



OPEN ACCESS

Analysis of Digital Learning Media "Typing Land" to the Reading Ability at Kak Seto School

Kristiana Maryani¹, Laily Rosidah², Zahra Mutia Yuzandi³

^{1,2,3} Department Early Childhood Education, University of Sultan Ageng Tirtayasa, Serang, Indonesia

Keywords:

Digital Learning Media, Reading Skills, Early Childhood Education, Typing Land

Correspondence to

Kristiana Maryani, Laily Rosidah, Zahra Mutia Yuzandi, Department Early Childhood Education, University of Sultan Ageng Tirtayasa, Serang, Indonesia

e-mail:

laily@untirta.ac.id

Received 29 12 2022
Revised 27 03 2023
Accepted 31 03 2023
Published Online First
31 03 2023



© Author(s) (or their employer(s)) 2023. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by JGA.

Abstract

This study aims to analyze students' reading ability at Kak Seto School and determine the effectiveness of digital learning media in improving their reading skills. The study uses a qualitative approach with a case study design, focusing on three first-grade students at Kak Seto School who cannot read. Data is collected through observation, documentation, and interviews with teachers from the TIK (Technology of Information and Communication) department. The study's findings indicate that the students have a common problem: Sensory Processing Disorder, and that digital learning media can effectively improve their reading abilities. The research implications and limitations of the study are that it focuses only on three students at Kak Seto School, and the findings may not be generalizable to other schools or contexts. However, the study has practical implications for teachers, who must proactively introduce children to letters and train their learning abilities. The use of digital media can facilitate critical thinking and problem-solving skills, which are essential for academic success. The originality and value of this study lie in its contribution to understanding the role of digital learning media in improving reading abilities in children. The study provides important insights into the benefits of digital media in teaching and learning and highlights the need for further research. By utilizing digital media effectively, educators can help enhance the reading abilities of students struggling to learn in traditional classroom settings. Overall, this study has important implications for educators, policymakers, and parents interested in improving children's literacy rates.

To cite: Maryani, K., Rosidah, L., & Yuzandi, Z.M. (2023). Analysis of Digital Learning Media "Typing Land" to the Reading Ability at Kak Seto School. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 8(1), 1-12. <https://doi.org/10.14421/jga.2023.81-01>

Introduction

In this digital era, many learning devices are spread throughout the internet. This is because of the evolution of advanced technology that allows learning activities to be done on digital devices. The digital learning activity can be accessed by downloading apps from the app store or play store. Many kids born in the modern age have easy access to the internet and thus can find many things inside (Allen, 2013). There are many educational-based applications. Although its existence advances learning capability, kids using gadgets tend to use them to play online games instead. There are also a lot of digital learning media combined with gaming, which give children the sensation of understanding while gaming. Children can improve many things from it, like knowledge, skills, and language. The problem that often happens with children's use of gadgets is that they refuse to stop using them. Parental advisory is required to put a limit on children's gadget usage. Digital learning media could also support children's learning, starting from knowledge, cognition, etc. Various sources of wisdom and teaching media pushed teachers to identify and arrange the correct learning media for children.

The digital technology trend in education now affects our life and student learning activity. Utilization of technology now added interactive multimedia like augmented reality/virtual reality/mixed reality, redesigned learning spaces (smartboards), artificial intelligence, learning personalization, and gamification. Our solemn duty as educators is to follow the growth of technology by adding digital learning to the learning activity. Applying digital knowledge can make the students cleverer if the kids using the digital media can identify what they need during a learning activity. Furthermore, children can also enhance their critical thinking, which is the fundamental skill of analytical logic development. The application of digital learning media causes kids to gain more knowledge and critical thinking. The teacher also needs to self-develop to be professional to increase the quality of learning during a pandemic.

Therefore, the teacher needs to experiment with using different media for students to develop their potential and skills and find their knowledge (Sudrajat, 2020)—the development of digital technology affects many aspects of human life. Implementing media supports the teacher in online learning during the COVID-19 pandemic, especially in elementary school. To decide which technology device to use in elementary school, the teacher needs to understand the character and condition of the student by considering Piaget's cognitive theory (Darmawan, 2013).

The existence of typing land application allows children to learn the introduction of letters and words in English. This typing land app is a learning media of words and letter introduction using a wireless keyboard. Kids can play games using the keyboard and identify letters; each level has different difficulties. The excellent graphic the game provides is suitable for children and has the correct display for children to be playful. This research aims to see how far digital learning media typing land utilization affects children's reading ability.

