The Effectiveness of Game Cards on Students' Mastery of Parts of Speech: A Case Study

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Abstract

This study investigated the effectiveness of a novel card game, POS by the Nas, as a pedagogical tool for teaching parts of speech in English language learning. Given the challenges associated with traditional methods, the game was designed to provide a more engaging and interactive approach. Participants, ranging from beginner to advanced levels, were introduced to eight parts of speech through gameplay that required them to identify and pair corresponding terms. A survey instrument was administered to assess the game's impact on participants' understanding and interest in parts of speech. Results indicated a significant agreement which suggests that POS by the Nas offers a promising alternative to traditional teaching methods. Future research should explore the game's efficacy in enhancing students' writing skills and its potential applications in diverse educational contexts.

Key Words: card game, parts of speech, game-based learning.

Cite This Article:

Introduction

Language is derived from parts of speech that separate words into different groups according to their grammatical properties and sentence usage. These categories include nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, and interjections. Each category plays a vital role in making sentences more organized and significant. Comprehending the parts of speech is important to have meaningful communication and study of language since it is the pillar of having cohesive sentence structure and correct language rules. Recent studies have highlighted the importance of parts of speech in mastering a language (Monday & Nwachukwu, 2023; Maili et al., 2022; Maqsood et al., 2020).

According to Abrar et al. (2020) and Tahir et al. (2019), teaching parts of speech is scarcely done even though it is important for school children. Thus, the traditional

memorization method has become the only acceptable method when teaching parts of speech (Monday & Nwachukwu, 2023). They also added that little consideration has been given to the significance of the instructional delivery techniques for parts of speech, despite the subject being included in the primary curriculum. As a result, students struggle to recognize parts of speech in sentences when they graduate from elementary school and this root problem persists into secondary schools and eventually when they pursue their tertiary education. This aligns with research conducted by Maili et al. (2022) where they discovered that university students were still unsure about all seven categories of parts of speech.

Moreover, although parts of speech are essential in linguistics, rigid traditional teaching methods do not consider how they can vary depending on the context. As suggested by Garcia and Wei (2014), students' language understanding could be improved by considering their varied linguistic backgrounds through a more flexible approach when teaching and it is tailored to the specific needs of students. Other than that, the existing language theory needs to be revised (Jager & Rogers, 2012) due to the emergence of new words usages, and forms steered through online culture. Therefore, it is important to update conventional grammar frameworks by reevaluating rigid divisions between parts of speech to appropriately reflect modern language usage.

Literature Review

Importance of learning parts of speech

Parts of speech are fundamental categories of words in English grammar. This study focuses on eight core parts of speech: nouns, pronouns, verbs, adjectives, adverbs, prepositions, conjunctions, and interjections (Karam, 2018). A strong understanding of parts of speech is crucial for effective language use. As Choudhary and Arora (2021) note, English learners should be able to recognize and identify all eight parts of speech to comprehend grammatical explanations and select appropriate words for specific contexts. A lack of understanding of parts of speech can hinder language learning, particularly in writing and reading.

This is because English is a language characterized by contextual word flexibility. For instance, a verb can function as a noun when used as a gerund. This versatility can be challenging for learners, especially when constructing sentences. Despite being introduced to parts of speech from an early age, many Malaysian students continue to struggle with these concepts, even at the tertiary level. This is concerning as a strong foundation in parts of speech is essential for developing grammatical proficiency. A tendency to prioritize sentence construction over foundational knowledge can lead to persistent errors. Therefore, a solid understanding of parts of speech is a prerequisite for effective English language learning.

Implementing game-based learning

The education landscape has evolved and transformed drastically over the years. With the advancement of technological devices and the implementation of Artificial intelligence (AI),

the traditional way of teaching is not relevant anymore. To cater to the needs of the modern youth, Game-based Learning (GBL) is applied especially in language learning environments. The GBL implementation is to improve the students' engagement and learning results by incorporating gaming elements into educational environments. According to Partovi and Razavi (2019), since game-based learning blends academic content with student enjoyment, it is seen as a prevalent educational tool among students. When the students emerge in the game, they feel like they are in a different dimension of the world. Hence, the game is considered as a short escape from reality (Ajmal et al, 2022).

