

Gamified lesson plan development with ELT pre-service teachers: A gamified google classroom experience

Serhat Güzel^{a*} 

^a Balıkesir University, Türkiye.

Suggested citation: Güzel, S. (2023). Gamified lesson plan development with ELT pre-service teachers: A gamified google classroom experience. *Journal of Educational Technology & Online Learning*, 6(1), 202-220.

Highlights	Abstract
<ul style="list-style-type: none">• Gamified online learning technologies can be engaging in higher education settings.• Gamification was regarded as a promising tool for student engagement and motivation.• Integration of game elements into teaching lesson plan development and course content development increased the quality of learning.• Opinions of pre-service teachers on gamification were very positive.	<p>With the advances in understanding contemporary instruction and the emphasis on online learning, alternative ways to keep instruction functional are sought constantly. Gamified environments are among the most widespread techniques used to enrich online instructional experiences due to motivation and engagement dimensions. In this context, the research aimed to investigate the experiences of pre-service English teachers in a gamified process. The study, which employed a mixed-method research design to collect data, included thirty-six pre-service English teachers who participated in an online gamified module created on Google Classroom. Participants were asked to complete a series of tasks and design a gamified lesson plan in the context of teaching English as a Foreign Language (EFL) as the final assignment of the module. Upon completion of the module, participants were administered an experience survey comprising scales and semi-structured interview questions. As a result, it was found that a great majority of the participants regarded this gamified experience as something entirely new and an enjoyable prospect. It was noted that such opportunities would improve their future professional lives since gamified content could increase motivation and engagement and serve as a great language learning tool for language classrooms.</p>

Article Info: Research Article

Keywords: *Gamification, Google classroom, Higher education, Lesson plan, Online learning*

1. Introduction

Instruction is a dynamic process in which various learning opportunities to enrich the experience may arise. Alongside some apparent benefits, this dynamism brings about challenges and difficulties to achieve instructional goals, which constantly requires educators to pursue new and alternative ways to enrich educational settings. In addition to in-classroom novelties in the sense of utilizing alternative methods and techniques, the emphasis on distance education (DE) practices and technology-supported delivery of the content has constantly been rising (Anderson & Dron, 2011; Bušelić, 2012; Casey, 2008; Garrison & Shale, 1987; Moore, 1991; Rice, 2006).

In its prime form, DE transforms what is rather industrial and addresses large groups of learners into a more privatized process for which detailed designing is required in a way that those who wish to be included can

* Corresponding author. English Language Teaching, Balıkesir University, Türkiye.
e-mail address: serhatguzelb@gmail.com

This work was supported and funded by Balıkesir University, the Office of Scientific Research Projects with Research Grant No: 2019/073.

participate in the educational resources and activities with the help of extended access (Garrison & Shale, 1987; Rice, 2006). To define DE, Moore and Kearsley (2012) emphasize the situation where teachers and students are located in different places in a way that the instruction process requires finding functional means to establish communication. In essence, those who provide instruction and those who receive it are in different places, and learning can only be realized through careful institutional and technological planning. Being a very broad concept, DE has been defined differently over time since when it first emerged as a correspondence model with no interaction and synchronization (Anderson & Dron, 2011; Casey, 2008; Fuller, 2021; Garrison & Shale, 1987; Moore, 1991; Moore & Kearsley, 2012). With the introduction of the internet and growing technological access, DE generally manifests itself as an online learning opportunity in a contemporary sense, harboring fundamental dimensions such as instructional design, collaborative learning, interactivity, and scaffolding (Casey, 2008; Harasim, 2012).

In connection with the design of online instruction content, gamification or gamified elements play an important role to engage students and motivate them to participate in learning activities (Alsawaier, 2018; Huang et al., 2019). Regarding gamified learning, it is acknowledged that gamified contents serve educational purposes greatly in the context of online learning where learning management systems (LMS) and online aspects of instruction are employed (Klupal et al., 2018). Gamification or gamifying the content is basically described as using elements unique to games in serious contexts where no playful or game-like unit is normally imagined for use (Deterding et al., 2011; Nacke & Deterding, 2017). Although the number of educational platforms and LMSs that integrate gamification and game elements to some extent is hard to pinpoint due to the increasing popularity of such environments, the most popular and widespread software and environments include Duolingo, Edmodo, Canvas, Google Classroom, etc. (Baldauf et al., 2017; Klupal et al., 2018; Osipov et al., 2015). In terms of ease of access and reasons such as familiarity, Google Classroom is one of the most preferred educational platforms with LMS and gamified elements (Sujannahet al., 2019; Klupal et al., 2018).

Considering the insights on online learning, gamification, and gamified learning techniques, the research aimed to investigate how ELT pre-service teachers experienced the development of gamified lesson plans for EFL teaching and the gamified module itself. Therefore, the main research questions of the study are as follows:

- 1- What are the reactions of ELT pre-service teachers to the gamified module mechanics?
 - a) Participants' reactions to the gamified module in terms of experience and future preference.
 - b) Participants' reactions to the facilitator.
 - c) Participants' reactions to the mechanics and learning experience.
- 2- What are the opinions of ELT pre-service teachers regarding the effectiveness of the gamified module?
 - a) Opinions for improving the gamified module.
 - b) Reflections of the participants regarding their experiences in the gamified module.
 - c) Opinions of the participants regarding the benefits and shortcomings of the gamified module.

2. Literature

2.1. DE and Online Learning

DE was defined by many scholars in various contexts and historical perspectives. Therefore, the related research focused on this paper can be classified into three categories. The first group of studies attempts to define distance education. The second category of studies reviews DE concepts in the context of the historical development of DE and its transformation into online learning. Last but not least, the third group includes research that examines DE and online technologies in various settings and contexts.

In a study that attempted to draw borders around DE as a concept, Garrison and Shale (1987) reviewed distinct descriptive definitions for DE that were all widely acknowledged at their time and brought criticism for the said definitions. In this attempt, Garrison and Shale focused on seven characteristics proposed by the previous works on DE and criticized the ambiguous semantics of certain units of these characteristics. For instance, previous studies characterized DE as a private, print-based, and industrialized (p.9) way of education, not accounting for the technological advances that could potentially bring students together as a group or the new generation of content delivery. As a result, it was proposed that mass delivery of the content was subject to be replaced by more personalized information and must target a well-specified audience, underlining the significance of content and information design.

Paralleling the conclusion reached by Garrison and Shale (1987), Anderson and Dron (2011) traced the DE in terms of pedagogical perspectives and divided these perspectives into three generations. The first generation depended on postal correspondence, followed by the second generation, which utilized mass media of television, radio, and film production whereas the third generation was characterized by interactive and immersive technologies (p. 81). In addition to technological aspects and period-based perspectives, DE can be addressed in relation to the pedagogies used to lead instructional methods and techniques. With this respect, DE can be nurtured by cognitive-behaviorist, social-constructivist, and connectivist pedagogies as well as the advancements in the contemporary perspectives in a cyclical manner; that is, no pedagogical school can be replaced by the other, nor is one the answer for all DE contexts (T. Anderson & Dron, 2011; Casey, 2008; Harasim, 2012; Moore & Kearsley, 2012).

