

Improving Adjective Learning: A Verbalization Thinking–Based Approach with Ludotive Game Cards

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Abstract

Adjectives offer vital spice to our phrases. They help to make sentences more intelligible and communicate the various characteristics of an object or person. Therefore, this study aims to improve the adjective acquisition in children and addresses the critical intersections of educational games, and Year 6 pupils' cognitive growth in Malaysia. The objective of this research is to help pupils understand adjectives, improve their capacity to compose sentences with adjectives and promote metacognition through gameplay. Four common concerns were discovered among these pupils: low vocabulary, a lack of contextual understanding in adjective learning, challenges with creativity, and insufficient writing practice. To address these issues, the study uses the ADDIE model (1970) to create a game card. Phases of analysis, design, development, implementation, and assessment are all included in this methodical process. The game card is made to make learning adjectives fun and effective, providing a comprehensive method of vocabulary enrichment and promoting cognitive growth. The study concludes with a test run among 20 Year 6 pupils from a primary school in Putrajaya. The findings will provide important insights into tackling adjective acquisition issues in Year 6 pupils, as well as a novel approach to language learning and cognitive development.

Keywords: Adjectives, Game Cards, Gamification, Verbalizing Thinking, Innovative Teaching

Introduction

In today's educational landscape, the emphasis on language skills has transcended traditional borders, with writing recognized as a cornerstone for success in both academic and professional activities. The Malaysian Education Blueprint 2025 emphasizes the importance of strengthening pupils' writing skills, recognizing that excellent written communication is essential to their holistic growth (Ministry of Education Malaysia, 2013). Writing is a key component of literacy, enabling pupils to communicate ideas effectively. Learning to write

well involves building strong vocabulary, grammar, and composition skills. However, the acceleration of globalization necessitates a more holistic approach. To this end, the blueprint introduces the 4 Cs: Communication, Collaboration, Critical Thinking, and Creative Thinking (Ministry of Education Malaysia, 2013). This paradigm shift emphasises the need for pupils not only to communicate information but also to collaborate effectively, think critically about information, and unleash their creative potential to design innovative solutions.

Hence come the parts where learning parts of speech such as adjectives is essential for pupils to describe things in detail and make sentences more intelligible. Adjectives serve as linguistic tools that communicate the various characteristics of an object or person, adding depth and nuance to written expression (Cambridge Dictionary, 2024). It isn't just about language mechanics; it's a way to sharpen important thinking skills and contribute to cognitive development. By including adjectives in lessons and highlighting their importance, educators facilitate the enhancement of pupils' communication skills, fostering better interaction with their surroundings and preparing them for success in diverse fields during post-graduation. In the evolving landscape of education, integrating adjectives is akin to making a strategic investment in cultivating individuals capable of expressing themselves effectively, engaging in critical thinking, and unleashing creativity in the dynamic challenges of the 21st century.

However, many pupils struggle to properly understand and apply adjectives. Common challenges include having a limited adjective vocabulary, difficulty using adjectives in context, struggling with descriptive creativity and lack of practice. These obstacles can frustrate pupils and hinder literacy development. Thus, gamification presents one solution to make mastering adjectives more engaging and effective. Games that reinforce adjective identification, meaning and usage in text can help pupils expand their vocabulary whereas the reward systems provide positive reinforcement.

Gamified adjective instruction is aimed at addressing the struggles with learner engagement and makes practising adjectives more enjoyable. By tailoring instructional strategies to alleviate these challenges, educators can create a supportive learning environment that empowers pupils to overcome obstacles and flourish in their journey towards linguistic proficiency. In doing so, three main objectives were derived:

1. To Assess the Effectiveness of Ludotive in Facilitating Pupils' Comprehension of Adjectives.
2. To Measure Improvements in their Capacity to Formulate Sentences with Adjectives.
3. To Evaluate the Impact of Gameplay on Promoting Verbal Thinking.

Literature Review

Social Constructivism Theory

Gamification, when employed as a teaching technique, offers a dynamic avenue to weave together various educational theories, aligning particularly well with social constructivism, social learning theory, social cognitive theory, and cognitive load theory. By integrating gamification into grammar instruction, educators can harness the power of these foundational theories to create an engaging and effective learning environment.

Social constructivism underscores the significance of social interaction and collaboration in learning and is considered as a highly effective method of teaching (Powell & Kalina, 2009).

Lev Vygotsky, who pioneered the theory of social constructivism, held that social interaction is fundamental to the learning process. Research done by Vygotsky had successfully contributed to the framework of social constructivism and language development such as, cognitive dialogue, the zone of proximal development, social interaction, culture and inner speech (Vygotsky, 1962). In addition, this educational theory facilitates pupils in constructing fresh knowledge by leveraging their existing understanding. This process unfolds through active engagement, as learners take an active role in shaping their understanding. They construct their unique knowledge framework by adapting and building upon their existing cognitive abilities, tailoring the learning experience to align with their individual capacities (Rohman & Endang Fauziati, 2021).