According to Tu et al. (2014), to integrate game-based learning in any lesson, it requires four critical elements namely setting up the goals, engagement of the players, environment creation, and progressive design. Firstly, setting goals establishes a foundation for designing the environment, rules, dynamics, incentives, and other components. To design a game, it is important to carefully identify the main purpose and desired behaviour. Secondly, it is also crucial to know the audience well which will help to maximise their engagement (Hartt et al., 2020). Based on Tu et al., (2014), the gaming experience should be enjoyable and interesting, with social participation, significant rewards, and different game mechanisms. Thirdly, optimising physical space and encouraging social contact are critical in establishing a welcoming and engaging learning environment. Lastly, the game design should also be a progressive, iterative process that incorporates motivation, action, and feedback. The key components involved include monitoring systems, cash, level, rules, and feedback (Tu et al., 2014). Thus, it indicates that the game components should be consistent with audience preferences and major aims, resulting in a cyclical, iterative process that can be adjusted to any changing requirements.

Game-based Learning (GBL) has changed the traditional directive in teaching and learning process in which it involves the incorporation of elements of game as the key component of its instructional method. GBL also requires an active participation of students in educational activities by incorporating these game elements. Additionally, GBL also involves dynamics, which includes rules, goals, interactions, and competition (Ai-Chu & Yu, 2024; Boller & Kapp, 2017). To ensure the effectiveness of GBL implementation, it demands careful planning and curricula integration. This is agreed by a proposal by Kalmpourtzis & Romero (2020), in which investigated a framework for incorporating educational games into current lesson plans, emphasising the importance of congruence with the learning outcomes and curricular requirements. Hence, with a systematic approach in GBL, it is believed to suit the needs of Gen Z's learning environment.

This GBL approach has been thoroughly researched to establish its usefulness in many educational environments, particularly in learning English. Hartt et al. (2020), investigated how GBL may be integrated into many topic areas, including science and humanities, by adapting game mechanics to diverse educational environments. The students will be more engaged and interested in the lesson learned in their classroom. This is evident by research conducted by Ghazy et al. (2021), which indicated a significant increase in the student's interest and achievement when GBL was used in the classroom. The education landscape in the 21st century has changed, and some traditional methods of teaching and learning are considered irrelevant anymore. Based on Jamaatthuddin and Or-Kan (2021), it is believed that most tertiary education

students felt that game-based learning appeared to be more appealing as compared to the conventional means of learning English. Therefore, there are demands and needs in implementing GBL in our learning environment especially in the language settings.

The effectiveness of card games in teaching English language

Numerous studies have been conducted on the effectiveness of card games in teaching English language and its association with the improvement of language acquisition and the students' perception of using card games as part of their learning process. Much past research pointed out the significant improvement of playing card games and language proficiency (Mohideen, 2019; Sa'adan et al. 2019; Zakaria et al., 2022; Apria et al., 2021; Takada et al., 2023; Cheok & Mohammed, 2024). The integration of card games in the classroom not only help students to enhance their skills in English language but it also contributes positively in memorization (Razali et al. 2017; Mohideen, 2019; Apria et al. 2021; Takada et al. 2023), reduces anxiety in learning English as a second language and increases their motivation (Mohideen, 2019; Sa'adan et al. 2019; Zakaria et al., 2022; Apria et al., 2021; Cheok & Mohammed, 2024). Apart from that, some studies have also highlighted that the collaboration between the players has caused stronger relationships between them as it increased their engagement in the classroom (Mohideen, 2019; Takada et al., 2023).

