From Clues to Conclusion: Using 'A Bloody Reunion' to Enhance Inferring Skills among University EFL Learners

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Abstract
Critical thinking skills are imperative in a 21st-century classroom. One of the ways to foster critical thinking skills is through the mastery of inferring strategy. Inferring is a method used to generate a useful conclusion by presenting evidence and facts. Marzano (2010) asserted that inferring is a 'foundational skill' that is essential for higher-order thinking. In order to cultivate inferring skills, *A Bloody Reunion: A Murder Mystery Game* is developed to place students in an environment where critical thinking is utilised at the optimum level. Before students are engaged with the murder mystery game, they are first given a pre-game activity focusing on understanding contextual clues. Mastering contextual clues can tremendously train effective inferring. After that, students are given a text that revolves around finding out who the murderer is based on the evidence found. This game was tested on three EFL students of CEFR B1 proficiency at an international university in Gombak, Malaysia . The findings from the interview conducted show that the game helps to foster inferring skills tremendously. Therefore, this murder mystery game can help teachers groom higher-order thinking skills among students by specifically tapping on inferring skills.
Keywords: Reading Comprehension, Contextual Clues, Inferring, Gamified Learning, EFL

Introduction
In acquiring the skills of the English language, there are four skills to pay attention to, which are reading, writing, listening and speaking. Reading is one of the most crucial skills to improve one's knowledge from time to time. As asserted by Satriani (2018), reading is one component

of language skills that is essential in everyone's life, both in school and at university. Reading skill development should begin at a young age. Stolyarov's (2023) review emphasises the need for reading support for children in a variety of countries including Japan, Singapore, China, and the United Kingdom. In an article by UNESCO (2023) promoted an initiative about reducing prison sentences by reading books. These initiatives depict the significance of reading. However, it is not easy sailing to master reading skills.

Reading is a complicated and interactive process. This process involves the dynamic interaction of the reader's prior knowledge, information inferred from the written word, and the context of the reading situation to create meaning (Satriani, 2018). Reading would be pointless without the ability to understand. Based on the research findings conducted by Kiew and Shah (2020), the factors affecting reading comprehension are low motivation, less prior knowledge and low vocabulary knowledge. In reading, students must employ a variety of strategies to aid in the acquisition, storage, and retrieval of information (Banditvilai, 2020). As suggested by Banditvilai, (2020), reading strategies which can be employed to facilitate reading comprehension are skimming, scanning, making predictions and questioning.

Huyen (2019) highlighted that using contextual clues is regarded as one of the most important ways for guiding pupils in determining the meanings of unfamiliar words in reading comprehension. Inferring is also known as a 'foundational skill' that is essential for higher-order thinking (Marzano, 2010). Learning contextual clues requires ones to infer. Inferring is a method used to generate a useful conclusion by presenting evidence and facts. Based on the needs analysis conducted, students lack inferring skills when they read and communicate and instructors are neutral or not aware of the resources available used to teach inferring skills. This paper aims to study the use of contextual clues and inferring skills to better understand a reading comprehension with the touch of gamification. To ensure the focus of paper is well structured, it narrows to one research objective which is:

1. To Investigate the Students' Perception of the Effectiveness of 'A Bloody Reunion' in Improving Inferring Skills.

Literature Review

Through the lenses of Social Cognitivism Theory (Jean Piaget), Social Constructivism Theory (Lev Vygotsky), Gamified Learning Theory (R. N. Landers), and Bloom's Taxonomy (Benjamin Bloom), the integration of contextual clues as a reading strategy, combined with the incorporation of gamification elements, can be comprehensively understood. These theoretical frameworks establish an adequate foundation for investigating the cognitive, social, and instructional components of reading comprehension, as well as the possible influence of gamification on learning outcomes.

The Social Cognitivism theory emphasises learners' active participation in generating knowledge by interacting with their surroundings. Educators have an important role in leading this process by using social and culturally relevant techniques (Wuryaningrum & Aziz, 2020). Piaget's theory emphasises the relevance of cognitive processes in learning, including schema construction, assimilation, and accommodation (Bormanaki, 2017). According to Bormanaki (2017), these processes are particularly significant in the field of receptive skills, such as reading and listening comprehension. Using contextual clues in reading comprehension may be thought of as a cognitive process in which students actively interact with the text to deduce

meaning. Using contextual clues, learners integrate fresh information into their previous cognitive applications, thereby enhancing reading skills.

Lev Vygotsky's Social Constructivism Theory emphasises the role of social interactions and collaborative learning in knowledge construction (Mohammed & Kinyó, 2020). Vygotsky believes that learning is intrinsically social and takes place via interactions with others. The use of contextual clues in reading comprehension may be viewed as a collaborative step in which students engage in conversation and discussion to extract meaning from the text (Howe et al., 2019). Gamification features that adhere to social constructivist principles may improve collaborative learning by encouraging peer participation and collective problem-solving. Santos (2020) performed a thorough research that confirmed the growing use of gamification in collaborative learning and its favourable influence on student engagement and motivation.

According to Landers (2017), Gamified Learning Theory emphasises the use of game procedures and aesthetics to appeal to students, improve learning outcomes, and solve difficulties or problems. This approach emphasises the motivating and immersive benefits of gamification in the learning process (Nazififard, 2019). Integrating gamification aspects into reading comprehension tasks can increase student engagement and motivation, creating a more immersive and pleasurable reading experience. Gamified learning can increase active participation and prolonged interest in reading activities by combining gamification-inspired characteristics such as challenges, incentives, and feedback, as advocated by behaviourism theory.

Benjamin Bloom's Taxonomy is a systematic way to categorise educational objectives and cognitive processes associated with learning. The taxonomy of cognitive complexity is divided into six categories, ranging from lower-order cognitive skills (like remembering and comprehending) to higher-order cognitive abilities (like applying, analysing, assessing, and producing) (Webb, 2020). The use of contextual hints and gamification components in reading comprehension is consistent with Bloom's Taxonomy, facilitating the development of both lower- and higher-order thinking skills. For example, identifying and interpreting contextual clues correlate to Bloom's Taxonomy levels of analysis and evaluation, respectively, whereas gamification aspects might encourage innovation and assessment in text interpretation.

Apart from that, contextual clues are critical for enhancing English as a Foreign Language (EFL) reading comprehension. Ilahude (2021) asserted that contextual clues in reading comprehension have been shown to significantly improve students' knowledge of texts. This is especially important for information retention, since presenting pertinent contextual knowledge prior to reading a section can lead to better understanding. The ability to discern the meaning of a word from contextual cues is an important sign of reading proficiency, according to Stevani (2022), and advanced students had excellent abilities in these context clues. As a result, using context cues on a frequent basis, especially while reading information, is crucial for enhancing comprehension (Lee, 1978). It proves that mastering inferring skills are crucial in achieving full potential of reading comprehension as it is supported and acknowledged by past literature.

Furthermore, inference abilities are recognised for their importance in improving pupils' reading comprehension. According to Hamouda (2021), using lexical inferencing procedures considerably improves EFL learners' reading comprehension, allowing them to better understand texts. Hashem (2022) and Bernal and Bernal (2020) emphasised the need of teaching ESL/EFL students strategies such as inference formation to improve their reading abilities. Furthermore, Kaivanpanah and Moghaddam (2012) investigated the use of

knowledge sources in lexical inferencing among EFL learners with varied levels of reading competence, offering insight on the cognitive processes involved in determining the meanings of unknown words. These studies emphasise the importance of inference abilities in EFL reading and provide several ways for improving reading comprehension. They demonstrate that mastering inferring skills is essential for unlocking the full potential of reading comprehension.

In conclusion, the literature review investigates the use of contextual clues and gamification in reading comprehension, with a special emphasis on theories such as Social Cognitivism, Social Constructivism, Gamified Learning, and Bloom's Taxonomy. It stressed the cognitive processes involved, the communal aspect of learning, and the motivating influence of gamification. Furthermore, the review emphasises the relevance of inference abilities in increasing EFL reading comprehension, as supported by empirical study findings. Overall, this review gives a detailed knowledge of the theoretical underpinnings and practical applications of various instructional methods.

Methodology

This research uses a qualitative study technique. According to Creswell (2018), qualitative research is a strategy for gathering detailed information on a specific occurrence. This research includes three international students in an international university in Gombak, Malaysia. Participation in this study is entirely optional. Due to confidentiality, the participants' identities are withheld and replaced with pseudonyms denoted as P1, P2, and P3, respectively. The instrument employed in this study is semi-structured interviews. The reason for using this sort of instrument is that it allows for the collection of significant data and a thorough comprehension of the issue under consideration. The data is gathered through physical interviews. The students are contacted via WhatsApp private message to confirm their availability for an interview.

