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GAMIFICATION CONCEPT WITHOUT DIGITAL PLATFORMS: A STRATEGY FOR PARENTS ON MOTIVATING CHILDREN STUDY AT HOME DURING COVID-19 PANDEMIC

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Abstract

The temporary closure of schools around the world to limit the spread of the COVID-19 has induced a new challenge for parents. Particularly, for those working remotely, making sure the children follow the learning schedule given by the school and keeping them occupied at home until bedtime is no obvious duty to make efforts to boost their enthusiasm. Therefore, one strategy proposed to motivate children's learning at home is to

gamify their learning activities. Numerous studies have been published on the use of various digital platforms in gamification research, however, gamified systems in a non-technology environment or non-digital platform have been inadequately discussed and investigated by scholars. Thus, in this study, we will present a concise discussion on how gamified activities can be utilized in a non-tech environment. This conceptual paper employing a systematic literature review in collecting and analyzing the data. Through a review of the current empirical and conceptual literature, this study presents a new conceptual framework of the gamification concept in a non-technology environment. The study recommends that applying game-based elements or mechanics to motivate and engage children's learning can be carried out anywhere and anytime for any grade level, without waiting for high-tech supports.

Keywords: *COVID-19 Outbreak, Non-Tech Gamification, Non-Tech Learning Environment, Children's Motivation, Study from Home*

Abstrak

Penutupan sekolah di seluruh dunia untuk membatasi penyebaran COVID-19 telah menambah beban berat dan tantangan baru bagi para guru dimana mereka harus memastikan bahwa para siswa tetap termotivasi untuk terus belajar secara maksimal baik di rumah maupun sekolah. Dari latar belakang ini, artikel ini bertujuan untuk mengkaji dan menganalisa secara komprehensif tentang implementasi konsep gamifikasi tanpa penggunaan media teknologi digital. Artikel konseptual

ini dikaji dan dianalisa dengan metode riset kajian pustakan secara sistematis (systematic literature review) dari artikel-artikel jurnal bereputasi yang berhubungan dengan topik gamifikasi. Dari hasil kajian ini telah melahirkan sebuah kerangka pikir tentang implementasi konsep gamifikasi tanpa menggunakan media teknologi digital. Hasil dari studi ini merekomendasikan para guru dan orang tua untuk dapat menerapkan konsep pembelajaran dengan sistem gamifikasi manual tanpa harus menggunakan media teknologi digital berbasis internet.

Kata Kunci: *Pandemi Covid-19, Gamifikasi Non-Teknologi, Lingkungan Pembelajaran Non-Teknologi, Motivasi Belajar, Belajar dari Rumah*

Introduction

COVID-19 pandemic has shifted the practice of teaching-learning around the globe. The face-to-face classroom meeting has been suspended and altered with the online instruction. To support the social distancing policy, all schools globally have been shut down and attempted to replicate their face-to-face class in virtual environments. However, the temporary closure of schools around the globe to limit the spread of the COVID-19 has

added a new challenge for parents, especially for those working remotely. Lots of parents felt stressed and overwhelmed concerning educating their kids at home. Ensuring children follow the learning schedule given by the school and keeping them occupied at home until bedtime is not obvious, particularly, making efforts to boost their learning motivation (Bali & Musrifah, 2020; Wang et al., 2020).

One strategy we propose in this study to motivate children's learning at home and to keep them engaged is to gamify their learning activities. Gamifying their life activities like a fun game. By utilizing game-like activities (gamification) as part of the learning method, parents are infusing enjoyment right into the learning tasks. This in turn makes the student more likely to bear in mind what she or he has discovered, and less most likely to leave their learning activities. The Gamification idea has been popular for a fairly time now, and several research studies have reported on the topic (Baharun et al., 2021; Huang & Hew, 2018). Gamification has become one of the most popular concepts and innovative instruction implemented

in many schools and universities worldwide to motivate and engage student learning (Buckley & Doyle, 2017; Haruna et al., 2021; Kuo & Chuang, 2016).

