

# The Impact of Using the Bamboozle Platform on Preschoolers' Recognition of CVC Words: A Qualitative Study

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## ABSTRACT

Early exposure to consonant-vowel-consonant (CVC) word patterns plays an important role in developing preschoolers' phonemic awareness and reading skills. Using interactive platforms such as Bamboozle can support and engage learners in learning CVC words. This study explores the impact of using Bamboozle on preschoolers' recognition of CVC word patterns. A qualitative study was conducted involving 10 preschool students and 4 teachers at Smart and Shine Child Development and Learning Centre. Data were collected through classroom observation, interviews, and field notes, and analyzed using thematic analysis. The findings indicate that Bamboozle promotes learners' engagement, supports CVC word recognition, and enhances phonemic activities through interactive and multimodal learning activities. Bamboozle also supports visual and auditory features that help in recognizing and distinguishing CVC word patterns. The study suggests that integrating game-based digital platforms can support early literacy development in an early childhood English class. However, the findings should be interpreted cautiously due to the small sample size and the qualitative nature of the study, which focuses on descriptive insights rather than generalizable outcomes. Future research may involve larger samples and mixed-method approaches to further examine the effectiveness of digital platforms in early literacy instruction.

**Keywords:** Consonant-Vowel-Consonant, Preschoolers, Learning English, Bamboozle, Interactive Platforms.

## 1. Introduction

Early literacy development plays a crucial role in children's language acquisition and later reading success. One of the foundational skills in early reading is the ability to recognize consonant-vowel-consonant (CVC) word patterns, which contribute to the development of phonemic awareness and decoding skills. Mastery of simple CVC words enables young learners to understand sound-letter relationships and develop confidence in reading. Research indicates that phonological awareness, including recognizing individual sounds and blending them into words, is a key predictor of reading fluency in early childhood education (Susanti & Perdana, 2023). Therefore, introducing structured phonics instruction at the preschool level is essential to support language development.

CVC word instruction provides opportunities for preschool learners to strengthen letter-sound correspondence, decoding skills, and vocabulary growth. By recognizing familiar word families such as "-ad" or "-at," children learn to identify patterns and apply analogical reasoning when encountering new words. This process supports phonemic awareness and encourages early reading development (Sidi et al., 2017). In addition, engaging preschoolers in interactive and playful learning activities can enhance learners' motivation, promote active engagement, and sustain

attention during literacy instruction. Game-based learning, rhymes, and storytelling have been shown to create positive learning environments that promote early literacy skills (Ningsih et al., 2023).

With the advancement of educational technology, interactive platforms have gained attention as tools to support early literacy instruction. Gamified learning environments can increase student engagement, provide immediate feedback, and encourage collaborative learning. Studies suggest that interactive digital tools can improve phonological awareness and vocabulary development in young learners (Segers & Verhoeven, 2016)). One such platform is Bamboozle, a game-based learning website that allows teachers to create quiz-style activities with visual and auditory support. Its features, such as team-based play, instant feedback, and customizable content, may help preschool learners practice CVC word recognition in an engaging environment. Furthermore, game-based learning aligns with constructivist theory, which emphasizes active knowledge construction through interaction, as well as cognitive load theory, which highlights the importance of reducing unnecessary cognitive demands to support learning (Piaget, 1970; Sweller, 1988).

Although previous studies have demonstrated the benefits of phonics instruction and gamified learning, limited empirical research has specifically examined the use of the Bamboozle platform in supporting preschoolers' recognition of CVC words, particularly within early English language learning contexts. Existing studies tend to focus on general gamification or older learners, leaving a gap in understanding how interactive digital tools like Bamboozle may influence early phonics development among preschool students. Therefore, further investigation is needed to explore how Bamboozle-based instruction supports young learners' recognition of CVC word patterns. This study aims to explore the impact of using the Bamboozle website as an interactive platform on preschoolers' recognition of CVC words and to describe preschoolers' learning responses during interactive CVC activities.

