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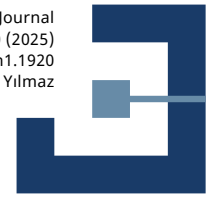

Castledown

The impact of gamified modules on EFL learners' L2 motivational 'self' system

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Gamification has been studied in the context of English as a foreign language (EFL) teaching as an intriguing approach, and its impact on language skills and motivational states of learners has been an area of interest; however, further experimental and qualitative accounts on the matter are still required. Additionally, the construct of 'self' as a rather novel outlook for motivation has been explored by merely a handful of studies. This study aimed to determine the effects of gamified instruction on high school EFL learners' motivation and motivational 'self' systems. To achieve this, the study employed an explanatory sequential mixed-method research design to make sense of learners' motivational states and L2 selves. Quantitative data collected through motivation and L2 self scales were interpreted with the consideration of qualitative data obtained from a focus group session. The results of the study revealed promising outcomes in terms of motivation to learn English as the modules increased the willingness of learners to learn English to communicate with other cultures, and they regarded English as a part of a well-rounded education. Moreover, they started to doubt their "self" constructs regarding being more knowledgeable in the English language in different dimensions. Finally, the study concluded with some crucial points regarding the effectiveness of gamified language learning settings, and recommendations were made for future research.

Keywords: EFL, gamification, high school, L2 self system, motivation

Introduction

Language learning environments are significantly influenced by evolving learner characteristics and the demands of professional life. The unique requirements of learning a second language present challenges for both

teachers and students, as language learning extends beyond the acquisition of linguistic content; it involves aspects of individual personalities, identity, and a diverse range of needs exhibited by modern learners (Dörnyei, 2005; Turner, 2009). In this dynamic educational landscape, addressing L2 motivation has evolved to encompass the impact of individuals' identities and self-concepts, particularly in the context of digital and online interactions. This shift in focus is closely tied to the increase of technological innovations in language learning, including gamified content on online platforms (Liu et al., 2024; Turner, 2009; Ushioda, 2011).

The transformation of L2 motivation from traditional paradigms to a contemporary emphasis on the self and identity is rooted in seminal works by Csizér and Dörnyei (2005), Dörnyei (1994a, 1994b), and Dörnyei and Csizér (2002). These foundational contributions emphasize the importance of incorporating individual identities within the motivational framework. The 'self' concept is tied to the sense of being integrated into the target culture and envisioning oneself using the language in a version of the future.

Considering the emphasis on self and identity in technological novelties in educational settings, investigating these concepts is crucial since such concepts shape the understanding of language learning behaviors more efficiently (Liu et al., 2024). Therefore, this study aims to understand the effects of gamification on language learners' motivational states and reserves an important place for the 'self' constructs, investigating their reflections on identity and self. The main motivation behind the focus on the L2 motivational self systems of EFL learners is the lack of research in the context of gamification's effect on the 'self' constructs. It is assumed that the study will contribute to the field in terms of understanding how gamified online settings might influence the self concepts of EFL learners.

Literature review

Gamification is a contemporary educational approach that integrates elements unique to games into non-gaming contexts (Deterding, Dixon, et al., 2011; Deterding et al., 2013; Deterding, Sicart, et al., 2011; Nacke & Deterding, 2017). It differs from serious games and focuses on motivation and engagement in educational settings. Gamification is a rather novel approach that has been introduced to the field of education and language learning in the last couple of decades. Although it is possible to trace back practices that might reflect the essence of gamifying the language learning process, it is difficult to state that these were deliberate attempts to systematically gamify a learning setting with utmost attention to related gamification theories. In addition, gamification research is still in need of comprehensive empirical evidence (Albertazzi et al., 2019; Bozkurt & Durak, 2018; Caponetto et al., 2014; Richter et al., 2015).

Gamification in language learning lacks a unified theoretical foundation and empirical studies, but it holds promise (Azzouz & Gutierrez-Colon Plana, 2020; Baldauf et al., 2017; Hamari et al., 2014). Studies indicate that gamification can enhance academic achievement and motivation, offering learners

engaging experiences through elements such as role-playing, collaborative tasks, rewards, penalties, and points (Güzel, 2023; Pham et al., 2021; Purgina et al., 2020; Samosa et al., 2021). However, the effective use of gamification requires a careful balance of game elements, as excessive rewards and leaderboards can potentially diminish motivation (Flores, 2015; Furdu et al., 2017; Huang et al., 2019; Morschheuser et al., 2019; Pardoel et al., 2018; Rivera-Trigueros & Sánchez-Pérez, 2020; Ryder & Machajewski, 2017; Tan, 2018).

From a theoretical perspective, Azzouz and Gutierrez-Colon Plana (2020) deduced that even though studies provide instances where gamification produced positive outcomes, a consensus upon theoretical bases, terminology used, and definition issues of gamification must be established. In addition, the number of empirical studies limits the chances of reaching a generalizable interpretation of the effect of gamification on L2 learning.

Gamified teaching is difficult especially in terms of assessment and feedback because they are expected in short periods (Alharthi, 2020; Azzouz & Gutierrez-Colon Plana, 2020). Similarly, Baldauf et al. (2017) and Hamari et al. (2014) discovered that gamification practices supporting face-to-face (F2F) classroom activities provided engagement and positive learning outcomes but being short-term interventions and using small samples with measurement tools that lacked validity tests, findings of these studies suggested that longitudinal or empirical studies with qualitative dimensions could provide more insights on the issue. Finally, the type of context and student quality in academic performance could generate confounding variables.

Just as general educational sense, another matter of discussion about gamification could be the aforementioned confusion of gamification and game-based approaches used in the context of language teaching. Although some studies found positive impacts obtained by game elements on language learning (Alharthi, 2020; Jabali & Walker, 2021; Mee Mee et al., 2020, 2021; Wichadee & Pattanapichet, 2014; Yürük, 2019), the concept of gamification was used interchangeably with game-based language learning. In these studies, game-based tools such as Kahoot!, FlipQuiz, and analog game elements were used to determine if there was any improvement in certain language skills, motivation and engagement levels of learners, and learning quality. In such cases, as stated by Alharthi (2020), learners did not focus on the teacher effect or other elements; instead, they focused on the behavioristic repercussions of games such as Kahoot! and FlipQuiz.