A game-based intervention such as Ludotive fosters constructivism by providing opportunities for collaboration, interaction, and shared knowledge structure, especially in enhancing adjective learning. Pupils can potentially benefit from peer collaboration in understanding and applying adjectives as they construct knowledge collectively and share insights. Using their prior knowledge in adjectives, pupils can learn more effectively when they have others to support them for instance, a more proficient class member, or their teacher (Powell & Kalina, 2009). Low-proficient pupils may have trouble developing ideas or sentences based on a given adjective, but with appropriate prompts and assistance, they can complete the task correctly by themselves.

Social Learning Theory

The Social Learning Theory was first introduced by Neil Miller and John Dollard in 1941. However, the person who played the most significant role in shaping this theory is a psychologist named Albert Bandura. The key findings from the experiments conducted on children to see how they model positive or aggressive behaviour of adults towards an inflatable plastic toy revealed that children imitated the observed aggressive behaviour when adults presented this action. Bandura's experiment clearly demonstrated that people learn best when they actively watch and make sense of the behaviours demonstrated around them (Bhattacharjee, 2021). Bandura also concluded that learning through observation isn't only about seeing someone else do something (Holt, 2023). We also learn from what we see on media, whether the characters are real or made up.

Consequently, our understanding of the learning process has undergone a substantial shift as a result of social learning theory. A fun illustration of this theory can be found in the use of gamification in teaching and learning. Gamification involves turning a task into a competitive game that will pique pupils' interest in a particular complicated topic. Seeing motivating outcomes, such as achieving "LUDO" when playing the Ludotive Adjective game cards or being able to write a descriptive sentence by including adjectives, further compels individuals to replicate desirable actions modelled by a more successful peer. It transforms the learning process into a more interactive experience, offering pupils chances to engage with and learn from their peers (Holt, 2023). Pupils will also achieve optimal learning by gaining tangible rewards or appreciating the value that is attached to the outcome of learning (Biggs, 1999; Bain, 2004; Zhang, 2014 as cited by Johnson, 2017).

Social Cognitive Theory

Social cognitive theory, also associated with Albert Bandura (1986), extends social learning theory by emphasizing the role of cognitive processes, such as attention, memory, and

motivation, in learning from others. This theory believes that a learner needs self-efficacy or the confidence to demonstrate control over a desired behaviour to move through all four steps (Oyarzun & Conklin, 2021). For example, when a student has difficulties grasping a concept or skill, collaborative learning with a peer who has already mastered it can prove highly effective.

Social cognitive theory can be integrated into a game-based teaching approach by emphasizing the role of cognitive processes during learning (Siu Yin Cheung & Kai Yin Ng, 2021). Games provide opportunities for learners to pay attention to critical elements, remember strategies, and experience motivation. Using Ludotive as an intervention is one of the effective ways to enhance pupils' adjective knowledge. For instance, actively observing a classmate who fluently applies vivid adjectives into descriptive writing helps struggling pupils visualize successful techniques in action. To conclude, playing a multiplayer adjective game makes modelling, motivation, practice, and confidence-building possible all at once. Seeing a good example up close gives weaker pupils a picture of success to copy and makes learning fun.

Cognitive Load Theory

Cognitive Load theory was developed by John Sweller in 1998. This theory highlights the management of cognitive resources during learning. It suggests that an optimal balance should be maintained to avoid overwhelming learners with excessive information. Applying cognitive load theory principles can further enhance game-based adjective learning by minimising extraneous load: Since adjective usage is the learning goal, game elements should avoid overloading visual or mental processing that detracts from that aim. Simple, cartoony graphics help focus attention on descriptive vocabulary building.

The Learning of Adjectives in ESL Classroom

According to Cambridge Dictionary, an adjective is defined as: 'A word that describes a noun or pronoun: "Big", "boring", "purple", and "obvious" are all adjectives' (Cambridge Dictionary, 2024). The definition helps us to understand that adjectives help create vivid descriptions for our speaking, reading comprehension, and writing by expressing and describing various qualities of objects, animals, places, or people (McCoy, 2023). Pupils need to realise that when talking about a person or an object, they can modify the nouns to add distinct characteristics to the word and help others understand more about what kind, how many, or which one they are talking about. Sentence with precise adjectives such as 'the girl is wearing a beautiful, blue dress' allows young pupils to capture nuances and influence audiences by enabling readers to vividly visualise the elements of the dress. Thus, this knowledge is extremely crucial for ESL pupils, especially in achieving linguistic competence and preventing our speech from being vague, plain, and drab.

