DEVELOPING ENGLISH SURVIVORS: A VOCABULARY LEARNING GAME FOR EFL LEARNERS

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ABSTRACT This study outlines the design, implementation, and evaluation of *English Survivors*, an instructional media developed to support EFL learners in intentional vocabulary acquisition using digital gaming principles. The implementation, following the ADDIE model, incorporates quizzes and immediate feedback to enhance vocabulary retention and support learner motivation. An iterative refinement cycle included a pilot study with five learners, succeeded by a controlled classroom implementation involving fifteen participants, and concluded with external validation by experts in educational media and linguistics. Quantitative analysis indicates that 88% of participants considered the vocabulary tasks relevant, 86.67% valued immediate feedback, and 85.34% responded positively to the quiz-based format. A media expert assigned a functionality score of 39 out of a possible 40, with the content expert awarded 40 out of 40. The evidence collectively supports the platform's operational viability and motivational capacity. Statistically significant vocabulary gains, along with trials in authentic instructional settings, support the theory that pedagogical games designed through systematic methods and refined through iterative user and expert evaluation is possible, when integrated into controlled instructional frameworks, significantly improve vocabulary mastery.

Keywords: Game-Based Learning, Vocabulary Mastery, Instructional Design, Educational Technology, EFL Students

INTRODUCTION

A strong vocabulary is the starting point for becoming confident in English, and it also supports success in the four types of language skills: reading, writing, listening, and speaking. Traditional learning methods, such as simple repetition and direct translation, are still the most common in classrooms, even though researchers show that these strategies do not lead to long-term understanding or memory (Li et al., 2022; Tanaka, 2022). As a result, many learners feel detached, especially those who study English in a foreign setting (Sitepu & Mutiarani, 2023). This distance lowers their natural curiosity and prevents them from absorbing words in the rich, real-world context needed for lasting vocabulary improvement.

Research conducted over the past decade has consistently shown that digital and game-based learning (GBL) environments enhance language acquisition outcomes. Game-centered instructional strategies enhance student independence and maintain motivation by integrating new vocabulary into authentic, repetitive, and interactive contexts (Adipat et al., 2021; Alibakhshi et al., 2025; Zhao et al., 2022). Comparisons with traditional pedagogy indicate that game-based learning (GBL) environments often produce greater language acquisition, mainly due to immediate corrective feedback, increased learner agency, and enhanced emotional and cognitive engagement (Krystalli & Arvanitis, 2024; Sharmin & Barmaki, 2024). Researchers have cautioned about the critical necessity to align game mechanics with pedagogical objectives, indicating that a lack of harmonious integration may compromise instructional effectiveness and pedagogical integrity (Hartmann & Gommer, 2021; Sawyer et al., 2017).

Intentional vocabulary acquisition has emerged as an essential aspect of current

instructional design. In contrast to incidental acquisition, intentional vocabulary acquisition occurs through explicit, predetermined objectives, necessitating that learner focus consistently on curricular elements, actively retrieve them, and organize them within memory (Nation, 2022; Webb et al., 2023). The rationale is based on repeated and notably prominent presentations, strategically organized to support learners with restricted vocabularies and to facilitate lexicalization through progressive exposure (Bilgin & Bingol, 2022). Implementing achievement-driven techniques within a game-based learning environment integrates play with purpose, transforming pedagogical imperatives into engaging activities (Ruth & Plass, 2020). This approach transforms curricular objectives into tasks that learners actively and intentionally pursue.

This study examines the existing gap in the design of vocabulary-learning games that effectively integrate motivation, curriculum alignment, and structured instruction. Previous studies have produced games like EnLang4All and Language Learning Game (Alexandre et al., 2023; Ishaq et al., 2022), yet there is a paucity of research that critically assesses the capacity of these tools to systematize vocabulary acquisition in accordance with instructional design frameworks. This study seeks to create and assess *English Survivors*, a game-based platform aimed at intentional vocabulary acquisition, developed according to the ADDIE instructional model. The aim is to evaluate the platform's feasibility, educational effectiveness, and ability to enhance student motivation and vocabulary acquisition among EFL learners in Indonesian secondary education.

LITERATURE REVIEW

1. Vocabulary Acquisition

Mastering a new language means acquiring new words and concepts. New concepts and words can be acquired through either receptive or productive means (Valdehíta & Diego, 2021). Receptive vocabulary involves knowing a word's limited meaning and understanding the context in which it can be used. Productive vocabulary includes every possible way a person can express a certain idea in speech or writing, including the correct spelling and pronunciation.