Online learning, defined as a web-based system that provides teachers and learners with opportunities to connect and share knowledge, materials, and instructional exchange, adopted collaborative instruction approaches and required interaction in essence (Harasim, 2012). To Ranjan (2020), online learning is a type of learning that is based on the provision of resources and materials, and learners are bound by their own speed and choices. Regarding online learning, Casey (2008) discovered that some researchers did not find a statistically significant difference between face-to-face instruction and online instructional outcomes while it was noticeable that online and blended learning environments yielded better results in terms of achievement (Ranjan, 2020). Online education, which was marked to have many shortcomings such as the lack of social cues (Casey, 2008, p. 50), strived to compensate for the weaknesses related to real-life requirements of the learners via alternative tools of engagement. Online instruction, though it seems promising and potent, often comes with limits to the use of certain necessary classroom practices such as discussions, peer interaction, social cues, effective assessment, feedback, and processes related to administration (Şener et al., 2020). For instance, as Agormedah et al. (2020) found, learners might not favor online learning environments mostly because they lack necessary training to handle online learning experiences. Moreover, as Alipour (2020) investigated, the integration of an LMS would be a valuable contribution to the online delivery of content in a way that the aforementioned classroom and administrative practices could be incorporated within the boundaries of the online content so as to provide a classroom environment. Based on the emphasis on the implementation of online elements and meticulously devised alternative ways to promote learner engagement and motivation, the gamification technique integrated with an LMS appears to be a promising learning environment for learners.

2.2. Gamification

Upon reviewing the related research on gamified learning in the context of using LMSs, a clear distinction among the studies regarding the types of studies conducted on gamification can be made. One group of studies on gamification attempted to define and conceptualize the term (Deterding et al., 2013; Deterding et al., 2011; Deterding et al., 2011; Nacke & Deterding, 2017) while the other major group mainly focused on the critique of the gamification in the sense of understanding the gamification practices and the gamified content related research (Albertazzi et al., 2019; Bozkurt & Durak, 2018; Caponetto et al., 2014; Hung, 2017; Rapp et al., 2019). The third group of studies this paper aims to take into consideration due to the research purposes is the research that attempted to gather data on the delivery of gamified content through

LMS and online environments (Baldauf et al., 2017; Fidan & Şengel, 2022; Flores, 2015; Huang et al., 2019; Klubal et al., 2018; Osipov et al., 2015; Sujannah et al., 2019).

According to Deterding et al. (2011), the roots of gamification can be traced back to an industrial origin, in which companies utilized game mechanics outside the context of gaming to serve their brands and products in a way that their customers are engaged and motivated to participate in various processes. Therefore, in a way, gamification can be defined as using characteristics and qualities belonging to games in environments or settings that are not related to games and playful situations (Deterding et al., 2011). As emphasized by Deterding et al. (2013), designing gameful or gamified content is subject to many challenges as they suggested that even though both game-based and gamified contents serve similar purposes on the surface, gamified settings have the responsibility of harboring a hybrid nature (p. 3264). In other words, game-based content, referred to as serious games, aims to provide an instrument-based and experience-oriented outcome while gamified contents embed both outcomes in the design-based decisions of the content creator. Within this perspective, the gamification research context requires further studies and practices to better understand the capabilities of the concept (Nacke & Deterding, 2017).

Regarding the occurrence of the gamification concept in the related literature, Albertazzi et al. (2019) revealed that the educational context was one of the most popular areas where gamification was most frequently implemented. Additionally, most gamification research mainly focused on the practical or theoretical use of the concept, implying that a deeper and lengthier investigation of the experience was required. Similarly, Bozkurt and Durak (2018) explored that descriptive/theoretical and quantitative studies focusing on gamification were high in number while the qualitative or mixed dimension was quite insufficient. To further the insight, Rapp et al. (2019) pinpointed that although the empirical and practical research on gamification was on increase, the related studies essentially failed to account for the individual difference in the interventions and their focus was primarily on the short-term changes. In this perspective, Hung (2017) highlighted the critique raised for the gamification concept, suggesting that gamification would be effective depending on the design quality of the content. In other words, game elements needed to serve the pleasure and motivation of both parties, which were the learners and teachers. Concerning the practical dimension, to Caponetto et al. (2014), the gamification technique was mostly used to increase the motivation levels of the target groups and engage them with the content, and it was frequently implemented through LMS-based delivery while only a handful of studies employed a blended approach in the content delivery.

2.3. *Learning Management System (LMS)*

In the sense of gamified content delivered through LMS and online elements, Osipov et al. (2015), in their study which investigated the technical dynamics of a gamified online application, discovered that the gamified elements improved the length of interaction among the users and that the teacher's position as the singular resource for learning was distributed among all users, implying that peer-learning had a significant role for the instructional process thanks to the online environment. Besides fully online environments, Osipov et al. (2015) investigated the use patterns and opinions of students and teachers in mobile learning apps Duolingo and Babbel as complementing gamified tools for traditional learning environments. It was found that students and parents were content with the mobile apps used as complementary tools; however, aspects such as sharing, interaction, clear-cut rules, and vocabulary and grammar support through exercises were lacking. The study recommended that further research conduct longitudinal and mode in-depth investigation of the practices with different age and grade groups. On a similar note, in the context of language teaching, Flores (2015) revealed that gamification made affirmative contributions to the motivational aspects of the participating students as well as their language skills, collaboration, and interaction. Integration of game elements such as leaderboards, active participation, decreasing the feeling of failure, point collection, reward system, competition, and feedback can effectively increase learners' motivation and engagement as well as their achievement levels (Fidan & Şengel, 2022).

Regarding the use of LMSs and online platforms, Huang et al. (2019) explored that gamified content in their research improved the interactional quality among students in a way that provided them with peer-feedback opportunities through online discussion. Most importantly, the LMS that was used in the process helped maintain the game mechanics such as leaderboards, points, etc. To specify the game mechanics and LMS dynamics, Klubal et al. (2018) identified the leading gamified learning platforms involving Google Classroom and characterized the main gamification components of such learning platforms and LMSs. These include badges, points, levels, progress check, leaderboards, etc. Furthermore, in a study investigating the effect of a blended learning model implemented in Google Classroom on EFL learners, Sujannah et al. (2019) deduced that Google Classroom used as an LMS significantly improved learners' writing skills since it provided learners with the opportunity to monitor their own learning. Therefore, Google Classroom was recommended for the use of teachers who would implement similar interventions.

