Utilising gamification for online evaluation through Quizizz: Teachers' perspectives and experiences

Zainal Arifin [a] *****, Department of Curriculum and Educational Technology, Faculty of Educational Science, Universitas Pendidikan Indonesia, Dr. Setiabudi Street No.229, Bandung, 40154, Indonesia
https://orcid.org/my-orcid?orcid=0000-0001-6497-3280

Budi Setiawan [b], Department of Curriculum and Educational Technology, Faculty of Educational Science, Universitas Pendidikan Indonesia, Dr. Setiabudi Street No.229, Bandung, 40154, Indonesia
https://orcid.org/0000-0001-5371-8129

Abstract

During the pandemic, the 2019 novel coronavirus disease (COVID-19) has had a tremendous and massive impact on the entire cross-level education system in Indonesia and the global realm. This study aimed to look at the reflections of gamification activities that are used as a formative assessment tool in learning environments based on academic accomplishment and teachers' engagement. The existing resource presented in this study in the form of 'Quizizz' can effectively transform formal education patterns into online education patterns assisted by virtual classrooms and other online learning media for the evaluation process. The method used in this research is phenomenology to investigate the perspectives and experiences of Indonesian secondary school teachers about remote Quizizz evaluation during the COVID19 pandemic to determine the teacher's perspectives and experiences for media utilisation strategies in the online evaluation. The results of this study indicate that in learning activities during the COVID-19 pandemic, training is needed for teachers to respond to and overcome problems related to changes in the online evaluation process in the education system. Identifying teachers' perspectives and experiences for an online-based evaluation process during the pandemic will contribute positively to achieving maximum student-learning goals and outcomes.

Keywords: Perspectives; experiences; evaluation; online learning; covid-19;

* ADDRESS FOR CORRESPONDENCE: Zainal, Arifin, Department of Curriculum and Educational Technology, Faculty of Educational Science, Universitas Pendidikan Indonesia, Jl. Dr. Setiabudi No.229, Bandung, 40154, Indonesia
E-mail address: zainalarifin.tp@upi.edu / Tel.: +62- 813-2052-1961

1. Introduction

The spread of the infectious COVID-19 disease and it turning into a global pandemic has had a considerable impact on various aspects of life in all corners of the world (Remuzzi & Remuzzi, 2020). With a straightforward pattern of spreading, namely through close physical contact, this deadly virus can lead to millions of reports of deaths worldwide. In the economic sector, this virus pandemic has stopped trading activities within and between countries, which has led to financial instability in almost all countries (Mishra et al., 2020). Even the International Labour Organisation, under the auspices of the United Nations, estimates that there will be around 195 million people who will lose their jobs if the global situation and conditions are not immediately conducive (COVID-19 C.E.). Responding to the developing situation, the government has carried out various prevention programmes such as health education, calls for social distancing, masks and policies on social restrictions on a limited and broad scale. Limiting social contact followed by maintaining sanitation and hygiene will be able to control the spread of this virus (Khachfe et al., 2020).

In late 2019, the rapid spread of the coronavirus (COVID-19) illness had a devastating impact on society, including education. Several schools throughout the world have transitioned from direct instruction to online instruction. Educational institutions had to find new ways to continue teaching and learning by looking into various online teaching platforms and strategies. However, the lack of pedagogical skills of online methods among teachers, lack of an online teaching platform and the availability of electronic equipment and other technical concerns (e.g., Internet access, electricity etc.) (Farley & Song, 2015; Nhu et al., 2019) remained the key issues experienced by various teachers around the world (Farley & Song, 2015; Nhu et al., 2019). While some institutions may have a well-structured Learning Management System (LMS) (Han & Shin, 2016), others rely only on platforms such as social media in online instruction (Arifin & Setiawan, 2022; Chawinga, 2017).

In the field of education, according to UNESCO (2017), there are around 264 million children and adolescents who do not have access to education, and the situation will worsen with the COVID-19 pandemic. Because of the spread of this virus, there has been a shift in learning patterns from face-to-face learning to online learning. In the pedagogical approach, nothing can replace the top position of informal education that prioritises direct teacher interaction in learning. However, with the spread of this virus, online learning has become a critical point in the pedagogical shift from traditional approaches to modern learning, such as from classrooms to virtual rooms and from seminars to webinars. If we look back, online learning is common and familiar to educators. Online learning was initially used more in the non-formal and distance education sections. As time goes by and with the dynamics in the field, online learning will gradually replace the formal education system that has taken root with traditional approaches over time. There are currently various options available concerning online learning platforms, such as Edmodo, Google Classroom, Blackboard Learn, Seesaw, Lectora Inspire and many others. Internet-based online learning takes place in synchronous and asynchronous forms (Singh & Thurman, 2019). The flexibility of time, place, ease of access and the variety of material types are advantages and do not require significant costs (Chen, 2010; Khurana, 2016; Setiawan et al., 2020).

Information and communication technologies have undoubtedly influenced today's teaching and learning processes (ICT). In the twenty-first century, using technology in the classroom, as well as distance and open education (Almaghaslah et al., 2018; Bandalaria, 2018), may have been widely considered as a successful teaching and learning strategy. As a result, some educators may be interested in investigating the benefits of integrating technology into classroom pedagogies in order to better understand the relationship between ICT and pedagogy. The Internet and technology have

been shown to influence language acquisition in previous studies (Sa'nchez et al., 2019; Ulla et al., 2020). They can also form a community of practice (CoP) with other instructors that is important for knowledge creation and dissemination (Wesely, 2013).

In situations and conditions that are not conducive to implement learning activities during this pandemic, both teachers and students feel a need for innovation in learning strategies through rethinking, changing and designing learning processes that can answer existing conditions. The development of digital-based learning experiences is deemed necessary in online learning (Lederman, 2020). Through the skills acquired in digital learning, students will have a more profound opportunity to achieve success during a pandemic that is entirely dependent on online learning. Online learning provides security and comfort in learning activities and experiences. Through digital-based online learning, it will be able to shift the learning process that initially had to be face-to-face to online learning (Aldhafeeri & Khan, 2016). The use of digital technology in innovation for change both internally and externally about shifting learning patterns needs to be linked to the existing conditions, the motivation behind it and readiness from both the system side and related policymakers (Siegal et al., 1996).

Of course, with the implementation of online learning, both teachers and students are faced with problems. The main point of contact is a value that rewards values in digital-based online learning that can provide a sense of comfort for students when used (Erdogan et al., 2019; Kumpulainen & Gillen, 2017; Sharkins et al., 2016). Based on the explanation above, this study describes the needs of teachers at the elementary and secondary levels for the implementation of online learning. Through this needs analysis, assistance and solutions can be mapped out in the form of a variety of online learning and teacher–student perceptions during the COVID-19 pandemic.