Gamification means using game elements in non-game contexts to motivate people to do real activities like in the game. The concept is defined as the employment of game mechanics or game elements in non-gaming systems to raise learner motivation with a fun competition (Bali, 2019; Ding et al., 2018). In practice, gamification can be specified as the process of using game elements in non-game activities. Adding game-elements to learning tasks might not just increase fun but also engagement and interest. One of the most adapted game elements in various fields of study are levels, points, badges, avatars, and leaderboards. Numerous other mechanics are offered on a gamified system such as combat, web content unlocking, gifting, trophies, manager battles, mission, social charts, certificate, and memes (Buckley & Doyle, 2017; Liu et al., 2018). Mobile applications and video games attract players with levels as well as badges for finishing tasks. Even adult-oriented applications such as

those for health and fitness as well as financing gamify goals and also award badges for success. Retail shops and credit history cards reward consumers with money back and also price cuts (Oktavia et al., 2019; Haruna et al., 2021; Jurgelaitis et al., 2019).

Commonly, scholars considered motivations to make use of computer systems to be mainly driven by extrinsic motivation; nonetheless, lots of contemporary systems have their use driven largely by intrinsic motivations (Li et al., 2020). Instances of such systems used mainly to accomplish individuals' innate motivations, consist of online gaming, virtual worlds, online buying, electronic music repositories, social networking, and so forth. Such systems are outstanding prospects for additional 'gamification' in their style (Muali et al., 2018; Groening & Binnewies, 2019). Gamification has been related to practically every aspect of life. In the education and learning system, students are rated in their course based upon their earned grade-point average (GPA), which approaches earning a high score in a computer game. Students might also get motivations, such

as an honorable reference on the dean's listing, the honor roll, and also scholarships, which amount to leveling-up a video game character or making digital currency or devices that increase video game success (Rahman et al., 2019; Buckley & Doyle, 2017).

One crucial type of technological style in gamification is the player-centered style. Based on the design method user-centered layout, its main goal is to promote higher connection and favorable action change in between technological consumers. The literary works suggest that gamified discovering treatments might raise pupil involvement and improve knowledge. The gamification of education can enhance degrees of pupils' interaction similar to what games can do, to enhance their particular skills as well as enhance their understanding (Bali & Holilah, 2021; Lopez & Tucker, 2019).

The employment of gamified activities could also be a possible alternative to the barrier encountered by students in learning by increasing the enjoyment of the task. In terms of learning engagement show that the implementation of gamification instruction has positive

impacts on students' engagement in terms of behavior, emotion, and cognition (Wahid et al., 2020). Students also declare that gamified activities in online discussions are more fun and enjoyable. In line with this report, Ding et al. (2018) also demonstrate that the gamified activity has a positive impact on students' learning engagement, namely, behavioral engagement, emotional engagement, and cognitive engagement.

Nonetheless, there exists a misconception regarding gamification in education and learning. It is typically assumed that establishing interactive electronic applications as well as deploying them will instantly lead to motivate and also engage students' learning, and resulted in favorable discovering results. This short article wishes to clarify that gamification is not simply using technology in the teaching-learning activities but the way of motivating people using game-based elements, applied either using digital or non-digital means. Studies reported that gamification can motivate individual participation both intrinsically and extrinsically (Groening & Binnewies, 2019). Innate motivation occurs when people take part just

because they are appreciating the task (Islam et al., 2018).

Besides, although there is a growing body of literature discussed the effectiveness of gamified learning; research rarely reports the employment of a gamification concept in a non-technological environment without employing a digital device. This research intends to fill in this space by elaborating a conversation associated with the application of a gamification concept in a non-tech information setting, particularly in a rural environment with a limited internet connection and technological facilities.

This study is relevant to today's teaching-learning context in the contemporary COVID-19 crisis to motivate students to study at home with the gamification concept. Studying at home is more reliable and recommended at avoiding and minimizing the rapid spread of the Coronavirus, but the problem appears where most parents are difficult to motivate their children to study. Thus, again, this study aims to propose a solution for the parent on how to simply apply a gamification concept to keep students' motivation studying at home without using any

digital device. We will certainly provide a brief conversation on exactly how gamified tasks can be used in a non-technology environment.

This brief write-up additionally intends to open an insight, discussion, and call for future researchers to implement a gamification concept within a non-tech environment. Thus, all people around the world, especially students in rural areas or less advantaged places may also experience learning with an innovative concept, particularly during the coronavirus outbreak. Through a review of the current empirical and conceptual literature, this study presents a new conceptual framework of the gamification concept in a non-technology environment. Meanwhile, to be fair, in this study, we will briefly begin a brief discussion of applying a gamification concept in a technology environment and subsequently followed by an in-depth discussion on applying gamification concept in a non-tech environment.