Language is a communication tool that already exists when we are born. Language lives when we are born, which is a gift from God so that we can communicate with fellow humans properly. Language is often used, so language learning must be available and ready when the child is still early. To share with his friends and socialize well. Therefore learning related to language is very important to be introduced to early childhood and early-grade children such as 6 - 7. In preparing for the next level of education, preschool children must be equipped with beginning reading skills. With early reading skills, children will find it easier to understand and receive information in writing and participate in learning activities in elementary school.

Following Permendikbud Number 137 of 2014 concerning National Standards for Early Childhood Education in the aspect of language in the scope of literacy, children aged 4-5 years can: 1) Recognize symbols, 2) Recognize the sounds of animals/objects around them, 3) Make meaningful scribbles, and 4) Imitate (write and pronounce) the letters A-Z. So it can be concluded that it is necessary to introduce and instil the ability to recognize letters in children aged 4-5 years. This ability to recognize letters will be the basis for children's language development, especially preparation for beginning reading (Almadina et al., 2020).

According to Carol Seeflt and Barbara A. Wasik (Rahayuningsih et al., 2019), recognizing letters is recognizing signs or characteristics of literacy symbols in the written system, which are members of the alphabet that symbolize the sounds of the language.) Then Rasyid argues that the ability to recognize letters is essential for children starting from Latin letters, Arabic letters, and so on, that he has from his environment (Herlina et al., 2018). From some of the above opinions, it can be concluded that the ability to recognize letters is an essential ability for children related to knowledge of symbols and language sounds and understanding their meaning.

Effi, in her book, mentions steps that can be used to introduce letters to early childhood, namely by introducing the shape and sound of notes until the child can memorize them. Second, letters, when read or sung by adults, either parents or teachers invite children to participate in reading or singing the letter song. Then guessing is something that makes children interested. For example, adults show letter symbols, and children are asked to

pronounce the sounds. At Kak Seto School, teachers also use the VAKT method to improve children's reading skills (Kann, 1983). This method has several advantages, including higher learning effectiveness by combining children's multiple learning styles, such as auditory (learning through hearing), visual (learning through sight), and kinesthetic (learning through movement and involving multiple senses like sight, hearing, touch, taste, and more) (Hermawan, 2021).

Additionally, the VAKT method can train and develop children's potential, provide hands-on experiences, and directly involve children in understanding new concepts through physical activities like demonstrations, observations, and active discussions. Therefore, the VAKT method is suitable for improving children's reading skills at Kak Seto School. The VAKT process can also arouse new motivation and interest in children, stimulate learning activities, and positively influence children, increasing student concentration to learn and understand lessons (Rakimahwati et al., 2022).

The advantage of the VAKT method is that it involves children with various learning styles, such as visual, auditory, and kinesthetic learning styles (Dewi, 2015). In addition to utilizing the sensory modalities, the VAKT principle in practice is carried out using concrete aids that represent the function of each sensory modality used. In addition, learning instructions with the VAKT method are pretty simple and can be done repeatedly to help children's learning process (Tutupoly et al., 2013).

In the rapidly evolving digital age, the significance of reading ability concerning individual learning, employment, and economic development cannot be overstated (Chu, 2021). Previous research from McDougall and Potterb (2018) and Zhenlong CHU (2021) has explored the potential of digital media to improve students' reading ability and motivation (Chu, 2021). There is still controversy surrounding the most effective methods of utilizing digital technology in an educational context. While some research has focused on third-space literacies (McDougall & Potter, 2019) and reciprocal teaching principles (Chu, 2021), Papadakis, Kalogiannakis, & Zaranis (2018), others have investigated the impact of digital technologies on early childhood students' understanding of numbers (Papadakis et al., 2018). However, these studies have limitations, such as inadequate exploration of the types of digital learning media that best foster reading abilities. Furthermore, there is a lack of research examining digital learning media's effectiveness in alternative educational settings, such as the Kak Seto School. In light of these knowledge gaps, this paper aims to analyze the efficacy of the digital learning media "Typing Land" on reading abilities at Kak Seto School, thereby contributing to the broader discourse on optimizing digital technologies for educational purposes.

This study's results suggest that digital technologies can enhance student literacy skills when used appropriately. Overall, this study emphasizes the importance of leveraging digital technologies to improve student learning outcomes and highlights the need for educators to adapt to the evolving technological landscape to provide the best possible educational experience for their students.