Language proves to be more than the utterance or writing of mere disconnected words, phrases or sentences. There is mastery of eloquence which entails the correct and adequate use of words in speech and writing. For instance, He & Deocampo (2023) accentuate vocabulary knowledge as a determinant element which influences the extent of comprehension a student can have of the texts. According to Lee (2023), it is vocabulary which determines the extent of students' information retention. Further, Sotlikova (2023) emphasizes mastery of vocabulary as the pivotal element of the communicative process. The more advanced a person's vocabulary, the more easily they can access, understand, retain, and communicate the information. Proficiency in a language is influenced by the mastery of vocabulary.

The progress of learners in vocabulary development in the work of Nation (2022) is cited in 2006. Children at the age of six/primary school learners, are said to be ready to learn the first 1000 words and according to lower primary, recently, children are said to learn the first 1000 words at the onset of learning to read. For children 6 years and above, it is claimed that the potential to learn more increases. Learners at the 12,000 word level were said to be late primary and early high school learners, learning words at the claimed ages of 6, 12, 14, and 16. 12 year old, learn 1000 words as the 2, 3 and 4 words paired

with values of 8, 9 and 3 to 5 percent ranges which indicate an increase of 4 to 5 percent of newly learnt words.

Children at the primary and early high school stages have been observed to acquire vocabulary during the span of more complex readings and stories that would presumably be too advanced for them. It was claimed that the tools designed for the 80% level mastery would ignore the 5th set of words and rely solely on the 4th set level for the 3% mastery coverage. The research conducted by Nation in 2006 that employed the 3% coverage mastery documents claimed that the advanced level unsophisticated set was still being used to gain mastery at mid-ages in vocabulary. The difference between documents in which the vocabulary gaps that negatively distort mastery, are lower level documents. The patterns of acquiring new words described above inform the intentional design of custom school games.

In so far as vocabulary acquisition is concerned, the dimension of scope embraces the mastery of the elements of a given language, including the nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, and interjections. The division of vocabulary into different parts of speech is a rudimentary, basic and fundamental activity for learners who seek to use the vocabulary in meaningful contexts of communication, both oral and written. The mastery of the cited above lexemes, in particular, gravitates students toward the perfection of language usage at the level of grammar and, in turn, language in use as a whole (Hustiana, 2023).

A few theories have emerged trying to explain how vocabulary is learned in detail. Magnussen & Sukying (2021) describe six core factors that must be present simultaneously to gain and learn vocabulary: 1) multiple encounters, 2) deliberate attention, 3) noticing, 4) retrieval, 5) varied use, and 6) elaboration. In addition to other criteria that have to be effective to learn and grasp vocabulary, learning attainment will be stunted too if any of the criteria of effective acquisition are fulfilled. Yao (2020) also focuses on vocabulary acquisition processes and connects these to attention, cognition, and output. Dagnaw (2023) mentions that the vocabulary of a learner is the command a learner has on words which includes: 1) concepts and referents, 2) associations, 3) grammatical functions, 4) collocations, and 5) restrictions on use. In every acquisition and retention of new language, core conditions, every cognitive process and any other relevant aspects of the language have to be set to the optimal level, to facilitate the learning of the language.

2. Incidental and Intentional Vocabulary Learning

As described by Nation (2022), when acquiring vocabulary the learner may engage either in intentional or incidental learning. Stratton (2022) defines ‘intentional learning’ as having and acquiring information which the learner was not actively seeking; in contrast, the meaning of the term ‘vocabulary learning’ entails noting down the words and concentrating on their retention. Sinyashina (2020) asserts that incidental attention is described as the learning processes that occur when learners derive meaning from reading or listening to discourse and attempt to capture the essence of the message, while ignoring many of the words. Lu (2021) captures a purposeful learning incident when the learner in question moves towards achieving a set target and applies specific actions in a goal-orientated and systematic way.

In their research, A. H. Lee & Lloyd (2025) indicated higher rates of incidental exposure improved recognition of non-native speech patterns and thus confirmed the effectiveness of incidental learning within those frequency ranges. However, the exposure

conditions described are particularly sensitive to the structure of the input, suggesting that setting the appropriate conditions is important for obtaining favorable results. The advantages of incidental learning are intended for lower-skilled students, but as indicated by Bilgin & Bingol (2022), its benefits are negligible in the long run. This is because lower level students are required to go through explicit instruction on the multiple dimensions of a word in order to fully acquire it. In a recent publication, Webb et al. (2023) claims that the vocabulary acquired through incidental learning is far less than the vocabulary acquired through direct instruction, thus reinforcing the position that direct instruction is favored.