3. Methodology

3.1. Research Model/Design

The research was designed to follow a descriptive-analytical nature as it aims to identify ELT pre-service teachers' reflections on the gamified module to learn to develop gamified lesson plans. To elaborate, the study aimed to determine the effectiveness of a gamified module to teach how to develop gamified content based on the experiences of the ELT pre-service teachers. To commence the research, a mixed-method research design was adopted since both quantitative and qualitative types of data were collected. Therefore, an explanatory sequential mixed method design was used. In studies in which the explanatory sequential mixed method is employed, the researcher initially analyzes the quantitative data, then it is followed by the qualitative data analysis with which the quantitative results are interpreted and supported (Creswell, 2014). In other words, the qualitative dimensions of the research serve as an explanatory means for the quantitative data. This mixed method research design assumes that quantitative data is not sufficient to bring an explanation for the experiences of the participants; therefore, the addition of qualitative data offers more depth to the phenomena in certain settings (Creswell, 2007, 2014; Miles, Huberman & Saldana, 2014).

3.2. Data Collecting Tools

The data were collected through both quantitative and qualitative means through an online survey. The survey was divided into two sections. In the first section, 5-point Likert-type scales were used to measure participants' experiences quantitatively. The quantitative data collection survey included questions pertaining to previous module experiences and desires of the participants (three items), their ratings of the teacher (five items), and their reactions to the module experience (twelve items).

In the second phase of the data collection, three semi-structured questions enquiring about their experiences in the module were asked to the participants. These questions were prepared during the flow of the lessons to learn about the participants' insights on how to improve a future gamified module in the department at the end of the process. Therefore, the questions were discussed with the professor running the class and it was decided that learning about pre-service teachers' experiences, suggestions, and reflections about the module would inform the researcher about future attempts to improve and re-run similar modules. The first question addressed the improvable areas of the module according to the participants' opinions while the second question asked them to describe their experiences in the module in the sense of the most notable moments during the activities. As for the last question, the participants were asked to list the positive and negative aspects of the module at a conceptual level.

It should be noted that all scales and questions were asked to the participants to obtain their informed opinions about the gamified process based on certain themes and criteria set by the content. In other words, participant responses at the end of the semester were nourished and shaped by the instructional experience.

3.3. Sampling

The study took place during the spring semester of the 2019-2020 academic year. 36 pre-service teachers who studied at Balıkesir University ELT Department, consisting of eight males and twenty-eight females. Participants' ages ranged from 21 to 25. Thirty-four of them were 21 years old while the outlying two were 23 and 25. In selecting the sample group of the study, the convenience sampling method was used; in that, pre-service teachers who volunteered and were easy to reach out participated in the study. As a non-probability sampling approach, convenient sampling allows the researcher(s) to select the sample from individuals who are ready because there are no other alternative groups to choose from (Blaxter et al., 2006).

3.4. Data Analysis

The data collected from the participants were analyzed using both quantitative and qualitative techniques. Quantitative data were evaluated with attention to means since the data collection aimed to address the descriptive nature of the process. three-item background questions and five-item teacher evaluation sections were analyzed and presented to understand participants' interaction and contentment with the module and facilitator. Then, the twelve-item scale was analyzed to determine their contentment with the module mechanics and responses to their learning experience after the gamified module. In the analysis of the quantitative data gathered by the experience survey, the Statistical Package for Social Sciences (SPSS) version 25.0 was used. Qualitative data, on the other hand, were analyzed through content analysis with consideration to the recurring themes for responses to each interview question. The qualitative data were categorized under themes and codes using the Dedoose software developed for qualitative data analysis. In this direction, the reflections written by the participants were scanned and their understanding of the process and their opinions on the interview questions were taken into consideration. Their reflections were collected and organized under meaningful themes and codes.

3.5. Validity and Reliability

Upon the analysis of the quantitative section of the experience survey, comprising 12 module-related items, a reliability analysis based on Cronbach's Alpha values was run. According to the results of the test, the reliability of the scale in measuring the module experiences of the participants was calculated as .90, which meant that the survey met the recommended standards for a scale to be reliable. In terms of validity, the module experience scale was analyzed to determine if the items measured the intended themes by conducting a factor analysis. The KMO and Bartlett's sphericity test was used to decide the appropriateness of a principal component analysis (PCA), and it yielded satisfactory results with the KMO coefficient of .80 and a significant Bartlett's sphericity ($\chi^2 [66] = 287.19, p < .001$). The PCA results indicated two components in the scale as shown in Table 1, which aligned with the categorization made in the scales.

Table 1.

Componential Structure of the Experience Survey

Item	Mean (SD)	Communalities	Module mechanics	Learning experience
4-Feedback and support	4,92 (.36)	.774	.875	-.087
2-Teacher effectiveness	4,92 (.28)	.814	.845	.316
3-Multimodality	4,61 (.59)	.690	.813	.171
5-Engaging and rich content	4,78 (.48)	.712	.807	.248
6-The module met my expectations	4,64 (.59)	.597	.625	.455
1-Quality of the module	4,44 (.65)	.408	.544	.336
8-I would enroll in a similar module in the future	4,14 (.93)	.730	.097	.849
7-I can use what I have learned from this module in my life	4,50 (.81)	.710	.046	.842
9-Things I have learned here are important for my professional life	4,53 (.77)	.606	.188	.756
11-I can define gamification and game elements thanks to this module	4,53 (.94)	.621	.247	.748
12-I can evaluate a gamified content in accordance with certain criteria	4,44 (.80)	.688	.392	.731
10-Materials helped me understand each subject clearly	4,58 (.80)	.791	.516	.724

Note. Explained variance: Total = 67.9%; Factor 1 = 51.5%; Factor 2 = 16.4%

As for the qualitative data, three questions were asked to pre-service teachers about how to make the module more powerful for user experience, how they felt during module activities, and the positive-negative aspects of the module. Since the study focused on the opinions of pre-service teachers on a gamified online module, the questions offered potential to discover insights about a gamified experience. Three questions were decided upon through collaborative work with the ELT professor who ran the class and was also a field expert in ELT. The data were stored digitally, and it was possible to revisit the documentation of participant responses to revise the coding. The responses were coded and divided into general themes by the researcher because the researcher ran the entire module process, getting highly familiar and acquainted with the details of activities and participant behaviors. Codes and themes of responses were shared with the same expert after coding.

3.6. Research Procedures

The study which lasted for eight weeks consisted of the combination of four phases: 1- gamification training, 2- preparatory activities (essay writing, introduction with digital storytelling and rubric preparation), 3- online gamified module activities, and 4- experience survey. 36 pre-service English teachers who enrolled in the Literature and Language Teaching 2 lesson during the spring semester of the 2019-2020 academic year voluntarily participated in the module as an extracurricular activity to complement their material design skills connected with the content of the course.

