

INCIDENTAL VOCABULARY ACQUISITION THROUGH HIDDEN OBJECT GAMES: A STUDY ON EFL LEARNERS' PERCEPTIONS OF CRIMINAL CASE

Galuh Fitriana Sakti, Defi Khusnul Khotimah, Edy Supriyanto

^{1,2,3}English Department, STBA Technocrat Tangerang

Email: galuhfsakti@gmail.com

Abstract

This qualitative narrative study examines the perspectives of English as a Foreign Language (EFL) learners about the smartphone game Criminal Case as a mechanism for accidental English vocabulary learning. Despite the increasing prevalence of game-based learning, research on EFL learners' opinions towards commercially available games for vocabulary acquisition remains few. This study examines how 10 EFL learners evaluate the game's capacity to enhance vocabulary learning through its interactive hidden-object gameplay, visually stimulating locations, and contextualized language demands. Data obtained through interviews, and open-ended surveys indicate generally favorable perceptions, carefully classified into two primary dimensions: pedagogical and psychological. Educational perspectives highlight the game's ability to enhance vocabulary, support learning through visual aids, and serve as an additional resource for practical language exposure. Simultaneously, psychological perceptions underscore the game's motivating, engaging, and pleasurable attributes, which foster prolonged player interaction and objective-oriented learning. The study concludes that Criminal Case serves as a highly effective, interesting, and academically valid additional resource for vocabulary acquisition in EFL contexts. This study enhances the literature by offering comprehensive qualitative evidence that recommends for the integration of particular commercial games into EFL curriculum, positing game-based learning as a method to improve vocabulary retention and student motivation.

Keywords: *Criminal Case; Students' perception; EFL learners; Vocabulary learning; Game-based learning; Educational games*

Introduction

Vocabulary mastery is a fundamental component of English language learning, particularly for EFL learners who have limited exposure to English in daily communication (Nation, 2013). Without sufficient vocabulary, learners struggle to comprehend texts, express ideas, and engage meaningfully in academic or social contexts (Schmitt, 2008). However, many EFL learners find vocabulary learning difficult, unmotivating, and monotonous, resulting in slow progress and low retention (Webb & Nation, 2017). This situation underscores the pressing need for innovative learning tools that can enhance vocabulary acquisition, making it both effective and engaging.

With rapid technological development, digital platforms such as

mobile applications and online games have emerged as promising supplementary resources for language learning (Godwin-Jones, 2014). Among these tools, game-based learning is gaining attention for its ability to create enjoyable, interactive, and immersive environments that naturally expose learners to new vocabulary (Reinders & Wattana, 2014). Research has shown that online games can support vocabulary growth through visual cues, repeated exposure, contextual learning, and increased learner motivation (Gee, 2007).

Criminal Case, a widely played hidden-object and detective-themed game, provides rich English input through object labels, instructions, storylines, and problem-solving tasks. Because it requires players to recognize and understand

English vocabulary to advance in the game, it offers a potential medium for incidental vocabulary learning (Huang et al., 2019). Previous studies have suggested that this game can facilitate vocabulary development, yet research focusing specifically on EFL learners' perceptions of the game as a vocabulary-learning tool remains limited.

The study is supported by the grounding theoretical frameworks of Incidental Vocabulary Learning (IVL) which describes the acquisition of new lexicon that transpires as a secondary effect of understanding or executing a job not primarily aimed at language acquisition. In gaming, the principal objective is to advance through the narrative (e.g., resolve the murder mystery), whereas vocabulary acquisition occurs incidentally as learners consult definitions, deduce meanings from context, or repeatedly meet terms (Hong., et al. (2022). Furthermore, the Multimedia Learning Principle, articulated by Mayer (2019), posits that individuals acquire knowledge more effectively through a combination of words and images rather than through words in isolation. This is based on cognitive load theory, which posits that delivering information via dual channels (visual and auditory/verbal) optimizes processing capacity and facilitates memory formation (Mayer, 2009). This framework is essential because it moves the discussion beyond "games are fun" to establishing that *Criminal Case* is a rich, contextualized source of input that drives passive vocabulary acquisition.

Understanding these perceptions is crucial, as learners' attitudes significantly influence the effectiveness of any learning medium (Dörnyei, 2005). If learners view *Criminal Case* as helpful, motivating, and educational, it can justify its integration into language-learning contexts and support the development of more engaging learning strategies. Therefore, this study aims to explore the perceptions of EFL learners regarding the use of *Criminal Case* to improve their English vocabulary,

addressing the growing urgency to identify innovative and enjoyable vocabulary-learning tools.