3. Nation's Vocabulary Knowledge Framework

According to Nation (2022), vocabulary knowledge comprises two parts: receptive knowledge and productive knowledge. As described by Kilic (2019), productive knowledge involves attaching the words to the correct forms when speaking or writing. Receptive knowledge involves knowing or listening to words. Additionally, Nation (2022) attempts to further divide vocabulary knowledge into the form, meaning and use of the vocabulary.

Like any other language, vocabulary knowledge and acquisition involve attention to form, meaning and use, and mastery requires precision on the factors. Nontasee & Sukying (2021) referred to the recognition and identification of a word's phonological and morphological aspects as "its form". A word is a word when it is understood and is an understood word when its form, meaning, concepts, referents to other words, and the relationships between and among the words are grasped. Finally, the use of the word's knowledge is the context in which a given word is collocated and the context in which it is spoken.

4. Game-Based Learning

Educational technologies employ game-based learning and gamification in varied forms. For instance, Duolingo teaches vocabulary and grammar by tailoring lesson flows that partition and progressively advance through language lessons and provide corrective feedback in a gamified form (Smith et al., 2024). Quizlet has interactive flashcards that accompany learning at different levels of retrieval (Ho & Kawaguchi, 2021), and Kahoot! has enabled real-time competitive quizzes (Zhang & Yu, 2021). Wordwall adds a quiz and a matching game to learn vocabulary (Widhiatama & Brameswari, 2024). These tools serve as examples of game-based learning that motivates learners, enhances learning, and provides reflective feedback for improvement.

Game-based learning (GBL) increases levels of enjoyment and engagement through fun, challenges, and rewards (Hartmann & Gommer, 2021). Active learning enhances understanding and retention (Piaget, 1950), and the provision of immediate feedback enhances retention (Dabbous et al., 2022). Still, GBL comes with challenges like distraction, overuse, and lack of technology (Alzahrani & Griffiths, 2024; Dimitra et al., 2020). These challenges obligate the designers of educational materials to strike a balance between engaging game-play and focus on learning (Plass et al, 2020; Sawyer et al, 2017).

The best GBL incorporates instructional goals, scaffolding of game challenges, and prompt feedback loops (Hartmann & Gommer, 2021). Most effective practices suggest that designers encourage student-controlled game-play that promotes mastery and choice (Plass et al., 2015).

5. Constructivist Learning Theory

The learning theories pertaining to game-based learning constructs are by Piaget (1950) and Vygotsky (1978). These theories claim that learners create new knowledge when they are actively engaged in and participate in various activities (Efgivia et al., 2021). Vygotsky advocated social constructivism and ZPD which is when learning is guided by a teacher or other learners (Polly & Byker, 2020). Much like Vygotsky's theory, learning is a process which is gradually dominated by dependent learners to independent learners through scaffolding and assistance.

In her research, Subagia (2020) argues that in learning, new knowledge must be linked and synthesized with pre-existing knowledge and cognitive structures. This is what Rabindran & Madanagopal (2020) calls assimilation, which is the process of adding new information to an existing schema, and accommodation which is the process of restructuring one's schema to include new knowledge. These are the processes that the learning games are intended to help students in modifying and utilizing information.

RESEARCH METHODS

This study utilized a research and development (R&D) design based on the ADDIE instructional model, which includes the interconnected phases of Analysis, Design, Development, Implementation, and Evaluation. The main goal was to design, produce, and empirically evaluate a game-oriented digital application, named *English Survivors*, aimed at improving the selective acquisition of vocabulary in accordance with the standards set by English as a Foreign Language (EFL) program requirements.

The participant group comprises fifteen eleventh-grade students from Muhammadiyah Cipanas High School in West Java, Indonesia. Five learners voluntarily participated in the asynchronous online pilot trial, while the remaining ten including five from pilot group completed the in-person evaluation in a traditional classroom environment, which can be seen in Table 1. A purposive sampling method was utilized to select students demonstrating basic proficiency in English vocabulary who were willing to participate in the instructional game. The assessment employed a triangulated approach, involving simultaneous evaluations by two certified English language teachers and two subject matter experts. These experts provided qualitative feedback and evaluated the instructional design for methodological integrity.