Education that reflects the flexibility and is based on 'online' shows a need for a delivery method by teachers or educators because they are separated by distance (Wang et al., 2013; Wilde & Hsu, 2019). The relationship that is built between teachers and students in the context of the learning process is facilitated by technology, and a learning environment that has been designed in such a way has an influence that is worth considering in achieving the goals and learning outcomes set (Bower, 2019; Wang et al., 2013). Through online-based learning, students who have limited capacity to process and absorb information will be able to learn new details measurably. Technology also plays a role in bridging the lack of self-confidence that students have regarding the lack of elements of social relationships that may also impact student-learning outcomes (Bower, 2019; Setiawan & Asrowi, 2018).

If used according to its function and designation, the technology effectively embraces and encourages students to participate actively and collaborate in learning (Botero et al., 2018; Bower, 2019). The learners or the students themselves as users and the benefits of the technology (Kemp et al., 2019; Yakubu & Dasuki, 2019) do not only influence the achievement of the goals and the shift in learning patterns used in online contexts. The effectiveness of online learning mainly depends on the degree of acceptance by the users themselves, in this case, teachers and students (Tarhini et al., 2017). Therefore, it is essential to consider other aspects of the utilisation and use of technology for online learning.

Teachers' perspectives towards using technology in education are closely related to both physical and non-physical responses from individuals that lead to positive and negative behaviours (Botero et al., 2018). Students' attitudes towards the type of technology used in education directly affect their acceptance of the learning process. The next aspect that is taken into consideration in the context of

technology and online learning is its impact. The influence here includes students' feelings, emotions and personal characteristic traits (Kemp et al., 2019). Experience is an essential aspect of the teaching and learning processes that comes from within students, including a sense of comfort, satisfaction in line with the activities in it and efforts to achieve goals. It is more likely to lead to something that can encourage or support the success of a specific target that has been set (Albelbisi & Yusop, 2019).

In the last few decades, online and digital learning have begun to spread and be adopted by many parties, including the world of education. With the increasing variety of technology and digital materials used in online learning, parents believe that this can encourage students to develop their children's learning competencies, self-expression, language and social competence (Lepicnik-Vodopivec & Samec, 2013). Parents also see and assess that this form of learning can provide a sense of comfort for children when they carry out the learning process at home (Sharkins et al., 2016). From the teachers' point of view, they also believe that technology-based online learning can have a positive impact on their children (school age) to use or utilise computers (connected to the internet) responsibly and gain added value, namely related to technical abilities that can support them in achieving academic learning outcomes (Hatzigianni & Kalaitzidis, 2018).

This article discusses Indonesian teachers' perspectives and experiences with online evaluation by utilising Quizizz as an online tool or media to support the application at the secondary level of education during the COVID-19 pandemic. The outcomes of this study are likely to add to the growing body of knowledge on the use of technology-based apps/media as online evaluation.

2. Method

This is a qualitative research based on phenomenology seeking to expose and comprehend through the perspective of the participants for certain events or phenomena (Groenewald, 2004). The current study used phenomenology (Groenewald, 2004) to investigate the lived experiences of Indonesian secondary school teachers about remote Quizizz evaluation during the COVID-19 pandemic. It also used a self-report survey questionnaire created by the researcher to supplement the information gathered from the semi-structured individual interview.

2.1 Participants

This study aims to explain and comprehend the experiences of Indonesian secondary school teachers, their impressions of Quizizz as an online evaluation application, occurred problems and their responses.

Thirty out of 40 (35 female, 5 male) respondents joined the survey questionnaire, and only 4 teachers participated in the interview. They were all majoring in social and science, and their first and foreign languages were Indonesian and English, respectively. All the subjects gave their informed consent. The study's goal was explained to these teachers.

Convenience sampling was used in this study (Farrokhi & Mahmoudi-Hamidabad, 2012). A survey and an individual interview, performed in questionnaires or WhatsApp conversation (Ditchfield & Meredith, 2018), were also used to collect data for the research. A closed social media chat was formed to secure the pupils' online identities (Ulla & Perales, 2020).

2.2 Data analysis

Despite the fact that the current study used a qualitative phenomenology as the approach, it also included a self-report questionnaire prepared by the researcher. The self-report questionnaire allows participants to directly respond to questions about themselves in various events, such as feeling,

perception, attitude and experience (Korb, 2011). Given the nature of the investigation, which followed the phenomenological tradition of qualitative research, its questionnaire is deemed suitable as a tool to gain the data in the study. When constructing the questionnaire, the researchers considered a variety of questions related to the study's research problems. Their colleagues scanned through the questionnaire for duplication, confusing language and questions that were leading.

Similarly, utilising the thematic analysis approach, interview transcripts were read numerous times before being sorted, categorised and assigned to distinct themes that matched the study's purpose (Braun & Clarke, 2006). Participants were given the opportunity to revise, add and approve the interview transcripts to ensure their validity. Finally, utilising frequency counts and percentages, the survey questionnaire data were totalled.

3. Results

To formulate problems related to the types and needs of online evaluation media, researchers surveyed the form of percentage analysis to reveal the different kinds of online evaluation platforms adopted by teachers during the pandemic.

Table 1 shows the various types of online evaluation forms used by teachers and students during the COVID-19 pandemic at SDIT-SMPIT Imam Bukhari Jatinagor, Sumedang. When viewed from the percentage aspect, the teaching staff or teachers in schools at both levels show that the type of interactive media for online evaluation that is most widely used is Quizizz. The platform is very popular as a digital education medium among both teachers and students, reaching 100% – reasons for practicality and few obstacles in internet access.

Table 1. Different types of teacher-student online evaluation platforms

No	Online Evaluation Platform	Teachers percentage	Students' percentage
1	*Quizizz*	100%	100%
2	*Email*	30%	9%
3	*Youtube Videos*	25%	10%
4	*Youtube channel*	8%	4%
5	*Google Classroom*	9%	10%
6	*Google meet*	38%	20%
7	*Zoom Conference*	60%	50%
8	*Skype*	3%	1%
9	*Social media (Facebook, Instagram, Twitter)*	15%	90%

It does not require an Internet quota that is too large, and this platform is the mainstay in implementing online evaluation activities. Interestingly, although teachers and students tend to be more inclined to specific media types, there are also various other platforms for the evaluation process, teacher–student interaction, assignment collection, discussions and exams, such as email and Google Classroom. 30% of the teachers use email to distribute and display assignments, and 25% use Google Classroom to build interaction patterns related to discussions and coordination regarding the implementation of projects and exams. Still, on the contrary, only 9% of teachers and 10% of students access or use the platform. Meanwhile, to share information or transfer knowledge and learning experiences independently, teachers utilise two leading media, namely YouTube videos and YouTube channels. Teachers share web links that can be accessed anytime and anywhere with audiovisual displays through these two platforms. However, when referring to the results of the percentage in the table, the access and use of these types of online learning media used by teachers and students are deficient. Only 8% of teachers record the teaching process carried out, which is then uploaded to their

respective YouTube channels to be later accessed by students as a medium for independent learning. The achievement of more or less the exact percentage is also seen in students, where only 4% of students access the teacher's YouTube channel as a learning medium.