Besides that, attitude and stance can also be expressed with adjectives. Because of this, they are widely used in expressive writing, which enables people to communicate their sentiments and ideas regarding life experiences verbally (Beaumont, 2018). However, when it comes to writing, many second language pupils struggle to acquire and apply adjectives effectively. Difficulties in breaking down ideas from their native language into English (Kurniasari, Priyatin, Suryanti, 2019) are one of the core challenges that hamper adjective mastery. Among Malaysian pupils especially, the distinctive features between Malay and English adjectives pose a challenge for them to grasp and understand English (Ramli at al., 2020). In

other words, we can suggest that second-language pupils may have rich adjective knowledge to describe a myriad of things in their mother tongue language but often fail to map those conceptual thoughts accurately to English if they have very limited vocabulary. This, in turn, can severely limit written and verbal expression.

Another challenge that pupils encounter when writing is during the development of ideas. Pupils are often faced with difficulties when composing sentences especially when conveying specific details, emotions or sensory experiences, leading to sentences that lack depth thus, fail to capture readers' attention. As they advance, pupils are required to write more to convey their knowledge of a wide range of topics (Kristy Dwi Pratiwi, 2016). A pupil won't be able to write as quickly and fluently as necessary to succeed as these demands rise if he doesn't acquire some fundamental abilities. Adjectives, as descriptive words, play an essential role in addressing these writing challenges. Adjectives improve sentences by requiring a more careful examination of sentence structure, in addition to improving descriptions and encouraging creativity.

It is also believed that traditional approaches such as the chalk-and-talk method where pupils only act as passive receivers can make learning adjectives more mundane (Teo Woon Chun & Ramesh Sathappan, 2018). Mansour (2016) also supports this by claiming that one of the reasons behind the problems that arise in adjective learning is the inappropriacy in the teaching methods and techniques. Other researchers such as Hitchen & Tulloch (2018) also indicate that encouraging student's engagement in classroom activities can be difficult particularly when educators adopt a conventional pedagogical approach. If teachers fail to address this matter, pupils will be more likely to feel demotivated in the learning process and refuse to learn new things in the class. To improve the learners' grammatical competency, it is crucial to determine the most effective grammar teaching strategy in Malaysian primary ESL classrooms (Ganapathy, Shuib, Gunasegaran, & Azizan, 2016). The Ludotive game card is one of the alternatives that can overcome these challenges as it promotes engagement, and energetic participation rather than passively listening to teachers. Through dynamic peer exchange and self-directed descriptive challenges inspired by the card prompts, pupils take ownership over discovering and applying adjectives which in turn, boosts motivation levels. In essence, the adjective game cards study interactive activities which steers away from the conventional adjective instruction approaches and creates a more immersive and exciting teaching format.

Integration of Verbalization Thinking and Ludotive Game Cards for Adjective Learning

Verbalizing thinking refers to the cognitive process of articulating one's thoughts, ideas, and internal mental processes aloud. It involves expressing thoughts through spoken language, allowing individuals to externalize their inner reflections and make them explicit to themselves or others (Ritchhart et al., 2011; Güss, 2018; Gholam, 2019). It is intricately connected to the foundational theories of psychology and education. Lev Vygotsky viewed it as a sociocultural theory where individuals externalise their inner reflections within a social group whereas Jean Piaget's theory of cognitive development views it as part of the developmental stage where it is part of the preoperational stage where children actively use language to represent their evolving thoughts (Berk, 2009). In essence, verbalising thinking serves as a tool for self-reflection, problem-solving, and communication. By vocalizing their thoughts, individuals can clarify and organize complex ideas, identify gaps in understanding, and engage in a more deliberate and conscious thought process (Ritchhart & Perkins, 2008).

This verbalization can occur in various contexts, such as learning environments, collaborative discussions, or personal reflection, providing a means for individuals to enhance their cognitive abilities and communicate their ideas more effectively.

In the context of language learning, Ludotive game cards offer a valuable opportunity to seamlessly integrate visible thinking and verbalization into the acquisition of adjectives. As pupils engage in the collaborative game, they are encouraged to articulate their thoughts by verbally constructing sentences using the adjective cards. Ludotive gameplay further incorporates the thinking routine by Ritchhart et al. (2011), known as 'See-Think-Wonder.' This structured routine prompts pupils to carefully observe pictures, think critically about their meaning, and express wonder about their interpretations before vocalizing their thoughts aloud. This intentional verbalization not only makes their thinking visible but also opens avenues for constructive feedback from teachers and peers. Aligned with the principles of visible thinking as highlighted by Hull et al., (2011), this deliberate act of verbalizing thinking during sentence formation actively brings the understanding of adjectives to the forefront of the learning process.

Furthermore, Ludotive game cards allow for collaborative learning situations where visible thinking thrives. When pupils play in groups, they can brainstorm aloud, explain their ideas, and share their thought processes with peers. The game format encourages discussion and verbalization in a motivating way. Pupils receive immediate feedback on their use of adjectives from group members, allowing misconceptions to be clarified. Hull et al., (2011) suggest that heightened awareness gained through visible thinking, particularly in discussing adjective use aloud, leads to greater productivity and enhanced learning.