Studies that attempted to transform a learning platform or environment into a gamified experience generally found positive outcomes regarding the effect of such platforms. Flores (2015), for instance, revealed that gamified environments can positively affect language skills and encourage social behaviors in the classroom. In connection, Hernández-Prados et al. (2021) pinpointed that ESL learners favored the use of gamified activities more in comparison to conventional learning practices. According to the study, gamified teaching supports a learner-centered paradigm in education because it offers experiential activities. This way, language skills and interactional skills of learners can be improved, rendering learners motivated and engaged. In a similar sense,

Selvasli (2018) found gamified classrooms improved intrinsic motivation for English learning, motivation to complete English homework and learners' engagement with their homework.

The related research additionally mentioned that gamified approaches positively impacted the academic achievement of language learners (Pham et al., 2021; Purgina et al., 2020; Samosa et al., 2021). Pham et al. (2021) reported that a combination of gamification, mobile learning, and game elements invoked autonomy in learners, therefore increasing their achievement levels in language learning. Using gamified strategies, online tools, and developed mobile apps all offered promising improvement in learners' success in language skills such as grammar and writing. While Purgina et al (2020) confirmed the benefits of gamified experiences in grammar acquisition, Samosa et al. (2021) deduced that gamified platforms and strategies used in EFL writing can make mundane writing tasks more enjoyable.

Studies focusing on the effectiveness of game elements within gamified settings discovered powerful elements that directly appealed to the motivational drivers of learners but posed risks unless a balance concerning rewards, badges, and leaderboards was not observed (Flores, 2015; Furdu et al., 2017; Huang et al., 2019; Morschheuser et al., 2019; Pardoel et al., 2018; Rivera-Trigueros & Sánchez-Pérez, 2020; Ryder & Machajewski, 2017; Tan, 2018). Gamified environments, when carefully set up, offer learners to engage with the content through role-playing, collaborative tasks, rewards, penalties, points, power-ups, content unlocking, etc. (Pardoel et al., 2018; Rivera-Trigueros & Sánchez-Pérez, 2020). These elements are not only known to increase motivation, engagement, and autonomy but also the peer feedback quality, originality of learners in posts, and learning success (Huang et al., 2019). However, such elements were reported to require close attention since overusing one or failing to maintain a balance in the use may endanger the experience. To counter potential hazards in the way, Tan (2018) proposed a meaningful gamification to invoke learners' interest in the process, making it very likely that learner competence would increase. As inherent in gamified environments, learners should be confident that they would not sense failure.

Gamification shows promise in language learning but requires further empirical research and the progressing perspective on L2 motivation connects it deeply to identities, socio-cultural contexts, ideologies, and the self-concept of language learners, emphasizing the need to consider all aspects of the learner to boost L2 motivation (Güzel, 2023, 2024; Liu et al., 2024). The integration of gamification warrants exploration, especially in understanding its impact on motivation and the 'self' concept.

The main reason for implementing gamification in educational settings is the promise of motivation and engagement (Albertazzi et al., 2019; Bozkurt & Durak, 2018; Caponetto et al., 2014; Richter et al., 2015). In the sense of combining L2 self system constructs of EFL learners and gamified learning processes, it can be understood that the amount of research attempting to determine the impact of gamification on the L2 self is very limited (Liu et al., 2024). The study attempts to address the gap in this context following the valuable example of

Liu et al. (2024) through the gamification of English language learning processes of high school students.

This study aimed to contribute to a deeper understanding of the role of gamified learning in shaping the motivational dynamics of English as a Foreign Language (EFL) learners. To serve this aim, it sought to address two research questions as follows:

1. Does gamification influence the motivational states of high school EFL learners?
2. In what ways does gamification impact the L2 motivational self systems of high school EFL learners?

Method

Research design

The research employed a unique, comprehensive process in which an instructional design stage was initiated to convert F2F English skill classes into an online gamified experience (Güzel, 2024). Subsequently, this new gamified setting was tested in an empirical attempt to determine the impact of gamification on learners' motivational states and their construct of self. As stated by Liu et al. (2024), there is a gap in related research measuring the effect of gamification in the context of the L2 self system. Moreover, it can be seen that studies attempting to trial gamification in motivational contexts fall short of handling the issue comprehensively (Albertazzi et al., 2019), and contributing to the field with longitudinal or empirical studies with qualitative dimensions could provide more insights into the issue (Baldauf et al., 2017; Hamari et al., 2014).

The study employed an explanatory sequential mixed-method design to interpret the data more comprehensively. According to Creswell (2014) and Miles et al. (2014), a mixed-method research model can strengthen the hand of the researchers in interpreting the collected quantitative data. In essence, the qualitative data can account for the reasons for the statistical results of the research as well as for under what conditions participants responded to study-related situations.

Data collection instruments were utilized as pre- and post-test procedures, lacking a control group. The classrooms were intact groups as requested by the school administration, which led to employing a quasi-experimental research design in the quantitative part. As for the qualitative data, purposive sampling was used to select members from the participants who would effectively and diversely represent all participants. In addition, the data were analyzed through content analysis.

Settings and participants

The study, which took place during the 2020–2021 academic year, included 72 high school EFL learners from the 9th and 10th grades who actively participated in the instruction and completed pre- and post-test administrations.

After the 10th grade, students typically would take English only two hours a week. Therefore, only the said grades were invited to the study due to their intensive English schedule. A level-based instruction would entail six English lesson periods each week. Learners would be presented with the main course content which lasted four lesson periods and practice speaking, listening, reading, and writing skills in the remaining two periods, depending on the tasks required by their coursebooks.

Three weeks after the study procedures involving pre-tests, intervention, and post-tests, six students (coded as S1, S2…) and five teachers (coded as T1, T2…) were asked to participate in a focus group study in which they were asked to interpret the motivational and self-related results of the research.