Methods

This research is qualitative, which means it is descriptive and tends to use analysis (Creswell, 2014). The data collected in this study were descriptive and were obtained by observing classroom activities and composing them into a literature review. Data analysis was carried out using descriptive and comparative methods. The descriptive analysis method was used to collect and organize data and to analyze and interpret the results. The research focused on 1st-grade elementary school students at Kak Seto School. This research aimed to observe and describe the use and development of digital learning media applications. Data was collected using the observation technique, where the researcher observed the class for two weeks to track the development of digital learning media applications. Data analysis was conducted using narrative analysis, a detailed report explaining the sequence of events. The research was written

based on observations and interviews with the teacher to ensure accurate data collection and analysis.

The research methodology utilized in this study was chosen due to the observation of reading difficulties among children at Kak Seto school. The school has implemented Technology for Information and Communication lessons to address this issue to improve their student's reading and writing abilities. The researcher acted as a third-party observer of cognitive development in children by conducting a two-week study with the 1st-grade participants, including the researcher, tutor teacher, and students at Kak Seto school. Data sources were obtained through reading journals and articles available on the internet. Data validity was ensured through credibility tests such as observation extension, perseverance enhancement, triangulation, negative case analysis, reference component, or member check. The interactive analysis technique was used to analyze the data, involving careful reading and rereading to identify patterns and themes, coding to organize and categorize the data, and interpreting to draw conclusions and develop insights. The research procedures consisted of preparation, data collection, data analysis, and research report arrangement, each with its steps. Using these techniques and methods, the researchers were able to ensure the reliability and validity of their qualitative data and develop trustworthy findings that could contribute to advancing knowledge in their field.

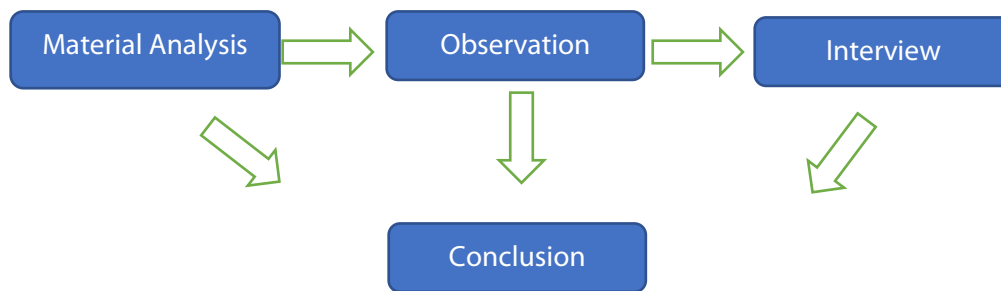


Figure. 1 Research Process

Result

This research takes place at Kak Seto School Jl. Raya Parigi Lama No.3A, Parigi, Kec. Pd. Aren, South Tangerang city, Bantem 15227. It was done through observation, interviews with teachers, and documentation. The study takes approximately two weeks to see how effectively typing land application is utilized for children's language and cognitive development. The result will be from the two weeks of observation, interviews, and class surveillance. The source person of the discussions is the Technology of Information and Communication teacher. This teacher taught some classes, including a 1st-grade course with three students: Lubna, Harsen, and Daryl. Each has different characters and abilities. In the first week, children were shown apps to know letters and words using a wireless keyboard. The purpose of the wireless keyboard is to teach the children the keyboard's primary mechanism and introduce digital media to learning activities so that children can learn the basic concept of computer utilization. Observation done added as a result of interviews with the teacher. Below are the results of research and analysis of digital learning media application to Kak Seto School's children's reading ability. This research takes place at Kak Seto School Jl. Raya Parigi Lama No.3A, Parigi, Kec. Pd. Aren, South Tangerang city, Bantem 15227. It was done through observation, interviews with teachers, and documentation.

