Exploring Vietnamese English as a foreign language learners' interaction in grammar learning via educational games: Benefits and drawbacks

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Abstract:

Because there is frequent insufficiently understandable input for the acquisition of second languages, grammar is crucial in the context of English as a foreign language (EFL) education and different teaching strategies should be used for grammar courses in order to suit the demands of the students and to encourage their enthusiasm in learning. Among the alternative teaching methods for grammar lessons, using educational games is reported as being a useful replacement for the typical teaching procedure following guidance and practice from course books. Educational games can foster connection, engagement, and cooperation in language learning. The study participants include 42 non-English major students at Binh Duong University's - Ca Mau Campus. The study applied a mixed-method research design to investigate the potential benefits and drawbacks of using educational games to teach grammar, as well as how much interaction learners are likely to experience from these resources. Quantitative findings from descriptive statistics of a 10-item questionnaire revealed that the opportunities to interact with a teacher, friends in group collaboration, competition, and discussion are highly evaluated by the participants. Meanwhile, qualitative findings firstly indicated similar learners' perception of the use of educational games as the means to enhance classroom interaction; however, the main challenge for using educational games is the imbalance in learners' proficiency level and the lack of teachers' control. The study's teaching implications are associated with learning styles, cultural context, and learning preferences as three potential contributors to the extent to which educational games could improve the level of interaction between students and grammar instructions for EFL learners.

Keywords: **educational games, English as a foreign language learners, grammar, interaction, motivation.**

Classification numbers: **3.1, 3.2, 9.1**

1. Introduction

Learning grammar was considered as the most challenging aspect of learning English and understanding its principles helps language learners develop their communicative abilities [1]. However, acquiring grammatical rules could seem like a trade-off effect in terms of comprehension and production [2] and this could result in the relative poor learning achievement for non-native English learners. Many researchers have investigated the causes of poor learning achievement, identifying key factors such as teachers' and students' attitudes as well as issues with textbooks, syllabi, and curriculum design.

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In the Vietnamese teaching context, students often learn passively in the classroom as they must follow whatever the teachers tell them to do [3]. Many students claim to find grammar lectures boring and do not want to invest the time necessary to learn them because they feel that they do not have enough opportunities to exchange ideas with their peers or to be ready to respond to inquiries from the teachers. Due to the old-fashioned viewpoint on teaching and learning languages, teachers pay less attention to the quality of teaching and consider that grade their students acquire to pass accurately reflect their ability in teaching [3]. Therefore, it can be concluded that Vietnamese students may receive the best test scores, but they fall short of demonstrating their greatness in real-world performance [4]. This reason calls for numerous attempts to turn teaching grammar into a fun, creative, engaging and beneficial learning activity and this study will place the focus on using educational games as the main teaching method to arouse Vietnamese EFL learners' interest in grammar learning.

2. Research objectives

The study has two concrete objectives as follows:

- To discover Vietnamese EFL learners' interaction level towards the use of educational games in learning English grammar.

- To investigate possible drawbacks of using educational games in grammar learning for Vietnamese EFL learners.

3. Literature review

3.1. Games in grammar learning

Learning languages through games is an engaging retreat from a monotonous grammar lesson which promotes accuracy and makes use of the variety of grammatical expressions available in English. As highlighted by M. Briewin, et al. (2013) [5], when context is given to teach certain grammatical points, games can arouse students' interest and help them to acquire knowledge of locations, people and events as well as simplify circumstances which would otherwise be abstract and challenging to convey in words.

J. Hadfield (1998) [6] distinguished two categories of language games: (1) linguistic games that emphasise correctness and (2) communicative games that involve information exchange or spotting discrepancies between two or more images. R.G. Jones (2014) [7] claimed that games can provide an immersive setting where the target language is used extensively. When participating in language games, learners would take turns and play parts so that they are able to build up their self-confidence and to broaden their perspectives on learning English. Considered to be a productive technique in the language class, the use of games will improve learners' interaction with the subject at hand, and this subsequently increases the acquisition of grammar.

3.2. Purposes of games

Combined with a relaxing atmosphere in the classroom, games help shy students express themselves in a comfortable way and even the more introverted students prefer playing games to participating in traditional activities because games promote a comfortable and stress-free environment [8]. Furthermore, when games are used, they lessen learners' anxiety about learning grammar structures of the language [9] while increasing the level of enjoyment [10] and engagement level in language acquisition [11]. The use of games in grammar instruction also links with the mental state that learners experience when they perform difficult learning tasks such as difficult grammatical concepts; therefore, learners should try to work out the grammar issues in order to finish the games and compete with their peers in the class [12].