## 2. Method

This study employed a qualitative approach to explore the impact of using Bamboozle in supporting preschoolers' recognition of CVC words. It was selected because the study aimed to explore the impact and describe learners' responses during interactive activities rather than measure outcomes statistically. This design allowed the researcher to capture rich descriptions of students' engagement, responses, and phonemic awareness development during interactive learning activities.

The research was conducted at Smart and Shine Child Development and Learning Centre, a preschool that implements structured early literacy instruction. The participants consisted of 10 preschool students aged 4–6 years and 4 classroom teachers who were directly involved in the program. A purposive sampling technique was used to select participants based on the following criteria: (1) students were in the early stage of English literacy development (4-6 years old), (2) students regularly attended CVC instructional sessions, and (3) teachers had experience implementing Bamboozle in the class. Data were collected using classroom observations, field notes, and semi-structured interviews. Observations were conducted during Bamboozle-assisted CVC learning activities to examine students' participation, engagement, and recognition of CVC words. The researcher acted as a non-participant observer to avoid influencing the learning process. Field notes were used to record detailed descriptions of classroom interactions, instructional strategies, and students' responses during each session. The notes focused on behaviours related to phonemic awareness, such as identifying sounds, blending letters, and recognizing CVC word patterns. These field notes provided contextual information to support the interpretation of observational data.

Semi-structured interviews were conducted with teachers to obtain in-depth insights into instructional practices and student development. The interviews included open-ended questions related to the implementation of Bamboozle, students' engagement, and progress in recognizing CVC words. All interview data were transcribed and analyzed. These three data sources were used to enable data triangulation and strengthen the credibility of the findings. To ensure trustworthiness, this study applied data triangulation and provided detailed descriptions of the data.

## 3. Results

The findings from classroom observations, field notes, and teachers' interviews revealed three main themes related to the use of the Bamboozle website in CVC instruction: (1) preschoolers'

learning responses during interactive activities, (2) recognition of CVC words, and (3) development of phonemic awareness.

### ***Preschoolers' Learning Responses During Interactive CVC Activities***

Observational data and interview sessions showed that preschoolers demonstrated positive learning responses during Bamboozle-assisted sessions. Learners actively participated, showed curiosity, and displayed enthusiasm when engaging in team-based quizzes. They took turns, paid attention to peers' answers, and responded verbally when selecting CVC words. Field notes indicated that the interactive and game-based features encouraged students to remain focused throughout the learning activities.

Teacher interviews supported these observations. One teacher noted that, *"Yes, because it makes learning fun, interactive, and effective. It also helps young children stay interested while developing important reading skills."* Preschoolers also expressed positive reactions to the activity, such as, *"It was fun to learn CVC, I love it, teacher,"* and *"Could you show us more activities like today?"* These responses indicate that preschoolers reacted positively to the interactive learning environment provided by the Bamboozle platform. Students not only actively participated but also showed increased motivation during the learning activities.

Motivation plays a crucial role in sustaining attention and promoting persistence in learning tasks, especially in early childhood education. As preschoolers tend to learn best through play-based and visually engaging activities, the incorporation of Bamboozle into literacy instruction aligned well with their developmental needs. The role of teachers is to influence the learning environment and their function in fostering motivation. They discovered that by assisting students, teachers can greatly influence their motivation. The significance of a teacher-student relationship in the learning environment is highlighted (Jones, 2006). So, it is not only coming from the students' efforts but also the treatment and role of teachers in class to engage and motivate students.