In an experimental study conducted by Permatasari et al. (2023), the study highlighted the significant improvement in students' proficiency levels after playing language card games. The study aims to measure the improvement of the student's speaking ability. A sample of 70 students was involved in the study and they were divided into two groups- control and experimental and each group was given a pre-test and post-test. The experimental group received a lesson with a quartet card game that was used as the medium of teaching speaking skills. The class showed improvement in their post-test scores which is better than the control group. This reveals that the quartered card game that has been integrated into the English language lesson has a positive effect on the student's speaking abilities as the students were found to be struggling in their speaking abilities. They were reported to be lacking fluency and accuracy in speaking. The implementation of card games, helps the students to enhance their speaking skills by making them feel less stressed in using the language but instead enjoying the lesson causing them to acquire the skills in a relaxed manner.

This is like the study conducted by Sa'adan et al. (2019) on the usage of card games to the students' speaking skills. The study reported on the positive perception of the students on the improvement of their speaking skills after playing card games. The integrated game in the lesson has provided students with a more comfortable learning environment that also positively contributed to their improvement in speaking. As cited in Sa'adan et al. (2019), lessons with games allow students to acquire the skills without any force and they automatically become more proficient while using the language in the game (Mei & Yu-Jing, 2000). This enjoyable environment that the students experience has caused them to be calmer in receiving new information and acquiring language skills effectively.

Apart from the improvement in speaking skills, card games also are extensively used for grammar and vocabulary learning. In a recent study conducted by Cheok and Mohammed

(2024), the finding of the study reflected positively on the effectiveness of card games as the students showed an increase in their motivation that reflected on their proficiency. This is supported with similar studies conducted by Zakaria et al. (2022), Apria et al. (2021) and Razali et al. (2017) as all the studies reported a resemblance finding of elevation in interest and improvement in the learning skills which are grammar and vocabulary. Meanwhile, although Takada et al. (2023) highlights the positive collaboration that the card games caused, the students also claimed that card games do not maximise learning as they could only learn about the information in the game partially. Time allocated for the game is inadequate and the students perceived of having more time to fully comprehend the strategies that they need to apply to complete the game. However, the students also noted that the use of card games in the classroom helped them in relating the games with their prior knowledge and enhancing their understanding more on the topic learnt. This is related to the motivation that the students experience when they are playing card games in class as this game helps to boost their motivation and encourages them to understand more to complete and score the game. Chiangmai (2022) emphasised on the intrinsic motivation that the students encountered with the use of card games and the usage of it will help to stimulate the students' interest in learning English as their second language. This illustrates that when card games are embedded in the lesson, students are motivated to learn more on the topic.

Thus, the mentioned past studies have illustrated the effectiveness of card games in learning the English language and game-based learning has positively affected the learning of the students and it acts as an effective method that can be implemented and practised by the language teachers and instructors in order to help the students to acquire the needed skills with less stress and nervousness toward learning the language.

Motivational theory

According to Gopalan et. al (2020) motivation is a significant component that influences students' self-efficacy and willingness to participate in learning activities. This shows how important motivation is for students as it determines how confident a student feels about their abilities, readiness, and willingness to engage in learning activities. (Zakaria et al. (2022) emphasize how incorporating games in teaching and learning can enhance student engagement and motivation to learn, especially when it comes to learning and mastering English grammar. Games make lessons more fun, fascinating, and engaging thus leading the students to be more active in the lesson and motivated to learn.

Several theories have been proposed to explain the concepts and nature of learning motivation. Three main categories of motivation theories have been highlighted by Ihensekien and Joel (2023) which are content, process, and contemporary. Self-determination theory (SDT), a contemporary theory proposed by Deci and Ryan in 2000, is a comprehensive theory of human motivation and personality that emphasizes how individuals interact with and are influenced by their social environment (Legault, 2020). This theory highlights the relevance of autonomy, competence, and relatedness (ACR) in developing intrinsic motivation.

In the context of this study, the use of game cards for learning the grammatical parts of speech aims to boost motivation by giving students control over their learning (autonomy),

challenging them within their abilities to foster a sense of achievement (competence), and encouraging collaboration to create a sense of belonging (relatedness). These factors can help students stay engaged and motivated in learning language concepts. According to Farrell and Moffat (2024), these ACR factors are central to the design and effectiveness of the game cards used in mastering parts of speech, ensuring students stay engaged and motivated in learning language concepts. By aligning the design of game cards with these fundamental psychological needs, the research aims to demonstrate how meeting ACR needs can effectively enhance students' intrinsic motivation and thereby improve their mastery of parts of speech.

