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A Multimodal Digital Text-Based Learning Approach to English Vocabulary Acquisition: Students' Experiences and Coping Strategies

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ABSTRACT

Multimodal digital texts are widely used in English vocabulary learning, but students' perceptions and strategies in navigating these materials still need deeper understanding. This study aims to explore how students perceive and approach reading multimodal digital texts to support vocabulary acquisition. Using a qualitative descriptive method, data were obtained through semi-structured WhatsApp interviews with purposely selected university students and analyzed thematically. The findings show that multimodal features such as pictures, audio, and videos help students understand meanings, improve pronunciation, increase motivation, and support memory retention. Students also reported using various strategies, including visual cues, online dictionaries, translation tools, and AI assistance to learn new vocabulary. However, challenges such as eye fatigue, distractions from excessive multimedia, and cognitive overload were also identified. Based on these findings, it is recommended that educators design multimodal materials that are visually supportive, cognitively balanced, and comfortable for prolonged reading so learning outcomes can be maximized.

Keywords: Multimodal Reading, Vocabulary Acquisition, Digital Texts, Students' Perceptions, Students' Strategies, Digital Literacy

INTRODUCTION

In the digital age, reading is no longer restricted to conventional print materials. These days, multimodal digital texts that incorporate interactive elements, graphics, audio, and video are being developed. Vocabulary connected experiences that the students have and play a vital role in the development of their language. Vocabulary mastery is one of the factors to master English as foreign language (Johena, 2024). This change in reading habits presents both new opportunities and difficulties for students learning English as a second language, particularly in Indonesia. One of the main elements of language learning is vocabulary acquisition, which is greatly influenced by reading habits. Multimodal texts, which combine written content with visual and auditory information, provide a dynamic approach to language acquisition that accommodates the schedules and preferences of today's digital native students (Sankey et al., 2010; Rohi & Nurhayati, 2024). Combining multiple modalities, however, can present cognitive challenges that may affect comprehension and learning outcomes.

Students in Indonesian universities sometimes struggle to learn English vocabulary since they aren't exposed to many real English texts and there aren't many interesting teaching resources available. Although educators have started integrating digital media into their lessons, students' perceptions and interactions with these resources continue to have a significant impact on how well multimodal tools aid vocabulary acquisition. Some students report discomfort from prolonged screen time and distractions from too many multimedia features, while others benefit from instant access to definitions, pronunciation aids, and contextual images (Dobres et al., 2017; Warwick, 2017). Students' experiences reading digital multimodal literature varied at one Central Javan university. While some people found that the visual and aural aids helped them remember and comprehend new words, others experienced eye strain, trouble focusing, and cognitive overload as a result of the poorly created material. These difficulties could make vocabulary acquisition less successful and make it more difficult for students to participate completely in the course material. According to cognitive load theory, students' capacity to

absorb and remember information is hampered when they are exposed to a lot of it at once (Sweller, 1994).

Creating successful English learning interventions requires an understanding of how students perceive multimodal digital texts and how they pick up new vocabulary. In order to support vocabulary acquisition, this study aims to explore how students perceive and approach reading multimodal digital texts. By analyzing student experiences using interview-based data and offering helpful guidance for educators and content creators, this study seeks to ascertain the benefits and challenges of multimodal reading. The findings are expected to contribute to the development of more engaging and successful English learning environments that reduce cognitive load and integrate with students' digital habits.

RESEARCH METHOD

This study examines students' perspectives and methods for reading multimodal digital texts to learn English vocabulary using a qualitative descriptive methodology. Understanding how high school students use multimodal features such as images, audio, video, and hyperlinks while reading English texts and how these features affect their vocabulary acquisition and learning strategies is the main goal of this research. The participants were Central Javan university students who were chosen through purposive sampling to guarantee they had prior exposure to digital reading resources and platforms. Semi-structured interviews were conducted via WhatsApp in May 2025 to gather data, giving students a relaxed environment in which to respond and consider their reading experiences. Students were encouraged to use open ended questions to explain in their own words their preferences, challenges, and strategies for handling unfamiliar vocabulary.