A teacher highlighted the increase in students' motivation during the interactive activities, *"Students were more motivated when we used the game. They were eager to participate, raised their hands, and waited for their turn. Even the quieter students wanted to answer."* Other teachers also emphasized sustained interest; one of them stated that *"The Bamboozle activity helped maintain students' attention. They stayed focused longer and showed excitement when the game started."* Using the Bamboozle website for CVC word recognition of preschoolers effectively increases engagement through gamification elements, interactivity, and instant feedback. This approach not only makes it enjoyable but also reinforces motivation and interest in a developmentally appropriate manner. The students' own words further confirmed their positive reception of the activity. They said, *"It was fun to study with a game, pick a number, and answer the questions,"* and *"I enjoyed it because I could see the correct answer directly"*. The teachers also acknowledged the effectiveness of the tool by stating, *"Yes, it made the process more effective because the visual and audio elements helped students understand and remember better, especially in early childhood."*

The platform's dynamic and interactive features captured students' interest and made learning pleasurable. The reduction in student motivation and engagement that the educational system is currently dealing with may be partially addressed by gamification (Alsawaier, 2018). However, in some regions in Indonesia, many English teachers still do not integrate technology into their teaching practices due to limited facilities and a lack of technological competence (Pakpahan, 2024). Preschoolers engaged with the digital games with excitement, curiosity, and active participation in class activities. The competitive team-based quizzes and colorful visuals provided by Bamboozle encouraged students to stay focused and involved throughout the learning process. This implies that integrating digital game-based resources into early literacy training can provide a more engaging and inspiring learning environment, which is particularly advantageous for young students who do best in environments that are visually exciting and play-based.

### ***Recognition of CVC Words***

Data from observations and field notes showed that students demonstrated improved recognition of CVC word patterns during reading activities. Through repeated exposure to CVC words in Bamboozle games, students were able to identify letter-sound relationships and recognize familiar word families. Several students began to recognize similarities between words such as "rat"

and “pat,” indicating pattern recognition. Teachers also reported that students showed greater ability to decode simple words. One teacher explained that students’ awareness of sound blending increased.

Students were observed sounding out words and selecting correct answers based on picture cues. Some of the earliest decodable word patterns that young readers come across are CVC words, like *rat*, *log*, *cup*, and *pan*. Through Bamboozle games, students were repeatedly exposed to different CVC word forms during the learning sessions. The platform gave them organized chances to see, hear, and pronounce these words in various settings. Repeated visual, auditory, and kinesthetic exposure was found to be highly effective in strengthening the letter-sound relationship. In addition to becoming more adept at recognizing individual sounds (/c/, /a/, and /t/), students also learned how to combine these sounds to create entire words (e.g., cat). Activities that required students to decode words from simple sentences or select the correct CVC word based on a picture clue showed the biggest improvement. More kids were able to identify and read CVC words on their own during the Bamboozle deployment, according to observational notes and instructor input.

This aided in the development of their self-monitoring abilities, which are critical for the growth of literacy and reading comprehension. It can be seen from the interview session results, as one teacher noted: *"Students' awareness of sound blending increased."* They began to identify patterns, such as the similar vowel-consonant endings of "r-a-t" and "p-a-t." They were able to decipher new words faster thanks to this pattern recognition. Teachers did exhibit some pedagogical content knowledge in relation to teaching phonics. In many cases, they presented letter-sound relationships correctly, and when students made mistakes in blending or segmenting, they actively rectified them. It appears that they were somewhat knowledgeable of phonics concepts because they were able to give students instant feedback (Shafee et al., 2025). According to a number of participants, they recognized the significance of letter-sound correspondences and worked to rectify students' blending and segmenting mistakes when teaching.

One teacher said, for instance, *"I ask students to sound it out slowly again—/c/ /a/ /p/—when they read 'cap' as 'cup.' Most of the time, they can correct it themselves."* This indicates an understanding of phonemic correction techniques, which are this stages crucial in teaching and learning CVC for all students in preschool, especially for non-native speakers. *"During activities, I always try to emphasize the beginning, middle, and ending sounds in CVC words, especially when students struggle with the middle vowel sounds,"* another teacher shared in her class. These claims imply that teachers were able to identify students' errors as well as offer prompt, insightful criticism that aided in the learning process. Students' ability to identify and interpret consonant-vowel-consonant (CVC) words during reading tasks improved dramatically as a result of using the Bamboozle website. Numerous preschoolers showed a greater understanding of letter-sound correspondences by being able to self-correct their pronunciation. Furthermore, their increasing self-assurance in decoding basic phrases supported the reading development.