In summary, Ludotive game cards provide a platform for integrating verbalization thinking into adjective instruction. It requires pupils to verbalize their thinking by stating sentences aloud to make their understanding visible. By mimicking real-world collaborative settings where visible thinking thrives, the Ludotive game format advances adjective learning by encouraging the verbalization process and increasing peer feedback response during group gameplay.

Gamification in ESL Learning

Gamification refers to the application of game design elements and principles in non-game contexts. It involves using game mechanics like points, badges, leaderboards, challenges, and rewards to increase user engagement, motivation, productivity, and learning (Cattoni & Venuti, 2021; Samosa et al., 2021). Gamification leverages our innate human drive for competition, achievement, status, self-expression, and altruism to influence behaviour and promote desired outcomes (Kerise & Broome, 2023). In ESL classrooms, gamification incorporates game-based mechanics, aesthetics, and game thinking into learning environments (Samosa et al., 2021). It seeks to harness the motivational power of games to increase student engagement, enjoyment, and achievement in the classroom.

Based on the definition, it is evident that gamification can integrate seamlessly with the concept of verbalizing thinking. Just as verbalization brings clarity to internal thought processes, gamification can intrinsically amplify student engagement by incorporating game elements into instruction. The intentional design of interactive gamified experiences, such as the collaborative Ludotive game cards, encourages pupils not only to think critically but also to verbally express their thoughts through gameplay discussion. By mimicking real-world collaborative settings where visible thinking thrives, the Ludotive game format advances

adjective learning by encouraging verbalization and increased peer feedback during group gameplay.

Besides that, effective adjective learning can also be facilitated through gamification as this strategy can enhance engagement and motivation. According to Adipat et al. (2021), the integration of various skills within the learning process, as facilitated by game-based learning, is recognised for its potential to increase pupils' engagement. In Ludotive, incorporating game elements such as challenges can exhibit a more dynamic and interactive experience, and serve as a powerful tool to motivate pupils to actively participate in adjective-learning tasks.

Methodology

In this study, the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) instructional design model serves as the guiding framework for the creation of the 'Ludotive' game card aimed at assisting pupils in mastering adjectives. This methodology section outlines the systematic and iterative process applied to design, develop, implement, and evaluate the efficacy of the Ludotive game card. Through a structured approach, this method seeks to enhance the instructional design of the game, ensuring a well-defined methodology that caters specifically to fostering a deeper understanding of adjectives among pupils.