Thematic analysis was employed to examine the interview data. This process involved transcribing and reviewing all responses, identifying key ideas and recurring issues, grouping them into themes such as digital vs. print reading preferences, visual and audio aid benefits, cognitive overload, and independent vocabulary strategies. These themes were then connected to relevant theories and prior research on multimodal learning, digital literacy, and cognitive processing.

All of the participants' consent was acquired in order to address ethical concerns. The goal of the study was explained to the students, they were offered confidentiality, and they had the option to leave at any time. This approach seeks to document real-world student viewpoints and offer suggestions for improving the use of multimodal texts in vocabulary training for English.

RESULTS AND DISCUSSION

Perceptions of Digital vs Print Texts

In modern learning contexts, especially those supported by the development of digital technologies, students are now exposed to two main forms of reading media: digital texts and printed texts. Digital texts refer to readings that are presented through electronic devices such as computers, tablets or smartphones, and are often interactive and easily accessible anytime and anywhere. The most common reading materials which used to be on paper before now have their digital version such as textbook, newspaper, novels, and magazines (Annisa 2023). Printed texts, on the other hand, are readings in physical form such as books, magazines or newspapers that require direct manual interaction and tend to provide a more traditional and tactile reading experience. According to Nancy, books and paper printouts, the two formats that were used primarily for course readings, were both print formats (Foasberg, 2014). Each of these media has advantages and disadvantages of its own, and the context in which it is used as well as personal preferences frequently influence the choice of reading material. Since digital texts were thought to be more flexible and useful, the majority of students expressed a positive preference for them.

> "*I feel that reading digital text is more practical and flexible because it can be accessed anytime. But sometimes I feel my eyes get tired" (Zee, WhatsApp interview, October 24, 2025).*

The advantages of digital text accessibility, such as being able to be accessed through personal devices without time and place restrictions, strongly support the digital lifestyle of today's young generation who tend to be mobile and multitasking. Foasberg (2014) stated that there are many advantages in using electronic text as reading and learning material. Some of them are; it can be easily searched and indexed, and if it is not available in any electronic form, it can be converted easily by using a scanner; E-text can also be used with many options of reading software to output the text to

a speech option, or even refreshable Braille options in some reader gadget. However, behind this convenience lies the challenge of visual fatigue and impaired concentration.

> "*I feel bored and dizzy... I often lose my reading" (Nay, WhatsApp interview, October 22, 2025).*
> *"When reading digital text, it sometimes makes my eyes tired, especially if I read for a long time" (Dew, WhatsApp interview, October 23, 2025).*

Nay and Dew revealed that they felt bored, dizzy and tired when reading digital texts for a long duration. Most of the students felt that digital reading is "boring", "uneasy", "complicated", and "unpleasant". Students feel bored because they just look at the reading text (Subekti, 2022). Meanwhile, some students showed a preference for printed texts which were considered more physically and sensorially comfortable.

> *"I prefer printed text and it's safer for my eyes" (Nala, WhatsApp interview, October 23, 2025). "I prefer printed text" (Dzim, WhatsApp interview, October 23, 2025).*

Nala and Dzim, for example, stated that printed text felt safer and did not tire their eyes as quickly. This suggests that ergonomics play an important role in the reading experience, where physical interactions with printed texts - such as turning pages, marking important sections or smelling the paper - provide a multisensory dimension that can enhance comfort and emotional engagement. Reading is usually related to printed material or books. It is usually related to a boring hobby that some people spend a lot of time on, but it all changes when digital devices and the internet rule the world (Hillesund et al., 2022). The school closure affects students' learning process, especially in Reading. Based on the research by Sun et al., (2021), the result showed that digital reading activity became more exciting and a chosen leisure activity since spending time in the boring time to stay at home.

This suggests that the ease of accessing digital texts and the comfort level of reading printed texts differ significantly. The selection of reading materials is determined by a number of factors, including the learning environment, individual preferences, and quick access. In learning English, especially through multimodal reading, teachers need to think about how to balance both types of media. Multimodality as a useful tool of teaching in different terminologies and ways. With the facilities available in the school, they believe that teaching young learners needs creativity (Julinar, 2019). Using both wisely can help meet the needs of different students and create a more inclusive and lasting learning experience.

Digital Features that Help Understand Vocabulary

Texts are no longer defined by printed word representations in the digital age. A multimodal reading experience is provided by interactive elements found in digital texts, such as built-in dictionaries, hyperlinks, audio, video, and images. These characteristics are crucial for supporting students in developing deeper and defined understanding of new words in the context of learning the English language, particularly when it comes to vocabulary acquisition. In addition to making it easier to comprehend word meanings, the combination of visual and aural components promotes pronunciation, meaning association, and practical application.. Some students showed awareness of these benefits.

> *"Pictures so we know what the object looks like... sounds so we know how to pronounce it correctly" (Jua, WhatsApp interview, October 23, 2025).*

This statement showed that the presence of pictures and sound features in digital texts not only provides clarity of meaning, but also helped in correct pronunciation - an important aspect in speaking and listening competence.

> *"Images and videos are helpful because they provide visual context" (Zee, WhatsApp interview, October 24, 2025).*

Similarly, Zee stated that images and videos enrich the visual context making it easier to understand words in certain situations. This suggests that visualization supports the cognitive process of connecting words with meaning in a concrete way.

> *"With digital text, I can immediately find out the meaning by using the Google Assistant feature" (Qya, WhatsApp interview, October 24, 2025).*

Furthermore, Qya demonstrated active and strategic use of technology by using Google Assistant to search for word meanings instantly. This indicates a high level of learning independence and digital literacy. Students demonstrate meaningful uses of such digital literacy for positive change. This kind of (digital) capability, the full combination of these uses as function, as the uses of digital literacy were always partial (McDougall et al., 2018).

> *"I find images and videos the most helpful. That's because I can immediately see examples of how the word is used" (Ana, WhatsApp interview, October 24, 2025).*

Meanwhile, Ana added that features such as images and videos not only help understand the meaning of words, but also provide examples of vocabulary usage in specific sentences or situations. This is very important in language learning because vocabulary understanding should not only be rote, but also contextual and applicable.

This finding is in line with multimodal learning theory which states that the combination of different types of modalities such as visual, audio and text strengthens the learning process as information is absorbed through more than one sensory channel. By presenting information through varied modalities, multimodal learning accommodates different learning styles and improves comprehension, making language concepts more approachable and easier to assimilate (Sankey et al., 2010; Rohi & Nurhayati, 2024). In this case, digital texts provide more space for sensory engagement, thereby increasing absorption, comprehension of meaning and long-term retention of vocabulary. Given what is known about the associations between reading enjoyment, pleasure reading, and reading skill (Duncan et al., 2016; Pfost et al., 2013; Torppa et al., 2020), one may wonder whether the current dominance of cognitive engagement with snippets of multimodal audiovisuals on screens, at the cost of sequential reading of single monomodal texts extending over several pages, may affect our propensity for absorption in literary texts.

Using digital features in reading texts isn't just for making them look nice or fun, it also plays an important role in learning. That's why teachers and material creators should use these features wisely to help students learn English vocabulary better. Multimodality as a useful tool of teaching in different terminologies and ways. With the facilities available in the school, they believe that teaching young learners needs creativity. Using both wisely can help meet the needs of different students and create a more inclusive and lasting learning experience.

Tired and Uncomfortable Reading Digital Texts

In an increasingly digital age, reading through screens has become an integral part of students' learning activities. Digital displays have made it easy to display text in arbitrary color and contrast combinations (Dobres et al., 2017). Despite the ease of access and integration of engaging visual elements, digital texts also present physiological challenges, especially regarding visual comfort. Despite attempts to integrate the digital with the physical, whether in cultural heritage sites or libraries, the digital environment alone cannot offer us a truly multi-sensory experience. It cannot touch digital objects, although we might speculate that the popularity of tablets and touchscreen phones is because they bring another sense into play (Warwick, 2017). This condition is of particular concern in students' digital reading experience. Nay expressly stated,

> *"It's very, very tiring for my eyes" (Nay, WhatsApp interview, October 22, 2025).*

> *"Sometimes the eyes get tired if the screen is too bright or there are lots of moving animations" (Rosy, WhatsApp interview, October 23, 2025).*

A similar complaint was also made by Rosy who felt that her eyes tired quickly when reading text with a screen background that was too bright or filled with excessive animation. This shows that it is not only the duration of reading that affects comfort, but also visual elements such as color contrast, screen lighting, and interface design complexity. Dzim adds that the duration of screen time is a factor that exacerbates this condition, where the longer the screen reading, the higher the level of fatigue felt. This eye fatigue not only affects the physical condition, but also the overall effectiveness of learning. When comfort is reduced, concentration is easily disrupted, and the absorption of information decreases. In the context of English language learning, especially in multimodal reading practice, this condition can hinder students' full engagement in understanding the reading material. However, not all students feel the negative impact absolutely. Jua provides an alternative viewpoint by stating that visual elements such as pictures and colors actually make the reading process more enjoyable and relaxing.