Using games in grammar teaching is also an interactive alternative method of teaching and sharing language information. Linguistic researchers supposed that the combination of games provides a friendly and cooperative environment among learners in mastering grammatical concepts. Offering learners such options will stimulate them to comprehend grammar mastery and build foundational grammar skills [13, 14] believed that teaching grammar through games is a successful and effective approach because during the participation in games, learners concentrate more on the concepts of the target language and subconsciously acquire the grammatical rules.

3.3. Previous studies

This section reviews previous research on the use of grammar in teaching and learning grammar. S.S.M. Siska (2016) [15] investigated the use of games under the implementation of the CLT (communicative language teaching) approach in teaching grammar. The research was completed in the grammar classroom that consisted of 20 students from STKIP PGRI West Sumatera institution as main participants of the research. The researcher used observations and interviews as the research instruments to get all the supported information or data related to the research. The findings of the research confirmed that games are among the best ways to increase learner's motivation, interaction, and language acquisition so that students can consciously acquire grammar in a fun and supportive learning environment.

Another research conducted by H. Hashim, et al. (2019) [16] examined the usefulness of employing online games to improve Malaysian EFL learners' grammar. The sample of the students included 30 students at a secondary school. A quasi-experimental design and pre and post-test were applied as research instruments for the study. The intervention used various online language games such as: *Powerpoint*

Challenge Game, Socrative and *Kahoot*. The findings revealed that gamified learning was successful in terms of grammatical mastery as learners performed better when they used language oriented games to learn grammar. The research also pointed out that motivation and interaction were two elements that contributed to successful learning.

In the context of high school, J.M. Al-Jarrah, et al. (2019) [17] conducted a research to measure the value of using educational games in improving English grammar proficiency among eleventh-grade students at a high school in East Jerusalem. The participants of the research were divided into experimental group as those learning grammar via games during two months and a control group as those learning via traditional classroom methods. The findings demonstrated that playing games gave students an authentic environment to study and practice grammar in.

Furthermore, C. Lien, et al. (2017) [18] conducted a study to measure the advantages of using games in teaching English grammar for first-year students who are English majors at Dong Nai Technology University. The participants of the study included 25 first-year university students who attended grammar classes twice a week. The study used both quantitative and qualitative methods to collect data. The findings indicated that students have a favourable attitude towards grammar lessons.

Additionally, N.H. Ngoc (2021) [19] completed a research to find out the effectiveness of utilising games in teaching English grammar to students at Dong Nai Technology University. The participants of the study were 30 first-year English language students. The results after analysing data showed that learner's attitudes in learning English grammar was positive after teachers utilised games in class. Since the level of learning motivation was also enhanced, as they became more active in self-study and in classroom activities.

4. Research methodology

4.1. Research design and questions

A mixed-methods design was employed in the present study. This approach involved collecting both qualitative and quantitative data sets to obtain a more holistic understanding of the research problem than either method alone [20]. The researcher used a questionnaire to examine the participants' interaction regarding the use of games to enhance their grammar knowledge. To further explore the learners' interaction in depth, 10 students were selected for the next stage. The semi-structured interviews enabled the researcher to tailor their questions based on the participants' answers and to fully grasp the participants' views [21].

Based on the stated research objectives in section 2, two research questions are formulated as follows:

RQ1: How do Vietnamese EFL learners evaluate the interaction level after the intervention of learning grammar with educational games?

RQ2: What are possible disadvantages of learning grammar with educational games as identified by Vietnamese EFL learners?

4.2. Research site and participants

This research was conducted at Binh Duong University's - Ca Mau Campus (BDU-CM) where 42 Vietnamese EFL students were recruited as participants using convenience sampling. This sampling method was suitable for the research context and due to accessibility of the research site. The participants were non-English majors in their second year of university, ranging from 18 to 20 years old. They had different academic backgrounds in fields such as Information Technology, Economic Law, Civil Engineering. They also had a similar level of English proficiency with 6 to 10 years of learning experience. The rationale for the criteria was that the participants were expected to have adequate grammatical knowledge and learning experience to engage in educational games (Table 1).

Table 1. Demographic information of participants.

