conditions in institutions, both teachers and learners continue to negotiate learning through available resources. Although mobile games can be played with varying technological requirements, internet speed is critical in allowing students to participate in real-time interaction.

Opportunities

Opportunity 1: Student engagement

One of the consequences of shifting to an online modality is that establishing rapport between teachers and learners has posed difficulty since it hinges on reliable internet connection and equipment. However, through mobile games, our learners were able to observe teamwork and sportsmanship in achieving the goals of the game. Mobile gaming provided the opportunity for students to interact and develop interpersonal relations with peers. As each session required a different set of goals in the game, this provided the students an opportunity to plan their strategy as well as to adjust through communication during play. Since technology bridges the physical distance among students and teachers, mobile gaming provided the opportunity for them to pursue common goals through interaction

Opportunity 2: Critical Thinking

Gamification has been a helpful practice in classrooms as it provides extrinsic motivation for students to participate in activities. In the implementation of lessons using mobile gaming our students claim that formulating strategies together with peers was important to complete the tasks in the game. Specific strategies, such as formulating strategies through teamwork, practice sessions, referring to other sources for tips, and constant adjustments in gameplay, were found helpful in achieving the goals of the game.

Opportunity 3: Communication Skills

Central in any activity, communication skills are essential to achieve goals. As such, using mobile games in our lessons highlights the importance of clear communication with peers in order to execute favourable strategies in the game. Specifically, mobile gaming provided opportunities for learners to express pertinent information to their peers to achieve their goals for the game.

Reflections

The massive impact of COVID-19 on society prompted different sectors to confront challenges in sustaining contact with others despite great physical distances. Although the education sector has

pursued flexible learning arrangements with varying degrees of success, the use of online gaming in virtual PE has helped develop learning communities through sustained engagement, application of critical thinking, and communication skills. Though challenges such as the lack of physical activity, addiction, and technological limitations were encountered, mobile gaming appears to be a viable option given the current learning conditions among teachers and learners.

Moving forward, there are several directions that can be pursued. Firstly, the rise of online and mobile gaming use in the academe may be further refined through partnerships with private institutions. Given the advancements in game design, school and company partnerships can explore different ways of gameplay which can be incorporated in pedagogical approaches practiced across disciplines. For instance, since schools have made investments in learning management systems, elements of game design can be integrated with the aim of sustaining engagement between teachers and learners. Secondly, since technology may be helpful for learners in providing conditions to engage in physical activity, further longitudinal investigations should be conducted to determine the initial dependence and eventual independence on mobile games for the development of set exercise routines helpful for physical health. Given that the post-pandemic conditions in educational settings need to consider the continued threat of infection, schools will need to reconfigure the PE curriculum, incorporating effective use of online gaming, physical activities, and innovative assessment through focused feedback from teachers.

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