To present an interactive atmosphere that combines audiovisual elements that allow teacher–students to meet face-to-face with the help of online evaluation media, there are three types of platforms used, including Google Meet, Zoom and Skype. The percentage achievement for each platform is also different. In the Google Meet application, as many as 38% of the teachers use the media and 20% of the students access the same media. While in the Zoom application, about 60% of the teachers apply it in online learning and 50% of the students participate in learning through the application. On the last platform, which is Skype, based on the data from the table above, it is seen that there is very little use of this media in learning. Only 3% of the teachers and 1% of the students use this platform in teacher–student communication to gain knowledge and learning experiences. In general, the Zoom application is the most frequently used because of its ease of operation and exciting and practical features. Referring to two other platforms, namely Google Meet and Skype, which have minimal use because apart from being unstable, the results are due to the consumption of large data packages. Another technical obstacle is that participants often go in and out suddenly.

Table 2. Teachers' perspectives towards the online evaluation on Quizizz

Statements	Strongly Agree	Agree	Strongly Disagree	Disagree
1. Quizizz makes students feel more at ease when taking the test.	17%	62%	5%	16%
2. The students prefer to learn Quizizz alongside their classmates.	20%	60%	2%	18%
3. Quizizz is students' preferred method of working and learning.	21%	55%	5%	19%
4. The students believe that using Quizizz for online evaluation is more convenient than using traditional classroom tests.	18%	45%	10%	27%
5. The students believe that Quizizz's online evaluation helps them understand various course elements.	15%	52%	5%	38%
6. When taking the Quizizz test, the students believe that they are capable of accomplishing a variety of tasks.	20%	55%	3%	22%
7. The students believe that Quizizz's online evaluation is more successful than classroom tests.	10%	65%	5%	20%
8. The students believe that online quizzing on Quizizz has helped them become more autonomous students.	25%	70%	2%	3%
9. The students believe that online quizzing on Quizizz encourages them to be more creative learners.	17%	53%	4%	26%
10. The students believe that using Quizizz for online evaluation allows them to experiment with different ways of learning the course.	30%	60%	3%	7%

Based on the data from Table 2, the online media platform, particularly Quizizz, has been noticed by teachers to be used as a means of online evaluation. There are two types of evaluation platforms used, namely Quizizz and Kahoot. As many as 70% of the teachers agree that Quizizz is an online evaluation tool, which is primarily for written communication and task monitoring to be considered comfortable. The teachers emphasise group assignments in using this media, such as uploading pre, processed and post assignments, to be reviewed from time to time. On the other hand, a significant percentage showed more enthusiasm by being more proactive through this platform by the statement of agreement with 80% believing that it is more effective than offline classroom test. This is indicated by the achievement of the percentage of teachers (80%) who used the Quizizz platform from the

teachers' point of view to agree that this online evaluation platform supports the students-learning outcomes completion as the overall perspectives.

Despite their positive perspectives on online evaluation, particularly on Quizizz, all of the teachers encountered some issues and problems as the experiences during the instructional process (see Table 3). Internet connectivity (65%), a noisy environment at home (55%), a lack of institutional backup (67%), having trouble comprehending the online lesson (30%) and an increase in assignments load are among these concerns (87%). According to the participants, these difficulties had a negative impact on test completion and achievement. During the online evaluation, several features of Quizizz were reported to be valid. During the interview, teachers said that they found it tough to schedule and meet online to discuss some of the class activities. Still, with the help of these features, they were able to build a way to assist and share with one another in the instructional process. They were also able to exchange intellectual ideas with their colleagues via the discussion forum wall and comment area.

Table 3. Teachers' experiences having online evaluation on Quizizz

Statements	Strongly Agree	Agree	Strongly Disagree	Disagree
1. At home, I have a sluggish internet connection.	20%	45%	10%	25%
2. I lack the technological expertise required to complete the online assessment.	10%	15%	15%	47%
3. I do not have access to a computer, laptop, or mobile phone to conduct an online assessment.	0%	0%	30%	70%
4. Due to the noisy household environment, I am unable to focus on online examination.	20%	35%	10%	35%
5. The online evaluation is tough for me to comprehend.	10%	20%	30%	40%
6. There are so many questions when having an online evaluation.	3%	10%	50%	37%
7. My institution has no support when having an online evaluation.	10%	57%	20%	13%
8. Online evaluation is causing me stress and anxiety.	0%	0%	89%	11%
9. Online evaluation is lonely and sad.	0%	0%	10%	90%
10. Online evaluation is difficult.	0%	1%	5%	94%

To get more in-depth results regarding the teachers' perspectives and experiences in online evaluation during the COVID-19 pandemic, content analysis on the questionnaire was carried out on teachers' perspectives of online evaluation. In addition, the researchers also conducted semi-structured interviews.

The school already has a clear vision of implementing online learning during the pandemic. Seeing the obstacles faced by teachers related to variations in online evaluation media, several efforts are made, including by collaborating with second parties to take part in training in making media which the teacher then produces as an alternative to delivering learning materials. Teachers, who had finished participating in training activities, verbally expressed several statements.

'Training in making learning media is very much needed by us educators. Both teachers and students do this to avoid boredom that is felt. However, from the training carried out, we felt it was too short and there was no continuous mentoring process for the products we have developed and made'. (Respondent 1)

Most of the teachers also thought they were more motivated to implement the learning process with this training. However, there is a record of the activity obtained. One teacher from the elementary school level stated that:

'At the elementary school level, especially small classes (grades 1–3), they will face obstacles in the form of children who are not familiar with it and/or a low level of technological literacy related to operations and how to use the media for knowledge transfer. The role of parents in mentoring is very essential, but in the midst of busy work, it is very rare for parents to take part and participate in these online learning activities'. (Respondent 2)

Concerning the type of learning media used, in this case the application to produce or support an online evaluation system, teachers at both primary and secondary levels also expressed complaints, namely:

'This training has a positive impact on teacher performance in packaging online learning and classroom management activities. However, it should be underlined as a note that there needs to be ongoing training and assistance from the production stage to reviewing the products produced. With this evaluation, we can get input from various aspects outside of our field which is certainly very useful for us personally as educators and institutions going forward'. (Respondent 3)