> *"If there are colors and pictures, I am more relaxed when reading, so I am not too tense" (Jua, WhatsApp interview, October 23, 2025).*

This statement shows that the right visual design can reduce fatigue levels and enhance the digital reading experience. The use of multimodal elements in an ergonomic, attractive, and balanced design can contribute to the creation of an educational experience that is not only educational but also emotionally and visually soothing.

Advantages of Vocabulary Learning through Multimodal Digital Texts

In today's digital era, the language learning approach is increasingly enriched with the presence of multimodal digital texts, namely texts that do not only rely on verbal elements (writing), but also integrate visual components (images, graphics, videos), auditory (sound, music), and even kinesthetic (interactivity). A plethora of studies which have focused on multimodal approaches have defined multimodality as utilisation of semiotics signs and application of different modes. This is achieved through the use of diverse modes to ascertain representation of comprehension and production of meaning via discourse accomplished through modes like; images, layout, letters, colours and gestures during instruction, visual, audio and audio-visual technology in order to create order out of their use in the classrooms (Zafiri & Kourdis, 2016; Ryu & Bogg, 2016; Firmansyah, 2021; Jiang et al., 2020). Multimodal texts make learning English vocabulary more engaging than regular texts because they use different senses at the same time. Hearing the information spoken and maybe put into different words than the text book helps to get a fuller understanding (Sankey et al., 2010). Most students feel the real benefits of learning vocabulary through digital texts that are rich in multimodal elements. Zee stated,

> "*Learning becomes more interesting and not boring" (Zee, WhatsApp interview, October 24, 2025).*

This statement reflects how multimodality is able to overcome learning boredom that students often experience when only presented with monotonous verbal material. Furthermore, fusing three modalities can better recognize the states of frustration and boredom (Peng & Nagao, 2021).

> *"...because it can involve many senses at once." (Tary, WhatsApp interview, October 24, 2025).*

Tary added that the involvement of various senses simultaneously, such as seeing images or listening to audio that is relevant to new vocabulary, can increase focus and interest in the material. This is in line with the theory of multisensory learning, which states that when information is received through more than one sensory pathway, the brain will process and store it more effectively. In biological sensory pathways, signals are first collected and filtered from multiple sources by the peripheral systems before being sent to the nervous centralis for perception (DePaola et al., 2013).

> *"...more exciting and easier to remember" (Dizy, WhatsApp interview, October 24, 2025).*
> *"...easier to remember because it's interesting" (Qya, WhatsApp interview, October 24, 2025).*

Furthermore, Dizy and Qya revealed that they felt that vocabulary was easier to remember when learning using interactive media. This shows that multimodality not only has an impact on students' motivation and attention, but also on cognitive processes such as information processing and memory retention. Multimodal learning helps students retain information longer by engaging their senses and aligning with their interests (Rohi & Nurhayati, 2024). The combination of words, images, sounds, and interactivity strengthens the association of vocabulary meaning in students' memories, thus supporting more stable long-term memory. Long-term memory refers to memories stored in mind for an extended time. According to several theories cited by Walmaqfirah (2023), long-term memory capacity is unlimited, at least in practical terms.

Multimodal digital text-based vocabulary learning has many advantages over traditional methods. It supports different learning styles and suits the digital generation who prefer interactive and visual content. The use of multimodal text can bring advantages to the learners as the text is the combination of two or more modes such as written language, spoken language, visual (still and moving image), audio, gestural, and spatial context (Jamil & Aziz, 2021). Besides, it can be an ideal alternative as a medium to aid language acquisition, particularly for reading comprehension. Hanif and Wiedarti (2021) use multimodal text, movies, to enhance their learners' reading skills. They mentioned that in order to keep students' knowledge up to date, English teachers should switch from traditional learning to modern learning using digital media. Teachers can maximize their learners' reading skills using graphics. The findings also found that the advantages of using multimodal text as English learning materials can increase learners' motivation, provide new experiences, provide instructional content, provide cultural diversity information, improve comprehension skills, and ensure material authenticity (Hanif & Wiedarti, 2021). So, teachers should consider using multimodal technology to make English lessons more effective and enjoyable.