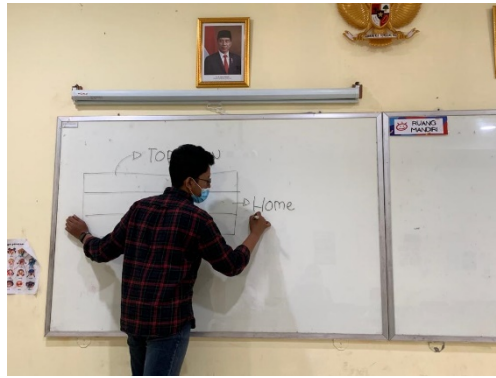


Figure 2. learning in class using digital learning media "typing land"

The research takes approximately two weeks to see how effectively typing land application is utilized for children's language and cognitive development. The result will be from the two weeks of observation, interviews, and class surveillance. The source person of the discussions is the Technology of Information and Communication teacher. This teacher taught some classes, including a 1st-grade course with three students: Lubna, Harsen, and Daryl. Each has different characters and abilities. In the first week, children were shown apps to know letters and words using a wireless keyboard. The purpose of the wireless keyboard is to teach the children the keyboard's primary mechanism and introduce digital media to learning activities so that children can learn the basic concept of computer utilization. Observation added to the result of interviews with the teacher. Below are the results of research and analysis of digital learning media application to Kak Seto School's children's reading ability.

The typing land application can be downloaded on the play store or app store, and this application is free and unpaid for the initial appearance of this typing land is to fill out the user profile this application. Using an exciting display, the typing land app presents letter recognition from a - z. In this activity, children learn to recognize letters through various game displays. In this activity, children are trained to acknowledge letters a - z using exciting games, and in addition, if children can quickly type will get three stars, to level up. This activity is also attractively packaged with good graphic design and pleasant background that makes children not bored learning to recognize letters using games in this application. This application presents several games to recognize letters. A variety of games can make children excited to recognize letters. The advantages of using the typing land application are, Typing land has benefits that can make users interested in including:

First, it Can be downloaded for free; This application is also an application that can be downloaded for free and has a relatively light game size so that it will save space on the smartphone. *Second*, it Can be used efficiently; The letter marble application is easy for everyone. Parents do not need to create an account to use this application, so they can immediately use the typing land application. In addition, the commands are in the form of attractive graphic designs.

Third, Attractive appearance; This typing land includes exciting pictures. Of course, interesting pictures can help children to recognize letters easily because the design of applications and games is exciting and easy for children to understand. In addition to mechanic images, the audio in this application is also compelling and can excite children. In this game display, several types of games can excite children to do the mission at each level.

Fourth, There is a score; After the child completes the mission at each level, the child will get a score in the form of stars at each level. If the child can type what is ordered quickly and there are no mistakes, the child will get three stars, while if the child plays and is less fast and there are some wrong orders, the child will get two stars, while if the child makes many mistakes and is not secured when typing the child gets 1 star. Then the child receives a certificate in the form of a score at each level he achieves. If the child wants to continue to the next world, the

child needs a crown. To get the height, the child must repeatedly play the game to get the crown to continue to the next world.

In addition to the advantages of this application also has disadvantages, namely, *There are errors on the keyboard*. The application has errors often encountered when the game is running, namely, sometimes the connection between the tablet and the keyboard is not connected, causing the child to be unable to type what is ordered. To solve this problem, the relationship between the keyboard and tablet must be disconnected first and then reconnected. Even with the shortcomings of this application, children can still learn well.



Figure 3. Typing Land

Table 1. Interview Guidelines

No	List of Question
1.	Is there any development of children learning ability during this learning?
2.	By using this application, can children recognize the letters very well?
3.	Is there any lack of performance shown by this application?
4.	Is there any appreciation towards this application after they use it?
5.	Is the usage of this application help the learning activity?
6.	Why do some of the kids in the class be unable to read?

According to Table 1, the interview results indicate that some students use tablets and keyboards provided by the school during learning activities. They can operate them quite well and utilize the facility gained from the school to learn through the "Typing Land" application, which helps them recognize letters and type from an early stage. This utilization also enhances the learning process in the classroom, as students are excited to learn how to read through this application.

The researcher's analysis of the interview at Kak Seto School shows that students had a lot of fun using the "Typing Land" application during the Technology of Information and Communication class. They felt like they were playing rather than learning because the application was designed to be engaging, with different levels and games that repeat letters that students struggle to memorize. Over two weeks of observation, the researcher found a significant improvement in the student's performance in the Technology of Information and



Figure 4. Learning with Typing land



Figure 4. Learning with typing land.

Communication class, as they were also taught how to type and learn about the different parts of the keyboard.

Furthermore, the classroom observations on three students showed they still struggle to read and write. Lubna, an inclusion student, finds it particularly challenging to differentiate letters and often reads or writes them backwards. Another inclusion student, