EVALUATING ONLINE ENGLISH GRAMMAR COURSEWARE FOR SENIOR HIGH SCHOOL: INSIGHTS FROM STUDENTS AND TEACHERS

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ARTICLE INFO

Submitted : *2024-10-29*
Revised : *2024-10-31*
Accepted : *2024-10-31*

DOI: https://doi.org/10.33508/mgs.v52i2.6049

ABSTRACT

The online English grammar courseware "I-GLO" has been developed by the authors based on the needs of Senior High School students in Indonesia. The courseware was specifically developed to be used as supplementary materials and to provide independent grammar studies for students. The proposed courseware has been used publicly; thus, it is important to evaluate the courseware to determine its quality. The evaluation was performed based on user insights, i.e., students and teachers' insights. A questionnaire was developed and validated before distribution to the participants. The questionnaire was used to determine the quality of each part of the courseware content, i.e., Explanation, Understanding Check, Quiz, and game content. The questionnaire also determined the extent to which the courseware supports grammar learning. The findings of this study can help courseware developers improve its quality in future revisions.

Keywords: *Peer assessment; EFL writing; second language learners; library study; thematic analysis*

INTRODUCTION

English subjects in Indonesia commonly cover language functions and reading texts based on communicative language teaching. Language components (grammar in particular) are not presented in a systematic order. This study is presented as a supporting material for language functions and reading materials.

The goal of English subject is communicative competence and includes aspects of language knowledge, i.e., (i) knowing how to use language for a range of different purposes and functions, (ii) knowing how to vary the use of language according to the setting and the participants (e.g., knowing when to use formal and informal speech or when to use language appropriately for written as opposed to spoken communication), (iii) knowing how to produce and understand different types of texts (e.g., narratives, reports, interviews, conversations), and (iv) knowing how to maintain communication despite having limitations in one's language knowledge (e.g., through using different kinds of communication strategies).

Leech and Svartvik (2002) and Hedge (2008) stressed that grammatical, sociolinguistic, and communication strategies constitute communicative competence. Grammatical competence serves as the foundation for learners of English; moreover, the grammar of the mother tongue differs from that of English. The English course books available for high schools commonly reveal that they cover only a limited number of language features, whereas basic competence requires several language features to achieve competence. In

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addition, the time allotted for English instruction is insufficient to cover the language features needed; as a result, students should be able to access independent study beyond the English class. It is easy for students to study independently because they find it difficult to find supporting materials. Finally, they encounter problems in producing grammatically correct English sentences. This may hinder their English communication. They have problems understanding different types of texts. Based on these considerations, the authors developed online English grammar courseware called "I-GLO" (Interactive Grammar Learning, Online) for students' independent study as a solution to the lack of grammar materials in English course-books for high schools. This courseware "I-GLO" was used by some students at a particular senior high school in Surabaya. Therefore, it is important to investigate the insights of users (students and teachers) using the courseware. The findings of this study can help courseware developers improve its quality in future revisions.

Computer-Assisted Language Learning and the Online English Grammar Courseware

The online English Grammar courseware, "I-GLO," developed by the authors is part of Computer-Assisted Language Learning (CALL), which Levy (1997) defines as "the search for and study of applications of computers in language teaching and learning." CALL has evolved over the past few decades through three stages: behavioristic, communicative, and integrative CALL (Warschauer & Healey, 1998). The first stage, behavioristic or structural CALL, relied on repetitive exercises and explicit grammar instruction through pattern drills. In the late 1970s, communicative CALL emerged, emphasizing authentic, communicative contexts for language production rather than pre-set language forms. By the mid-1990s, integrative CALL aimed to blend language skills with computer technology more seamlessly into the learning process. Today, digitalized language resources enabled by IT provide students with diverse ways to access information, subtly transforming traditional views on language input. This digitalization not only shifts learners' focus but also highlights language features through visual input enhancements like highlighting, color-coding, underlining, and font manipulation (Sharwood Smith, 1991). Additionally, Doughty and Williams (1998) suggested that intonation used to emphasize language features acts as auditory input enhancement to capture learners' attention (also see Zhang, 2005).