Challenges of Reading Multimodal Digital Texts

In today's digital era, students not only read texts in written form, but also in the form of multimodal texts that combine various elements such as images, videos, audio, and animations. Pre service EFL teachers employ digital multimodal instructional media, including PowerPoint presentations, films, and songs, to enhance English language learning. These tools integrate text, images, video, and audio elements to teach language structures, vocabulary, and emotions effectively (Widyaningrum et al., 2024). By combining audio, visual, and verbal modes, this multimodal digital text is in fact intended to enhance the reading experience and elucidate meaning. Despite its advantages, this format can be mentally challenging, particularly if the multimodal components are not balanced and well-organized. Several students expressed that too many multimedia elements actually interfere with their focus in understanding the main content of the reading. Zee stated,

> "*Sometimes too many elements make it difficult for me to focus on the content of the text" (Zee, WhatsApp interview, October 24, 2025).*

A similar thing was conveyed by Dizy who felt that the display was too busy and distracted:

> "*Too busy... the focus is on the video or the picture." (Nala, WhatsApp interview, October 23, 2025).*

Nala added that she often experienced a split in attention between images and sound, which made the information not optimally recorded in memory. Students' experiences illustrate a condition called cognitive overload, which occurs when the brain is overloaded with information. A student's capacity to process, remember, and comprehend the information being presented may be seriously hampered by this circumstance. ELP standards explicitly cultivate students' ability to comprehend and communicate about complex text in oral, written, visual, and multimodal forms (CCSSO, 2012, p. 25). Learners' cognitive systems have to work harder to filter, integrate, and make sense of the inputs when they are exposed to multiple information modes at once, such as text, images, audio, and video. Confusion or frustration may result from this increased mental effort, which can also decrease learning efficiency.

Students' experiences show a condition called cognitive overload, which occurs when the brain is overloaded with information. Teachers should think about improving the careful planning of worksheet questions in conjunction with comprehensive implementation in order to encourage

the development of students' critical thinking abilities (Kong, 2014). These results reveal the need for teacher development on learning materials design.This situation can significantly hinder a student's ability to process, retain, and understand the material being presented (Sweller, 1994Learners' cognitive abilities have to work harder to filter, integrate, and make sense of the inputs when they are exposed to multiple information modes at once, such as text, images, audio, and video. Confusion or frustration may result from this increased mental effort, which can also decrease learning efficiency.

It is crucial for both digital learning material developers and classroom teachers to carefully consider the cognitive aspects of their learners when designing instructional content. The impacts of the designed digital classrooms on students' development of critical thinking skills, and the final set of results explores students' and teachers' overall perception of the learning and teaching in digital classrooms (Kong, 2014). Multimodal elements should not be included merely to capture attention or create visual excitement. In fact, the need to be carefully chosen and applied to improve understanding and demonstrate important ideas. This strategy is in keeping with the fundamental ideas of cognitive load theory, which highlights that learning is more successful when useless or irrelevant cognitive demands are reduced. Teachers can design learning environments that promote deeper understanding and better student outcomes by carefully controlling the kind and quantity of information that is presented.

Visual Aids for Vocabulary Memorization

In language learning, vocabulary mastery is the main foundation that greatly determines students' ability to communicate and understand texts. One effective method that is now increasingly appreciated is the use of visual representations such as images, illustrations, and videos to support vocabulary understanding. Visualization not only provides additional context, but also helps strengthen students' memory of new words. This is reflected in the agreement of almost all students involved in this study. Tary stated that images and videos provide a "face" and "voice" for words, making them feel more alive and easier to remember:

"Images and videos make words have a 'face' and 'voice'" (Tary, WhatsApp interview, October 24, 2025).