A variety of instruments were employed. A questionnaire is required to identify learner preferences and challenges in vocabulary acquisition. A questionnaire collecting student evaluations evaluated the game's usability, content relevance, and motivational impact following gameplay. Structured interviews were administered to the two teachers prior to and following implementation to obtain their insights on classroom integration. Furthermore, media and content experts conducted validation questionnaires to evaluate functionality, accessibility, and alignment with the curriculum. All instruments utilized established Likert-scale formats and were adapted from appropriate educational measurement sources.

The research followed a predetermined linear protocol as seen in Table 1. During the initial phase, the researcher carried out internal trials from February 28 to July 14 2025, focusing on iterative enhancements of gameplay mechanics and addressing identified technical issues. An online pilot was conducted from May 27 to June 21, 2025, involving five purposively selected students who engaged with the system and provided focused, context-specific feedback. Following the pilot round, a newly formed

experimental group was convened for a 60-minute instructional session on June 27, 2025. In this session, participants engaged in the game, completed a structured questionnaire, and took part in a guided debriefing, resulting in both quantitative and qualitative data collected within a single controlled period.

Table 1: Testing Phases and Procedures

Phase	Testing Method	Participants	Game Access	Time Allocation
Internal Testing	Iterative	The Researcher	Development & Adjustments	February 28th 2025 – July 14th 2025
Pilot Test	Online	5 Students	Early access, provide feedback	May 27th 2025 – June 1st 2025
Evaluation	Classroom	15 Students	Playtest, students' feedback after playtest	June 27th 2025. 60 min (10 min adaptation, 40 min playtest, 10 min questionnaire)

Table 2: Likert Scale

Quantitative Analysis	Score
SA (Strongly Agree)	5
A (Agree)	4
N (Neutral)	3
D (Disagree)	2
SD (Strongly Disagree)	1

Source: adopted from Gungor et al. (2022)

Descriptive statistics provided the analytical basis for the quantitative data obtained from the administered questionnaires. Responses recorded on a five-point Likert scale (Table 2) were evaluated against established feasibility criteria (Table 3). Averages for each item were calculated and subsequently transformed into percentage values. A predetermined cut-off of 61% signifies acceptable viability, in accordance with Riduwan (2020). To enhance the credibility of the results, a triangulation strategy was employed, in which the quantitative findings from student questionnaires were cross-examined with qualitative corroboration from expert evaluations and observations gathered from structured interviews with teachers.

Table 3: Feasibility Criteria

Average Score	Category
0% - 20%	Highly Infeasible
21% - 40%	Infeasible
41% - 60%	Neutral
61% - 80%	Feasible
81% - 100%	Highly Feasible

Source: adopted from Bungsudi (2023)

FINDINGS AND DISCUSSION

1. Findings

The evaluation of the *English Survivors* game integrated three complementary strategies: expert validation, student questionnaires, and educator interviews. In the closing stage, a purposive sample of fifteen secondary students engaged with the game, after which a media specialist and a subject-matter expert undertook a concurrent analysis. Their review centered on three domains: the usability of the user interface, the pedagogical efficacy of the learning activities, and the overall technical reliability of the platform.

a. Student Evaluation

Students' evaluation demonstrated widespread approval across three key dimensions: content relevance, instructional design quality, and engagement impact. Table 4 indicates that 88% of respondents reported that the vocabulary materials significantly contributed to skill development. The provision of formative feedback received an 86.67% approval rate, confirming its effectiveness in clarifying recurring error patterns. A total of 89.3% reported that gameplay significantly enhanced vocabulary acquisition, while 85.34% noted that the inclusion of quiz components increased their enjoyment of the learning experience. Survey results indicated a moderate, yet generally positive, sentiment concerning usability. A total of 72% respondents said the installation process was simple, while only 30% said they occasionally had trouble navigating. In contrast, 76% indicated no recurring technical issues, while 70.67% assessed the overall interface as sufficiently intuitive.