Information		Number	%
Gender	Male	23	54.8
	Female	19	45.2
Age	18-20	35	83.3
	21-25	7	16.7
	25+	0	0
Time spent learning English	1-5 years	0	0
	6-10 years	31	74.0
	More than 10 years	11	26.0
Major	Information Technology	22	52,3
	Economic Law	11	26,1
	Construction Engineering	9	21,6

4.3. Research scope and instruments

In this study, the scope of educational games is understood as the practice of using games which assist learning activities in a specific sequence as designed in a lesson plan. Both quantitative and qualitative methods were implemented to answer the two stated RQs through the use of a questionnaire and an interview.

This section explains the questionnaire that was used in this study to see how learners interacted with games for learning grammar. The questionnaire had two main parts. The first part was a short introduction of the research goals, background information, and English learning experience. It asked the participants about their age, gender, level of education, and how long they had been learning English. It also explained the purpose and procedure of the study and assured the participants of confidentiality and anonymity. The second part was 10 questions about the grammar topics covered in the training program. The questions were designed to measure the participants' attitudes, preferences, and perceptions of using games for learning grammar. The questions were on a 5-point Likert-scale design categorised from 1 to 5, namely, strong disagree (1), disagree (2), neutral (3), agree (4)

and strongly agree (5). The questionnaire content was based on and modified from the following source H.Y. Phuong, et al. (2017) [22], H. Hashim, et al. (2019) [16], L.C. Cuesta (2020) [23]. The researcher chose to adapt these existing questionnaires because of time constraints and because previous studies had shown valid and reliable results of using games to enhance students' interaction in the classroom. After the stage of data collection, the raw data collected from participants was coded and organised prior to the stage of running statistical tests using SPSS Statistics version 22.0. Two main statistical values to be used for data analysis in the present study included the value of means (M) and standard deviation (SD), which were known as the average results from the participants' responses and the variation between the observed values and the mean value respectively. The value of means scores (M) in each survey item was interpreted as follows:

Five-point Likert-scale of extent:

+ M= 1.00 - 1.80: Never true = Very low

+ M= 1.81 - 2.60: Rarely true = Low

+ M= 2.61 - 3.40: Sometimes true = Average

+ M= 3:41 - 4.20: Often true = High

+ M= 4.21 - 5.00: Always true = Very high

Five-point Likert-scale of agreement:

M= 1.00 - 1.80: Strongly disagree

M= 1.81 - 2.60: Disagree

M=2.61- 3.40: Neutral

3.41 - 4.20: Agree

M= 4.21 - 5.00: Strongly agree

Meanwhile, there were 10 participants who volunteered to be in the interview stage. The interview was used as a mean to specify learners' perspectives on learning grammar through games, and to note the advantages and disadvantages of the intervention. All questions were formulated both in English and their mother tongue so participants could express their opinions more freely and accurately. The interview stage involved 10 participants who had volunteered to participate in this phase of the study. The purpose of the interview was to elicit the learners' views on the effectiveness of using games to learn grammar and to identify the strengths and weaknesses of the intervention. The interview questions are presented in detail in Appendix B: Interview questions for students.

4.4. Validity and reliability

The test of reliability was conducted using Cronbach's alpha value as the measurement for consistency and equivalence across participants' responses. The results of reliability test showed that Cronbach's alpha coefficients for ten items were 0.942, indicating that the items have relatively high internal consistency.

For the validity of the instruments to be used, the researcher consults with five experienced EFL teachers who are also working at BDU-CM to check its suitability and the pertinent topics. They were asked to evaluate each item on the instrument in light of its suitability and relevance to the study's overall objectives. They gave advice and suggestions about organisation and variety of questions in both the questionnaire and interview. Their comments and suggestions were considered and led to the reformulation of some items for the sake of coherence and conciseness.

5. Results

5.1. The interaction level of learners after the intervention

Considering the scope of RQ1, this section will only report quantitative findings from the responses of 42 participants in the experimental group. Data in Table 2 reflects the descriptive statistics of learner's perspectives towards their interaction with educational games in grammar class:

Table 2. Descriptive statistics of learners' interactions.