Instruments

To measure the motivational and 'L2 self' outcomes, the combination of the Language Learning Motivation Scale (LLMS) by Ely (1986) (Appendix A) and the Scale to Assess Possible Selves (SAPS) developed by Macintyre et al. (2009) (Appendix B) were adapted to be used. For the focus group study, students and teachers were asked to answer self-prepared semi-structured interview questions regarding the results of the study (Appendix C).

Procedure

To transform the instructional content into gamified modules, teachers were given gamification training during which they were informed about the LMS (Canvas) and how to integrate game elements into language education (Figure 1). The model used in the gamified instruction of the lesson was surrounded by the notion that each weekly module should progress as prototypes designed for the corresponding week based on the content requirements of the lessons (Figure 2).

Figure 1. Gamification training

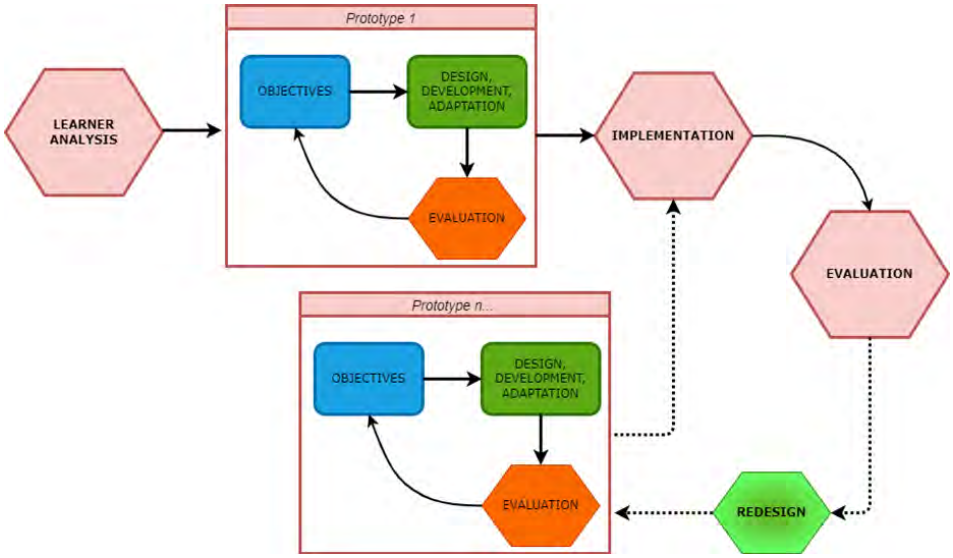

Figure 2. ID process of the research

In the implementation process, a parental consent form was sent to students' guardians, and necessary permits were obtained from the Provincial Directorate of the Ministry of National Education. Next, students were administered a pilot test to ensure the scale items were intelligible and accurate. Then, learners were introduced to the modules (Figure 3) and the instructional process with the help of teachers, which led to the administration of the pre-test and the use of modules. Each lesson typically contained two divided sections of a book unit and one post-quiz module (Figure 4). The modules integrated a revision, small quizzes, online discussions, reading passages and comprehension questions, and a final written assignment (Figure 5).

Since the module design assumed a weekly prototype creation, meetings with teachers were held after key moments such as the design of the modules, the creation of the prize store, and weekly activities (Appendix D). Online modules were enriched with game elements such as prizes, a reward system, progress checks, etc. Learners could earn points and badges after completing their final assignments and small tasks, which can be redeemed in the prize store constructed at the beginning of the process (Figure 6). The highest points could earn learners real-life and status-related prizes related to their self-actualization such as feeding stray animals, planting a tree, etc.