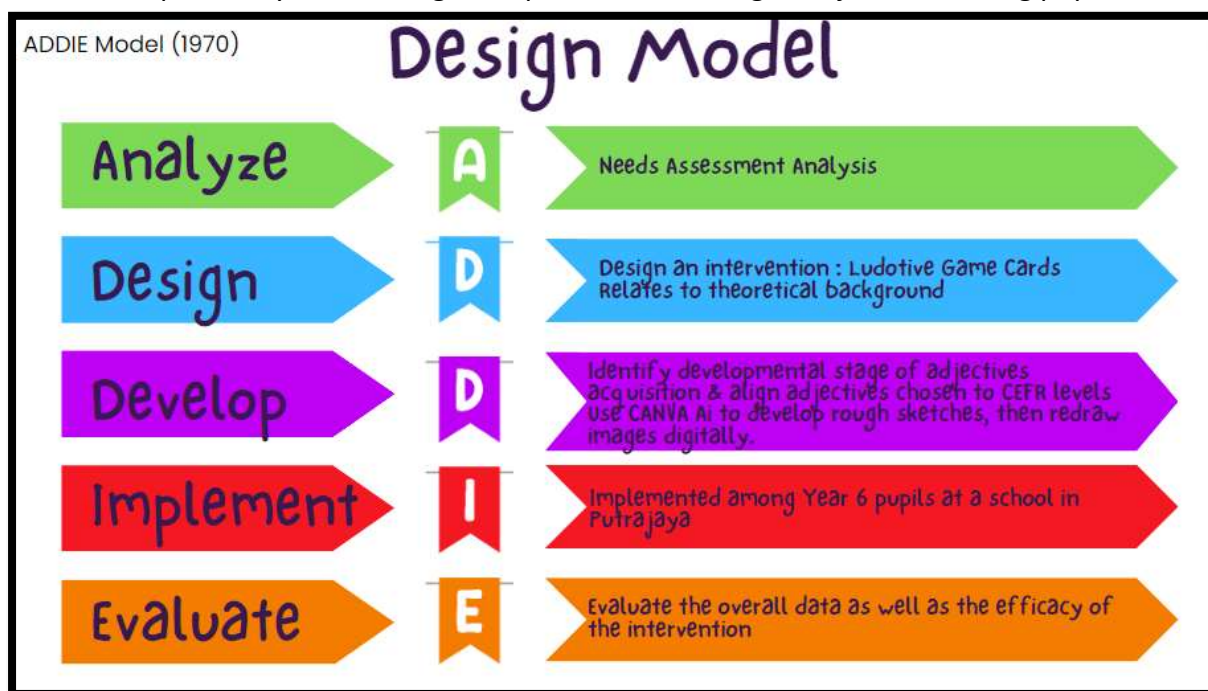


Figure1: Addie's Model

Phase 1: Analyzing Stage

The first phase of the ADDIE model involved conducting a needs assessment analysis to identify the distinct gaps and requirements within the target pupils' population. 20 Year 6 pupils from SKPP161 in Putrajaya were selected via convenience sampling to participate in the needs analysis. These pupils completed a 10-item Likert scale questionnaire focused on challenges with using adjectives. This quantitative data was supplemented with a short qualitative interview asking pupils to elaborate on their difficulties.

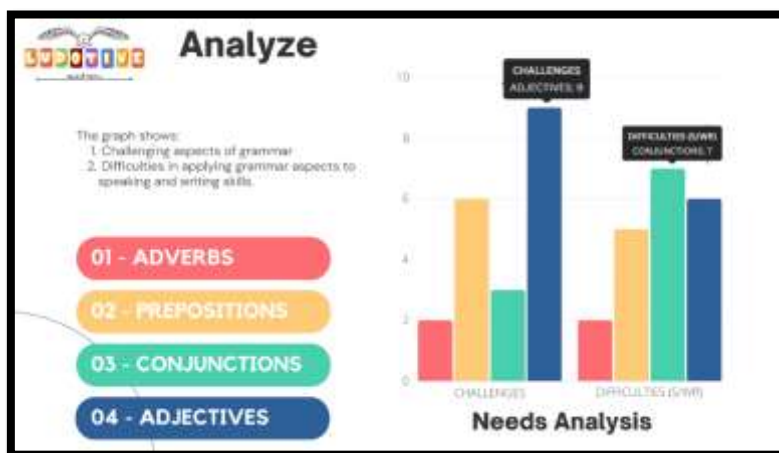


Figure 2: Needs Analysis

Based on Figure 2, the questionnaire and interview data revealed that 45% of pupils struggled to use adjectives appropriately in sentences. 30% specifically noted challenges with adjectives in speaking and writing contexts. 35% also reported issues using conjunctions to combine sentences. Based on this needs analysis, the researcher concluded that pupils would benefit from targeted practice using adjectives and conjunctions together in spoken and written sentences. This data shaped the subsequent design of an appropriate intervention. Based on the needs analysis, it was clear pupils needed targeted practice using adjectives and conjunctions in sentences.

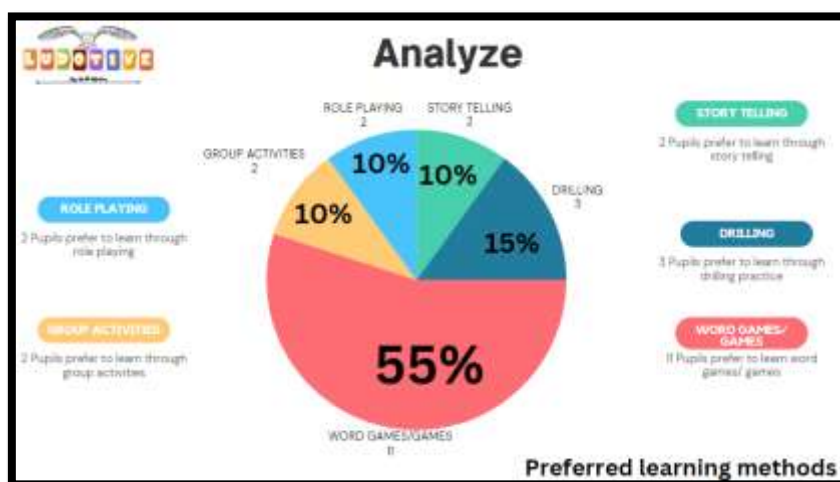


Figure 3: Preferred learning methods

Figure 3 shows the analysis done to find pupils' preferred learning methods. Based on the above chart, 11/20 (55%) pupils prefer to learn through word games or gamification methods in learning adjectives and the least preferred methods are to learn through roleplaying, storytelling, and group activities whereas only 2/20 (10%) pupils voted for it each. Based on the needs analysis done, it helps to inform the subsequent Design phase, where the Ludotive game card intervention was conceptualized based on the needs, relevant learning theories and curriculum standards. The goal was to develop an engaging game that provided adjective practice at the appropriate difficulty level.

Phase 2: Designing Stage

The Ludotive game card intervention was designed based on relevant theories and prior research in three key areas. To begin with, a thorough examination of studies on gamification in education was conducted to pinpoint optimal strategies to enhance motivation and engagement. Research highlights game features like progression systems and rewards as methods to increase student interest and participation. To integrate these engaging elements, the Ludotive cards were designed in two levelled stages moving from simpler to more complex adjectives. This creates a sense of advancement as pupils progress. Custom tokens were also developed as rewards to reinforce progress through positive reinforcement.