Methodology

Research design

In this study, a quantitative research design is utilized to analyse data and find patterns related to the research objectives. A survey is administered to 147 participants to collect their responses for this study. Once the data is collected, SPSS (Statistical Package for the Social Sciences) software is used for data analysis to determine mean scores.

Description of card game and its rules

P.O.S. card game is an entertaining and educational tool that makes learning parts of speech efficient and enjoyable. All 8 major categories of parts of speech; nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, and interjections, are covered in this card game. One set of a P.O.S. kit consists of 3 levels: Beginner, Intermediate, and Advanced, with a total of 50 cards: 48-word cards and 2 answer cards. P.O.S. card game is a useful tool for self-improvement, family entertainment, and educational environments.

How to play:

1. Two to eight players may play P.O.S.
2. All 48 cards are dealt to the players, face down.
3. The players cannot look at their cards.
4. Any player can start the game by placing one card in the middle, facing up. 5. The next player will continue the game this way.
5. When two cards of the same category of parts of speech turn up, the first player to say "POS" while placing his or her hand on the stack and guess the parts of speech:
   i.   correctly, take the stack.
   ii.   wrongly, leaves the stack and continues the game.
6. The players may check the correct answers from the answer cards provided. 8. The player who holds the most cards is the WINNER.

Samples of Study

147 foundation students were chosen at random by using a purposive sampling technique. They were selected from 5 classes of a public university in a district in Selangor, Malaysia. Since primary education, these students have formally learned the topics on Parts of Speech (nouns, verbs, adjectives, adverbs, pronouns, prepositions, conjunctions, and interjections) through their school curriculum.

Instrumentation

A questionnaire is employed as the main instrument in assessing students' perceptions of the effectiveness of the P.O.S. card game, a game that tests their understanding and memory of parts of speech. This questionnaire is adapted from MED GAIMS and consists of 32 items. The questionnaire utilized a five-point Likert scale and the options to rate the items were: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. To enhance the depth and clarity of the data analysis and discussion, neutral responses were excluded from the analysis. This focused approach allows for a more thorough exploration of the findings and a more comprehensive response to the research question. Next, this questionnaire is divided into 6 parts that address different aspects of the design and impact of the P.O.S. card game: 1) Demographic background, Section A: Goals and Objectives, 3) Section B: Card Design, 4) Section C: Components and Organisation, 5) Section D: Playability and Playfulness and 6) Section E: Usefulness.

Research Procedure
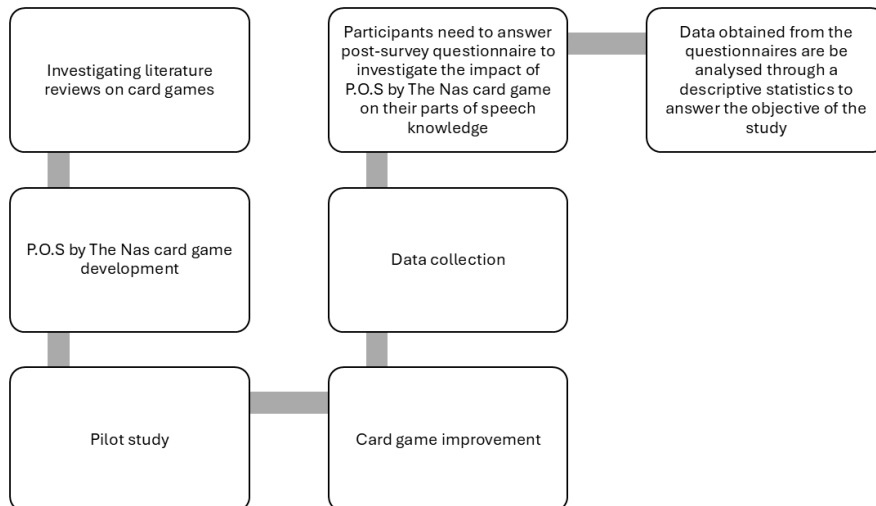
The development of the P.O.S. by The Nas card game was informed by a comprehensive review of existing literature on card games and game-based learning theory. Following this, a pilot study was conducted to assess the initial efficacy of the game. The insights gleaned from the pilot study were incorporated into iterative refinements of the game design. Subsequent data