Method

This study is a conceptual paper employing a systematic literature review in collecting and analyzing the data. The study procedure consisted of a methodical testimonial of published literary works on e-learning and pedagogical instruction (Zainuddin et al., 2019). The empirical proof collected from this review was amassed from refereed journal articles published between 2016 and 2020. All of these journal articles were reviewed, evaluated, and synthesized, and reported systematically. An extensive methodological research study method was employed for the methodical analysis of empirical paperwork (Braun & Clarke, 2019). This organized approach and testimonial offer to gauge research patterns on thematic and content evaluation in the field of academic innovation.

In this study, the recognition of data collection started with formulating the research purposes, adhered to by a testimonial and analysis of the fads of gamification research study-based learning outcomes or learning performance. In looking for merging and corroboration,

triangulating different data resources assists give an assemblage of evidence that types credibility (Perera et al., 2020). The information acquired utilizing thematic content evaluation was that descriptively analyzed and summed up the meanings of the message.

Results and Discussion

Gamification in a Technology Environment

Most open-source LMSs have incorporated game-elements as platforms to build, track, and enhance learner engagement and motivation, and drive positive learning outcomes. By taking advantage of the game-based elements in the LMSs, instructors can create a more active learning environment that assists students to reach their potential. It appears that gamified platforms may be the tools to address the old and unsettled question of how to make medium and large lectures more active and engaging for students.

The gamification industry has become an increasingly popular and promising trend in organizations today. According to McGonigal (2011), these

days, gaming has become one of the world's fastest-growing industries globally making a multi-billion-dollar profit, and the market for gamified learning today keeps expanding. Quizizz gamified platforms, for instance, are thought to have more than ten million users in various institutions around the world. It can be inferred that the gamification concept can be viewed as an innovative part of the technological advancement that can alter the way people interact with technology and the way technology integrates with the contemporary needs of the global market and culture.

Finding ways to apply games or game concepts in the classroom by teachers or at home by parents can be a promising and innovative tool to engage their students or children in creative learning skills and attractive competition. We believe that the design of innovative instruction in the educational sector using the concept of gamification may have a very encouraging future in motivating and retaining students' attention, challenging and entertaining them, and most of all in teaching them how to use numerous modalities that are crucial in

preparing them to be digital literacy learners.

Numerous studies have illustrated the integration of game-based elements into the learning management system (LMS) as a positive reinforcement strategy to motivate and engage students in gamified learning. For example, with the integration of gamification using Web 2.0 tools, these technological solutions offered new functions for MOOCs (Coursera, Udacity, and edX) (Aparicio et al., 2019), wiki platforms (Wikispaces.com; Özdener, 2018), moodle platforms or institutional LMS (Barata et al., 2017; Jurgelaitis et al., 2019; Kyewski & Krämer, 2018; Lo & Hew, 2020; Ortiz-Rojas et al., 2019). Buckley and Doyle (2017) used the National Budget Forecasting Project as a gamified learning intervention to prompt student engagement and independent learning and facilitate social and cognitive skills.

We also found that several studies developed gamification platforms to prioritize user-centric needs and help provide an impactful online experience for a diverse range of users. These platforms aimed to promote students' learning performance and engagement (Kuo &

Chuang, 2016; Sung & Hwang, 2013), participation in online discussions using the gamified tool 'gEchoLu' (Ding, 2019; Ding et al., 2017), and their involvement in online post-lecture questions (Bouchrika et al., 2019).

Gamification in a Non-Technology Environment

Many people still assume that game-based learning and gamification should be digital or computer-mediated environments. Based on the literature reviewed, almost all gamification studies in the educational context used online systems (Barata et al., 2017; Bouchrika et al., 2019; Ding, 2019; Huang et al., 2019; Huang & Hew, 2018; Jurgelaitis et al., 2019; Ortiz-Rojas et al., 2019). However, a gamification concept in a non-tech environment has been inadequately investigated. Whereas, Barata et al. (2013) notice: "a conventional learning experience can be designed as a game without using technology, where students are awarded experience points instead of using traditional grading systems". In line with this, Wood and Reiners (2015) also stressed: "it is possible to incorporate gamification into processes without technology support,

this is proven challenging to achieve in practice". Thus, based on assumption, the authors in this study are eager to offer some possible ideas regarding the implementation of a gamified concept in a non-tech information setting with an expectation that can be adapted as a reference for future research. This study is also expected to provide a high benefaction to the future research of gamification in a rural area, where a technological infrastructure is inadequate and particularly for the area affected by the current crisis of COVID-19.