Although the general effectiveness of digital games in promoting Second Language Acquisition (SLA) is well-established (Chen, W. C., et al. 2022; Simamora, B., et al. (2020), research should increasingly concentrate on game genre and the distinct perceptual experiences of learners. Hidden Object Games (HOGs), which necessitate players to associate written words with visual objects in intricate scenarios as explained by Oei, E. (2013) as cited in Nashikhin, M. K. 2023) et al.), are theoretically congruent with Incidental Vocabulary Learning (IVL) owing to the recurring, contextualized exposure to target language elements (Handoko, 2016). Researchers have recognized HOGs as an effective educational resource for EFL environments, highlighting the suitability and practicality of the vocabulary offered.

However, an extensive and nuanced comprehension of EFL students' opinions regarding the commercially successful *Criminal Case*—a game distinguished by its intricate crime-solving narrative and specialized forensic terminology—remains insufficiently explored in the literature. Although a study by Sinaga and Siahaan (2018) examined perceptions of this game, a thorough qualitative case study is necessary to elucidate the intricate relationship between the game's mechanics (e.g., visual cues, narrative immersion) and the psychological and pedagogical perceptions of various EFL learners. This research addresses this gap by offering a contextualized and nuanced examination of student perspectives of *Criminal Case*, beyond mere effectiveness metrics by focusing on the following research question : How did EFL learners perceive the contextualized language of the hidden-object game *Criminal Case* as supporting or hindering their accidental English vocabulary learning

METHOD

This study employed a Narrative Qualitative study to examine EFL learners' lived experiences and personal narratives concerning the utilization of the online game *Criminal Case* as a means for vocabulary improvement. A narrative design was chosen as it facilitates the collection and analysis of intricate, personal narratives, elucidating the specific processes and views of how individuals engage with the game for language acquisition within their unique circumstances. The emphasis is on the participants' experiences and their interpretation of those experiences in relation to vocabulary learning. (Cherry, 2022). Narrative qualitative study is particularly useful when researchers aim to explore complex issues in real-life contexts, as they offer an in-depth understanding that quantitative methods may not capture (Crowe et al., 2011).

The participants were ten (10) EFL learners from the English Department at STBA Technocrat. A purposive sampling technique was used, with selection criteria ensuring participants had: (1) an intermediate level of English proficiency, and (2) at least six months of sustained experience playing the *Criminal Case* game. This purposive selection maximized the likelihood of recruiting information-rich participants who could articulate their detailed **stories** of vocabulary encounters and learning experiences within the game. Data Triangulation was utilized to increase the reliability and depth of the findings by employing two unique data sources: semi-structured interviews and open-ended surveys. The data collected from these sources was deemed reliable, although contradictory data points were thoroughly re-evaluated. By so doing, Interview sessions allow the researchers to acquire a deeper insight and more information on the aspect of the patterns being researched in the classroom context (Prasatyo & Gustary, 2023), in this case, the game for vocabulary enrichment.

The selection of *Criminal Case* as a case study is based on two principal theoretical frameworks. As a Hidden Object Game (HOG), its mechanics conform to Mayer's Multimedia Learning Principle, enhancing language retention by displaying words in conjunction with the corresponding visual objects. Secondly, the game serves as a substantial resource for Incidental Vocabulary Learning (IVL). Players are consistently exposed to target vocabulary (e.g., crime and forensics terminology) within a highly contextualized and intentional setting—solving a murder—thereby promoting passive acquisition and retention. This context-specific vocabulary emphasis is a pragmatic aspect that distinguishes this study from generic GBL research.

All collected data were analyzed inductively to identify recurring patterns and themes within participants' perceptions. This approach allowed the researcher to construct a comprehensive understanding of how EFL learners perceive the role of *Criminal Case* in supporting vocabulary acquisition, emphasizing both pedagogical and psychological dimensions of game-based learning (Patton, 2015). Data were gathered utilizing two instruments: 1) Open-Ended Survey: A preliminary survey was conducted to collect fundamental demographic data and initial written assessments of the game's overall influence on vocabulary. Semi-Structured Interviews: These served as the principal data source, directed by a topic guide concentrating on three core domains: a) Perception of game mechanics for educational purposes, b) Affective and motivational influences, and c) Specific instances of language acquisition. Each interview lasted roughly 30 to 45 minutes and was digitally recorded (audio) with the participant's prior agreement.

To ensure the trustworthiness of the qualitative findings, this study adhered to the three criteria proposed by Lincoln and Guba (1985): Credibility was established

through Data Triangulation (using interviews, and surveys) and Member Checking (submitting interview summaries to three participants for verification). Transferability was attained through a comprehensive description of the research context, participants, and the game. Finally, Confirmability was enhanced by asking a second researcher to verify 20% of the coded transcripts, ensuring that the codes and themes were confirmed by the data.

RESULTS AND DISCUSSION

This study explored EFL learners' perceptions of the online game *Criminal Case* as a medium for vocabulary learning. Analysis of interview data from ten participants revealed two major categories of perception: pedagogical and psychological. These categories reflect how learners experienced and interpreted the game's educational value through their interaction with its visual, linguistic, and gameplay features.