Analysing data from semi-structured interviews can be done effectively with the help of thematic analysis. Using thematic analysis, researchers may systematically identify and assess patterns in participants' responses, allowing for a more in-depth exploration of international students' experiences and perspectives. The use of pseudonyms for participant confidentiality is congruent with ethical considerations in qualitative research, since it protects participants' identities while making way for meaningful analysis of their contributions.

In the course of the implementation of the gamified module, students began the activity with the first game, 'Hidden Objects'. Students are told to create groups of three. Each group is given an image with 20 concealed objects and has 10-15 minutes to finish the game. They must identify the concealed items based on a list of CEFR B1 nouns provided. If they are unable to grasp the term provided they are given a card with contextual clues. They have to read and understand how the word is used in a sentence. This is where they learn to utilise the surrounding contextual clues in order to come to an answer. After that, they will continue to identify the hidden objects based on their understanding of the contextual clues. After they have completed the game, they will receive scores based on the correct answers. The 'Hidden Objects' serves as a foundation to playing 'A Bloody Reunion- A Murder Mystery Game'. In order for students to infer who the murderer is, they have to be able to find and understand the contextual clues available in the text. Students are given around 15-20 minutes to read the text prescribed in a group of 3. They will be given a 'Detective Sheet' that includes aspects like relationship with the murdered. This sheet requires them to infer the text to fill in the correct answers. Instructor marks the 'Detective Sheet'. Groups with the highest scores from

'Hidden Mysteries' and 'A Bloody Reunion- A Murder Mystery Game' will be announced as winners.
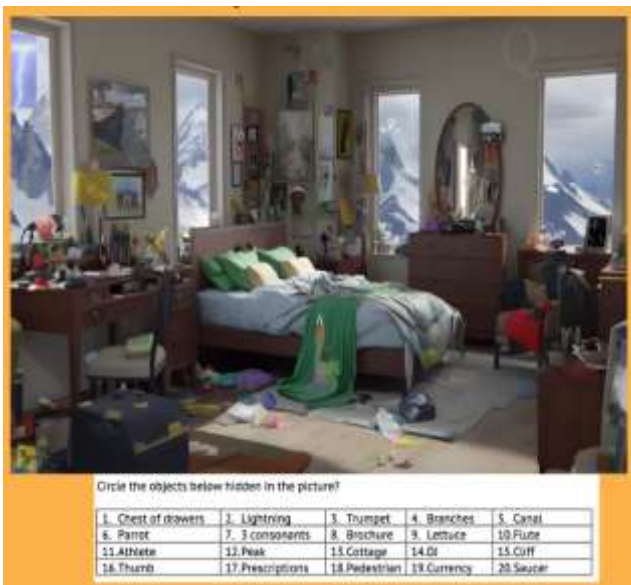

Figure 1

Figure 2

Figure 1 shows the complicated picture with 20 pictures hidden in, and figure 2 shows the clues cards for the first level game "finding hidden mysteries"

Figure 3

Figure 4

Figure 3 shows 'A Bloody Reunion' text, and figure 4 shows a 'Detective Sheet' for students to identify the murderer.

Figure 5   Figure 6

Figure 5 and figure 6 show the picture of students playing a hidden mysteries game and followed by 'A Bloody Reunion' game.

Result and Discussion

The researchers aimed to analyse the participants' perceptions of the effectiveness of 'A Bloody Reunion' in improving inferring skills. Below details the participants' response to the interview conducted.

Table 1
Participants' Perceptions of the Effectiveness of 'A Bloody Reunion' in Improving Inferring Skills

Participants	
P1	"I enjoyed this game. It helped me to think critically and analyse the text carefully. There was a lot of confusion in the text to distract us from detecting the murderer. We need to collect much evidence and analyse to see which ones are relevant and irrelevant to prove the answer."
P2	"The game was very interesting. We need to think creatively to solve this game. Some of us don't have any idea about detective games. So, we enjoyed the game so much. As a team and to get a mutual conclusion, we need to analyse and prove our evidence. This game also helps in improving our vocabulary. To demonstrate the evidence, we need to have the ability to infer as we simply cannot come to an answer. This game assists us in enhancing our inferring abilities."
P3	"This game helped me to think carefully to identify which sentence gives out the evidence. This game helped me to improve my critical thinking. Comparing both games, I love the murder mystery game more, but the hidden mystery game helped to figure out the meaning of the words with the help of contextual clues and by inferring each answer option."