No.	Items	N=42	
		M	**SD**
1	Grammar games provide me with extra opportunities to interact with my classmates.	4.36	.879
2	I believe that employing games in English grammar lessons improves group collaboration.	4.26	.912
3	When we play games, my friends and I can help each other correct grammar mistakes.	3.93	.677
4	Through games, the teacher assists students in studying grammar more efficiently.	3.93	.894
5	When I'm learning English grammar, I prefer to compete with my friends by playing games.	4.02	.897
6	I enjoy discussing English grammar rules with my friends while playing language games.	4.02	.975
7	I find the contents of the English grammar class are quite simple after playing games.	3.95	.882
8	Learning English through games allows me to communicate more with my teacher.	4.21	.898
9	I am more engaged by the grammar materials when I play language games.	3.90	.790
10	During grammar class, teacher often praises our responses using games.	3.88	.889
	Total	4.04	0.87

The highest mean score in the questionnaire is for participants' expression that grammar games provide them with extra opportunities to interact with their classmates (item 21: M=4.36, SD=.879), to be followed by the belief in employing games in English grammar lessons to improve group collaboration (item 22: M=4.26; SD=.912). Data from the interview also addressed similar findings where one student (S2) assumed that language games allow students to interact and work together and that the expected outcome of engaging in competition is that they can compare and share knowledge in a relaxed environment. Another student (S5) expressed the benefits of games in individual or group activities especially when interacting with classmates or at least with those sitting close by (S5).

A great number of participants reported that when playing games, learners can help each other correct grammar mistakes (item 3: M=3.93; SD=.645). Similarly, the respondents agreed with the idea that through games, the teacher assists students in studying grammar more efficiently (item 4: M=3.93; SD=.894). In accordance with the questionnaire, one participant also mentioned that:

"Absolutely! Grammar games allowed me to communicate freely with my teacher without feeling embarrassed. I can ask questions about the topics at hand or discuss any problems that I was facing in learning grammar" (S2).

Additionally, the overwhelming majority thought that when they were learning English grammar, they preferred to compete with their friends by playing games (item 5: M=4.02; SD=.897). With regard to item 6, most respondents admitted that they enjoy discussing English grammar rules with their friends while playing language games (M=4.02; SD=.975). Two students (S9, S10) also expressed their opinions:

"Definitely, games can help students to develop collaboration skills. I have to think really quickly and compete against my classmates. And I also can learn different learning styles from my friends, one might learn by this way, and another might learn another way" (S9).

"I think games help improve the relationship between classmates and make it more comfortable towards each other; the teacher usually mixed the groups' members, so I can interact with more people from the other side of the room" (S10).

It can be found that the majority of the students generally agreed with the statement that they found the content learning of English grammar is at ease after playing games (item 7: M=3.95; SD=.882). Similarly, the same number of students perceived that learning English through games allows them to communicate more with the teacher (item 8: M=4.21; SD=.898) as how one student (S1) indicated:

"Learning grammar through games, I feel that the atmosphere is quite comfortable, so then the studying is enjoyable. I feel the distance between the teacher and students is shortened as I can communicate with her naturally" (S1).

The result of the two last questionnaire items revealed most of the students manifested their agreement that they were more engaged by the grammar materials when they played language games (item 9:M=3.88; SD=.790) and they also concurred with the statement that teachers often praise their responses using games during grammar class (item 10: M=3.88; SD=.889). Here are two obvious opinions of the students in the interview (S1, S2):

"I was quite interested in the grammar topics when I learn them via games, the teacher can explain the materials in an understandable method, then I can understand the lesson very quickly" (S1).

"Through games, I can learn knowledge out of book. It makes learning enjoyable rather than just tedious, thus in my opinion, it is really appropriate" (S2).

The data from the above questionnaire showed that games make learners have full interactions both within group work and within the whole class. As a result, the learners more became active to participate in pair work or group discussion to find the best solution to the issues they were encountering. In addition, the responses from the learners also emphasised that teacher-student interactions are positively built when the learners are involved in the learning process. Consequently, learners have a more advantageous platform through those kinds of interactions which causes them to have a useful and meaningful learning process so that they engage more with the grammatical materials to acquire grammatical competence.

5.2. Drawbacks when using educational games in class

Using games to teach grammar also imposes certain drawbacks. Because of the various levels of proficiency, sometimes the instructions may be misunderstood by the learners and this leads to chaos and time waste in the classroom. It is similar to how S2 mentioned in the interview data:

"The disadvantage of language games, in my opinion, is that not all students always understand the rules of how to play. This could disrupt the class and waste time by causing confusion, inappropriate behaviour, loudness, and disruption" (S2).

On the other hand, teachers would lose control of the class if there was chaos in the classroom, making it impossible for them to monitor classroom. Some students could be overly aggressive competitors who disturb other classmates much like how one student (S4) reflects an opinion on the drawbacks of bringing games to the class:

"I believe that grammar games bring many benefits for students. However, it is undeniable that the games we use to teach grammar could work well in one class but not in another. Due to the different levels of students, some of them may be troubled by their weaknesses, and they may also find the game to be uninteresting" (S4).