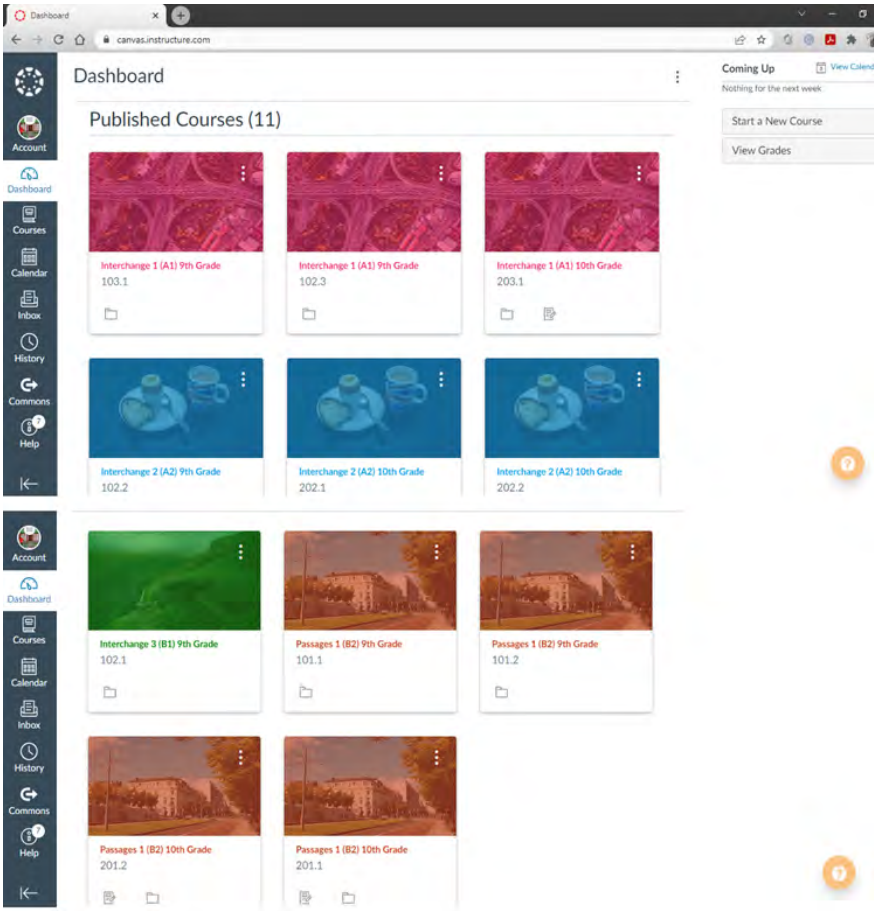

Figure 3. Modules

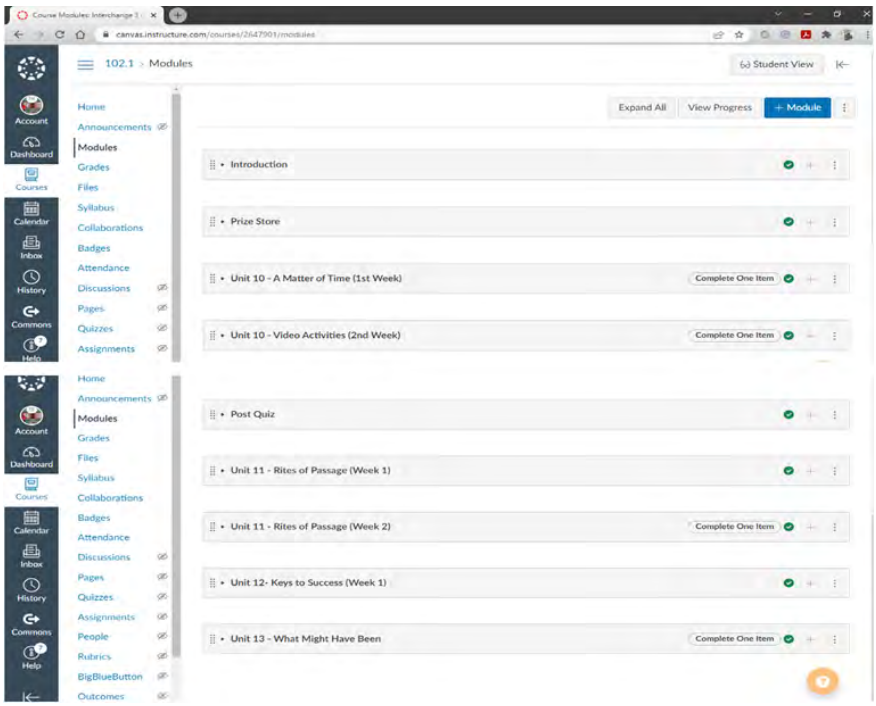

Figure 4. The seven-week module structure of a sample class

Figure 5. Contents of a sample module

Figure 6. The prize store embedded in the LMS

Completing their face-to-face main course sessions and introducing the related online module to their students, teachers supervised the online process by monitoring their students' module activities closely. Then, at the end of the first week and some of the following weeks, they reported issues and concerns in meetings so that some activity types could be modified, and additions

or omissions could be made. These meetings were all to ensure that learners' motivation to complete the modules and their engagement with the process were in check.

After the completion of modules, learners were administered the post-test. Following a three-week interval during which the data were analyzed roughly, a focus group session where a small group of students and teachers were gathered to discuss the outcomes was arranged. In the focus group, the results of the intervention were interpreted by the group participants.

Data analysis

The analysis of the statistical data collected through the LLMS and SAPS was conducted with SPSS 25. The data that were tested for normal distribution revealed that the data did not show normal distribution in either of the scales. Therefore, the calculation of related statistics was computed through non-parametric tests. As for the focus group data, which required content analysis due to its qualitative nature, the Dedoose data analysis software was used. Dedoose is a special software for analyzing qualitative data on texts, photos, audio, videos, and other visual sources and turning them into themes and codes. Responses of students and teachers were transferred to the software, and certain themes and codes were marked and categorized for further inspection. After marking and coding, certain statements were categorized under common themes. These themes were content, learning opportunities, game mechanics, and feedback, all formed based on focus group members' reactions to module elements, potentially improving motivation and 'self' concepts. Additionally, the findings provided by the quantitative data were interpreted with support of the themes and codes and focus group members' interpretation. The focus group data were used for data triangulation and member check.

Validity and reliability issues

As the initial step, both scales were tested with 30 students for piloting, to detect any problems concerning accessibility, submission mechanics, layout, intelligibility, grammar, explicitness, and ambiguity. For the LLMS and SAPS scales, translation and back-translation techniques were used with the help of two ELT professionals who held MA degrees in the field in two panels because using learners' native language would be more sensible in terms of representing the feelings more effectively.

Regarding the pre-test, the scales were tested for internal consistency to match the factor analysis criteria and determine the construct validity. The LLMS met the conditions of item correlation ($r \geq .3$), high Cronbach's alpha coefficients in clusters, and a satisfactory KMO coefficient of .799, indicating adequacy to perform factor analysis. In addition, Bartlett's test of sphericity chi-square coefficient value showed significance ($\chi 2$ [105] = 562.09, $p < .001$), suggesting that a component analysis could be performed next. Initially, the PCA indicated five components representing the fifteen items in the scale. However,

it was found that two items violated a fundamental rule by loading under two components yielding a difference lower than .100. Item number 6 loaded with the values .411 and .491, and item number 10 with .432 and .516 under two components. Therefore, it seemed plausible to eliminate these items from the scale to run another analysis. As a result of the factor analyses, the LLMS generated four components to look into as follows: *communication, instrumentality, functionality,* and *interest in culture*. The internal consistency of the scale was calculated as .86, which was quite sufficient.

Regarding the SAPS, a one-factor solution factor analysis was suggested by the scale developers themselves, and the scale was handled as a construct with three dimensions. All the items in the desirability section of the scale showed inter-item correlation ($r \geq .3$), meaning that the scale showed partial eligibility for factorial analysis.

To make sure the scale was fully eligible for a PCA, the KMO and Bartlett's test of sphericity values were calculated. The KMO coefficient of the scale was .80, and Bartlett's sphericity test revealed significance ($\chi 2$ [153] = 978.84, $p < .001$). The outlook on the PCA showed that three components represented the eighteen items on the scale.