Based on the literature, it can be implied that the gamification concept can be applied either in digital or non-digital means. The digital equipment can be a website or LMS while a non-digital tool can be a paper, pen, or whiteboard. Although digital tools are frequently used in gamification studies, this is not a prerequisite. The advantages of physical tools can be that participants are more involved in the activity since they use more senses (Zuckerman and Gal-Oz, 2014).

To keep motivating children to study at home during the COVID-19 outbreak, parents may use a part of the whiteboard or papers to write their children's names and assign points throughout the lesson or tasks. It can be a benefit for a family that lives with more than one or two children. These children can be managed as a team to achieve and complete a mission or as competitors to compete with each other to receive incentives or punishment during the role-play. It will be an advantageous idea to have some sort of reward for children such as points, a small certificate, or a stamp in their book or congratulatory words from parents as a morning greeting. These text messages will encourage children to give their best in their daily activities at home.

Besides, the parent can also create the award badges for whatever to reward or give students out over the lesson, week, term, or month. Badges are a way to distinguish the competency of skills and to distinguish children who have gone beyond. With badges, it is often good if children know what they are aiming for. It may, therefore, be good to display a list of possible badges and

some guidelines as to what sorts of behavior are likely to result in the badges being awarded. Achievements or badges are symbolic awards offered to pupils for finishing "any kind of skill, knowledge or achievement" (Abramovich et al., 2013).

Examples of non-technology game elements can be a stamp, a sticker, or just different sections of a rubric. If children demonstrate mastery of a particular concept in their learning at home, award the appropriate badges or stickers. The use of the award stamps, for instance, can be an alternative approach for parents to award students' learning at home (see Figure 1). Parents can purchase the teacher reward stamps at any online store with different natures and characters. Besides, badges can also be drawn manually on paper (paper badges) or using computer printing and make as stickers (sticker rewards). This type of badge can be granted to children as an incentive to motivate them to perform their best with words of encouragement printed on bright and colorful stickers.

Figure 1. A Sample of Teacher Reward Stamps

The parents may also draw the leaderboard manually on the whiteboard or paper to display the progress of children every day or week. Leaderboards can be based on a points system, on how many achievements children have obtained, or percentage progress towards an end goal (Ding et al., 2018). By drawing a leaderboard on the whiteboard, blackboard, paper, or exhibited it on the wall like a poster, will motivate children to compete at home, achieving better performance, and allow them to

continuously strive to improve their place in the rankings. This strategy allows children to compare performance to that of other family members and everyone in the family community can directly see their learning performance during study at home. The following Figure 2 illustrates a sample of leaderboards drawn on the paper to assess students' progress every week. It can be adapted and modified by parents to motivate their children's study at home.

Figure 2. A Sample of Leaderboard Drawn on The Paper with Scores, Ranks, Emojis, and Memes

In terms of level, the quest can also be applied in an offline setting and could just as easily be to find

information in books or magazines. Alternatively, the tasks could be to complete (or write) some comprehension questions for a text, and when children have done this, they can move up to the next level. It could even be a collaborative writing task, where groups have to complete the text to a certain standard to move onto the next level (Bouchrika et al., 2019). It is best to have clear levels that become progressively more challenging so that the children feel that they are progressing through.

Parents may also award children with the point system, the better they learn at home the higher they receive points. Children then can use those points to change with real gifts such as books, food, and others. Another important thing is that parents should not forget to provide instant feedback on children's performance at home. Children might be proud if parents appreciate their hard-work or children will performance better or study hard if their parents' feedbacks are not satisfied yet. Parents may celebrate their children's achievement whenever possible to help motivate them to keep pushing ahead.

Discussion and Directions for Future Research

Applications like Class Dojo, ClassBadges, Nearpod, Zondle, and Play Bright-er dominate most conversations about gamification in education. The use of such technological platforms will automatically increase the literature of gamification in a high-tech environment. In line with this, the concept of gamification is often assumed that developing interactive mobile applications (apps) and applying them into the classrooms to lead students' better learning. Meanwhile, according to Kapp (2014), Gamification implementation is not restricted by technology or online control system. It is a way of engaging and motivating people experiences the real life like living in the game. While a result of gamification implementation is often fun in any sector, the outcome behind developing a gamified approach is increased engagement and motivation. In this article, we suggest that gamification is not about technology or digital platform but is about the design and development of alternative fun strategy by incorporating game-elements into real-life activities.