Finally, since "some students may be more receptive to learning from games than others due to the different learning styles among them" (S10), this supports the idea that not all types of games can work for all pedagogical purposes. Furthermore, the effectiveness of games also depends on the teaching situations and learning styles.

6. Discussion

6.1. EFL learners' interaction in grammar learning through educational games

The study's findings provided compelling evidence for the use of educational games in English language instruction to raise EFL students' proficiency in the target language. The information from both questionnaire and interview illustrated that most learners in this

study had positive opinions about the use of games for teaching grammar. With the aid of grammar games, the classroom atmosphere becomes lively as students can take part in the games as well as contribute to the lessons. Language games tend to positively inspire learners to participate in grammar lessons as they are being supported by their enthusiasm for the games. During the use of educational games, every student moves around to exercise their brains and stimulate their memory centres, which encourages them to absorb and retain the information. At that time, shy students participated in joyful activities and forgot their shyness and fear. It is obvious that games have the power to captivate interest and engagement of the learners. In the same way, confidence is enhanced by the ability to use grammar correctly in context. Therefore, grammar should not be taught separately and teachers should implement teaching techniques which can engage EFL students with practice and usage of grammatical items.

Secondly, educational games encouraged greater classroom interaction and promoted enthusiasm among learners. These findings corroborated those of C. Riedel (2008) [24] who demonstrated the benefits of games in raising learner achievement through peer interaction and the assistance of games to help learners participate actively in the learning process. Such positive relationships are reflected in the learners' ability to build level goals and an ability to achieve success in each of these levels, which makes them feel self-satisfied. R.E. Slavan (1983) [25] found that in the absence of group incentives, group members would have no incentive to support one another's efforts to improve team members' learning. The participants in the present study seem able to build positive relationships among learning groups individuals through grammar games, which contributed to the academic growth in English learning. In the setting of educational games, the students with

higher ability levels in teams made an effort to support the lower ability members of their teams in order to improve their team's performance in grammar learning. Furthermore, the implementation of educational games also gives students a meaningful setting for communicative grammar practice and enhances the permanence and pleasure of grammar acquisition.

The responses from the questionnaire also stated that using games may increase interaction with their teachers through which the interaction comprised by the nature of classroom pedagogy and classroom behaviour is enhanced. By using games complementary to textbooks, students are more motivated to learn grammar since they see games as an engaging and practical teaching tool. Furthermore, findings in the present study are also consistent with a large number of studies that have indicated the effectiveness of games in the development of various learning outcomes. In particular, the findings of this study suggested that educational games could improve students' interaction to learn English grammar, which concurred with the findings of similar studies by M.H. Hamzah, et al. (2010) [26] and G. Yolageldili, et al. (2011) [27]. As a result, the employment of games in the classroom will not only alter the teaching atmosphere of the lecture, but will also energise the students and improve learning.

6.2. Difficulties and suggested solutions when applying educational games in class

The identified difficulties when using educational games in teaching grammar shared similar concerns with previous research. According to T.T. Hue (2020) [28], game activities cannot be successful if the instructions of games are not clear enough and make students become embarrassed because they do not understand the rules and procedures of the game. Moreover, there is not enough space in the classroom to reconfigure desks for students to sit or to move around in the class for practice and the teacher cannot

move around to control students. Depending on the circumstances, the teacher must be adaptable in order to correctly set up the class and maintain class management. Furthermore, the selection of a suitable teaching program and curriculum as well as the implementation of an integrative teaching approach and interactive grammar assessment should be further taken into consideration of maximising learning benefits of educational games in the classroom teaching context [29].

Due to varying learning styles of learners, teachers should maintain good classroom discipline and place students in appropriate positions for pair or group work because some game activities will cause excitement and noise [30]. This can assist the teachers to control the activity, limit noise and make sure that students use the target language to complete the communicative task. The teachers should make sure to designate a specified time and set a rule for the players as well as a specific code of discipline for the learners. Teachers should encourage learners to use English in class, to promote self-correction for errors, and to offer assistance when necessary.

The selection of appropriate gamified platforms is also another factor to enhance the effectiveness of educational games in grammar teaching. The platforms such as Wordwall.net [31], Educaplay games in Canvas platforms [23] and Quizizz [32] are designed with colourful backgrounds, interesting templates, music which results in the maximisation of learning motivation extrinsically and intrinsically for learners while acquiring grammatical knowledge. Furthermore, the selection of appropriate educational games is also important so that the learners can improve their learning performance. For instance, in the study of L.C. Cuesta (2020) [23], it was claimed that matching games and crossword puzzles facilitated learner's performance in using modals, gerunds, and infinitives as well as vocabulary topics of jobs and education.