Nowadays, educational institutions have started to implement CALL using a variety of hybrid forms, such as blended or flipped classrooms, which combine face-to-face and online instruction (Gruba, Hinkelman, and Cardenas-Claros, 2016). With the more extensive use of internet access and multimedia programs, teacher-fronted classrooms are becoming increasingly 'porous' (Blake 2009). The use of the online English grammar supplementary courseware "I-GLO" is expected to support online learning, which is usually undertaken outside classroom instruction. This is in agreement with young digital natives. We agree that young people are digital citizens characterized by the ability to fluently combine digital skills, knowledge, and attitudes to participate in a society as active, connected, lifelong learners.

A Review of Courseware Evaluation

The evaluation of CALL (Computer-Assisted Language Learning) courseware has often lagged behind its development (Flagg, 1990). Evaluating courseware involves assessing how suitable and effective a specific instructional system is (Colpaert, 2006; Hubbard, 2006). Some evaluations focus on teachers' perspectives (e.g., Mukundan & Nimehchisalem, 2011; Tolhurst, 1992; Voogt, 1990; Yang & Chan, 2008), while others prioritize students' views (e.g., Murray, 1999; Nesbitt, 2013; Strobl & Jacobs, 2011). Nonetheless, Hubbard (2006) emphasized the importance of centering evaluations on both instructors' and learners' insights to ensure that assessments reflect the software's appropriateness within specific contexts. Despite this, limited research over the past two decades has explored multimedia learning materials from both perspectives (e.g., Jamieson & Chapelle,

2010; van Doremalen et al., 2016). To our knowledge, no study has directly compared teacher and student evaluations of courseware.

This study seeks to address the question "what are the insights of the students and teachers of senior high schools regarding the online English Grammar supplementary courseware "I-GLO"?

RESEARCH METHODS

Research Context

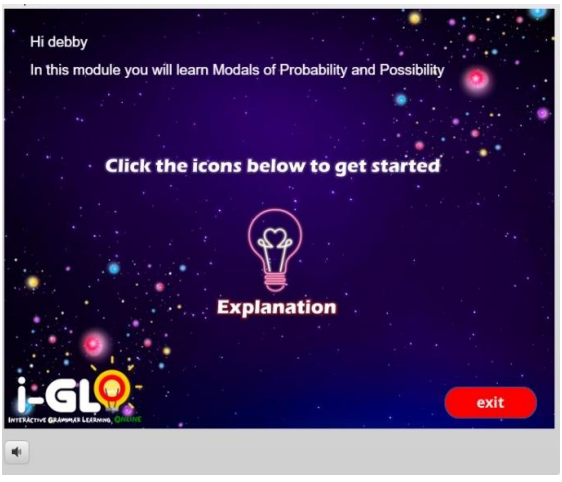
English is undoubtedly the most popular and widely taught and learned foreign language in Indonesia. Traditionally, EFL teachers mainly relied on printed textbooks to deliver lessons. Nowadays, with the development of information technology, teachers either deliver lessons through courseware facilities (e.g. computers, projectors, etc.) or adopt these devices to assist or complement their lessons. Nowadays, universities and schools are integrating courseware and digital technology into their teaching, with initiatives such as implementing curriculum reform as well as promoting quality and innovation in courseware provision. With the advancement of Internet technology, courses of teaching are now flourishing (Spencer-Oatey, 2007). Additionally, due to the affordability of personal computers, students begin to learn English through courseware during their after-class hours. In the context of evaluations that evaluation on the use of courseware learning is still lacking, this study aimed to determine the quality, especially the appropriateness of the online English grammar supplementary courseware, in line with users' needs and expectations.