In the meantime, concerning the likelihood dimension of the SAPS, 18 items confirmed in the piloting phase were tested for internal consistency after the pre-test administration to seventy-eight students. The initial consistency and inter-item correlation analysis of the scale revealed that all eighteen items indicated internal consistency and correlation among each other ($r \geq .3$). This helped confirm that the scale was potentially eligible for a factorial analysis.

To fully affirm that a PCA was a plausible operation, the KMO test and Bartlett's test of sphericity were run. The screenings of the analyses showed that the KMO coefficient of the scale was .91, and Bartlett's sphericity test was significant ($\chi 2$ [153] = 1370.87, $p < .001$), which suggested that the scale met all the requirements for component analysis. The internal consistency of the dimensions in the scale was quite high (Table 1). For the dichotomous dimension, the KR-20 values were calculated and found to be .90.

Table 1. Reliability statistics for SAPS dimension

Dimension	Cronbach's Alpha	N of items
Desirability	.90	18
Likelihood	.96	18

Results

Language learning motivation

As for the first step, the Wilcoxon Signed Ranks test revealed that, on a componential level, there were no statistically significant differences between participants' pre-test and post-test scores (Table 2).

Table 2. Pre-test and post-test scores of LLMS on componential level

Component	Test	*M*	*Sd*	*Z*	*p*
communication	pre-test	4.67	.63	−.06	.94
	post-test	4.69	.60		
instrumentality	pre-test	4.44	.76	−.30	.75
	post-test	4.48	.61		
functionality	pre-test	4.21	.67	−.80	.42
	post-test	4.24	.74		
interest in culture	pre-test	3.51	1.00	−1.82	.06
	post-test	3.37	1.00		

Note. N=72.

In addition to the component-level differences between the pre-test and post-test scores of participants, the Wilcoxon Signed Ranks test was repeated to see an item-level outlook of the scale. The results of the test showed that two items in the communication and functionality components pointed to statistically significant differences between pre-test and post-test scores (Table 3).

As can be seen in Table 3, two items under communication and functionality components showed statistically significant improvement. The first item under the communication component of the scale was related to participants' willingness to gain the ability to speak with their English-speaking friends, indicating a significant improvement after the implementation of the module ($Z = -2.75$, $p < .001$, $r = .32$). Moreover, the item about English being part of a well-rounded education was given significantly higher regard after the implementation of the gamified module, indicating a small effect size ($Z = -2.41$, $p < .05$, $r = .28$).

Table 3. Item-level pre-test and post-test data of learners

Component	Item	Test	*M*	*Z*	*p*
communication	I want to use English when I travel to an English-spoken country.	pre	4.79	−.92	.35
		post	4.74		
	I want to be able to converse with English speakers.	pre	4.61	−1.26	.20
		post	4.50		
	I want to be able to use it with English-speaking friends.	**pre**	**4.46**	**−2.75**	**.00**
		post	**4.69**		
	I want to be able to speak more languages than just Turkish.	pre	4.85	.00	1.00
		post	4.85		
instrumentality	I need to study a foreign language as a requirement of my field.	pre	4.25	−1.14	.25
		post	4.15		
	I feel it may be helpful in my future career.	pre	4.71	−1.25	.20
		post	4.81		
	I need it to fulfill the university language requirement.	pre	4.39	−1.12	.25
		post	4.50		
functionality	I feel it is mentally challenging and provides mental exercise.	pre	3.72	−.10	.91
		post	3.69		
	It may make me a more qualified job candidate.	pre	4.60	−.58	.55
		post	4.54		
	I think foreign language study is part of a well-rounded education.	**pre**	**3.71**	**−2.41**	**.01**
		post	**3.99**		
	I feel English is an important language in the world.	pre	4.83	−.96	.33
		post	4.76		
interest in culture	I am interested in English culture, history, or literature.	pre	2.79	−1.07	.28
		post	2.67		
	I want to learn about another culture to understand the world better.	pre	4.24	−1.49	.13
		post	4.08		

Note. N=72.

L2 motivational self systems

When the dichotomous dimension of the scale was analyzed in terms of pre-test and post-test differences, the Wilcoxon Signed Ranks test revealed no statistically significant differences, either on the componential or the item level.

Concerning the desire dimension, similarly, the componential level of the scale did not produce any statistically significant difference. However, an item-level analysis generated a statistically significant decrease in EFL learners' desire to be a knowledgeable person in English. While they wanted to be knowledgeable in English in the pre-test (Mdn = 5), in the post-test (Mdn = 5), they were less willing to desire this situation for themselves (Z = −2.1, p = .030, r = .25). Moreover, the likelihood dimension of the scale did not indicate a statistically significant difference between pre-test and post-test scores of participants. However, similar to the desire dimension, students found it more likely

to be a knowledgeable person in the future before the implementation (*Mdn* = 4.5) compared to the likelihood shown in the post-test (*Mdn* = 4.0) (Z = −2.1, p = .029, r = .25).

Qualitative data results

When the most effective features of the modules related to motivational states and the self were discussed by the focus group members, the most recurring themes and codes were generated as presented in Table 4.

Table 4. Focus group opinions regarding motivation and self aspects of the module

Themes (f)	Codes (f)
content (6)	Text topics (1), articles (1), different activities (2), enjoyable (2)
learning opportunities (7)	**revision and practice (3), written assignments (1), learning strategies (2), permanent learning (1)**
game mechanics (6)	competition (2), challenge (1), immediate feedback (1), award system (1), technology integration (1)
feedback (2)	**peer comments (1), others' perspectives (1)**

Note. f is the frequency and recurrence of items in the qualitative data based on participant opinion.

Considering the results obtained from the content analysis of the responses, it was found that codes were arranged under four main themes as follows: learning opportunities (f=7), content (f=6), game mechanics (f=6), and feedback (f=2).