7. Conclusions

Overall, findings from the present study support the view that educational games offer a more engaging and successful method of teaching grammar. The main reason is that the implementation of games in grammar teaching often comes from the teacher's consideration to find replacements for the traditional ways of teaching grammar. The replacement is often integrated with the contextual game-based learning approach in grammar course within the expected outcomes of assisting learners in their development of language systems for the construction of ideas and experiences in their learning context [33]. Another supportive reason to use educational games in grammar course is the positive attitude that Generation Z learners would gain in grammar learning, considering the current challenges in engaging students into the acquisition of grammatical knowledge [34]. Through the integration of educational games in grammar instructions, teachers can establish a more captivating and delightful learning atmosphere to maintain learners' attention and engagement.

Educational games offer learning motivation and self-efficacy. They also enhance grammar learning and can improve learner's interaction and overall learning achievement. Games foster communicative competence and integrate the acquisition of language skills into a meaningful setting. Findings from the present study also imply that adding interactive activities to the teaching curriculum can improve learners' perspective toward their teachers. Learners would gain more positive feelings when they observe how their teachers make efforts to vary teaching methods and learning activities that are pertinent to the specific course objectives and to the dynamic learning environment. Although there are certain drawbacks in teaching grammar using games, they can be more effective than the traditional drill and memory techniques when they are used wisely and properly.

Although the present study was carefully designed, there still remained some unavoidable limitations. One of them was the small sample size during one semester, which might have prevented the researcher from obtaining more reliable results. Another one was the focus on a semester program, which required the researcher to use language games intensively in the teaching process. Therefore, it is suggested that future research should involve a larger sample from different schools or institutions and a longer duration, allowing the students to adapt to the new technique and produce a more conclusive outcome. Moreover, to fully examine the effect of game-based activities on students' attitudes towards grammar learning and their language skills development, more comprehensive research with more participants and diverse methods are needed.

APPENDICES

Appendix 1: Questionnaire for students

This survey questionnaire is designed for the study "Vietnamese EFL Learners' Interaction towards the Use of Educational Games in Grammar Learning: Benefits and Drawbacks". Your assistance in answering the following questions will be extremely valuable and helpful. The questions in this section are designed to collect information on education, and your answers will be treated with complete confidentiality. Please accept my sincere gratitude for your time and efforts.

Part 1: Personal information

Tick (√) the option that is suitable with you

1. In what age group are you? Under 20 20-25 25 +

2. Your gender: Male   Female

How long have you learned English?

1-5 years   6-10 years   More than 10 years

What is your major?

Information technology

Constructing engineering

Economic law

Other:

....

Part 2: Learners' interaction level towards the use of games in learning grammar

Please tick the number for each statement to indicate the extent to which you agree or disagree with that statement.

	Statements	(1)	(2)	(3)	(4)	(5)
1	Grammar games provide me with extra opportunities to interact with my classmates.					
2	I believe that employing games in English grammar lessons improves group collaboration.					
3	When we play games, my friends and I can help each other correct grammar mistakes.					
4	Through games, the teacher assists students in studying grammar more efficiently.					
5	When I'm learning English grammar, I prefer to compete with my friends by playing games.					
6	I enjoy discussing English grammar rules with my friends while playing language games.					
7	I find the contents of the English grammar class are quite simple after playing games.					
8	Learning English through games allows me to communicate more with my teacher.					
9	I am more engaged by the grammar materials when I play language games.					
10	During grammar class, teacher often praises our responses using games.					

1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree.

Appendix 2: Interview questions for students

Date: …………………………

Location: ……………………

What's your name? And what's your major?

Have you ever thought that learning English grammar might make students feel anxious? Please tell me what do you feel when you complete the grammar task through games?

Do you have any opportunities to use English in real context when joining language games? Please describe what situations are typically like?

Will you be able to interact more with your friends while playing games to learn grammar? If yes, how and which cases?

Do you have more chances to communicate with the teacher through grammar games? If yes, how did it help? If no, why not?

In your opinion, what are some drawbacks of studying English grammar through games?

Thank you for your cooperation!

CRediT author statement

Thi Khac Phung Nguyen: Literature review, Data analysis, Writing, Editing; Ngoc Thanh Trinh: Revision, Editing.

COMPETING INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this article.

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