#### ***Development of Phonemic Awareness***

Observational data indicated that students increasingly demonstrated phonemic awareness skills, such as identifying beginning, middle, and ending sounds. During Bamboozle sessions, students verbally segmented words and attempted to blend phonemes when reading CVC words. Some students were also observed clapping syllables or repeating sounds to identify phoneme units. Teachers noted, *"The game helped students hear and distinguish the sounds more clearly. They were able to say the first, middle, and last sounds with more accuracy."*

Phonemic awareness refers to the ability to hear, identify, and manipulate individual sounds (phonemes) in spoken words. It is a foundational skill in early literacy development. It allows young learners to understand that words are made up of discrete sounds, which can be blended, segmented, or substituted to form new words. In this study, the use of the Bamboozle website was shown to positively influence preschool students’ phonemic awareness through interactive and auditory-rich learning experiences. During the intervention, students engaged in Bamboozle games that focused on recognizing, matching, and segmenting CVC words. These activities required children to identify the beginning, middle, and ending sounds of words like *dog*, *cup*, and *pen*. The auditory cues and visual supports built into the game design helped reinforce the phoneme-grapheme relationship.

As students continued to practice each skill, they gradually developed greater confidence and curiosity toward reading. Over time, many of them began to read more independently, no longer

relying on their peers or me for assistance. When students encountered moments of frustration or uncertainty, the teachers supported them with positive reinforcement and words of encouragement (Sutfin, 2025). The Bamboozle website provided a low-pressure environment, encouraging students to practice without fear of failure. This emotional safety is particularly important for young learners, as it fosters a willingness to experiment with language and make mistakes as part of the learning process. The enhancement of phonemic awareness through Bamboozle aligns with existing research that highlights the value of digital learning tools in fostering early reading skills. In this study, the repetitive exposure to phonemes, combined with immediate audio-visual feedback, contributed meaningfully to the students' development of phonemic skills.

#### **4. Discussion**

This study explored the impact of the use of the Bamboozle website as an interactive platform on preschoolers' recognition of CVC words and described their learning responses during interactive CVC activities. The findings revealed three major outcomes: the use of Bamboozle enhanced learners' interest and motivation, promoted active engagement in CVC learning, and supported CVC word recognition and the development of phonemic awareness.

First, the use of Bamboozle enhanced learners' interest and motivation in CVC word activities. Preschoolers showed enthusiasm, curiosity, and enjoyment when participating in game-based learning tasks. This finding can be interpreted through gamification theory, which suggests that elements such as points, competition, and immediate feedback enhance learners' motivation (Alsawaier, 2018; Plass et al., 2015). The interactive features of Bamboozle, such as team-based play and instant feedback, align with these principles by creating a motivating and engaging learning environment. In addition, teacher support during the activities contributed to students' motivation, indicating that both tools and instructional practices play important roles in fostering engagement (Jones, 2006). Young learners tend to respond positively to visually stimulating and game-like activities, which helps maintain attention and interest. In addition, teacher support during the activities contributed to students' motivation, indicating that both digital tools and instructional practices play important roles in creating a motivating learning environment.

Second, the use of Bamboozle promoted active engagement during CVC learning activities. Students were observed participating actively, taking turns, responding to questions, and interacting with peers. This finding reflects the principles of sociocultural theory, which emphasizes learning through interaction and collaboration (Piaget, 1970). The team-based structure of Bamboozle encouraged students to observe peers, share answers, and receive scaffolding from teachers. Such collaborative interactions supported students' participation and sustained engagement throughout the learning sessions. This is consistent with previous studies indicating that interactive learning environments promote active participation and enhance early language development (Segers & Verhoeven, 2016). Active engagement is particularly important in early childhood education, as young learners benefit from hands-on and interactive experiences. The use of Bamboozle transformed traditional literacy instruction into a participatory learning process, allowing students to become active contributors rather than passive recipients.