In the first phase which lasted two weeks, the initial step was to introduce the plans of the module to the students. To enlighten them about the topic of gamification, with which a vast majority of them were unfamiliar, a presentation and instruction session was held. Following the instruction, students were informed about the plans for the following weeks and the dynamics of gamified content. Gamification dynamics were especially elicited to underline the possibility of receiving extra points for their final exams as rewards redeemed with certain badges. Awards given for the badges were intentionally kept so little as 5 points out of a hundred added to the final score of the lesson so as to avoid discouragement among students who would not win any badges.

As for the second phase, students were introduced to the online module and how gamified content would work in the light of sample gamified modules and gamified lessons. Next, they were asked to analyze their favorite games in terms of certain criteria that were related to the purposes of the module in an essay and they enrolled in the module on Google Classroom (<https://classroom.google.com/u/0/c/NjI4MzI0NTYzMjha>). Module plans and schedules for the assignments were shared in the module so that the participants would be aware of what to expect from the online content and what would be expected from them. Their first online task was to create a digital story using a web-based digital story-telling tool via the online tools provided on the website storyboardthat.com (Figure 1).



Fig. 1. Storyboard introduction sample

The next preparatory step in the second phase was the design of a rubric to evaluate gamified content. Students were provided several materials such as news articles, sample gamified lesson videos, research articles, and infographics to consolidate the gamification concept. In connection with these materials, they were asked to determine what types of elements must be included in gamified contents and lessons in a form of a rubric they would prepare to evaluate such contents. After the due date, each rubric designed by students was individually reviewed and written feedback was provided for them. As the final product of the assignment, an ultimate rubric based on their ideas and the scientific articles was devised by the facilitator/researcher and posted in the module. Students were informed that their final products would be evaluated in accordance with the finalized rubric.

As for the final phase of the study, participants were asked to complete five assignments over the remaining weeks to successfully complete the module. First, they were asked to write an essay on the question “How can you improve language learning by using gamified contents?”. To complete the essay accordingly, they were requested to follow certain steps in the development of their paragraphs. Second, they were posed a question under a discussion thread in which they needed to publicly give their opinions about the question “Why do you think majority of branches (corporations, education institutes, digital media, etc.) want to use game elements to attract customers or participators?”. Comments were requested to include at least 2-3 well-organized sentences and it was announced that the first five commenters with a sound comment would receive the “Fastest Responder in the West” badge awarding the recipients an automatic 5 points for their final exams and immunity from the next assignment. Third, similar to the previous activity, another discussion thread was started with the question “Do you think this module/course can be regarded as an example for a gamified content? What game elements are sufficient or insufficient in terms of gamification?”. It was announced in the online module that the first three responders would win the “Atonement” badge awarding them 5 points in their final exams. As the name suggested, it would give three additional students to atone for their missed opportunity to receive five points in the previous discussion, therefore providing compensation and gap-closing chances to students as the gamification theories advocated. Fourth, their final product requiring them to design a gamified lesson plan using literary

texts was assigned to the participants. They were reminded that they would be expected to follow the elements of the aforementioned rubric to be able to form adequate gamified content. In the meantime, they were constantly kept posted in terms of new reading and watching materials in the online module. Last, they were asked to fill out an experience survey containing both quantitative and qualitative means of data collection.

To integrate game elements into the module, the nature of the online instruction and the LMS was considered, and rules, badges, a leaderboard, progress check, immediate and constant feedback, problem-solving, interaction and collaboration, and the sense of community elements of games as suggested by the literature were implemented in the module. The rules of the module were preset from the beginning. Participants could earn badges, confront problems, receive immediate and constant feedback as per their every action in the module, and could interact with one another and the facilitator at all times. They could track their performance based on assigned points to each assignment (Figure 2).

Gamified Language Teaching		Stream	Classwork	People	Grades	
Sort by last name	May 11, 20... The Survey out of 5	May 8, 2020 Gamified Lesson... out of 25	Apr 17, 20... Do you think thi... out of 5	Apr 10, 20... Why do you think... out of 5	Apr 3, 2020 Essay Assignm... out of 10	Mar 20, 20... Gamified content...
Class average	5	24.89	5	5	10	N/A
[User Icon]	Missing	25	5	5	10	Missing
[User Icon]	5	25	5	5	10	✓
[User Icon]	5	25	5	5	10	✓
[User Icon]	5	25 Done late	5	5	10	Missing
[User Icon]	5	25	5	5	10	Missing
[User Icon]	5	25	5	5	10	✓
[User Icon]	Missing	25	5	5	10	✓
[User Icon]	5	25	5	5	10	Missing
[User Icon]	5	25	5	5	10	✓
[User Icon]	5	25	5	5	10	✓

Fig. 2. Participant progress check

3.7. Findings and Discussion

The findings of the research can be divided into two main components: the findings regarding the quantitative data gathered from the questionnaires and the results of the qualitative data obtained from the semi-structured questions. ELT pre-service teachers responded to the questionnaire items under three main sections including the items related to the gamified module in general, facilitator-related items, and items related to the mechanics of the gamified module. For each section, descriptive analysis results of the participants' reactions will be presented in individual figures.

3.7.1. Reactions to the gamified module in terms of experience and future preferences

In the section pertaining to the general module questions addressing the experiences and future preferences of the participants, teacher candidates were asked if they participated in similar modules before, how much time on average they spent for each assignment in the module, and their likelihood of joining similar modules in the future. Regarding their past experiences (Figure 1), participants’ responses revealed that the majority of them (n= 27) never experienced such modules whereas the remaining minority either participated only once (n= 4) in online modules or experienced such modules several times (n= 5).

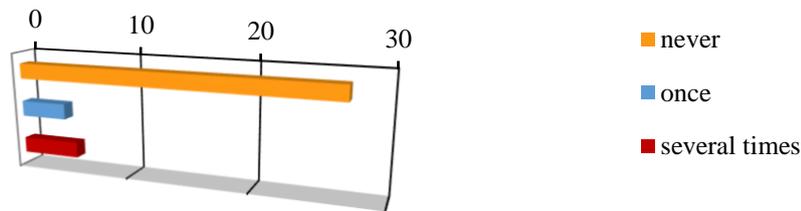


Fig. 3. Participants’ experiences

Concerning the time spent by the pre-service teachers for each assignment (Figure 2), it was revealed that the participants spared moderate amounts of time for the class work assigned to them, which ranged from three to nine hours. Based on the pie chart, the majority of the participants (n= 27) spent three to nine hours on each of their assignments while the remaining teacher candidates either spent less than three hours (n= 5) or more than nine hours (n= 4) to complete their responsibilities.