Phase 3: Developmental Stage

For the next stage, research on the developmental stages of adjective acquisition in middle childhood was analyzed. This provided insights into the progression of adjective difficulty that is appropriate at different ages. The findings assisted in aligning the Ludotive cards to the target CEFR levels. Selecting adjectives at the right degree of challenge ensures pupils receive the practice needed to advance their skills.

This consideration aligns seamlessly with the exploration of theories related to cognitive development, emphasizing the pivotal role that games play in fostering language acquisition, critical thinking, and the development of social-emotional skills. Collaborative gameplay requires discussion, verbalization of thought processes, and peer teaching. These align well with the goals of visible thinking in education. The Ludotive game format reinforces these important developmental skills.

In addition to these theoretical foundations, the English curriculum standards for Malaysia (DSKP) were consulted. This ensured the adjectives were tailored to the CEFR A2-B1 levels suitable for Year 6 pupils based on national requirements. This integrative review of theories and standards shaped the key elements of the Ludotive game card design.

After the card intervention was conceptualized in the Design phase, the next steps were creating and developing the physical and digital game components. Initial images were drafted with Canva AI to represent the adjectives, then refined through hand drawing to create original, cohesive artwork fitting the target age group. The Level 1 and Level 2 game cards were produced showcasing more complex adjectives at Level 2. Supplementary game rules, worksheets, rubrics, banners, tokens, and dice were also developed as shown in picture 1.



Picture 1: The product

Phase 4: Implementation Stage

With the Ludotive game materials complete, the next phase was implementation with pupils. The game was implemented with the original 20 pupils from SKPP161 over 3 hands-on sessions. Pupils played in small groups, physically interacting with the adjective cards and game pieces. Teaching assistants circulated to provide support and observe student engagement.

Phase 5: Evaluation Stage

After implementation, the Evaluation phase gathered the data on the intervention's effectiveness. Pupils in picture 4 completed a 5-point Likert scale questionnaire by rating enjoyment, perceived learning gains, and design quality. Short qualitative interviews were also conducted, with pupils elaborating on what they liked, suggestions for improvement, and how the game improved their adjective skills. This evaluation provided valuable insights to guide the game's refinement.

The systematic ADDIE approach allowed each stage of the instructional design process to build on the last, resulting in a comprehensive study. The Ludotive game cards were grounded in research, tailored to pupils' needs, rigorously developed, and evaluated for impact.

Findings and Discussions

This study centred on assessing the efficacy of adjective game cards in improving pupils' writing skills, specifically in response to prompts derived from pictures and vocabulary. Following the session, pupils were administered a survey comprising two questions related to their understanding of adjectives, along with a 5-point Likert scale questionnaire encompassing aspects of enjoyment, perceived learning gains, and design quality, totalling up to 10 questions. The ensuing discussion and presentation of the study's findings are organized systematically.

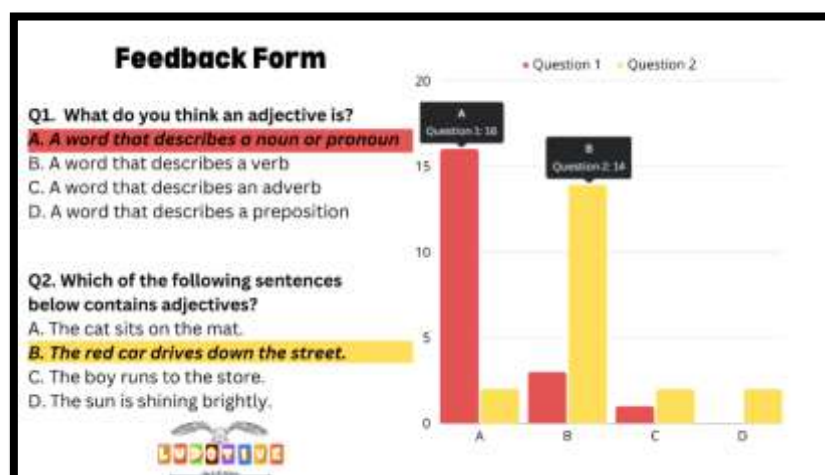


Figure 4: Feedback on basic understanding

To assess pupils' comprehension of adjectives, the collected data shown in Figure 4 is limited to two items which are 1) What they think an adjective is and 2) identifying the sentence that contains adjectives. The findings indicate a commendable level of understanding among the pupils regarding adjectives. Out of 20 pupils, 16 demonstrated a clear understanding of what an adjective is. This suggests a high degree of awareness and knowledge regarding the grammatical concept. As for the second item, 14 out of the 20 pupils exhibited the ability to identify sentences containing adjectives, showcasing a solid grasp of practical application.