There are some free formative assessment applications available: Socrative, Edmodo, Kahoot, Padlet, G-form and Quizizz (Bicen & Kocakoyun, 2018; Tsahouridis et al., 2018). With over 30 million users, Quizizz is a similar Web 2.0 product widely used in the assessment area. Figures 1–3 show the features included in the Quizizz online evaluation platform media for distant learning to have more details and specific descriptions about these apps.
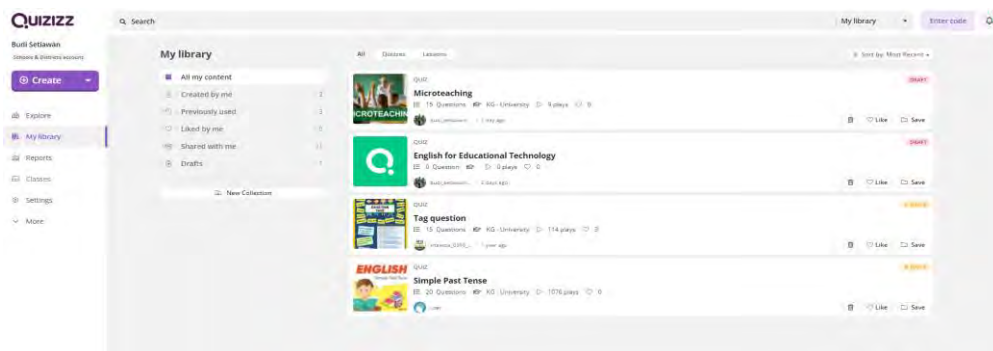

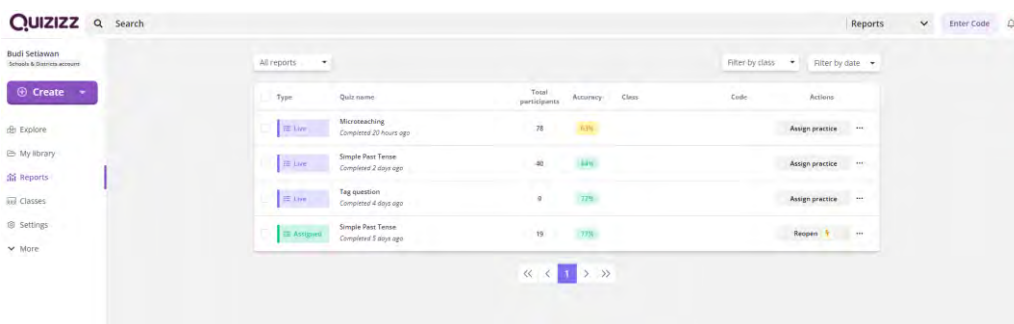
Figure 1. Teachers' Quizizz main account features

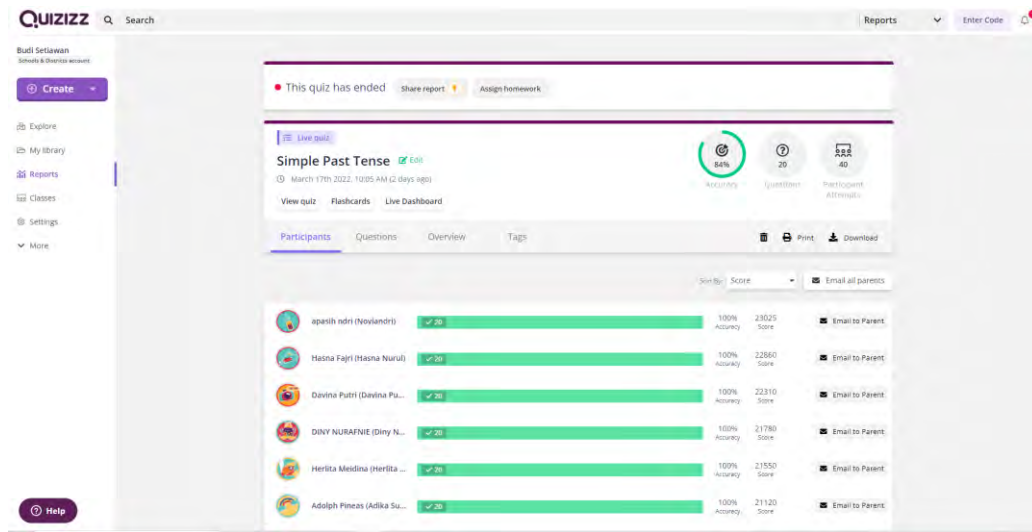Figure 2. Quizizz's feature for creating an online quiz

Figure 3. Quizizz's report of post online evaluation

Quizizz itself also provides instant feedback capability as available in gamification by including some game components, such as score, badge, ranking and reward, leading to students' engagement in the learning process and its environment enforcing their behaviour to gain target (Glover, 2013), also facilitating the chance to see and transparently assess learning achievements (Clariso et al., 2017). These elements are also available in Quizizz, as shown in Figures 4–6.
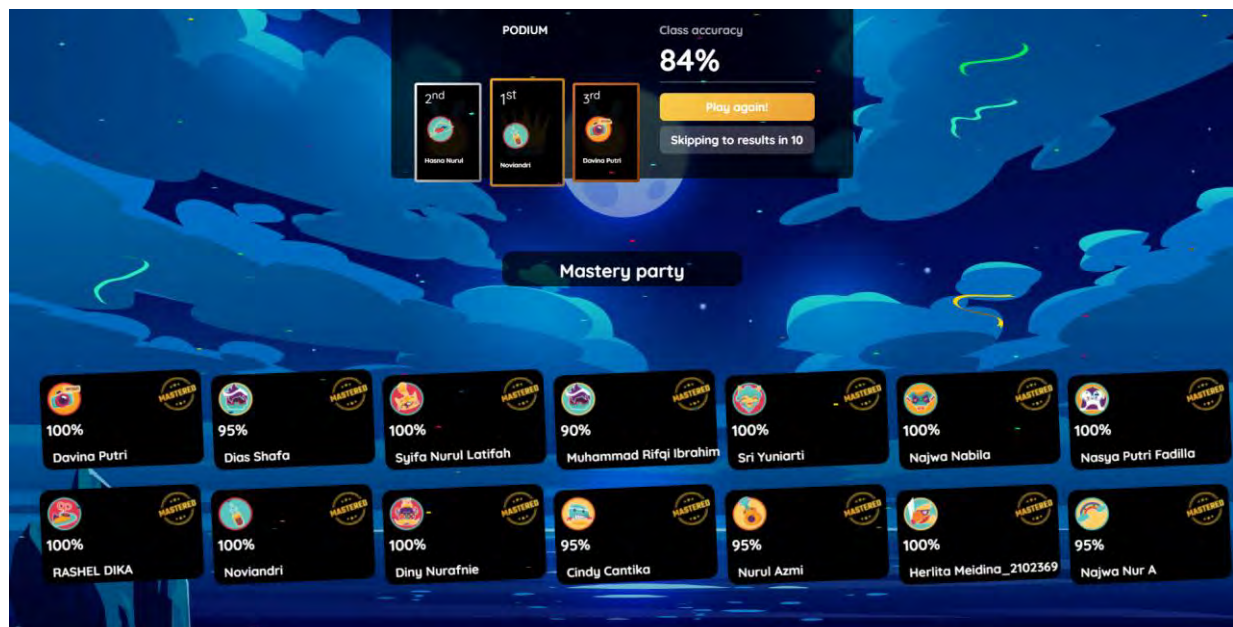