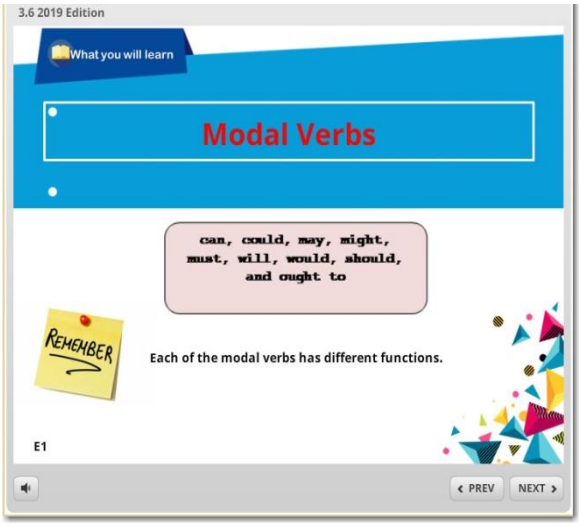
Nature of the Online English Grammar Supplementary Courseware

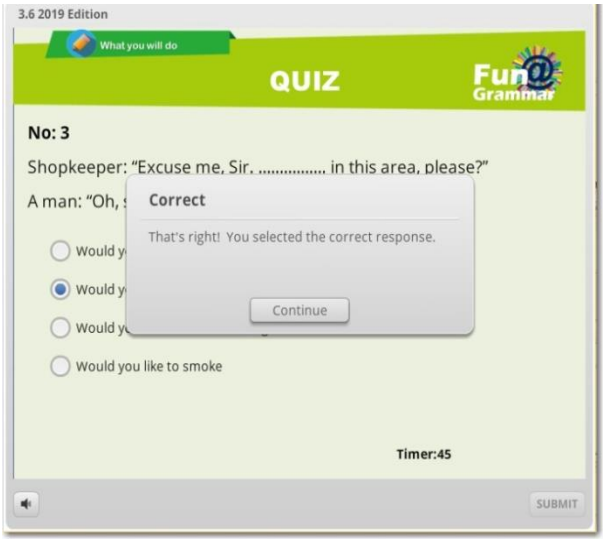
The online English grammar supplementary courseware was developed based on a student needs analysis. It can be used either as supplementary material or as an independent grammar study for students. It supports Grade XI English class.

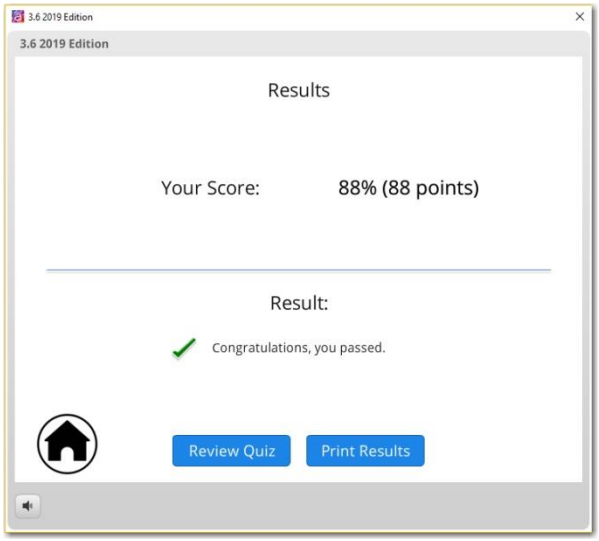
Contents of the Online English Grammar Supplementary Courseware