Fig. 4. Time spent on each assignment

For future reference, the participants reflected a high level of interest in the module (Figure 3) in a way that most of them desired to participate in similar modules in the future. A high majority of the pre-service teachers (n= 24) indicated that they would surely want to take part in similar online modules in the future. While eleven of the remaining participants were doubtful in deciding that they would participate in a similar future experience, only one of the pre-service teachers responded negatively to the future participation possibilities. The reasons behind such responses can be potentially understood after the careful interpretation of the quantitative and qualitative dimensions of the questionnaire and interview results.

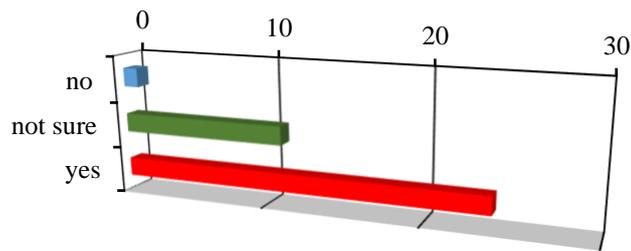


Fig. 5. Likelihood of future participation

3.7.2. Reactions to the facilitator effectiveness

As can be implied from the descriptive data, almost all participants were satisfied with the facilitator's contributions to the module work, especially to the participants' interactions ($M=5,00$, $SD=.00$), providing regular and helpful materials ($M=4,94$, $SD=.23$), and feedback ($M=4,94$, $SD=.23$). Items with relatively lower satisfaction levels were the facilitator's clear instructions and explanations ($M=4,89$, $SD=.39$) and access to and quick responses of the facilitator ($M=4,78$, $SD=.59$). Concerning these two items, it was seen that, though it was a minority, a few students gave "poor" rating for the teacher.

3.7.3. Responses to module mechanics and learning experience

Considering the participants' responses given to the survey items enquiring about their responses to the physical module mechanics and their learning experiences during the module-related work, all 36 participants indicated a high contentment with the effectiveness of the - elements of the module and rated their instructional gains as high (Table 2).

Table 2.

Module Mechanics and Learning Experience

Item	M	SD
Module Mechanics	4,71	.38
Learning Experience	4,45	.69

Note. N=36

Regarding the responses to the gamified module activities, initially, it was found that module mechanics were rated with high scores. Items indicating the highest contentment levels were feedback and support ($M=4,92$, $SD=.36$), teacher effectiveness ($M=4,92$, $SD=.28$), and engaging and rich content ($M=4,78$, $SD=.48$) whereas the items indicating the lowest satisfaction levels were module meeting expectations ($M=4,64$, $SD=.59$), multimodality ($M=4,61$, $SD=.59$), and quality of the module ($M=4,44$, $SD=.65$).

Concerning the learning experience, it was very clear that materials helped participants understand each subject clearly ($M=4,58$, $SD=.80$), and they were very confident that they could define gamification after the module ($M=4,53$, $SD=.94$). In addition, participants found the module content very useful for their teaching profession ($M=4,53$, $SD=.77$). In terms of ability, they were highly confident about using what they have learned from this module in their lives ($M=4,50$, $SD=.81$) and evaluating a gamified content in accordance with certain criteria ($M=4,44$, $SD=.80$) due to the module. Lastly, despite not being as high as the other items, participants showed a desire to enroll in a similar module in the future ($M=4,14$, $SD=.93$).

3.7.4. Opinions regarding the improvement of the gamified module

Participants generally responded to the experience positively in a way that they regarded the module quite useful. Considering their responses given for how to further improve the module, pre-service teachers'

answers were classified under three emerging themes of game mechanics (f=11), module mechanics (f=23), and irrelevant (f=4) responses as shown in Table 3.

Table 3.

Participants' Recommendations to Improve the Module

Themes (f)	Codes (f)
Game mechanics (11)	applications (1), badge design (2), leaderboards (1), more games (4), progress check (2), competition (1)
Module mechanics (23)	collaboration (4), diverse activities (1), feedback (1), interaction (4), invited speakers (1), materials (4), module design (1), more gamified lesson plans (1), online discussion (1), polls (1), teacher attitude (2), sample lessons (1)
Irrelevant (4)	experiences (1), no idea (3)

Under the theme game mechanics, participants most frequently mentioned the necessity of more games (f=4) in the module. As an example, P4 stated "I would add more games probably. As our course is related to gamification, playing games may be fun as a part of this module but we all know that corona virus hindered us." In addition, participants emphasized badge design (f=2) and progress check (f=2) as the second most recurring codes in relation to game mechanics. Concerning badge design, P29 remarked "...but if we were asked to design or draw our own badges, it would be funnier." while P33 said "...we could have question whether the information we learned remained in mind or not." about progress check. As for the remaining codes, participants mentioned that the module could include more applications (f=1) to enrich the activities, leaderboards (f=1) to keep track of the point standings among participants, and elements to boost competition (f=1) in the module.

In terms of the module mechanics, the most recurring codes were interaction (f=4), materials (f=4), and collaboration (4). Concerning the interaction, P34 added, "I would improve this module by enabling students to interact more with each other." whereas P9 commented, "But probably, I would try to provide more resources." about materials. In turn, about collaboration (f=4), P18 stated, "Group works may be used for the assignments to cooperate with each other.", implying that the module lacked collaborative activities. Furthermore, teacher attitude (f=2) followed the leading codes as one of the most significant improvement recommendations by the participants. P5 remarked, "I guess I would try to be more keep in touch with my students about general subjects. All of us needs to be more optimistic in these days.", dramatically signifying the mental well-being of the students being in check by the teacher during the Covid-19 measures of the time. As for the other codes generated from the participant responses, teacher candidates mentioned diverse activities (f=1), feedback (f=1), invited speakers (f=1), module design (f=1), more gamified lesson plans (f=1), online discussions (f=1), polls (f=1), and sample lessons (f=1), which were quite self-explanatory.

The last theme coded as irrelevant (f=4) was made up of an irrelevant comment about the participant's experiences (f=1) in the module and remarks stating the participants had no idea (f=3) about what to suggest, which did not make any recommendations for the improvement of the module.

Participants mostly pinpointed well-informed parts to improve the module for future use. This indicates the benefit of the module in teaching the dynamics of a gamified environment. However, participants suggesting more games as an improvement may have done so due to a misconception about gamification. This misconception, confusing games with gamification, is very common among many individuals, which warns the researcher about making this distinction clearer in future practices. Moreover, the collaboration and interaction mentioned by them point to the necessity to organize more interactive and collaborative activities in gamified modules.

3.7.5. Experiences of participants

Participants reacted that the study was quite educational and new for them, and even though they always read texts from online sources by using their technological devices, they had never experienced a similar module and gamified learning. As shown in Table 4, four main themes were generated from the participants' statements about their experiences as follows: module experience (f=59), affective elements (f=8), professional development (f=21), and teacher (f=13).