Table 1: Categorization of EFL Learners' Responses.

Primary Categories and Supporting Categories
Pedagogical Perception
- Enrich vocabulary
- Learning through pictures
- Alternative tools
Psychological Perception
- Motivating
- Exciting
- Interesting
- Fun learning

This qualitative investigation's findings indicate that EFL learners generally possess favorable impressions of the mobile game *Criminal Case*, which can be classified into pedagogical and psychological dimensions. This discourse carefully examines these findings by aligning them with the study's theoretical foundations and situating them within the wider context of game-based language learning research.

Pedagogical perceptions involve learners' views on how the game supports their vocabulary acquisition. Three subthemes emerged: enriching vocabulary,

learning through pictures, and using the game as an alternative learning tool.

a. Enriching Vocabulary; Validation of Incidental Vocabulary Learning

Most participants indicated that *Criminal Case* exposed them to unfamiliar English words and helped them expand their vocabulary. Informants reported encountering new items while completing hidden-object tasks and developing the initiative to search for meanings when they did not understand certain terms.

Excerpt 1:

"There were words that I did not know before... then, when I played the game, I came to know them. So I think it helps to increase vocabulary." (Informant 2)

Learners described the repeated appearance of objects across levels as a natural reinforcement mechanism that enhanced vocabulary retention. Repetition across game levels also supported vocabulary retention, as objects frequently reappeared in different scenes. Participants described the game as enabling them to "discover," "add," and "remember" new words that they had rarely encountered in daily life. below is another excerpt admitted by the informant

Excerpt 2:

"Before, I only knew common words. But playing Criminal Case, I started seeing words like 'scalpel' or 'autopsy report.' I had to know what they were to find them quickly and move to the next level. If I didn't know the word, I would pause and check my phone quickly, just so I could continue the game. After seeing the same objects three or four times in different scenes, I didn't need to look up the word anymore. It just stuck." (Informant 5)

The informant's statement offers strong empirical evidence supporting the study's foundation in the Incidental Vocabulary Learning (IVL) theoretical framework by (Chen, W. C., et al. (2022). IVL posits that vocabulary acquisition transpires passively as a secondary effect of participating in a primary endeavor not

specifically aimed at language learning. The learner's primary, meaning-oriented objective is to advance in the game (resolving the case and completing the level), rather than to commit a vocabulary list to memory. The learner's decision to pause and consult their phone (i.e., a dictionary) is motivated by a practical necessity to get through the interactive task, rather than by external academic pressure.

b. Learning Through Pictures

Half of the participants emphasized that the game's strong visual elements made vocabulary easier to understand and remember. Words were consistently paired with object images, enabling learners to associate meaning with concrete visual representations.

Excerpt 3:

"The vocabulary is like one word and one picture; that makes it easier to understand and remember compared to full text." (Informant 1)

Participants emphasized that visuals helped them recall meanings when they forgot the word, making the learning process more intuitive. Participants noted that this picture-supported format was more effective than text-only vocabulary learning, as the visuals clarified object shapes, aided recall, and reduced guessing. Visual reinforcement, therefore, functioned as a crucial scaffold for vocabulary comprehension.

c. Alternative Tools for Learning

Several participants perceived *Criminal Case* as a supportive, supplementary tool for vocabulary learning, especially compared to more traditional methods like reading textbooks.

Excerpt 4:

"Criminal Case is one of the media to help us remember vocabulary." (Informant 4)

This perception aligns with the idea that digital games can serve as supplementary educational tools that enhance engagement. Learners viewed the game as an enjoyable and non-boring way to practice English, aligned with the idea

that educational games can enhance conceptual understanding and cognitive engagement. The game's accessibility and interactive design made it a practical alternative medium for vocabulary exposure. Another informant stated;

Excerpt 5:

"Honestly, it's just way better than studying from the textbook. The book is so dry. With Criminal Case, I'm chilling on the couch, playing, and suddenly I realize I just learned five new crime words without even trying. It's like sneaky learning. It's not a proper class, which is good, but it's totally a useful tool for getting more English outside of lectures. I always prefer to open that game than open the dictionary." (Informant 9)

This point of view supports the idea that the game is a good way to learn on its own. The game encourages ongoing, voluntary involvement with the target language because it is easy to get into ("I'm chilling on the couch") and people see it as a fun activity. This constant exposure outside of class is important for expanding vocabulary, which shows that the game is a useful, fun, and necessary way to increase EFL input. The game effectively integrates the learning activity into an entertaining, non-academic setting, hence reducing cognitive demands and enhancing emotional engagement in the acquisition process. This view is align with the previous finding conducted by Simamora, B., et al. (2020) that online games can support vocabulary growth through visual cues, repeated exposure, contextual learning

Psychological perceptions reflect participants' emotional responses and personal feelings toward using the game as a learning medium. Four subthemes emerged: motivating, exciting, interesting, and fun learning.

a. Motivating

Several participants expressed that the game motivated them to learn new vocabulary because understanding English words was necessary to progress in the

game. The gameplay structure—requiring players to interpret clues, follow instructions, and identify objects—encouraged learners to seek word meanings actively. For some, this approach was perceived as more engaging and effective than conventional vocabulary-learning methods.