Regarding the learning opportunities (f=7) as the most recurring theme, students mentioned the effectiveness of revision and practice (f=1) and written assignments (f=1) while teachers underlined learning strategies (f=2), revision and practice (f=2), and permanent learning (f=1). For revision and practice (f=1), Student 3 (will be referred to as S from this point forward) remarked, "quizzes at the end of the topic and places where we write our ideas about the topic" as the most effective element in the module while Teacher 2 (hereafter T) stated about the issue, "...students who were bored in the main lessons in the grammar section enjoyed more with short reminders and practices in these modules.", highlighting the effect of revision and practice element provided by the module. Regarding the learning strategies (f=2) mentioned twice by teachers under the learning opportunities theme, T1 stated, "...and that the students experienced their own learning methods.", signifying the importance of the ability to set strategies for language learning offered by the module.

Another common theme generated by the responses of teachers and students was the content (f=6), for which students generated the codes of text topics (f=1), articles (f=1), and different activities (f=1) and teachers the codes of enjoyable (f=2) and different activities (f=1). Different activities code was mentioned by both groups about which T3 said, "The different and fun activities in the module attracted the attention of the students.". The code of enjoyable (f=2) was mentioned by two teachers in the group one of whom (T2) remarked

about it, "…competitive atmosphere that motivates students made the learning process enjoyable…".

For the student group, the feedback (f=2) theme was prominent as they mentioned codes such as peer comments (f=1) and others' perspectives (f=1). About peer comments, S6 stated, "Being able to see the comments written by other people in the class during the lesson…". In the continuation of the same sentence, S6 also highlighted the effect of others' perspectives by saying, "… comments we write express an opinion and we can look at the situation from a wider perspective.".

The theme of game mechanics (f=6) mentioned by teachers was made up of codes such as competition (f=2), challenge (f=1), immediate feedback (f=1), award system (f=1), and technology integration (f=1). These to-the-point comments generating the codes addressing game mechanics are potentially the results of gamification training given to teachers, which raised their awareness of gamification terminology. Regarding the competition (f=2), T4 stated, "The thing that kept students fit were the little challenge and motivation awards in front of them.", at the same time, accounting for the effectiveness of the award system (f=1) code. T4 also stated in the same sentence, "…getting instant feedback with constant mini tests…", emphasizing the effect of immediate feedback provided by quizzes integrated into the module. Finally, with the response, "…students were intertwined with technology…", T1 mentioned the positive impact of technology integration offered by the module.

Focus group members discussed the changes in the communication and functionality features in the LLMS and provided valuable insights into the statistical results. Almost all members credited the online interaction feature of the modules for increasing students' motivation to learn English to communicate with foreign friends. This aligns with Canvas's aim to foster interaction within each module. Additionally, gamified environments naturally encourage participants to interact online to complete tasks.

Regarding this outcome, S5 commented, "Their belief they can speak with foreign people became higher. Online discussion in the module might help this." T2 added, "…because they had opportunities to communicate with each other (online), and today's students mostly find friends online. Also, module contents that included many cultural topics might have affected them." These statements suggest that online interaction and cultural elements in the modules shaped learners' opinions, making them view the interaction as enjoyable and essential for learning English and reducing their fear of communicating in English.

The second significant improvement was students' belief that learning English contributed to a well-rounded education. Focus group interviews revealed that learners appreciated the benefits of learning English through online education provided by the modules. The content, tailored to students' needs, helped them see the global aspects of English and its practical benefits. S5 stated, "When the module is prepared according to students' needs and with a plan and organization, the module becomes more well-rounded. This makes

students feel like that." This indicates that well-designed modules addressing students' needs can make learning English part of a well-rounded education.

Teachers also commented on the changing definition of a well-rounded education after experiencing the module. T4 remarked, "Because we added new entries to foreign language education [with the module], their definition for the 'well-rounded' changed." Gamified modules showed learners that English education complements their entire educational experience and will benefit their future academic lives.

Considering the decrease in the desire to become a knowledgeable person in English, focus group responses mostly referred to reasons such as personal doubt, feeling of insufficiency, little chance to practice English in daily life, realization of their true performance, and indecisiveness.

S3 discussed, "They probably desired becoming a knowledgeable person less because they saw it (English) a social and daily life language rather than seeing it as a lesson.". To further the discussion, T2 commented, "They might've come up with this idea because communicating in online platforms was easier than communicating face to face.", underlining the importance of functionality and communication over accuracy and knowledge.

Finally, while some interpreted the situation as the shifting focus of the learners as exemplified, some put the responsibility on the language anxiety and reduced attendance to the lessons toward the end of the semester. Two teachers in the focus group (T3 and T4) clearly stated that students' desire to become knowledgeable people in English dropped because their attendance in the classes decreased in some groups and some students were prone to being anxious about their English performance.

As for the last outcome of the SAPS, it was found that learners who participated in the study found it less likely that they would be knowledgeable people in terms of English after the intervention. In most cases, focus group members brought doubting the self into the discussion because they believed that realizing how vast the English language was caused students to become more conscious about their performance and knowledge. Some students may have compared themselves with their overachieving peers and felt more inadequate. Concerning this, S4 said, "They might believe they are not enough because they saw other people's success. So, they might lose motivation and start to like learning less.". This comment is very aligned with the results of some studies revealing that competition and cooperation balance determines the motivation of students.

Discussion

Motivational outcomes of the study

As for the statistically significant improvements in the scale, the increase in communication and functionality features, and students believing more strongly that learning English meant they received a well-rounded education in their schools can be interpreted from different perspectives.

Comparing the results with the findings of other related research in the literature, a striking similarity to Yashima's (2006) findings was found in the communication level improvement of the participants of the study. Yashima (2006) revealed that Japanese EFL learners wanted to form international friendships and relations with English speakers because their culture interested them. Interestingly, participants in this study showed statistically significant improvement in one communication-related item. They felt motivated to learn English to speak with foreign friends or speakers of English more after the implementation of the modules. In other words, they became motivated due to integrative reasons rather than instrumentality (Dörnyei & Csizér, 2002).