Third, the use of Bamboozle supported preschoolers' recognition of CVC words and the development of phonemic awareness. Students demonstrated improved ability to identify letter-sound relationships, recognize word families, and blend phonemes. This finding can be interpreted through multimedia learning theory, which suggests that combining visual, auditory, and textual input enhances learning effectiveness (Sweller, 1988). The Bamboozle platform provides multisensory exposure through images, written words, and audio pronunciation that helps learners connect phonemes with graphemes and recognize CVC word patterns. This result supports previous studies showing that CVC instruction strengthens phonemic awareness, decoding skills, and early reading development among young learners (Ningsih et al., 2023; Sidi et al., 2017). Repeated exposure to word families also contributed to vocabulary development and pattern recognition, which are essential for early literacy acquisition (Susanti & Perdana, 2023).

However, these findings should be interpreted cautiously. Increased motivation and engagement may have been influenced by the novelty of using digital games. Previous studies also suggest that audiovisual input alone may not be sufficient without adequate interaction and instructional support, particularly for young learners (Caruana, 2021). Teacher enthusiasm and classroom interaction may also have contributed to students' positive responses. Additionally, the study involved a small number of participants from a single preschool, which limits the transferability of the findings. Access to technology and teacher competence in using digital platforms may also influence the effectiveness of Bamboozle implementation, particularly in contexts where technological integration is still limited (Pakpahan, 2024). The finding is consistent with previous studies that game-based learning enhances motivation, engagement, and active participation in early childhood education (Lamrani & Abdelwahed, 2020).

Despite these limitations, the findings suggest that the use of Bamboozle as an interactive platform can support preschoolers' recognition of CVC words while fostering motivation, engagement, and phonemic awareness. Integrating interactive digital tools into play-based literacy instruction may provide meaningful opportunities for early phonics development and create a supportive learning environment for young learners. However, this increased engagement may also be influenced by novelty effects, as students may respond positively to new digital tools regardless of instructional effectiveness.

## **5. Conclusion**

This study explored the impact of using the Bamboozle website as an interactive platform on preschoolers' recognition of CVC words and described their learning responses during interactive CVC activities. The findings revealed three main outcomes. First, the use of Bamboozle enhanced learners' interest and motivation in CVC word activities. Preschoolers showed enthusiasm, curiosity, and enjoyment during game-based learning sessions. Second, the platform promoted active engagement, as students participated actively, collaborated with peers, and remained focused throughout the learning process. Third, the use of Bamboozle supported preschoolers' recognition of CVC words and contributed to the development of phonemic awareness. Students demonstrated improved ability to identify letter-sound relationships, recognize word families, and blend phonemes.

The findings suggest that interactive digital platforms such as Bamboozle can be effectively integrated into preschool literacy instruction. Teachers may use game-based learning to create motivating and engaging environments that support early phonics development. The multisensory features of interactive platforms can help young learners connect sounds and letters, while collaborative activities encourage participation and communication. However, teachers should balance digital activities with hands-on learning and provide scaffolding to ensure meaningful learning experiences. Additionally, professional development in educational technology may help teachers integrate digital tools more effectively into early childhood classrooms. However, this study has limitations. The participants consisted of a small group of preschoolers from a single learning center, which limits the transferability of the findings to other contexts. The qualitative design focused on descriptive insights rather than measuring learning outcomes quantitatively. In addition, increased engagement may have been influenced by the novelty of using digital games. Access to technology and teachers' digital competence may also affect the effectiveness of implementing interactive platforms in different educational settings.

Future research may involve larger participant groups across multiple settings to enhance generalizability. Studies combining qualitative and quantitative approaches could provide more comprehensive evidence of learning outcomes. Further research may also examine the long-term effects of interactive digital tools on early literacy development

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