To implement the gamification principle without the electronic system, we just require a part of the whiteboards (or perhaps blackboard!) and create the team names up, then assign factors throughout the lesson. It is a great idea to have some sort of incentive for the team with one of the most factors, so a little certification, or a stamp in their publication, a congratulatory e-mail or text from you or something. It is additionally totally free to allow different teams to be markers on various days or make ideas as to what must score factors that lesson.

One more method that can be implemented is developing a real level for progress. A gamer recognizes they are moving forward as they see the degree advancement or the experience bar fill. Take a comparable approach by creating visual means to show how they are progressing. And then, provide a clear sign of what is needed to proceed better. Commemorate ahead accomplishment whenever feasible to aid provide the inspiration to keep getting along. That, instructors or parents, might additionally provide multiple lives. In a video game, we understand that we have to conserve

factors as well as multiple lives. So, why is addressing a question in the classroom frequently a one-and-done concept? Offer students or kids the possibility to attempt once more, and to gain from their mistakes. If students are allowed to try once more, perceived failures can ultimately lead to success.

As an alternative tool to digital platforms, many traditional equipment can be used to reward and punish students in the role-play, such as a drawing leaderboard of the whiteboards and real badges or medals. At home for instance, parents may write down their children's names on the whiteboard and assign or list points to each of their achievement and accomplishment. In the non-tech gamified learning setting, the leaderboards can be drawn manually on paper or whiteboard and posted in the classroom or home wall so that everyone can see it. This strategy is believed to motivate children perform better due to their achievement published appears in public spaces.

In line with this, Çakıroğlu et al., (2017) awarded real gifts to students with high-performance levels as recorded on the leaderboard. We believe that the use of an alternative strategy for further gamified learning implementation in a non-tech can be promising to motivate children to study at home during Covid-19. Most importantly, its implementation in an area where the internet and technical infrastructure are inadequate. As an alternative, actual presents or badges could be granted to inspire and engage pupils' learning. This study implies that gamification is not about technology or a digital platform but rather about the design and development of innovative instruction that incorporates game elements into activities. Gamification is a way to reward hard work, motivate action, overcome challenges, and make people enjoy activities like they enjoy playing games.

We suggest that future scholars' studies more thoughtfully and critically how a gamified system could be practiced in a non-tech setting, not just confined to a high-tech environment. A non-tech or low-tech atmosphere is one with fairly unsophisticated technical

development or devices. We support future scholars, parents, or teachers who want to gamify learning activities, not to wait up until a high-technology becomes available.

Conclusion

Gamification indicates utilizing game aspects in non-game contexts to motivate people to do genuine tasks like in the video game. The principle is specified as the work of game mechanics or game aspects in non-gaming systems to elevate student inspiration with a fun competitor. In practice, gamification can be specified as the process of using game aspects in non-game activities. Including game elements to learning, tasks may not just boost enjoyment yet additionally interaction and passion. Among the most adapted video game components in different fields are levels, points, badges, avatars, and leaderboards. Numerous other mechanics are offered on a gamified system such as combat, web content unlocking, gifting, trophies, manager battles, mission, social charts, certificates, and memes. Mobile applications and

computer games, draw in players with levels along with badges for ending up jobs. Also, adult-oriented applications such as those for health and fitness along with financing gamify objectives as well as also honor badges for success. Retail shops and credit history cards compensate consumers with refunds and additionally rate cuts.

The application of game mechanics to motivate and engage children in the learning tasks can be set up anywhere, in any type of quality and subject, despite the accessibility of digital media. Further studies are highly suggested to implement such innovative concepts of the gamification principle in a non-tech setting. Hence, people all over the world, and especially students in rural areas, may also experience learning with cutting-edge pedagogical concepts. Besides, this research study may also aid sustain the UNESCO program, 'Education for All', motivate innovative direction, as well as support improving the educational quality and learning outcomes. We believe that this brief discussion may supply beneficial understandings for advancing gamification research, and

can be adapted as a source of referral for future study in education and learning, particularly, during the complicated time of COVID-19.

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