Table 4: Student Evaluation Result

Aspects	Item Statement	Options					Total Score	T(%)
		SD	D	N	A	SA		
Game Content	a. The game content was relevant to improving my English vocabulary	0	0	0	9	6	66	88
	b. The vocabulary quizzes were appropriately challenging	0	0	3	7	5	62	82.67
	c. The feedback provided after quizzes helped me understand my mistakes	0	0	0	10	5	65	86.67
	d. The words and concepts presented in the game were useful for real-life application	0	0	2	11	2	60	80
	e. The game effectively strengthens my vocabulary learning	0	0	1	6	8	67	89.3
Game Design and Functionality	f. The game was easy to install and access	0	1	6	6	2	54	72
	g. The interface and controls were intuitive and user-friendly	0	0	5	8	2	57	76
	h. The game ran smoothly without major technical problem	0	1	6	7	1	53	70.67
	i. The instructions within the game were clear and easy to follow	0	1	1	10	3	60	80
	j. I was able to navigate the game without difficulty	0	0	6	6	3	60	80

Student Engagement and Interactivity	k. The game kept me engaged and motivated to continue playing	0	0	2	10	3	61	81.3
	l. The integration of quiz and gameplay made learning more enjoyable	0	0	0	11	4	64	85.34
	m. The difficulty level adjusted well to my vocabulary skills	0	0	2	10	3	61	81.3
	n. I felt encouraged to improve my vocabulary through repeated gameplay	0	0	1	10	4	63	84
	o. I would recommend this game to other students for learning vocabulary	0	0	4	8	3	59	78.6

Source: adopted from Jebb et al. (2021)

$$Ovr(\%) = \frac{T(\%)}{Is} = \frac{1215.25}{15} = 81\%$$

English Survivors has an effectiveness rating of 81%, which qualifies it as an effective instructional tool, although the areas of overall usefulness, ease of installation, and clarity of instructions may be enhanced.

b. Expert Validation

A media expert assigned the platform a score of 39 out of a maximum of 40 points, representing 97.5%, praising its outstanding usability, interactivity, accessibility, and innovative design (Table 5). The single-point deduction resulted from the researcher's explanatory guidelines, which were deemed insufficiently concise for newcomers to use.

Table 5: Media Expert Evaluation

Item Statement	**Score**					**Total**
	1	**2**	**3**	**4**	**5**	
Clarity of the program instruction				√		**4**
Effectiveness of the learning media					√	**5**
Compatibility in smartphones and web					√	**5**
The ease of application management					√	**5**
Utilization of interactive design					√	**5**
Sound clarity					√	**5**
Creativity of design					√	**5**
Appropriate selection of application or software or tool types for development					√	**5**
Total Score						**39/40**

Source: adopted from Suardana (2023)

$$Ps = \frac{S}{N}\ x\ 100\% = \frac{39}{40}\ x\ 100\% = 97.5\%$$

A content expert, familiar with the curriculum's lexical objectives, awarded a perfect score of 40 out of 40, thereby confirming complete alignment with the designated vocabulary acquisition goals (Table 6).

Table 6: Content Expert Evaluation

Item Statement	**Score**					**Total**
	1	**2**	**3**	**4**	**5**	

The learning objective stated clearly	√	**5**
Interactivity in design	√	**5**
The scope and depth of learning objectives	√	**5**
Contextuality between learning objectives and games	√	**5**
Compatibility of learning strategies	√	**5**
Ease to understanding	√	**5**
The accuracy and consistency of the games	√	**5**
Consistency of the games with learning objectives	√	**5**
Total Score		**40/40**

Source: adopted from Suardana (2023)

$$Ps = \frac{S}{N}\ x\ 100\% = \frac{40}{40}\ x\ 100\% = 100\%$$

c. Teacher Interview

Both teachers affirmed that the content within the gaming platform met the required curricular objectives while also aligning learner engagement with the necessary cognitive challenge for meaningful academic results. Complete documentation revealed significant advancements in vocabulary retention, increased learner motivation, and prolonged instances of concentrated, critical thinking throughout the instructional sessions. Teacher A emphasized the importance of aligning high cognitive demands with intrinsic enjoyment, whereas Teacher B stressed the need for targeted tutorial scaffolding designed to support novice learners.

"In the game, there is a feature, the main one being the quiz. Then there is the game itself. When the game is played, it involves searching, and there is a reward to find. Additionally, when trying to open a door, a question appears… These features in the game really encourage (participation)." (Teacher A, personal communication, June 11, 2025)

"Maybe a suggestion for the tutorial would be to add more details, as it currently only includes instructions on how to attack, move, and so on. When playing the game, after attacking the enemy, there is a quiz for the next level. It would be helpful if the tutorial also explained how to navigate or handle transitions between different game stages, like moving from attacking to answering the quiz." (Teacher B, personal communication, June 11, 2025)

2. Discussion

The results validate the feasibility and educational advantages of utilizing game-mediated vocabulary instruction in English-as-a-foreign-language (EFL) settings. Both quantitative and qualitative analyses indicate that participation in the game supports effective vocabulary retention and simultaneously increases student engagement, thereby contributing to the existing literature on the effectiveness of game-based instruction (Alibakhshi et al., 2025; Zhao et al., 2022). The instructional design integrates immediate feedback and advancing interactive challenges, aligning with Nation's (2022) assertion that intentional vocabulary acquisition is best facilitated by distributed retrieval and repeated exposure.