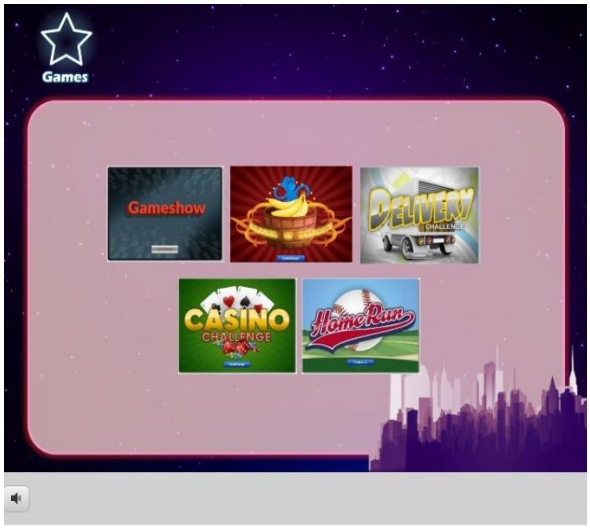
The courseware is hierarchically organized, and the instructional materials are presented in multiple sections, with buttons and bars to help learners navigate different parts and subsections. It covers 4 parts: Explanation, Understanding Check, Quiz, and Games.



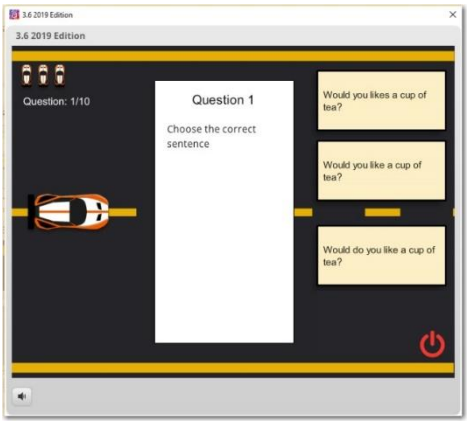


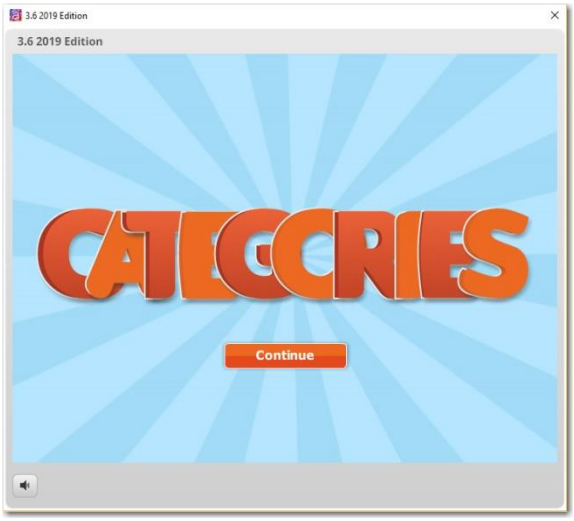






The explanation is equipped with audio and script. The understanding checks consists of interactive exercises and quizzes, each item is equipped with feedback. Quizzes provide some question items; scores and reviews are provided at the end of each quiz. Four types of digital games on grammar topics are provided.





Participants

The target participants were Senior High School students and English teachers in Surabaya. A purposive convenience sampling method was adopted to select participants from the target population. One hundred and seventy-four second-year senior high school students studying at 5 private schools in Surabaya and 2 English teachers participated in the study. The student questionnaire survey was administered in a classroom where the students had previously learned English grammar using the online English grammar supplementary courseware.

Instruments

One type of data collection method was employed in this study, i.e., a closed-ended questionnaire with a five-point Likert scale for quantitative data. This instrument was developed by the researchers based on a review of the literature on perception theories. Students responded to the questionnaire after finishing all the learning courseware. All the responses were collected online through the Google Forms application. The validity and reliability of the data were assessed using SPSS Software. Validity was tested using the Pearson correlation method, while reliability was tested using Cronbach's alpha. Furthermore, the questionnaire distributed to the students and teachers was translated into the Indonesian language. One expert was involved in translating each questionnaire item into Indonesian.

The Validity of the Instrument

For the instrument validity test, 25 senior high school students were selected from the respondents, and 20 questions were taken from the questionnaire. SPSS software was used to obtain the following calculation results. For items with $r > 0.3961$, the statement item was considered valid. The results of the calculation process using SPSS software are summarized as follows (Table 1).