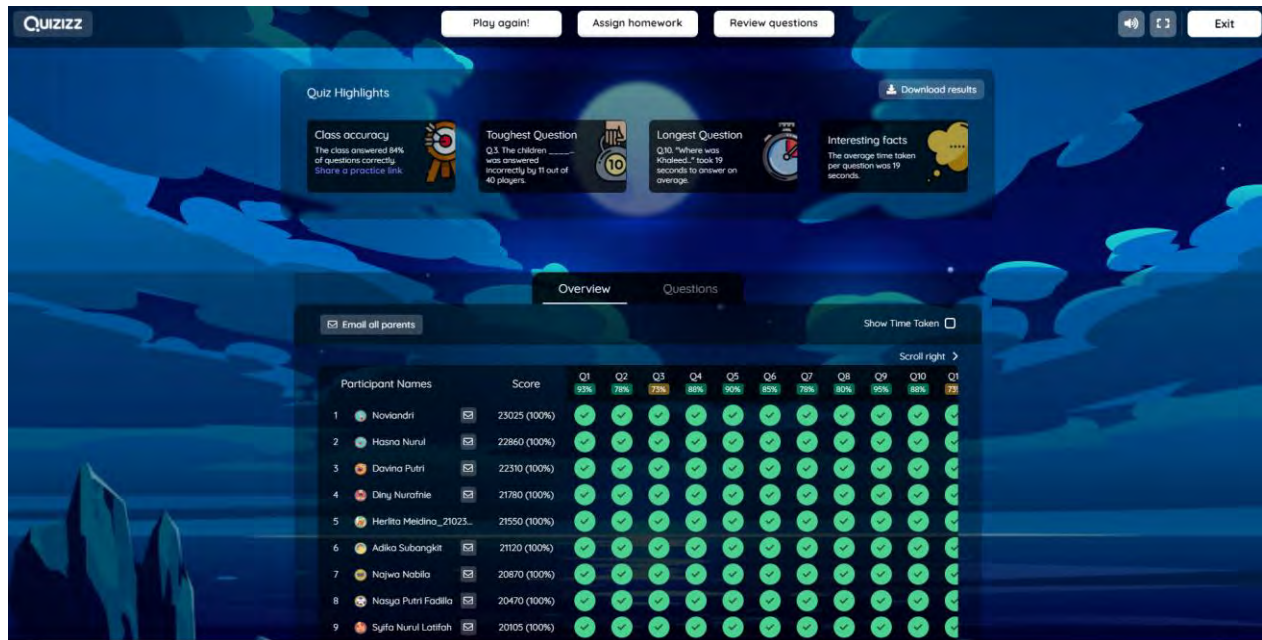Figure 4. Quizizz update report on evaluation results

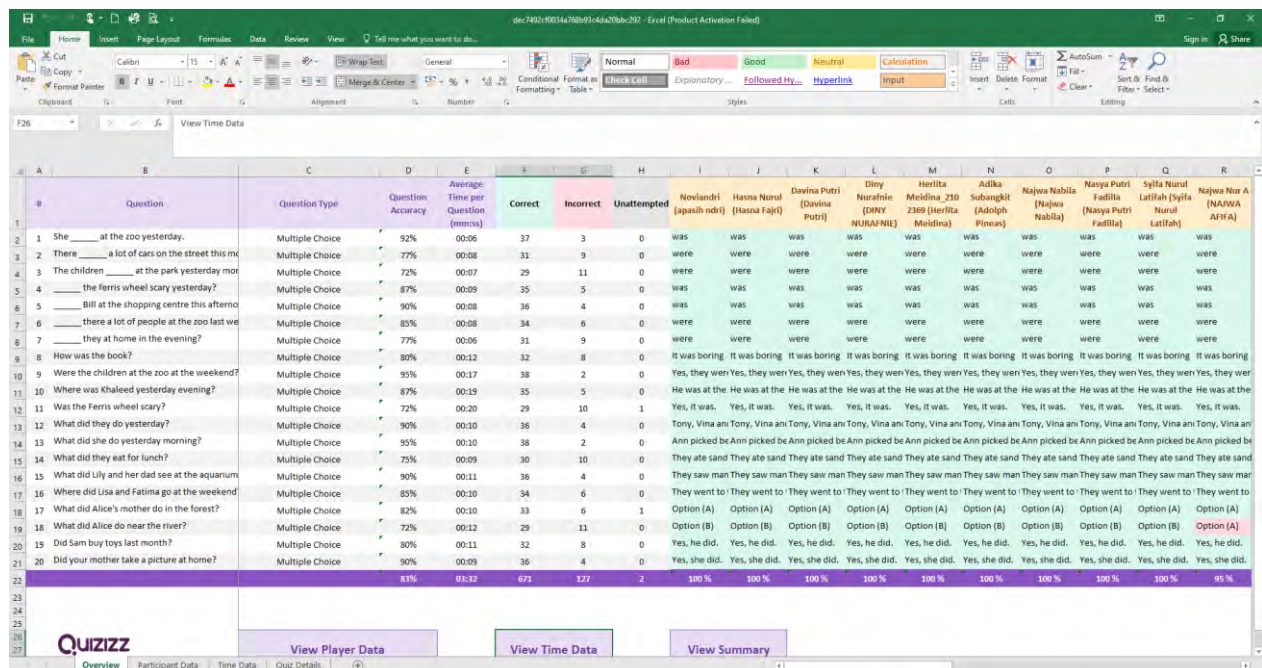Figure 5. Quizizz's detailed information on score achievement result

Figure 6. Quizizz's overall report of test analysis results

The importance of feedback in the assessment process cannot be overstated. One of the evaluation strategies is formative assessment and responses (Delacruz, 2011). According to Shute and Spector (2010), using gamification as a useful assessment method gives them first-hand knowledge of how people learn. It also allows us to investigate people's intentions, follow their emotional and

metacognitive characteristics and comprehend their distinct behaviours. The rapid feedback enables players to be aware of their challenges when playing games (Shute & Spector, 2010). In addition, using gamification as an assessment technique reveals the game's strengths and faults. Delacruz (2011) explored the impact of varying levels of game feedback on students' math performance on scoring techniques (specific, minimum and no score information) that were utilised in this experimental study. It was found that when the level of detail in gamification grew, pupils' math performance improved. It proves that gamification can be an effective way of student assessment.