Table 4.

Participant Experiences in the Module

Themes (f)	Codes (f)
Module Experience (59)	attractive (1), beneficial (1), challenge (1), clear instructions (1), material development (2), different (1), effective (2), enjoyable (15), digital story (1), feedback (5), informative (14), modern (1), rubric (1), research (2), well-designed (1), natural (1), more resources (1), interesting (2), interaction (1), gamified content (1), games (1), face-to-face (2), focus on lacks (1)
Affective Elements (8)	confidence (1), effort (1), motivation (4), patience (1), willingness (1)
Professional Development (22)	academic life (1), articles (2), future (9), new experience (1), new perspective (4), real life application (2), young learners (1), technology competence (2)
Teacher (13)	helpful (1), teacher attitude (4), teacher support (8)

Regarding the module experience theme, the most recurring code was enjoyable (f=15), about which P15 responded, "One of the greatest classes I've ever taken and also one of the most enjoyable one. In fact, I am a picky student but you have done a great work.", implying that the module was an enjoyable experience. This code was followed by informative (f=14) since most of the participants regarded the module as educational on which they claimed to have learned a lot. In relation, P30 stated, "This module was a great guide for us. We learned how to gamify our lessons by researching and of course by doing.", revealing that they knew how to gamify contents after the module. Furthermore, participants mentioned feedback (f=5) as the third most recurring code in their reactions. With regard to feedback, P28 remarked, "... You always gave us prompt feedbacks and looked at the bright side. Even if we don't deserve sometimes, you gave us good feedback and motivated us in these difficult days. So, we could continue instead of giving up.", signifying how feedback, and immediate at that, contributed positively to their motivation. The remaining module-related experiences underlined the themes of material development (f=2), effective (f=2), research (f=2), interesting (f=2), face-to-face (2), attractive (f=1), beneficial (f=1), challenge (f=1), clear instructions (f=1), different (f=1), digital story (f=1), modern (f=1), rubric (f=1), well-designed (f=1), natural (f=1), more resources (f=1), interaction (f=1), gamified content (f=1), games (f=1), and focus on lacks (f=1). From a note-worthy perspective, two participants assumed the experience would be much better with face-to-face elements, about which P35 suggested "If it became face to face, it would be more effective for me because maybe we could make implementation."

Concerning the affective elements, the code motivation (f=4) was the most frequently mentioned matter. P23 underlined the importance of motivation by stating, "I have learned how students should be encouraged to the lesson. this module is one of the most effective ways in learning language...". Other affective states recurring as codes in participants' responses were confidence (f=1), effort (f=1), patience (f=1), and willingness (f=1).

As another popular theme generated from the responses, professional development theme was mentioned in relation to the future (f=9) code most frequently. This code indicated that participants found the module experience to be useful for their futures as English language teachers. With this consideration, P21 stated, "...So, it was such a beneficial experience for not only me, but also my friends as future teachers.", highlighting their future professions. The code of future was followed by new perspective (f=4), for which P24 remarked, "I have learned to approach teaching English from a different standpoint with the help of this module.", indicating that the module experience changed their perspectives. The remaining codes

mentioned were articles (f=2), real-life application (f=2), technology competence (f=2), academic life (f=1), new experience (f=1), and young learners (f=1). As for the technology competence, one response noted the improvement of technology skills after the module while the other mentioned a negative experience stating, “Although this module is well-designed and good, I do not know how to use it.” (P14).

The theme of teacher was yet another frequently recurring theme in the responses, and under this category, teacher support (f=8), teacher attitude (f=4), and helpful (f=1) codes were generated. Considering teacher support, P20 stated, “Even though it was an online class it was more effective than our other classes thanks to our teacher. Most of our teacher does not send us materials that we need before asking us to do anything. This module gets more inspiring with the help of the teacher.” whereas P15 remarked, “You didn't teach me only the subject but also taught me with your way of teaching.” about the teacher attitude. These comments underlined the importance of supporting participants with material supplements and encouragement.

Considering the responses of participants, it can be understood that enjoyment and information were concepts going hand-in-hand, which indicates that gamified environments can transform a serious learning platform or content into a state of joy. As can be inferred, enjoyable and game-like elements do not necessarily diminish the instructive capabilities of modules, instead, they increase them. Moreover, as the responses suggested, teacher support and attitude appear to be crucial elements to keep the motivation levels of students because the module provides a learning community relying on interaction and feedback.

3.7.6. Positive and negative aspects of the module

Pre-service teachers responded to the question enquiring about their opinions on the positive and negative sides of the module, and their responses were initially categorized under seven sub-themes and these sub-themes were analyzed to generate corresponding codes as shown in Table 5 below.

Table 5.

Positive and negative aspects of the module based on participant responses

Themes	Sub-themes (f)	Codes (f)
positive aspects	module-related (38)	accessibility (3), adequate (7), applicable (1), assignment (1), clear instructions (4), content (1), critical thinking (1), games (4), goals (1), imagination (1), informative (7), interaction (2), progress check (1), research (1), use of badges (2), gamified content (1)
	teacher (33)	creative (4), feedback (13), helpful (4), teacher accessibility (1), teacher attitude (2), teacher support (9)
	affective (20)	enjoyable (11), low stress (1), motivation (8)
	professional life (7)	future (3), new experience (1), new perspective (2), real life application (1)
	resources (8)	articles (1), digital story (1), material (5), YouTube (1)
negative aspects	module-related (11)	difficult (1), insufficient instruction (2), lack of collaboration (1), lack of interaction (1), lesson plan design (4), more resources (1), time constraints (1)
	personal (3)	technology competence (1), tiring (1), responsibility issues (1)

Regarding the sub-theme of the module generated under the positive aspects theme, the most frequently recurring codes were informative (f=7), adequate (f=7), clear instructions (f=4), games (f=3), accessibility (f=3), interaction (f=2), badges (f=2), applicable (f=1), assignment (f=1), content (f=1), critical thinking (f=1), goals (f=1), imagination (f=1), progress check (f=1), research (f=1), and gamified content (f=1),

respectively. Concerning the informative code, P17 said, “This class has been good for me. Because I had no idea about gamification before. I have the idea now.”, emphasizing the educational nature of the module. In terms of adequate code, P9 commented, “Almost every aspect of this module was good for me. I couldn't say bad for anything actually.”, meaning the module was adequate. Related to games, P32 stated, “As a person who likes to play games, I had fun during this module.”, signifying the game code while P3 remarked, “To access the content whenever I need is really useful for me.” for the code of accessibility. The remaining codes indicated that the participants found the interactions, the use of badges, applicability, assignment types, the content, critical thinking dimension, goals, imagination aspect, progress check, research, and gamified content quite positive.