Another perspective on the increase in student motivation concerning intercultural communication is the globalized mindset emphasized by Ryan (2006). Similar to the motivational outcomes of this study, Ryan (2006) found that learners can picture themselves using English in a clear image now because the structure of societies changes to become more global and interactional. In addition, Sung (2013) suggested that identifying oneself with the target culture motivates learners to acquire more English-related materials and put extra effort into learning the language. Moreover, as can be seen in this study, once the learners feel integrated with their life goals, they are more likely to preserve their motivation (Papi & Hiver, 2020). Learners in this study showed an increase in communication and function aspects of motivation because the modules most likely helped them to understand the importance of English in communicating with other cultures and as a part of quality education.

In terms of the delicate balance to keep regarding game elements, Flores (2015) and Furdu et al. (2017) mentioned the risk of damaging the beneficial nature of gamified settings by the ineffective use of rewards, badges, and leaderboards. Useful as they are, losing the balance may cause learners to lose interest in learning when they feel they may not catch the high-achievers or collect as many badges and rewards as the others did. Moreover, Pardoel et al. (2019) proposed that learners need constant scaffolding even though they tend to enjoy cooperation to a great extent. Therefore, a gamified design beckons level adjustment and a consideration for task difficulty. It should also be considered that even though game elements directly relate to learners' behavioristic drives, such items may not have desired effects on how learners perceive the importance of the English language (Rivera-Trigueros & Sánchez-Pérez, 2020). Considering that EFL learners' motivation to communicate in English showed an increase in the study, it can be implied that cooperation with teachers to understand what learners might need helped maintain the balance between gamified elements in modules. As a result, the importance given to English and communicating in English improved.

Ryder and Machijewski (2017) revealed affirmative impacts of a gamified FL course on both teacher and learner engagement. However, challenges such as continuity of mission or task creation, keeping learners notified of changes in design, and the management of tasks over a long period were apparent. Furthermore, it was found that team-competition situations gave more enjoyment to learners compared to purely cooperative and purely competitive

gamification. Cooperative sides led users to recommend gamified apps to others on a greater scale (Morschheuser et al., 2019). On another note, Pinto et al (2021) suggested that the integration of new technological means must be introduced as supportive activities, not a replacement for traditional learning settings because learners were observed to benefit from both. Regarding such risks, it can be said that this study yielded positive outcomes because no similar drawback was reported by EFL learners.

Outcomes regarding the concept of possible self

Considering the decrease in the desire to become a knowledgeable person in English, it can be discussed that learners might have given more importance to the functionality of the English language rather than focusing on personal knowledge.

Just as the focus group discussions suggested, this can be explained by learners' realization of their possible insufficiencies. Yet again, no matter how negative this outcome may seem, it can be interpreted as a promising result because the awareness of one's lack indicates that one knows to work harder to succeed and reach their language goals.

Although self-realization and responsibility issues can be discussed in the context of these knowledge-related desires and likelihood opinions, this decrease in students' desire and vision for being a knowledgeable person in English indicates the necessity of involving more visualization practices (Chan, 2014; Mackay, 2014; Magid, 2014; Sato, 2021; Sato & Lara, 2019). These outcomes show that when learners are in tune with their true capabilities and what is required from them in a scenario where they are to use the language, they might become more motivated to learn the language as found in this study. This finding has similarities with the studies conducted by Chan (2014) in terms of the effect of visualization on modifying the behaviors of students while picturing their ought-to selves and possible selves. In addition, as Mackay (2014), Magid (2014), and Magid and Chan (2012) found, providing students with opportunities to listen to scenarios from future language use or practicing assumed situations helps them understand their language capabilities and set goals for language learning.

As in the case of this study, it is apparent that many students never had the opportunity to picture themselves using English in the future as directed by their teachers. This can be the reason why their knowledgeable person desires and likelihood opinions showed a decrease because they regarded English lessons as something to experience at school and never use again. Based on student and teacher comments (S3 and T2) reported in the results section, they came to understand that the English language was beyond a classroom event and real-life situations required more skills in communication. Moreover, activities in modules such as job applications, profession-based role plays, cultural discussions, and the creation of future job environments made them realize that there was more to the English language. Therefore, it is only natural for them to feel insufficient in language-related knowledge and to expect less

from themselves in terms of future knowledge because they simply became aware that they had a long way to go to reach the ideal L2 self. In a similar sense, Sato and Lara (2019) and Sato (2021) detected that the ought-to self of learners showed a negative correlation with their frequency of using the target language. This can indicate that when learners feel pressure to use the language and become successful, they tend to lose motivation to practice the language. Fluctuations discussed in the interactional findings might be indications of where visualization practices should be more frequent, and students need to be motivated more. Furthermore, it can be inferred from the findings that many students feeling more independent, responsible, and motivated can be explained by the module activities that lower the pressure on students, if not eliminate it.

In terms of insufficiencies and negative projections related to knowledge experienced by learners, these outcomes of the study had similarities to the findings of Borg and Alshumaimeri (2019) revealing that if learners are not knowledgeable about studying properly, or the language itself, the process can be overwhelming for them, which might eventually lead to low motivation and negative self-imaging as in this case. However, as they suggested, this low motivation can be overcome with the help of their teachers. In this context, it can be inferred that teacher support and sensible module design can help overcome desperation. After all, autonomous and motivated learners are created after an arduous process of learning design, greatly contributed by teachers themselves.

Practical implications for practitioners or educators

The results provided some key practical implications that would highlight the essence of the study. Firstly, the results emphasize the necessity of fostering motivation for intercultural communication. In gamified platforms, modules that promote cultural discussions, profession-based role plays, etc., can effectively enhance integrative motivation.

Secondly, it can be noted that online gamified learning environments require careful balance to avoid discouragement among learners, especially when rewards and competition are involved. Difficulty levels and the relevance of tasks are critical to keeping learners engaged.

Thirdly, including visualization practices such as imagining future job applications or role-playing professional scenarios can help students develop a clearer image of their 'ideal L2 self'. This way, students can become aware of their language insufficiencies, paving the way for educators to emphasize the value of growth rather than focusing on failure.