Table 1. The Validity of the Instrument

Item-Total Statistics						sig 0,05
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	r tabel	rhitung > rtabel.
Q1	69.88	143.277	.660	.926	0.3961	valid
Q2	69.72	152.210	.290	.932	0.3961	Not valid
Q3	69.72	146.710	.469	.930	0.3961	valid
Q4	69.92	139.410	.611	.927	0.3961	valid
Q5	69.88	135.777	.761	.924	0.3961	valid
Q6	69.80	133.667	.798	.923	0.3961	valid
Q7	69.68	143.060	.722	.926	0.3961	valid
Q8	69.84	142.640	.655	.926	0.3961	valid
Q9	69.76	151.690	.214	.934	0.3961	Not valid
Q10	69.72	140.377	.712	.925	0.3961	valid
Q11	69.52	145.510	.492	.929	0.3961	valid
Q12	69.92	142.660	.550	.928	0.3961	valid
Q13	69.76	151.273	.204	.935	0.3961	Not valid
Q14	70.00	140.833	.737	.925	0.3961	valid
Q15	69.84	141.390	.719	.925	0.3961	valid
Q16	69.76	140.857	.616	.927	0.3961	valid
Q17	69.84	135.057	.825	.922	0.3961	valid
Q18	69.72	142.043	.571	.928	0.3961	valid
Q19	69.76	136.440	.747	.924	0.3961	valid
Q20	70.08	136.493	.792	.923	0.3961	valid

Notes:

Qi = item 1 on the questionnaire

In this study the score was arranged 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree and consists of 20 questions. Of the 20 questions on the validity testing questionnaire, a comparison of the r count with the r table, it shows that there are 3 questions (15%) that are invalid from the 20 questions.

Question items 2, 9, and 13 are invalid. However, the three question items were still used and were not changed in the next test because they did not reduce the overall meaning of the questionnaire. In further testing to determine students' perspectives regarding using the I-GLO courseware, by taking a sample of 174 students as respondents outside the sample for instrument validation purposes in this study, the researchers still used the 20 questions in the questionnaire.

The Reliability of the Instrument

Arikunto (2013) stated that reliability refers to the notion that an instrument can be trusted enough to be used as a data collection tool because it is valid. The reliability test used in this study was the Cronbach Alpha formula.

Notes:

r11: Instrument reliability

k: The number of statement items or the number of questions

$\sum \sigma_b^2$: The number of item variances

σ_t^2: Total variance

The categories in Table 2 interpret the values of the alpha coefficient.

Table 2. The Reliability Level

Alpha	**Reliability Level**
0.00 – 0.20	Less Reliable
0.21 – 0.40	Somewhat Reliable
0.41 – 0.60	Quite Reliable
0.61 – 0.80	Reliable
0.81 – 1.00	Very Reliable

Calculations with 20 question items and 25 respondents yielded the following results (Table 3):

Table 3. Reliability Statistical Result

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.931	.928	20

Based on the calculation of the Alpha coefficient value, the Cronbach's Alpha value is 0.931 and it is included in the very reliable category. This means that when the instrument is used several times to measure the same object, it will produce the same data (consistent). From the results of the Cronbach's Alpha reliability test,

it was 0.931, so it belongs to the very reliable category. This instrument test was conducted with 25 students outside the sample used in the research with 20 questions.

Data Analysis Technique

The responses collected through the questionnaire survey were analyzed using SPSS version 25.0. The research question was answered using descriptive statistics, which were calculated by summarizing the general shape or quality of the data collected. The student and teacher participants responded to each item on a five-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). The cumulative score of each question/statement was then calculated to fall into 5 categories: very low (VL), low (L), moderate (M), high (H), and very high (VH). Thus, a higher score indicates that the courseware is appropriate, and a lower score indicates that it is not.

FINDINGS AND DISCUSSION

Findings

Students' and Teachers' Insights on Online English Grammar Supplementary Courseware for Supporting Senior High School English Learning Resources

The analysis of the data collected through the questionnaires distributed to the students and teachers revealed the following results (Table 4).