collection involved a cohort of foundation students with prior knowledge of parts of speech. Post-game, participants completed a survey to evaluate the game's effectiveness in enhancing their understanding of parts of speech and to provide feedback on the overall game design.

Validity and Reliability

A Cronbach's alpha test was done to test the reliability of the questionnaire in answering the objective of the study which is to find out the effectiveness of P.O.S by The Nas.
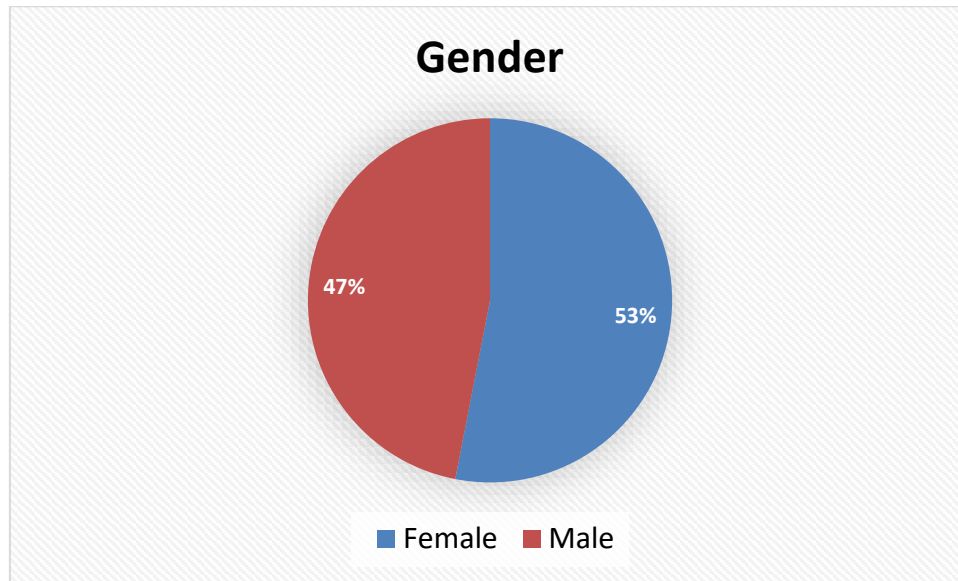
Table 1

Cronbach's Alpha

	Reliability Statistics	
	Cronbach's Alpha Based on Standardized	
Cronbach's Alpha	Items	N of Items
.952	.959	27

The Cronbach's alpha coefficient for the P.O.S. by The Nas feedback questionnaire was .96, indicating a high level of consistency. This finding suggests that the questionnaire was a reliable instrument for assessing the effectiveness of the game in addressing the research question.

Results and Discussion

This section explains the key findings of the study, addressing the research questions posed. The participants were foundation students with prior knowledge of parts of speech. To comprehensively explore the effectiveness of the POS by the Nas card game, the discussion is organised into five thematic sections: A) Goals and Objectives, B) Card Design, C) Components and Organization, D) Playability and Playfulness, and E) Usefulness. These sections collectively examine the game's efficacy in enhancing participants' understanding and interest in parts of speech.

Demographic Data

Part A: Goals and Objectives

In this part, there are a total of 6 questions that elaborate on whether this card game can answer to its objective, which is to teach and increase participants' interest in learning parts of speech.