Dew added that when she sees vocabulary, her brain automatically forms a visual image that makes it easier to remember:

"*The brain immediately has a visual image of the same word" (Dew, WhatsApp interview, October 23, 2025).*

Ana also revealed that the connection between words and visuals immediately occurs in her mind, accelerating the understanding process:

"When I see a picture or video, I immediately associate the word with the visual" (Ana, WhatsApp interview, October 24, 2025).

This phenomenon is in accordance with the fact that information processed through two channels, namely verbal and visual simultaneously, will be easier to store and remember in long-term memory. Long-term memory is a vast store of knowledge and a record of prior events, and it exists according to all theoretical views; it would be difficult to deny that each normal person has at his or her command a rich, although not flawless or complete, set of long-term memories (Cowan, 2008). The presentation of vocabulary in visual form enriches the learning context and facilitates stronger associations of meaning, thereby significantly increasing students' vocabulary mastery. Using visual aids (e.g., videos, animations, presentations, podcasts, diagrams) has received increasing attention in language learning and teaching as these aids offer an innovative, inspiring approach to teaching English (Patesan et al., 2018). Kara & Kucuk (2023) stated that they foster interaction among learners, facilitating peer learning and increasing students' self-confidence. In addition, audio-visual aids increase the frequency of hands-on activities, allowing learners to grasp details through active practice.

Strategies for Understanding New Vocabulary

Facing digital texts that often contain foreign or difficult vocabulary, students develop a variety of adaptive and independent strategies to understand the meaning of these new words.

Presenting books as digital text with dictionaries or activities can lead to improvements in phonological awareness, word reading skills, and vocabulary knowledge (Korat, 2010). This diversity of strategies shows that students do not only rely on one method, but utilize various sources and technologies available to enrich their language understanding. Nay revealed the strategy of directly translating newly encountered vocabulary as an initial step:

> *"I translate vocabulary that I may have just encountered" (Nay, WhatsApp interview, October 22, 2025).*

In addition, Tary and Nala utilize increasingly sophisticated and easily accessible online search technology, such as Google Translate and even AI, to help interpret new words:

> *"Look for the meaning on Google Translate" (Tary, WhatsApp interview, October 24, 2025).*
> *"...usually search further on Google or even AI" (Nala, WhatsApp interview, October 23, 2025).*

A multimodal approach is also applied by Dizy who first tries to understand new vocabulary through a visual context in the form of images or videos before moving on to searching for meaning textually:

> *"...look at the picture or video first, if I still don't understand then look it up in a dictionary or Google" (Dizy, WhatsApp interview, October 24, 2025).*

This vocabulary learning strategy reflects optimal use of the ease of access to information in a digital learning environment. Experience and knowledge about teaching in the online environment are necessary (Coman et al., 2020). This also shows the development of digital literacy which is increasingly important in today's technological era, where students not only learn languages traditionally, but also integrate the use of technology as an effective learning tool. The increasing acceptance of digital technology has also necessitated the promotion of foreign language learning and teaching, especially in areas where there is inadequate exposure to genuine resources and materials (Alakrash & Razak, 2021). This approach combines complementary visual and linguistic aspects, so as to facilitate a deeper and contextual understanding of vocabulary.

CONCLUSION

This study relates to the conclusion that students' exposure to multimodal digital texts has a major impact on their vocabulary acquisition. Features that improve contextual understanding and memory storage, like videos, images, sounds, and hyperlinks, are beneficial to many students, but there are also disadvantages as well. These include eye fatigue, distraction from excessive multimedia, cognitive overload, and discomfort with screen reading, which collectively hinder the learning process. Despite these challenges, students show adaptive strategies like using digital assistants, visual context analysis, and online translation tools to independently find and comprehend new vocabulary.

The results demonstrate the value of learner independence, digital literacy, and multimodal design in facilitating successful vocabulary acquisition. Though they must be used carefully to avoid a high cognitive load, well-designed multimodal materials can improve learning by matching students' preferences and sensory strengths. A balanced pedagogical approach which includes useful digital features without affecting comfort and comprehension is required of educators and content creators. A supportive and thoughtfully structured learning environment is key to helping students gain the most benefit from digital multimodal texts in English language learning. The results emphasize that multimodal reading is not only a trend but a transformative tool when applied strategically in educational contexts.

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