To respond to the research question which is to explore the students' perception of the effectiveness of 'A Bloody Reunion' in improving inferring skills, the participants' answers are categorised into four divisions: engaging learning input, critical learning exposure, increased amount of vocabulary and inferring abilities and challenging but a pleasant experience.

First of all, the game proved to be enjoyable for all three players and a worthwhile educational experience. In line with the Social Cognitivism Theory, Wuryaningrum and Aziz, (2020) emphasised students' active participation in the creation of knowledge and this can be demonstrated in P1 who valued the chance to exercise critical thinking and reading analysis of text. Webb (2020) asserted that Bloom's Taxonomy places a strong focus on the development of both lower-order and higher-order thinking skills. This is particularly true when P2 thought the game was creatively interesting and beneficial for enhancing vocabulary and inferring skills. P3 found excitement in locating evidence and honing their critical thinking abilities.

Second, as P1 pointed out, the game made players think critically and carefully evaluate information. This is consistent with the Gamified Learning Theory, which emphasises the use of game-based procedures to involve learners and improve learning (Landers, 2017). This can be shown when learners realised the importance of distinguishing between relevant and irrelevant evidence when taking part in the game. Hamouda (2021) highlighted that lexical inferencing method improves reading comprehension. This strategy is utilised and shown

when P2 underlined the necessity of meticulous examination and proof of evidence, while P3 highlighted the significance of determining which sentences give evidence.

Thirdly, P2 explicitly said that the game assisted them in learning new vocabulary and enhancing their capacity to deduce textual meaning. This suggests that the game enhanced players' vocabulary and inferring abilities. Research on the usefulness of contextual cues in enhancing EFL reading comprehension lends credence to this conclusion (Ilahude, 2021; Stevani, 2022; Lee, 1978).

Lastly, the interview analysis revealed that the game was both engaging and demanding. As evidence of the gamification's ability to motivate as proposed by Nazififard (2019) , P2 pointed out that even though some players had no prior experience with detective games, they still found the challenge enjoyable. While P3 thought the hidden mystery game was better for improving deduction abilities, she also thought the murder mystery game was better. This suggests that various gamified features can accommodate different learning styles.

To sum up, these findings as a whole indicate that the game was a fruitful educational tool that enhanced players' vocabulary, critical thinking, analysing and inferring abilities. Players considered the game to be a worthwhile learning experience and found it to be both pleasant and difficult, which reflects the research and theoretical frameworks covered in the literature review section.

Conclusion

In conclusion, our study highlighted the significance of understanding contextual clues and inferencing in gamified learning among students in tertiary level education. Based on the findings, gamified activities with a lot of contextual information foster an environment that promote users to employ their inferencing skills. This allows students to detect meaning, solve problems, and make informed decisions, so improving their understanding and retaining of knowledge. Furthermore, the study revealed that applying inference in games improves problem-solving skills and critical thinking abilities, both of which are essential in the 21st-century learning environment. The inviting and dynamic nature of games has also been demonstrated to increase participation and motivation, increasing the efficacy of the learning experience.

This study adds to the expanding body of evidence that supports the use of creative game-based methods in higher education. It provides the door for more engaging and effective learning experiences, which aligns with the trend towards student-centered learning methodologies. The research has consequences beyond academia. As the world grows more complicated and information-rich, the capacity to make sense of information through contextual cues and inference becomes increasingly important. As a result, teaching students these abilities through game-based learning can better prepare them for the challenges of the modern world.

This research contributes to the growing amount of data supporting the use of creative game-based strategies in tertiary education. It opens doors to more engaging and interesting learning experiences, which are consistent with the trend of promoting student's autonomy in classroom. The research has implications beyond teaching and learning. As the world gets more complex to navigate through, improving reasoning skills using contextual clues and inferencing strategies is becoming increasingly critical. In effect, equipping learners with these skills through gamified learning can better equip them to face the problems of today's world.

Given these findings, instructors, policymakers and curriculum designers should explore various strategies in incorporating game-based learning approaches into the teaching and learning activities. Through this approach, teachers may enrich learners' learning experiences, equip them with vital abilities, and eventually mould them for success in the twenty-first century.

However, further research is needed to explore how to optimize these game-based learning activities to cater to diverse learners and maximize learning outcomes as the limitation of this study is that a generalisation cannot be made as there were only three participants involved. Also, this study is a classroom research that serves as an initiative to innovate the teaching and learning process

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