In the sub-theme of teacher, feedback (f=13) and teacher support (f=9) codes were the most striking ones other than the codes of creative (f=4), helpful (f=4), teacher attitude (f=2), and teacher accessibility (f=1). Regarding feedback, P19 stated, “Our teacher was really helpful. He gave detailed and personal feedback.” whereas, regarding teacher support, P21 pointed out, “...Also, in case of any question or problem, we knew that we would get support.”. In terms of helpful, the participants found materials and feedback provided by the facilitator helpful; therefore, they specifically used the term as mentioned in P30's statement, “The materials which are sent by our facilitator were very helpful.”. In relation to creativity, the participants believed that they became more creative thanks to the module. With this regard, P20 stated, “I understand the necessity of the gamified content in language teaching. It improved my imagination and made me more creative when making a lesson plan.”.

In terms of the affective elements, the participants mentioned aspects that were classified under the codes of enjoyable (f=11), motivation (f=8), and low stress (f=1). Regarding the enjoyable code, P22 responded “This module was generally enjoyable.” and P31 said, “There is not a bad aspect of this module...With games everyone enjoys subjects. It is a good way to acquire a subject.”. Considering the motivation, the other popular code, teacher candidates pinpointed that the module experience and the facilitator increased their motivation to learn and participate. About this, P18 reacted “...quick and very kind feedbacks of you created motivation for me to complete the tasks.”, underlining the feedback dimension of the motivating factors.

The codes generated in relation to professional life were future (f=3), new perspective (f=2), new experience (f=1), and real-life application (f=1). Concerning the future, the participants made comments about the module being useful for their future careers as language teachers. P34 emphasized this belief by stating, “This module gave me an idea. I am thinking of using gamification in my professional life.”. As the second most popular code in this sub-theme, teacher candidates believed that this gamified module gave them new perspectives, for which P12 said, “This course was very useful and different perspective to teaching.”. The remaining codes revealed the ideas that the module was a new experience and that it could be easily applied in real life.

In the resources sub-theme, the most used code was the material (f=5), followed by articles (f=1), digital story (f=1), and YouTube (f=1). Apart from the self-explanatory positive elements in this category, materials were found to be the most positive elements in the module. For material, P7 stated, “...but sometimes we had so many materials and positive feedback which helped me a lot to hold on a bit more.”, signifying how materials could motivate and support student work.

As can be seen in the positive aspects, participants similarly emphasized the role of teacher support as what made the module a positive experience for them. It is also quite noteworthy that all the positive aspects mentioned by participants are indeed aligned with game elements, namely, what a gamified environment should be. This indicated how well-informed about gamification they became after the module because their evaluation of the module was strictly based on gamification criteria.

In terms of the negative aspects of the module, two sub-themes emerged as module-related and personal negative aspects. Under the module-related aspect, problems with lesson plan design (f=4) and insufficient

instruction (f=2) were the most popular ones. P27 found lesson plan design challenging by stating, “I just had difficulty in finding the correct topic for the lesson plan.” while P14 said “However, the explanation about gamified lesson plan is not sufficient. This is a bad aspect of this module I think.” to indicate the insufficiency of some instructions in the module. The remaining codes were difficult (f=1), lack of collaboration (f=1), lack of interaction (f=1), more resources (f=1), and time-constraints (f=1), which were quite transparent problems. Regarding the personal aspect, participants stated a lack of technological competence (f=1), found the module tiring (f=1), and had responsibility issues (f=1) while completing the tasks. Concerning the responsibility, P10 responded, “The bad thing is not about the module but me. Sometimes I did not want to do my duties but when I start to do, I understand that it is not that bad.”, implying that problems with responsibility prevented the participant from appreciating the experience.

Addressing the negativities with the module, participants were found to have problems with designing a proper lesson plan as the final assignment. This problem was mostly due to the participants’ hesitant nature in designing lesson plans because they were afraid to submit a bad product. Even though in the end, all products met many of the criteria for the assignment, this hesitation can be explained by the participants’ own perfectionism. As for the instruction issue as a negative side, the researchers might take lessons to provide as much instruction as possible for the whole process so as not to have any individual who would not fully understand the subject.

4. Conclusion and Suggestions

Considering the responses obtained from the pre-service teachers who participated in the gamified module, several conclusions can be reached. First, it was evident from the results that teacher candidates found a gamified experience on Google Classroom enjoyable and innovative. This outcome found in the quantitative data was supported by the qualitative responses of the participants. Second, it was revealed that the role of the facilitator as a medium of feedback and motivation was emphasized by the results. The participants’ enjoyment of the module seemed to be associated with their appreciation of the facilitator. Quantitative responses revealing high-level respect and appreciation for the facilitator could be traced in the qualitative data gathered from the participants. Third, as can be seen in the findings, the motivation dimension of the module was frequently highlighted by the participants, paralleling with the findings of (Flores, 2015), indicating that the gamification technique motivates the learners. Last, the results of the study revealed that the careful design and integration of game elements such as badges, leaderboards, progress check, etc. were observed by the participants and they increased the quality of gamified content. As suggested by Klubal et al. (2018) and Sujannah et al. (2019), gamified content embedded in an LMS must carefully include game elements in accordance with the needs and characteristics of the participants.

In conclusion, it can be stated that gamification has great potential to overcome many obstacles in a learning context since game elements motivate learners of various types to carry on completing the tasks by mimicking the light atmosphere of games. However, these elements may result in some drawbacks if they are not carefully implemented. For instance, keeping scores among students may demotivate students with lower scores, creating the feeling that they are not actually succeeding in completing the tasks. In addition, learners need constant and immediate feedback in the process; otherwise, they might feel that what they achieve in the module serves no purpose or be puzzled about what their products are good or bad for. Therefore, a gameful design or gamified content must be designed carefully with the consideration of all game elements, their functions, student needs, lesson objectives, etc.

In light of this research, some recommendations for further studies can be made. First, considering the limited number of experimental and qualitative studies in the gamification context, further studies must focus on gathering data on larger samples in a longer duration, bringing explanations for the individual opinions and differences by gathering qualitative data. Second, gamified content must be developed on other LMSs to measure the impact of different online environments. Third, theoretical and practical guidelines and design steps to use as frameworks must be developed for language learning contexts. Last,

characteristics of game elements and designs suitable for language learners must be identified. To sum up, more gamification studies using larger samples and longer periods to gather experimental and individual data are required in the literature so that personal differences and different practices can be set as exemplary cases.

The study is limited to 36 participants who were training to become English teachers who received online education on Google Classroom as an LMS. Therefore, face-to-face interaction and blended opportunities could not be utilized to explore the effects of gamification to the fullest. In addition, more extensive data collection procedures, the investigation of student interaction in more versatile LMS platforms, and the inclusion of a greater number of participants would contribute to the understanding of the effect of gamified settings. For these reasons, it is recommended that future studies conduct research in blended settings and use different game elements. Moreover, involving more participants and carrying out experimental designs to accompany qualitative procedures will help researchers make comparisons to conventional methods and understand unique impacts of gamification.