Lastly, activities that reduce the pressure on students (e.g., non-graded interactive activities) can foster a sense of independence and responsibility among learners, leading to higher motivation.

Conclusion

The motivational outcomes of the study indicate that while there was no statistically significant change in learners' motivation towards learning English at the componential level based on their LLMS scores, two specific items revealed significant improvements. Firstly, learners exhibited increased motivation to learn English to communicate with foreign friends after implementing the module. This result can be attributed to the positive impact of online interaction features within the modules, aligning with the intentions of the Canvas platform to foster interactional experiences. Secondly, the study found that students attached greater importance to English language learning as part of a well-rounded education after their module experience. This shift in perception highlights the role of gamified modules in enhancing students' understanding of the global aspects of the English language and its functional significance within their education. These findings are in alignment with the existing literature on integrative motivations and the influence of a globalized mindset on language learning.

Turning to the outcomes regarding the concept of possible self, the study revealed intriguing results. Learners' views of their possible selves did not significantly improve after the module; instead, they demonstrated a notable decrease in the desire and likelihood of becoming knowledgeable in English. However, this decline should not be viewed solely as a negative disposition but rather as an opportunity for personal development and self-realization. Learners may have turned their focus from the pursuit of knowledge to valuing the functionality and communication aspects of the English language, a shift possibly influenced by the gamified, interactive nature of the modules. Additionally, anxiety issues and reduced attendance towards the end of the semester might have contributed to this decline. Nevertheless, this awareness of their limitations could catalyze increased effort and motivation, encouraging students to work harder to achieve their language goals.

This study underlines the complex interplay between motivation, language learning, and the concept of the possible self. While certain aspects of motivation exhibited notable improvements, learners' views of their possible selves experienced changes that necessitated careful consideration. The findings emphasize the importance of involving visualization practices, teacher support, and sensible module design to address students' shifting perceptions of their language learning journey. Moreover, these results offer valuable insights into the dynamic nature of motivation and self-concept in language education, contributing to a deeper understanding of how learners navigate the multifaceted terrain of language acquisition.

In light of these, several suggestions can be made to guide further studies. Firstly, when designing gamified modules, researchers/designers should connect the pedagogical tasks to real-world applications, encouraging learners to view English as a tool for global interaction and communication rather than merely a classroom subject. Secondly, content should offer teachers and learners constant scaffolding and feedback opportunities to support learning. Thirdly, while gamified and technological tools are valuable, they should complement

rather than replace traditional learning methods. A blended approach can provide learners with a more holistic and supportive learning environment.

Finally, further research can focus on collecting qualitative data from more participants to obtain a more comprehensive outlook on the motivational situations. This process can also require longitudinal research methods in which the intervention can last longer, and learning permanence can be checked. In short, it should be noted that gamified designs yield great potential in measuring the motivation of EFL learners, especially their 'self' constructs, which is not a well-researched concept.

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Competing interests

The study does not include any situation or procedure that would cause any conflict of interest with any parties.

Ethics declaration

This study was approved by the Ethical Committee of Canakkale Onsekiz Mart University with approval number, 08/20, on 29/04/2021.

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Appendix A

Language Learning Motivation Scale (LLMS) by Ely (1986) Adopted to the English context

Please rate the degree of importance to you for the following reasons.
(1. Strongly disagree……4. Definitely agree)

I attend English classes with interest because:

1. I want to use English when I travel to an English-speaking country.
2. I need to study a foreign language as a requirement for the field I will choose.
3. I want to be able to converse with English speakers.
4. I am interested in English culture, history, and literature.
5. It may be helpful in my future career.
6. I need it to study abroad.
7. It is mentally challenging and provides mental exercise.
8. I want to be able to use it with my English-speaking friends.
9. I need it to fulfill the foreign language requirement of the university I will attend.
10. I think it will help me to understand English grammar better.
11. English classes are less demanding than other courses.

12. I want to be able to speak more languages than just Turkish.
13. I want to learn about another culture to understand the world better.
14. English may make me a more qualified job candidate.
15. I think foreign language learning is part of a well-rounded education.
16. I feel English is an important language in the world.

Appendix B

Scale to Assess Positive Selves (SAPS) by MacIntyre et al. (2009)

	Statements	**Describes me now**	**Is this desirable or undesirable future? (1=undesired, 5=desired)**	**How likely is this in the future? (1=not likely, 5=very likely)**
1	Understand native English speakers' views	Yes / No		
2	Think like native English speakers	Yes / No		
3	Be a knowledgeable person	Yes / No		
4	Be a cultured person	Yes / No		
5	Understand English literature	Yes / No		
6	Appreciate English art and literature	Yes / No		
7	Feel at ease with native English speakers	Yes / No		
8	Friendships with native English speakers	Yes / No		
9	Feel respected because I speak English	Yes / No		
10	Enjoy speaking English	Yes / No		
11	Want to learn many languages	Yes / No		
12	Participate freely in activities of other cultural groups	Yes / No		
13	Act like native English speakers	Yes / No		
14	Meet and converse with native English speakers	Yes / No		
15	Work at a job using English	Yes / No		
16	Travel to English speaking areas / countries	Yes / No		
17	Go to English films in the original language	Yes / No		
18	Read newspapers and magazines in English	Yes / No		

Appendix C

Focus group study questions

1. What are the most effective features in gamified modules in terms of increasing motivation and improving the self concept?

Questions about motivation test results

2. After a gamified English learning process, students wanted to be able to use English with their English-speaking friends more. What can it mean if such motivation was improved after the modules?

3. After the Canvas modules, students started to believe more that learning a foreign language meant they received a well-rounded education. Why do you think they started to believe this more?

Questions about possible selves test results

4. Why do you think there was a decrease in students' desire to become knowledgeable people about English after the gamified practice?

5. Why do you think students thought it less likely to become knowledgeable people about English after the modules?

Appendix D

Online teacher meetings for design, redesign, modification, and discussion