Table 1 Mean scores and standard deviation for Section A

Question	Strongly Disagree		Disagree		Agree		Strongly Agree		*SD*
	%	N	%	N	%	N	%	N	
The purpose and rationale for the game are fully explained.	0.7	1	1.4	2	31.3	46	62.6	92	.705
The goals and objectives of the game are clearly defined.	0.7	1	0.7	1	25.9	38	69.4	102	.654
The game was thought provoking.	6.1	9	10.2	15	18.4	27	37.4	55	1.240
The game encouraged student interaction.	0	0	0	0	21.8	32	76.2	112	.484
The game promoted discussion of key topics.	0.7	1	0	0	29.9	44	65.3	96	.638

The card game helps with my recall of terms.	0.7	1	0	0	21.1	31	76.9	113	.553
Total (%)	1.48		2.05		24.73		64.63		

Table 1 shows that a significant majority of participants (89.36%) strongly agreed or agreed that the P.O.S. by the Na's card game, is an effective tool for language learning. Through its engaging gameplay, the game has successfully achieved its objective, as participants indicated that its goals and rationale were clearly articulated. Moreover, the game effectively stimulated critical thinking and encouraged active participation among players. These findings are aligned with Motivational Theory, which suggests that card games can be highly effective in facilitating language learning by maintaining student engagement and motivation (Farrel & Moffat, 2024). This demonstrates that the P.O.S. by the Na's card game successfully fulfilled its objectives of aiding in the teaching of parts of speech and increasing students' overall interest in English language learning.

Part B: Card Design

This section explains the five key design aspects of the card game, including card size, image selection, material choice, and overall deck design.

Table 2 Mean scores and standard deviation for Section B

Question	Strongly Disagree		Disagree		Agree		Strongly Agree		*SD*
	%	N	%	N	%	N	%	N	
Card size is appropriate.	0.7	1	1.4	2	28.6	42	64.6	95	.714
Having terms printed on each of the card is a helpful feature for the players' handling of the cards.	0	0	0.7	1	32.0	47	63.9	94	.594
The image printed on the card is representative of the topic.	0.7	1	0		27.2	40	59.9	88	.761
The material used (paper) in the preparation of the cards is durable. .	0.7	1	1.4	2	21.8	32	68.7	101	.750
The deck of cards is	0.7	1	1.4	2	20.4	30	74.8	110	.664

compact and can be easily carried around.				
Total (%)	0.56	0.98	26	66.38

The P.O.S. by Na's card game was developed through a thorough investigation of existing card games to identify essential elements for effective design. According to Tu et al. (2014), effective card games should feature a progressive design and iterative process to maintain player engagement. As shown in Table 2, a significant majority of participants (92.38%) strongly agreed or agreed that the P.O.S. by the Na's card game is well-designed, easy to handle, visually appealing, and portable. The game's design has facilitated efficient learning of parts of speech and maintained player interest. These findings underscore the importance of careful card game design to ensure that the game effectively supports the intended learning outcomes.

Part C: Components & Organisation

The 5 items in this section investigate the components and organization of the card game which includes the game instructions, appropriate vocabulary level, number of cards and game duration.

Table 3 Mean scores and standard deviation for Section C

Question	Strongly Disagree		Disagree		Agree		Strongly Agree		SD
	%	N	%	N	%	N	%	N	
The directions were clear, concise, and easily understood.	0.7	1	1.4	2	26.5	39	60.5	89	.795
The game emphasized key points of the topic played.	0.7	1	0	0	25.2	37	66.0	97	.704
The terms used were appropriate to my level of knowledge.	0.7	1	0.7	1	34.0	50	58.5	86	.706
The number of cards was appropriate.	0.7	1	1.4	2	28.6	42	57.1	84	.808
The length of time required to play the game is reasonable.	0.7	1	0.7	1	30.6	45	57.8	85	.760
Total (%)	0.7		0.84		28.98		59.8		

Given that the P.O.S. by the Na's card game is designed to facilitate the learning of parts of speech, careful consideration must be given to elements such as instructions, vocabulary selection, card quantity, and game duration to ensure the game's effectiveness. This section of the questionnaire aimed to assess participants' perceptions of these elements. As shown in Table 3, a significant majority of participants (88.87%) strongly agreed or agreed that the instructions, card quantity, and game duration were appropriate and maintained their engagement throughout the game. Notably, the card game incorporates a wide range of vocabulary related to eight different parts of speech, which were carefully selected based on item analysis to cater to beginner, intermediate, and advanced learners. Almost all participants agreed that the vocabulary used in the game was appropriate for their level of knowledge.