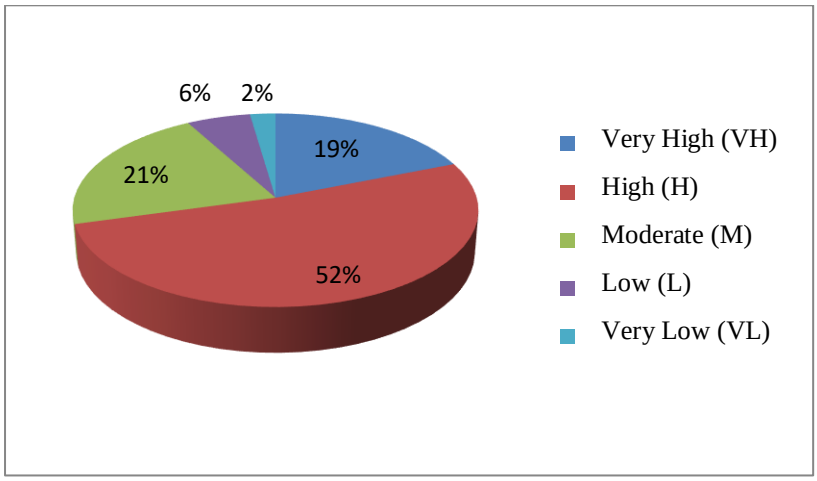
Table 4. Results of the Questionnaire

No	Statements	Students' Scores	Teachers' Scores
1	The explanation in the Explanation section is easy to understand.	L	H
2	The explanations from the audio help me understand the written explanations.	VL	M
3	The explanation from the audio is in accordance with the written explanation.	VH	VH
4	Navigation from one part to another is easy.	VL	VH
5	The use of animation helps me understand the explanation from the audio and the text.	H	M
6	The use of images helps me understand the explanation from the audio and the text.	H	M
7	The contents of the questions in Understanding Check are in accordance with the content of the material.	VH	VH
8	The questions in Understanding Check measure my mastery of the material.	VH	M
9	The duration of time given to work on each question in Understanding Check is sufficient.	M	M
10	The existence of feedback for each of the Understanding Check questions helped me understand the questions and answers.	H	M
11	The contents of the questions in the Quiz measure my mastery of the material.	VH	VH
12	The questions in the Quiz measure my mastery of the material.	VH	M
13	The duration of time given to work on each question in the Quiz is sufficient.	VL	M

No	Statements	Students' Scores	Teachers' Scores
14	The existence of feedback for each Quiz question helps me understand the questions and answers.	M	VL
15	Having games helps me further improve my mastery of the material.	M	M
16	The existence of games increases my motivation in learning English grammar.	L	VH
17	This courseware is a practical medium for learning English grammar.	H	VH
18	This courseware helps me improve my English grammar skills.	H	M
19	This courseware provides useful activities for learning English grammar.	H	VH
20	I like to use the I-Glo courseware to learn English grammar.	M	M

The analysis of the data revealed that the students' insights were not all in line with the teachers' insights. Based on the overall results of the data analysis, the *Explanation* part was scored low by the students but high by the teachers (item 1). The *Understanding Check* part was scored very high by the students and high by the teacher. The *Quiz* part was scored high by both the students and teachers, and the *Game* part was scored 'average' by the students and high by the teachers. The results indicated that the part that obtained extremely different scores from the students and teachers was the *Explanation* part, and moderately different scores were obtained in the game *part*. The different scores from the students and teachers may suggest that teachers need to be aware of the fact that they do not have to believe in what they think and feel about the quality of learning courseware; more importantly, they have to understand what their students really think and feel about the courseware because it is the students who use and learn the learning courseware, not the teachers. Similarly, courseware developers must understand that students should be the focus of attention, and their perspectives should be used as the basis of future courseware revisions.