4. Discussion

The new generation, who are known as modern millennials, are born into a computerised era (Koivisto & Hamari, 2014). They learn uniquely (Prensky, 2014) and tend to study useful, entertaining and relevant material (Jukes & Dosaj, 2004). It is very crucial about getting to know their needs and style to result effective learning outcomes (Arabac & Polat, 2013; Campell, 2016). To be successful in the 21st century, the education business found new obstacles and needed to be reinvented regarding to the digital requirement, orientation and preference (Prensky, 2001). It relies on students' requirements improving educational performance (Demirtas & Kahveci, 2010) and prompted by the development of new techniques.

The current study looked at Indonesian secondary teachers' perspectives and experiences of joining online and remote evaluation sessions by Quizizz during the COVID-19 pandemic in Indonesia. Despite the fact that students had some issues with online learning during the pandemic, they still had positive views about online class. Although the abrupt shift to online learning and improper LMS, they were still eager to participate in an evaluation-based online, especially during the COVID-19 pandemic, and it was found good enough. They stated that switching to an online evaluation by a particular platform would be beneficial to them for various reasons. It would, first and foremost, keep people from catching the infection. Second, they are at ease at home, mainly because they are with their family. Third, their familiarity with the platform gives them a place to continue learning. Finally, it allows kids to develop as independent learners by enabling them to work solo or collaboratively.

On the other hand, online evaluation is something as new as students' learning experience particularly in the pandemic era. Perhaps, it makes them to be unprepared for the abrupt shift to online evaluation. Nonetheless, this evaluation shifting was well embraced by pupils. This is since students are technologically sophisticated (Gray et al., 2017). It is not surprising that they are able to have learning predicament remotely.

In a residential classroom setting, students might be placed in pairs or groups to undertake specific activity for better interaction and engagement in the classroom (Hung & Mai, 2020; Wilson et al., 2017; Zubiri-Esnaola et al., 2020). However, this type of classroom layout may be complex in the online evaluation of remote education. Teachers and students may find it difficult to conduct online collaborative evaluation activities and other group work. As a result, students may be forced to complete various online learning assignments for evaluation by themselves. Furthermore, a learner-centred classroom and collaborative learning can promote student-learning outcomes (Hung & Mai 2020; Lau & Jin 2019). Conducting distant online evaluation activities alone can also benefit students' language acquisition. It improves students' ability to learn independently.

There is also a fundamental problem in modern education which has emerged: students' decreased motivation to study due to the impact of the rapidly growing digital reformation (Lee & Hammer, 2011) and less participation of them in the teaching–learning activities (Kiryakova, Angelova & Yordanova, 2014). Some of the previous researches have reported that there must be innovation as

not available in the traditional approach to overcome these problems (Bell, 2014; Buckley & Doyle, 2014; Hamari & Koivisto, 2014). It was also suggested that 'gamification', which has been shown to boost learner motivation and engagement, be adopted as a new approach to the educational system.

There are discrepancies in how the gamification concept is defined, just as there are disparities in the duties assigned to different individuals (Burke. 2011; Deterding et al., 2011; Gokkaya, 2014). It is a term that describes a relationship between games and things that are not games (Campell, 2016). It is used for incorporating game elements as the technique into non-game situations (Deterding et al., 2011; Lee & Hammer, 2011). Its purpose is not to build a new environment that is similar to a game but to bring game aspects into the actual event to capture sensations by still considering the reality (Arkun-Kocadere & Samur, 2016). It is also a method of creative playing without putting aside the curriculum as the guideline in the form of classroom games (Nolan & McBride, 2014). Moreover, it helps students improve critical thinking and multitasking skills while preparing them to achieve digital natives successfully (Kapp, 2012; Prensky, 2001). Gamification makes learning more enjoyable for pupils, enhancing their incentive to step forward from learning (Muntean, 2011). As an addition, it gives chances on student learning by allowing teachers, parents, administrators and public policymakers to access more updated and reliable information (Darling-Hammond, 2010).

5. Conclusion

The needs of teachers in online evaluation activities are very diverse when viewed from the aspect of content, material or media and process. Complete achievement and student-learning experience are absolute things that educators and the school must facilitate. Training in designing and setting the apps or platforms for the online evaluation process is crucial, considering the teachers' need for these points is very large. All the limitations and changes in evaluation forms that apply in a short and fast time, of course, cause impacts that are not taken into account previously. This is where the product-based teacher training and mentoring becomes vital for stakeholders to follow-up.

References

Albelbisi, N. A., & Yusop, F. D. (2019). Factors influencing learners' self-regulated learning skills in a massive open online course (MOOC) environment. *Turkish Online Journal of Distance Education, 20*(3), 1–16. https://doi.org/10.17718/tojde.598191

Aldhafeeri, F. M., & Khan, B. H. (2016). Teachers' and students' views on e-learning readiness in Kuwait's secondary public schools. *Journal of Educational Technology Systems, 45*(2), 202–235. https://doi.org/10.1177/0047239516646747

Almaghaslah, D., Ghazwani, M., Alsayari, A., & Khaled, A. (2018). Pharmacy students' perceptions towards online learning in a Saudi Pharmacy School. *Saudi Pharmaceutical Journal, 26*(5), 617–621. https://doi.org/10.1016/j.jsps.2018.03.001

Arabaci I. B., & Polat, M. (2013). Dijital yerliler, dijital gocmenler ve sinif yonetimi. *Elektronik Sosyal Bilimler Dergisi*, 11–20.

Arifin, Z., & Setiawan, B. (2022). Exploring students' literacy of information technology in higher education: Platforms and usage. *Cypriot Journal of Educational Sciences, 17*(3), 859–872. https://doi.org/10.18844/cjes.v17i3.6877

Arkun-Kocadere, S. & C1aglar, S. (2015). The design and implementation of a gamified assessment. *Journal of e-Learning and Knowledge Society, 11*(3).

Bandalaria, M. dela P. (2018). Open and Distance eLearning in Asia: Country initiatives and institutional cooperation for the transformation of higher education in the region. *Journal of Learning for Development, 5*(2), 116–132. https://jl4d.org/index.php/ejl4d/article/view/301

Arifin, Z. & Setiawan, B. (2022). Utilising gamification for online evaluation through Quizizz: Teachers' perspectives and experiences. *World Journal on Educational Technology: Current Issues. 14*(3), 781-796 https://doi.org/10.18844/wjet.v14i3.7278

Bell, K. R. (2014). *Online 3.0 the rise of the gamer educator the potential role of gamification in online* (Unpublished doctorate thesis). University of Pennsylvania, Philadelphia.