Part D: Playability & Playfulness

This section examines whether the card game fosters healthy competition, cooperation, and fair play, as well as whether the rules offer flexibility in decision-making.

Table 4 Mean scores and standard deviation for Section D

Question	Strongly Disagree		Disagree		Agree		Strongly Agree		*SD*
	%	N	%	N	%	N	%	N	
The game provides opportunity for healthy competition and cooperation.	0.7	1	0	0	23.1	34	71.4	105	.639
The rules of the game provide players with equal conditions for a fair play.	0.7	1	0	0	25.9	38	66.0	97	.693
The rules of the game provide a set of options for flexibility in making decisions when playing the game.	1.4	2	0.7	1	32.7	48	56.5	83	.793
Playing the game was fun.	0.7	1	0.7	1	9.5	14	87.1	128	.562
Total (%)	2.45		0.35		22.8		70.25		

Table 4 indicates that a significant majority of participants (93.05%) strongly agreed or agreed that the P.O.S. by the Na's card game fostered healthy competition and strengthened bonds among players. English language learning, particularly parts of speech, can be perceived

as monotonous due to its abstract nature and reliance on language manipulation rather than numerical calculations. The findings suggest that the card game successfully created a more engaging and enjoyable learning environment, mitigating the perception of boredom often associated with traditional English language subject. These results align with previous research (Mohideen, 2019; Takada et al., 2023) that supports the positive impact of card game on interpersonal relationships.

Part E: Usefulness

This section assesses participants' overall opinion of the card game, specifically focusing on its effectiveness in promoting deeper learning and efficient use of time.

Table 5 Mean scores and standard deviation for Section E

Question	Strongly Disagree		Disagree		Agree		Strongly Agree		*SD*
	%	N	%	N	%	N	%	N	
The game was effective in reviewing the material.	0.7	1	0	0	17.0	25	78.9	116	.589
The game encouraged the players to dig deeper into the subject matter.	0.7	1	0	0	23.8	35	74.8	110	.546
Playing the game is a productive use of time.	0.7	1	0	0	25.9	38	71.4	105	.587
Playing the game helps me establish better relationships with the members of the group.	0.7	1	0	0	16.3	24	80.3	118	.568
I would recommend the game to my peers.	0.7	1	0	0	15.6	23	80.3	118	.583
I like to play this game again.	0.7	1	0	0	18.4	27	78.2	115	.577
Total (%)	0.7		0		19.5		77.32		

This section further corroborates the findings from previous sections, demonstrating that the P.O.S. by the Na's card game effectively enhances participants' interest in learning parts of

speech. Students often overlook the significance of parts of speech, which can hinder their ability to construct grammatically correct sentences. The P.O.S. by the Na's card game was designed to address this gap. Table 5 reveals that a significant majority of participants (96.82%) strongly agreed or agreed that the game increased their interest in learning parts of speech and motivated them to recommend it to their peers. These findings suggest that the card game serves as a valuable educational tool for teaching parts of speech, offering a more interactive and engaging alternative to traditional instructional methods.

Conclusion

The findings of this exploratory study underscore the potential of game-based learning in higher education. On average, students expressed a preference for and greater engagement with card game-based learning. The P.O.S. by the Na's card game demonstrated effectiveness in enhancing enjoyment, peer interaction, and idea sharing. The inherent social nature of card games, devoid of technological mediation, necessitates social interaction, leadership, creativity, and strategic thinking. Our findings, coupled with existing research, support the potential of game-based learning, specifically card games, to increase student interest and comprehension of parts of speech. Future research should investigate the effectiveness of the P.O.S. by the Na's card game across diverse cultural and educational contexts.

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