References

- Agormedah, E., Adu Henaku, E., Ayite, D. M. K. & Apori Ansah, E. (2020). Online learning in higher education during Covid-19 pandemic: a case of Ghana. *Journal of Educational Technology and Online Learning*, 3(3), 183-210.
- Albertazzi, D., Gitirana, M., Ferreira, G., & Antônio, F. (2019). A wide view on gamification. *Technology, Knowledge and Learning*, 24(2), 191–202. <https://doi.org/10.1007/s10758-018-9374-z>
- Alipour, P. (2020). A comparative study of online vs. blended learning on vocabulary development among intermediate EFL learners. *Cogent Education*, 7(1). <https://doi.org/10.1080/2331186X.2020.1857489>
- Alsawaier, R. S. (2018). The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology*, 35(1), 56–79. <https://doi.org/10.1108/IJILT-02-2017-0009>
- Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *International Review of Research in Open and Distributed Learning*, 12(3), 80–97.
- Anderson, Terry, & Dron, J. (2011). Three generations of distance education pedagogy. *International Review of Research in Open and Distance Learning*, 12(3), 80–97. <https://doi.org/10.19173/irrodl.v12i3.890>
- Baldauf, M., Brandner, A., & Wimmer, C. (2017). Mobile and gamified blended learning for language teaching - Studying requirements and acceptance by students, parents and teachers in the wild. *ACM International Conference Proceeding Series*, 13–24. <https://doi.org/10.1145/3152832.3152842>
- Blaxter, L., Hughes, C., & Tight, M. (2006). *How to Research* (3rd Ed.). Open University Press. <https://doi.org/10.1093/acprof:oso/9780199732869.003.0004>
- Bozkurt, A., & Durak, G. (2018). A systematic review of gamification research: In pursuit of homo ludens. *International Journal of Game-Based Learning*, 8(3), 15–33. <https://doi.org/10.4018/IJGBL.2018070102>
- Bušelić, M. (2012). Distance learning – concepts and contributions. *Oeconomica Jadertina*, 2(1), 23–34. <https://doi.org/10.15291/oec.209>
- Caponetto, I., Earp, J., & Ott, M. (2014). Gamification and education : a literature review. *European Conference on Games Based Learning*, 50–57.

- Casey, D. M. (2008). A journey to legitimacy: development of distance education through technology. *TechTrends*, 52(2), 45–51.
- Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions*, by John W. Creswell (Second). Sage Publications, Inc.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Method Approaches* (p. 273). Sage Publications, Inc.
- Deterding, S., Björk, S., Nacke, L. E., Dixon, D., & Lawley, E. (2013). Designing gamification: creating gameful and playful experiences. *CHI'13 Extended Abstracts on Human Factors in Computing Systems*, April, 3263–3266. <https://doi.org/10.1145/2468356.2479662>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness : defining “gamification”. *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, 9–15.
- Deterding, S., Sicart, M., Nacke, L. E., O’Hara, K., & Dixon, D. (2011). Gamification: using game design elements in non-gaming contexts. *CHI'11 Extended Abstracts on Human Factors in Computing Systems*, 2425–2428. <http://www.amazon.de/Information-Retrieval-Informationen-suchen-finden/dp/3486581724?SubscriptionId=13CT5CVB80YFWJEPWS02&tag=ws&linkCode=xm2&camp=2025&creative=165953&creativeASIN=3486581724>
- Fidan, A. & Şengel, E. (2022). An examination of opinions of teacher candidates on a course enriched through gamification. *Journal of Educational Technology and Online Learning*, 5(4), 754-774.
- Flores, J. F. F. (2015). Using gamification to enhance second language learning. *Digital Education Review*, 27, 32–54.
- Fuller, L. (2021). Negotiating a new blend in blended learning: research roots. *Inquiry*, 24(1), 5–7. <https://commons.vccs.edu/inquiry>
- Garrison, D. R., & Shale, D. (1987). Mapping the boundaries of distance education: problems in defining the field. *American Journal of Distance Education*, 1(1), 7–13. <https://doi.org/10.1080/08923648709526567>
- Harasim, L. (2012). *Learning Theory and Online Technologies* (1st ed.). Routledge.
- Huang, B., Hwang, G., Hew, K. F., & Warning, P. (2019). Effects of gamification on students ’ online interactive patterns and peer-feedback. *Distance Education*, 40(3), 350–379. <https://doi.org/10.1080/01587919.2019.1632168>
- Hung, A. C. Y. (2017). A critique and defense of gamification. *Journal of Interactive Online Learning*, 15(1), 57–72.
- Klupal, L., Kostolányová, K., & Gybas, V. (2018). Gamification in LMS courses. *ICTE Journal*, 7(2), 46–50. <https://doi.org/10.1515/ijicte-2018-0009>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (Third). Sage Publications, Inc.
- Moore, M. G. (1991). Editorial: distance education theory. *American Journal of Distance Education*, 5(3), 1–6. <https://doi.org/10.1080/08923649109526758>
- Moore, M. G., & Kearsley, G. (2012). *Distance Education: A Systems View of Online Learning* (3rd ed.). Cengage Learning.
- Nacke, L. E., & Deterding, C. S. (2017). Editorial : the maturing of gamification research. *Computers in Human Behaviour*, 71, 450–454. <https://doi.org/10.1016/j.chb.2016.11.062>

- Osipov, I. V., Nikulchev, E., Volinsky, A. A., & Prasikova, A. Y. (2015). Study of gamification effectiveness in online e- learning systems. *International Journal of Advanced Computer Science and Applications*, 6(2), 71–77.
- Ranjan, P. (2020). Is blended learning better than online learning for b.Ed students? *Journal of Learning for Development*, 7(3), 349–366.
- Rapp, A., Hopfgartner, F., Hamari, J., Linehan, C., & Cena, F. (2019). Strengthening gamification studies: current trends and future opportunities of gamification research. *International Journal of Human - Computer Studies*, 127, 1–6. <https://doi.org/10.1016/j.ijhcs.2018.11.007>
- Rice, K. L. (2006). A comprehensive look at distance education in the K-12 context. *Journal of Research on Technology in Education*, 38(4), 425–448. <https://doi.org/10.1080/15391523.2006.10782468>
- Sujannah, W. D., Cahyono, B. Y., & Astuti, U. P. (2019). Effect of blended learning using Google Classroom on writing ability of EFL students. *Teaching English with Technology*, 20(2), 82–97.
- Şener, B., Sağlam Ertem, İ., & Meç, A. (2020). Online teaching experiences of ELT instructors. *Journal of Educational Technology and Online Learning*, 3(3), 340-362.