Bicen, H. & Kocakoyun, S. (2018). Perceptions of students for gamification approach: Kahoot as a case study. *International Journal of Emerging Technologies in Learning, 13*(2). https://doi.org/10.3991/ijet.v13i02.7467

Botero, G. G., Questier, F., Cincinnato, S., He, T., & Zhu, C. (2018). Acceptance and usage of mobile-assisted language learning by higher education students. *Journal of Computing in Higher Education, 30*(3), 426–451. https://doi.org/10.1007/s12528-018-9177-1

Bower, M. (2019). Technology-mediated learning theory. *British Journal of Educational Technology, 50*(3), 1035–1048. https://doi.org/10.1111/bjet.12771

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77–101. https://doi.org/10.1191/1478088706qp063oa

Buckley, P., & Doyle, E. (2016). Gamification and student motivation. *Interactive Learning Environments, 24*(6), 1162–1175. https://doi.org/10.1080/10494820.2014.964263

Burke, B. (2011). *Gartner enterprise architecture summit 2011*. http:/./www.gartner.com/newsroom/id/1629214

Campell, A. A., (2016). *Gamification in higher education: Not a trivial pursuit* (Unpublished doctoral thesis). St. Thomas University Miami Gardens, Florida.

Chawinga, W.D. (2017). Taking social media to a university classroom: Teaching and learning using Twitter and blogs. *International Journal of Educational Technology in Higher Education, 14*(3), 2–19. https://doi.org/10.1186/s41239-017-0041-6

Chen, R. T.-H. (2010). *Knowledge and knowers in online learning: Investigating the effects of online flexible learning on student sojourners*. University of Wollongong Australia.

Clariso, R., Arnedo Moreno, J., Baneres Besora, D., Caballe Llobet, S., Conesa, J., & Ganan Jimenez, D. (2017). *Gamification as a service for formative assessment e-learning tools*. 1st Workshop on Gamification and Games for Learning (GamiLearn'17, pp. 105–116).

COVID, U. (19 C.E.). *Pandemic humanity needs leadership and solidarity to defeat the coronavirus*. UNDP.

Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education, 61*, 35–47. https://doi.org/10.1177/0022487109348024

Delacruz, G. C. (2011). *Games as formative assessment environments: Examining the impact of explanations of scoring and incentives on math learning, game performance, and help-seeking*. CRESST Report 796. National Center for Research on Evaluation, Standards, and Student Testing (CR).

Demirtas, Z., & Kahveci, G. (2010). Ilkogretim ikinci kademe ogrencilerinin okullarına yonelik beklenti ve memnuniyet duzeyleri. *E-Journal of New World Sciences Academy, 5*(4), 2150–2161.

Deterding, S. (2011). *Meaningful play: Getting gamification right*. http://www.youtube.com/watch?v=7ZGCPap7GkY

Ditchfield, H., & Meredith, J. (2018). Collecting qualitative data from Facebook: Approaches and methods. In *The Sage handbook of qualitative data collection* (pp. 496–510). SAGE Publications Ltd. https://doi.org/10.4135/9781526416070.n32

Erdogan, N. I., Johnson, J. E., Dong, P. I., & Qiu, Z. (2019). Do parents prefer digital play? Examination of parental preferences and beliefs in four nations. *Early Childhood Education Journal, 47*(2), 131–142. https://doi.org/10.1007/s10643-018-0901-2

Farley, H., & Song, H. (2015). Mobile learning in southeast Asia: Opportunities and challenges. In: Zhang, J. A. (Ed.), *Handbook of mobile teaching and learning: Design, development, adoption, partnership, evaluation and expectation* (pp. 403–419). Springer-Verlag Berlin Heidelberg. https://doi.org/10.1007/978-3-642-54146-9_2

Farrokhi, F., & Mahmoudi-Hamidabad, A. (2012). Rethinking convenience sampling: Defining quality criteria. *Theory and Practice in Language Studies, 2*(4), 784–792. https://doi.org/10.4304/tpls.2.4.784-792

Glover, I. (2013). Play as you learn: Gamification as a technique for motivating learners. In J. Herrington, A. Couros, & V. Irvine. (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications*. AACE.

Arifin, Z. & Setiawan, B. (2022). Utilising gamification for online evaluation through Quizizz: Teachers' perspectives and experiences. *World Journal on Educational Technology: Current Issues. 14*(3), 781-796 https://doi.org/10.18844/wjet.v14i3.7278

Gokkaya, Z. (2014). Yetiskin egitiminde yeni bir yaklasim: Oyunlaştırma. *Hasan Ali Yucel Egitim Fakultesi Dergisi, 11*(21), 71–84.

Gray, H.J., Davis, P., & Liu, X. (2017). Keeping up with the technologically savvy student: Student perceptions of audiobooks. *SCHOOL A Journal of Leisure Studies and Recreation Education, 26*(2), 28–38. https://doi.org/10.1080/1937156X.2011.11949678

Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods, 3*(1), 42–55. https://doi.org/10.1177/160940690400300104

Han, I., & Shin, W.S. (2016). The use of a mobile learning management system and academic achievement of online students*. Computers & Education, 102*, 79–89. https://doi.org/10.1016/j.compedu.2016.07.003

Hamari, J., & Koivisto, J. (2014). Measuring flow in gamification: Dispositional flow scale-2. *Computers in Human Behavior, 40*, 133–143. https://doi.org/10.1016/j.chb.2014.07.048

Hatzigianni, M., & Kalaitzidis, I. (2018). Early childhood educators' attitudes and beliefs around the use of touchscreen technologies by children under three years of age. *British Journal of Educational Technology, 49*(5), 883–895. https://doi.org/10.1111/bjet.12649

Hung, D.M., & Mai, L.T.T. (2020). High school teachers' perceptions and implementations of group work in English speaking classes. *International Journal of Instruction, 13*(2), 445–462. https://doi.org/10.29333/iji.2020.13231a

Jukes, I., & Dosaj, A. (2004). *Understanding DK (digital kids) o teaching and learning in the new digital landscape*. http://www.thecommittedsardine. net/infosavvy/education/handouts/it.pdf

Kapp, K. M. (2012). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. Pfeiffer. https://doi.org/10.1145/2207270.2211316

Kemp, A., Palmer, E., & Strelan, P. (2019). A taxonomy of factors affecting attitudes towards educational technologies for use with technology acceptance models. *British Journal of Educational Technology, 50*(5), 2394–2413. https://doi.org/10.1111/bjet.12833

Khachfe, H. H., Chahrour, M., Sammouri, J., Salhab, H., Makki, B. E., & Fares, M. (2020). An epidemiological study on COVID-19: A rapidly spreading disease. *Cureus, 12*(3). https://doi.org/10.7759/cureus.7313

Khurana, C. (2016). *Exploring the role of multimedia in enhancing social presence in an asynchronous online course*. Rutgers University-Graduate School-New Brunswick.

Kiryakova, G., Angelova, N., & Yordanova, L. (2014). *Gamification in education*. 9th International Balkan Education and Science Conference. IGI Global.

Koivisto, J., & Hamari, J. (2014) Demographic differences in perceived benefits from gamification*. Computers in Human Behavior, 35*, 179. https://doi.org/10.1016/j.chb.2014.03.007

Korb, K. A. (2011). Self-report questionnaires: Can they collect accurate information? *Journal of Educational Foundations, 1*, 5–12.