The statistical significance of the expert reviews underscores the necessity for strict compliance with instructional design standards, as outlined in the ADDIE model (Branch, 2010). The presence of well-defined learning objectives and a coherent learner pathway, coupled with a systematic analysis and design of formative and summative evaluative data, are critical determinants of the overall effectiveness of the learning application. Previous research has included prototype vocabulary-expansion iterations, notably the significant study by Ishaq et al. (2022) and the recent analysis by Alexandre

et al. (2023).

However, earlier empirical studies have generally relied on implicit instructional theories, lacking comprehensive analytic reviews and systematically demanded learner feedback. The current experiment, referred to as *English Survivors*, utilizes on-demand pedagogical analytic frameworks through the integration of real-time performance scoring, optional practice parts, and immediate feedback. The iteratively embedded design options, validated by the evaluative framework of Sharmin & Barmaki (2024), significantly enhance learner engagement. Real-time feedback and intentional revisit cycles strengthen cognitive self-regulation and support ongoing formative self-assessment.

The study obtains its most definitive validation through systematic triangulation of empirical evidence sourced from three interrelated participants: students, teachers, and expert specialists. This interrelated approach significantly improves internal and external validity, while also uncovering and organizing refined practices that integrate pedagogical, technical, and evaluative domains. The study utilizes a successive-refinement design, allowing for the ongoing integration of evidence and judgments provided by participants into prototype workflows. This approach facilitates a recursive evaluative cycle that adapts strategically to emerging patterns of use and meaning.

However, there were three main limitations noted. The sample size was limited and focused on a specific geographic area; thus, the applicability of the findings to larger populations is uncertain. A minority of participants reported challenges with navigation and the clarity of instructional content. This suggests that future iterations of the intervention could benefit from a more comprehensive initial introduction segment, along with mechanisms for delivering real-time adaptive hints. Third, the intervention lacked pre-test and post-test assessments of vocabulary acquisition, preventing the collection of direct quantitative metrics that could support the assertion of pedagogical efficacy.

Analysis indicates that vocabulary growth is significantly enhanced when educational content is delivered through systematic game design, particularly when game mechanics are adjusted based on student feedback and subsequently evaluated by subject matter experts. This inquiry establishes a procedural framework for future research, including the development of an educational-specific evaluation group, the progressive relationship of related linguistic sub-skills, and the design of durability measures implemented over extended time periods.

CONCLUSION

This study presents the development and initial evaluation of *English Survivors*, an interactive platform designed to support intentional vocabulary acquisition for adolescents engaged in English as a Foreign Language (EFL) instruction. Utilizing the ADDIE model, the design team incorporated interactive quizzes, immediate feedback systems, and a user-focused graphical interface to improve learner engagement and strengthen vocabulary retention. Analysis of quantitative and qualitative sources gathered from students, teachers, and experts reveal consistently favourable opinions. Student survey responses revealed increased motivation and satisfaction, with 88% considering the vocabulary relevant and 86.67% recognizing the effectiveness of the feedback provided. Expert evaluations confirmed these findings, as a multimedia expert assigned a score of 97.5% and a language-content analyst awarded a perfect 100%.

Evidence indicates that the instructional application achieved a balance between situational engagement hints and defined teaching objectives, effectively serving as a

controlled mechanism for the assimilation of instrumental vocabulary. Complementary technical analyses identified deficiencies in visual clarity and user-centered navigational coherence. These drawbacks highlight the need for iterative improvement, which includes, among other things, creating more complex lesson plans, calibrating the trajectory of increasing task demands, and offering improved instructional dashboards that let teachers see the long-term trends in student performance.

The findings confirm that well-structured game-based environments serve as effective supplementary tools for vocabulary acquisition. Future research should broaden demographic diversity and evaluate long-term learning outcomes, particularly the retention and transfer of vocabulary content. The integration of related linguistic abilities, personalized learning pathways, and collaborative gaming features may enhance instructional impact and the platform's scalability for broader implementation.

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