Excerpt 6:

“Because this is an English game, it motivates the player to know what the words mean so the game can continue.” (Informant 1)

Learners found the game motivating because understanding the vocabulary was necessary to advance through levels. This functional need encouraged them to seek word meanings actively. This motivational factor transformed vocabulary learning into a purposeful and goal-driven activity.

b. Exciting

Participants also characterized the game as exciting due to its detective narrative and hidden-object mechanics. Some learners perceived the game as exciting due to its detective narrative and guessing elements. The sense of challenge kept them engaged and eager to continue playing.

Excerpt 7:

“It’s fun because the player can guess objects.” (Informant 8)

This excitement contributed indirectly to increased exposure to vocabulary through extended gameplay. Solving cases and guessing objects created a sense of challenge and engagement, which contributed to sustained gameplay. This excitement helped maintain consistency in playing, indirectly increasing exposure to new vocabulary.

c. Interesting

The game’s comic-like visual design, colorful interface, storyline progression, and interactive features contributed to learners’ interest. Participants found the game visually and interactively appealing. The comic-like storyline and colorful interface stimulated curiosity, leading to sustained engagement.

Excerpt 8:

“It is interesting because the game looks like a comic and has many features that make me curious to keep playing.” (Informant 3)

Participants noted that these aesthetic and functional elements sparked curiosity, leading them to continue playing and encountering new English words. The combination of narrative and visual interaction made the learning process more appealing. Such interest created a positive learning environment that supported vocabulary exploration.

d. Fun Learning

Participants perceived *Criminal Case* as a fun and relaxing learning medium. They valued the blend of entertainment and education, noting that gameplay offered an enjoyable way to acquire vocabulary without feeling pressured. The puzzle and problem-solving elements also contributed to cognitive engagement, making learning feel natural and immersive.

Excerpt 9:

“It’s a fun method because we play games not only for fun but also to learn new vocabulary while relaxing.” (Informant 10)

Learners appreciated that the game provided a relaxed and enjoyable way to learn vocabulary. The puzzle-solving elements demanded quick thinking yet remained entertaining. This perception reinforces the potential of game-based learning to reduce boredom and enhance learner engagement.

Excerpt 10:

“I think the biggest thing is that it doesn’t feel like studying at all. It’s a detective story, right? You’re rushing to find the clues before time runs out, and that whole rush makes it exciting. Because it’s so fun, I can play for an hour without getting bored, and that means I get exposed to way more words than if I just looked at a list for ten minutes..” (Informant 7).

The excerpt shows that individuals see the game as Fun Learning since it is fun and interesting. The informant's emphasis on

the "rush" of the detective story and the capacity to engage "for an hour without getting bored" directly connects the Aesthetic and Mechanics of the Game to Sustained Interaction. This conclusion is crucially important because good affect and persistent engagement are criteria for successful language learning, particularly within the IVL framework. When a game is seen as fun, it greatly decreases the affective filter, which makes the learner more open to linguistic input and less worried about coming across new words. This is quite similar to what Reinders and Wattana (2014) found: that playing digital games makes students more willing to talk to one other and work hard. Gee (2007) also said that games create a "psychosocial moratoria," which is a low risk setting where players can try things and fail without real-world consequences. This encourages deeper participation.

CONCLUSION

The results of this study indicate that EFL learners possess primarily positive views regarding the utilization of the mobile game Criminal Case as a tool for vocabulary learning. These favorable attitudes are seen in two principal dimensions: From an educational perspective, students believe the game is helpful for expanding vocabulary, aiding comprehension with visual aids (in accordance with the Multimedia Principle), and serving as an entertaining alternative to traditional techniques. The game is seen as very exciting, interesting, and challenging from a psychological point of view. This makes the atmosphere enjoyable and fun, which is important for Incidental Vocabulary Learning to work. However, it is crucial to state the study's scope and limitations where this research, relying on self-report data from a small sample (N=10), does not establish or quantify objective vocabulary acquisition or

retention rates. The research thus concludes that Criminal Case is perceived as an effective and engaging supplementary tool, offering essential qualitative evidence that justifies future large-scale, quantitative studies needed to objectively measure the game's actual pedagogical efficacy for integration into the EFL curriculum.

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