The positive findings likely resulted from the successful implementation of the Ludotive adjective game card intervention introduced to pupils. According to Kula (2021) as cited by Adipat et al. (2021), the application of games in education has the potential to foster significant improvements in both the learning process and education outcomes. The highly engaging and interactive learning experience captivates pupils' attention, making the process of learning about adjectives enjoyable and improving their problem-solving cognitive abilities (Han, 2015 as cited by Adipat et al., 2021).

Besides that, when playing Ludotive, pupils in this study were able to be involved in the hands-on application of knowledge. Boctor (2013) accepts the notion that game-based learning programs should empower pupils to actively engage in their educational experiences, and encourage understanding, and practical application of the acquired knowledge in real-life situations. This supports the idea that the Ludotive intervention may have encouraged pupils to apply their understanding of adjectives in a practical context, reinforcing their comprehension by demonstrating correctly what a sentence with adjectives looks like. This skill is crucial, as it signifies how pupils can successfully apply their knowledge in real-world scenarios when suitable intervention is adopted.

To summarise, the positive findings post-intervention reflect on the effectiveness of the teaching strategy which integrates game-based learning principles into instructional design. This also suggests that incorporating gamification techniques can be a valuable method to enhance pupils' comprehension and application of the concept. However, the specific reasons for this outcome can be further explored through the data of the Likert scale survey.

Table 1
Likert Scale Analysis.

Question	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Q3. How confident are you in using adjectives in sentences?	0 (0%)	0 (0%)	7 (35%)	8 (40%)	5 (25%)
Q4. Do you think using adjectives make your writing more interesting?	0 (0%)	0 (0%)	5 (25%)	12 (60%)	3 (15%)
Q5. Do you think you need more practice in using adjectives?	0 (0%)	1 (5%)	1 (5%)	9 (45%)	9 (45%)
Q6. Do you think you need more guidance of how to use adjectives?	0 (0%)	1 (5%)	7 (35%)	5 (25%)	7 (35%)
Q7. Do you think you need more examples of how to use adjectives?	0 (0%)	0 (0%)	8 (40%)	8 (40%)	4 (20%)
Q8. Do you find it difficult to use adjectives in sentences?	0 (0%)	10 (50%)	4 (20%)	5 (25%)	1 (5%)
Q9. Do you think you need more written exercises to practice using adjectives?	1 (5%)	2 (10%)	3 (15%)	8 (40%)	6 (30%)
Q10. How often do you use adjectives in your writing?	1 (5%)	0 (0%)	8 (40%)	7 (35%)	4 (20%)

Based on Table 1, the main theme of this questionnaire is **about assessing and improving pupils' confidence and ability to use adjectives in their writing**. It can be further broken down into another three small themes which are about 1) the Effectiveness of Ludotive Game cards (Q3, Q4 and Q5), 2) In exploring the first theme on the effectiveness of Ludotive game cards, robust evidence was apparent from the table. The data from the table strongly indicates the remarkable effectiveness of Ludotive adjective game cards in enhancing pupils' confidence and proficiency in using adjectives. This effectiveness extends beyond the acquisition of adjectives, encompassing vital aspects such as social interaction, collaboration, and verbalizing thinking. As Ritchhart and Perkins (2008) found, by vocalizing their thoughts, individuals can clarify complex ideas, identify gaps in understanding, and engage in more deliberate thinking. This type of verbalization occurs in collaborative discussions, providing pupils with a means to enhance their cognitive abilities and communicate ideas more effectively. Overall, these social and collaborative elements, along with the verbalization of

thinking promoted by the game cards, build confidence in using adjectives (Powell & Kalina, 2009). A prevailing theme in the questionnaire responses reveals that over 70% of pupils acknowledged the significant role of the game cards in facilitating meaningful gains in their knowledge of adjectives and descriptive writing proficiency. This success is attributed to the interactive nature of the game, allowing pupils to construct and adapt their newly acquired knowledge to align seamlessly with their pre-existing capacities (Rohman & Endang Fauziati, 2021). Specifically, 75% of pupils agreed or strongly agreed that the cards enabled them to actively acquire many new adjectives and in response to Question 4, nearly 80% reported increased confidence in using adjectives correctly thanks to the enjoyable game-based learning with Ludotive. These consistent feedback patterns demonstrate that an overwhelming majority of pupils benefited greatly from the targeted practice and reinforcement of adjective skills that the interactive card games provided. Pupils widely recognized and appreciated the integral role the Ludotive game cards played in steadily improving their comprehension and application of adjectives in writing. The cards transformed a topic they previously struggled with into an engaging learning process that built their capabilities and self-belief using descriptors accurately and effectively. This result confirms Bandura's social cognitive theory which indicates that a learner needs self-efficacy or the confidence to demonstrate control over a desired behaviour to gain success (Oyarzun & Conklin, 2021) which in this case, enhances their adjective proficiency.