Apart from the 4 components of the courseware that have been discussed above, the analysis of the data revealed that the courseware was a practical medium to be used to learn English grammar (by both the students and the teachers) and the courseware helped the students improve their grammar mastery, and provided useful activities to enable learners to learn English independently. Students like to use the software to learn English grammar better than teachers (item 20).



From 174 participants, calculating the category interval, the students who have fairly good perspectives are 21%, good (52%) and very good (19%) towards learning English using the online English grammar supplementary courseware I-GLO.

Discussion

This study, which evaluated English courseware based on the insights of both students and teachers, revealed that, overall, there are a few more different perspectives than similarities. The four parts of the English courseware (explanation, understanding check, quiz, and game) are discussed below.

1) Explanation

Regarding the explanation in the explanation part, according to most students, the explanation part was not easy to understand, but according to teachers, the explanation part was moderately easy to understand. This finding highlights a common discrepancy in how students and teachers perceive the clarity of instructional materials; in this case, the grammar software explanations. This finding may address the perception gap. This gap could indicate that teachers who are likely more familiar with grammar concepts and terminology will find the explanations accessible. In contrast, students might struggle if the explanations rely heavily on technical language or assume baseline knowledge they have not yet acquired. In addition, this finding may apply to cognitive load theory--for students, complex explanations or lack clear scaffolding. For such cases, another explanation design can be explored to be better aligned with students' cognitive capacities, potentially by simplifying language or incorporating examples that resonate with students' current level of understanding.

The pedagogical implication of this could be that since teachers find the explanations moderately easy to understand, they might unknowingly assume students do too, which can lead to a lack of additional support or clarification in the classroom. Teachers could be encouraged to evaluate software explanations with students or provide supplemental explanations to bridge this gap. For future research, it would be valuable to investigate which elements of the explanation students find difficult—such as specific terminology, lack of examples, or structure—their feedback can be used to inform software updates.

2) *Understanding Check*

The research finding indicates that students and teachers feel the grammar software's "Understanding Check" questions align well with the instructional material. This alignment has several positive implications for both learning and teaching in the context of grammar instruction.

For students, having questions that directly relate to the material means they can apply what they've learned in a focused way. This alignment supports targeted learning and reinforces the key grammar concepts they've studied, helping them build confidence in their skills. When assessments reflect the content accurately, students are more likely to perceive the software as relevant and helpful, which can increase their motivation to use it as a tool for practice and review.

Teachers also benefit from this alignment, as it confirms that the software supports and enhances their teaching efforts. If the questions are well-matched to the instructional content, teachers can trust the software to reinforce core grammar concepts without introducing unrelated or confusing elements. This allows teachers to use the software as a reliable supplement to their lessons, knowing it will provide meaningful, relevant practice opportunities that align with classroom instruction.

Moreover, alignment between the software's questions and the instructional material suggests that the developers designed the software with an understanding of the curriculum. This reflects a thoughtfully integrated approach to technology in education, where digital tools are crafted to enhance learning outcomes by focusing directly on the content students need to master. Overall, the finding suggests that the grammar software serves as an effective support for grammar learning, reinforcing classroom instruction and helping students deepen their understanding.

3) *Quiz*

The research findings show that both teachers and students believe the quiz questions in the grammar software effectively measure students' mastery of the material. This perception is important, as it points to the software's role in reinforcing learning outcomes and offering accurate assessments within the domain of grammar instruction.

For students, this alignment means that the quizzes reflect the material they have been learning, allowing them to demonstrate their proficiency in grammar topics directly relevant to the instructional content. When students feel that quiz questions are a fair measure of their understanding, they may be more motivated to engage with the software and see it as a meaningful tool for practice and self-assessment. This confidence in the assessment process can also reduce test anxiety, as students feel assured that the questions will focus on concepts they have studied and practiced.

Teachers also benefit from the software's alignment between quiz content and instructional material, as it supports their goals of assessing grammar mastery accurately. If quiz questions in the software align closely with the teaching material, teachers can more effectively identify areas where students excel or struggle. This data provides actionable feedback, allowing teachers to adjust their instruction, revisit challenging topics, or provide additional support where needed. Additionally, it allows teachers to incorporate the software as a reliable supplementary tool in their teaching, knowing it will reinforce the material rather than introduce off-topic or confusing elements.

Overall, this alignment underscores the effectiveness of the grammar software as a tool for both teaching and learning. When the quizzes are perceived to measure mastery accurately, both teachers and students can trust the software to support meaningful, focused learning outcomes in grammar, enhancing the educational experience and fostering a structured approach to language acquisition.

4) *Game*

The research finding that the existence of games does not increase students' motivation in learning English grammar, but according to teachers, it moderately increases students' motivation highlights a potential discrepancy between teachers' insights and students' actual experiences with game-based learning. This discrepancy can be explored by examining factors like engagement, types of games used, and differing insights between teachers and students.

While teachers perceive a moderate increase in motivation, students report minimal impact, suggesting that the games may not be as engaging or relevant from the students' insights. It is possible that students may not view the games as directly contributing to their mastery of English grammar, especially if they see them as tangential or "extra" activities.

Teachers may observe students showing more interest or enthusiasm during gaming activities, which can give the impression of increased motivation. However, what teachers see as motivation (e.g., excitement or visible engagement during the game) may not translate into sustained motivation for learning grammar concepts outside

of the game. If games are not directly tied to grammar learning objectives, students may not find them useful for grammar mastery, even if they are fun. Games that do not explicitly reinforce grammar concepts or skills might feel like a break from "real" learning rather than a tool for it.

Some games might increase short-term engagement (visible enthusiasm during the activity) without supporting deeper, long-term motivation. Students may enjoy the games as a break or change from traditional methods, but without a clear link to grammar improvement, they may not see them as valuable learning tools. Some students may prefer more traditional methods, such as exercises or interactive lessons, over games, especially if they view games as less academic or serious. While some students may find games motivating, others might feel more motivated by direct instruction, structured practice, or real-world applications that emphasize the practical use of grammar.

Some students may not view games as legitimate learning tools, especially in subjects like grammar which are traditionally taught through exercises and direct instruction. If students expect a more formal approach, they may not view games as a "serious" method for learning grammar, which can reduce their motivation.

Teachers may bring a positive attitude toward using games, which can influence their perception of students' motivation. Teachers who are enthusiastic about the games might be more likely to perceive them as motivating, even if students' actual motivation is lower.

This finding suggests that games may serve as a supplementary tool rather than a primary motivator in grammar instruction. Combining games with traditional or interactive exercises may provide a balanced approach that keeps students engaged while ensuring the focus remains on grammar learning. Game-based activities that are designed to encourage students' curiosity about language or that involve creative grammar applications might be more effective than simpler, quiz-like games.

This research finding suggests that while teachers see a moderate motivational effect from games, students may need more targeted, meaningful, and directly relevant game designs to experience significant motivation. By examining and aligning teacher and student perspectives, course designers and teachers can better tailor game-based learning to meet both instructional goals and student motivation.

CONCLUSION

Based on the findings and discussion, it can be concluded that most respondents gave positive perspectives about the online English grammar supplementary courseware. Furthermore, the courseware supports students' grammar mastery through independent learning.

The current study employed a small sample of teachers; thus, the generalizability of these results is limited. However, this study took a student insights regarding courseware. Future qualitative analyses could be conducted to examine students' insights, attitudes, and satisfaction with the courseware and the benefits of using the courseware. A focus on students' interactions and learning environment will also be advised to identify the impact of students' success in learning grammar using courseware.

Acknowledgments

We are pleased to acknowledge the generous financial support of the Directorate of Research and Community Service. Deputy for Strengthening Research and Development. Ministry of Research and Technology/National Research and Innovation Agency.

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