Kumpulainen, K., & Gillen, J. (2017). *Young children's digital literacy practices in the home: A review of the literature*. Agility. COST ACTION ISI1410 DigiLitEY.

Lau, K.H., & Jin, Q. (2019). Chinese students' group work performance: does team personality composition matter? *Education + Training, 61*(3), 290–309. https://doi.org/10.1108/ET-06-2018-0141

Lederman, D. (2020). *Will shift to remote teaching be a boon or bane for online learning*? Inside Higher Ed.

Lee, J. J., & Hammer, J. (2011). *Gamification in education: What, how, why bother?* Inside Higher Ed.

Lepicnik-Vodopivec, J., & Samec, P. (2013). Communication technology in the home environment of four-year-old children (Slovenia). *Comunicar: Revista Científica de Comunicacion y Educacion, 20*(40), 119–126. https://doi.org/10.3916/C40-2013-03-02

Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open,* 100012. https://doi.org/10.1016/j.ijedro.2020.100012

Muntean, C. I. (2011). *Raising engagement in e-learning through gamification* (pp. 323–329). 6th International Conference on Virtual Learning.

Nhu, P. T. T., Keong, T. C., & Wah, L. K. (2019). Issues and challenges in using ICT for teaching English in Vietnam. *CALL-EJ, 20*(3), 140–155.

Nolan, J., & McBride, M. (2014). Beyond gamification: Reconceptualizing game-based learning in early childhood environments. *Information, Communication & Society, 17*(5), 594–608. https://doi.org/10.1080/1369118X.2013.808365

Prensky, M. (2001). Digital natives, digital immigrants: Part 1. *On the Horizon, 9*(5), 1–6. https://doi.org/10.1108/10748120110424816

Prensky, M. (2014). *The world needs a new curriculum*. http://marcprensky.com/ wp-content/uploads/2013/05/Prensky-5-The-World_Needs_a_New_Curriculum.pdf.

Remuzzi, A., & Remuzzi, G. (2020). *COVID-19 and Italy: What next?* The Lancet. https://doi.org/10.1016/S0140-6736(20)30627-9

Sanchez, R. A., Cortijo, V., & Javed, U. (2019). Factors driving the adoption of Facebook in higher education. E-Learn. *Digital Media, 16*(6), 455–474. https://doi.org/10.1177/2042753019863832

Setiawan, B., Sunardi., Gunarhadi., & Asrowi. (2020). Meeting teachers' and learners' perceptions on mobile learning: A case of Indonesian vocational high school in Surakarta city. *Universal Journal of Educational Research, 8*(3D), 90–96. https://doi.org/10.13189/ujer.2020.081713

Setiawan, B., & Asrowi. (2018). *English grammar on 2013 curriculum: The development of game based learning multimedia*. MATEC Web of Conferences 205, 00011. https://doi.org/10.1051/matecconf/201820500011

Sharkins, K. A., Newton, A. B., Albaiz, N. E. A., & Ernest, J. M. (2016). Preschool children's exposure to media, technology, and screen time: Perspectives of caregivers from three early childcare settings. *Early Childhood Education Journal, 44*(5), 437–444. https://doi.org/10.1007/s10643-015-0732-3

Shute, V. J., & Spector, J. M. (2010). *Stealth assessment in virtual worlds*. http://www.adlnet.gov/Technologies/Evaluation/Library/Additional%20Resources/LETSI%20White%20P apers/Shute%20-%20Stealth%20Assessment%20in%20Virtual%20Worlds.pdf

Siegal, W., Church, A. H., Javitch, M., Waclawski, J., Burd, S., Bazigos, M., Yang, T., Anderson-Rudolph, K., & Burke, W. W. (1996). Understanding the management of change. *Journal of Organizational Change Management, 12*(2), 120–135. https://doi.org/10.1108/09534819610150521

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988–2018). *American Journal of Distance Education, 33*(4), 289–306. https://doi.org/10.1080/08923647.2019.1663082

Tarhini, A., Hone, K., Liu, X., & Tarhini, T. (2017). Examining the moderating effect of individual-level cultural values on users' acceptance of E-learning in developing countries: A structural equation modeling of an extended technology acceptance model. *Interactive Learning Environments, 25*(3), 306–328. https://doi.org/10.1080/10494820.2015.1122635

Tsihouridis, C., Vavougios, D., & Ioannidis, G. S. (2017). *Assessing the learning process playing with Kahoot – A study with upper secondary school pupils learning. Electrical circuits* (pp. 602–612). International Conference on Interactive Collaborative Learning. https://doi.org/10.1007/978-3-319-73210-7_70

Ulla, M.B., & Perales, W.F. (2020). The adoption of Facebook as a virtual class whiteboard: Promoting EFL students' engagement in language tasks. *TESOL Journal, 11*(3), 1–4 (Online first). https://doi.org/10.1002/tesj.515

Ulla, M.B., Perales, W.F., & Tarrayo, V.N. (2020). Integrating Internet-based applications in English language teaching: teacher practices in a Thai university. *Issues in Educational Research, 30*(1), 365–378.

Wang, C.-H., Shannon, D. M., & Ross, M. E. (2013). Students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning. *Distance Education, 34*(3), 302–323. https://doi.org/10.1080/01587919.2013.835779

Wesely, P.M. (2013). Investigating the community of practice of world language educators on Twitter. *Journal of Teacher Education, 64*(4), 305–318. https://doi.org/10.1177/0022487113489032

Wilde, N., & Hsu, A. (2019). The influence of general self-efficacy on the interpretation of vicarious experience information within online learning. *International Journal of Educational Technology in Higher Education, 16*(1), 1–20. https://doi.org/10.1186/s41239-019-0158-x

Arifin, Z. & Setiawan, B. (2022). Utilising gamification for online evaluation through Quizizz: Teachers' perspectives and experiences. *World Journal on Educational Technology: Current Issues. 14*(3), 781-796 https://doi.org/10.18844/wjet.v14i3.7278

Wilson, L., Ho, S., Brookes, R. H. (2017). Student perceptions of teamwork within assessment tasks in undergraduate science degrees. *Assessment Evaluation in Higher Education, 43*(5), 786–799. https://doi.org/10.1080/02602938.2017.1409334

Yakubu, M. N., & Dasuki, S. I. (2019). Factors affecting the adoption of e-learning technologies among higher education students in Nigeria: A structural equation modeling approach. *Information Development, 35*(3), 492–502. https://doi.org/10.1177/0266666918765907

Zubiri-Esnaola, H., Vidu, A., Rios-Gonzalez, O., & Morla-Folch, T. (2020). Inclusivity, participation, and collaboration: learning in interactive groups. *Educational Research, 62*(2), 1–19. https://doi.org/10.1080/00131881.2020.1755605