As we transition to the second theme, it becomes evident from the data in Table 1 that students acknowledge the significance of both additional practice and illustrative examples in reinforcing their understanding of adjectives. Striking the right balance between extra practice and maintaining an enjoyable gaming experience is crucial. Illustrative examples play a key role in minimizing extraneous cognitive load in the brain (Sweller, 1998), ensuring that the learning process remains engaging and effective. The responses from the questionnaire shed light on pupils' perceptions of their own learning needs. In exploring the need for additional practice (Q6), most pupils expressed a desire for more opportunities to reinforce their adjective skills. Specifically, 90% of pupils either agreed or strongly agreed that they recognize the value of extra practice in using adjectives. This high percentage underscores a consensus among pupils regarding the importance of continuous practice to enhance their proficiency with adjectives. This awareness stems from their understanding of the significance of adjectives. The shifts in attitude demonstrate an eagerness to express their opinions and ideas verbally (Beaumont, 2018). The same goes for the need for more examples (Q7) where the data reflects a balanced distribution of opinions. While 40% of respondents acknowledged the potential benefit of additional illustrative examples, 40% remained neutral, suggesting uncertainty or a lack of a definitive stance on the necessity for extra examples. This mixed response indicates that while some pupils see the potential benefits of more examples, there is a portion that may require further clarification or demonstration to fully appreciate the value of additional examples in mastering adjectives. In general, pupils perceive a need for both additional practice and examples to enhance their proficiency with adjectives. The data indicates a consensus among pupils regarding the importance of these supplementary learning resources, emphasizing the role they play in reinforcing and expanding their understanding of adjectives.

The third theme provides insights into pupils' perceptions regarding the difficulty and frequency of using adjectives in their writing. This theme aims to understand the challenges pupils may face and how frequently they incorporate adjectives into their compositions. In examining the perceived difficulty of using adjectives (Q8), the responses reveal a varied

range of opinions. While 10% of pupils expressed confidence by disagreeing, indicating proficiency in using adjectives, 20% remained neutral, and 30% agreed or strongly agreed that they found it challenging. This diversity in responses suggests that pupils experience varying levels of difficulty in effectively applying learned adjectives to sentence construction. Kurniasari et al., (2019) have previously highlighted the challenges ESL pupils face in translating ideas from their native language into English sentences and it is proven through this data. Further investigation may be warranted to identify specific challenges pupils encounter and to tailor instructional strategies accordingly. Moving to the frequency of using adjectives in writing (Q10), a varied distribution of responses is apparent. While 40% remained neutral, indicating a mixed stance on the significance of incorporating adjectives, 55% of pupils either agreed or strongly agreed that they regularly use adjectives in their writing. This suggests a positive perception among the majority regarding the frequent incorporation of adjectives, indicating their recognition of the importance of these descriptive elements in written compositions. The findings underscore the importance of recognizing individual challenges and preferences among pupils when it comes to incorporating adjectives into their writing. This insight informs that instructional approaches that integrate various skills within the learning process did increase pupils' engagement thus, encouraging consistent and effective use of adjectives in pupils' written expressions (Adipat et al., 2021).

Conclusions

This study demonstrated the potential of Ludotive game cards as an effective educational tool for adjective learning. Prior to the intervention, pupils exhibited capability in simple sentence construction using adjectives, albeit with minor grammatical errors. Sentences tended to be short with minimal descriptive details. After participating in three Ludotive game sessions, pupils showed significant improvements in their ability to use adjectives. They were able to construct longer, more detailed sentences accurately describing the card images.

Revisiting the research objectives which aimed to:

1. Assess the effectiveness of Ludotive in facilitating pupils' comprehension of adjectives.
2. Measure improvements in pupils' capacity to formulate sentences with adjectives.
3. Evaluate the impact of gameplay on promoting verbal thinking.

It can be concluded that Ludotive game cards have proven highly effective in achieving the research objectives. The study demonstrated that Ludotive significantly enhanced pupils' comprehension of adjectives, surpassing initial capabilities in simple sentence construction. Moreover, it led to substantial improvements in pupils' ability to formulate sentences with adjectives, showcasing the game's positive impact on practical application and proficiency. The gamified nature of Ludotive also successfully promoted verbal thinking, fostering motivation, engagement, and collaborative learning. These outcomes underscore the game's versatility and potential for addressing various language learning needs beyond adjectives, offering a comprehensive and enjoyable language learning experience. Further research into the sustained impact of Ludotive on memory retention will contribute to continuous improvement in language acquisition strategies.

Based on the observed positive outcomes and the flexibility of Ludotive as an educational tool, Teachers are encouraged to leverage Ludotive's adaptability, tailoring it to address specific language learning needs beyond adjectives, including various grammatical aspects. Diversifying adjective cards can enrich vocabulary, contributing to a nuanced language understanding. Further, educators should assess the long-term impact of Ludotive on

memory retention to inform instructional strategies and ensure lasting benefits in language acquisition.

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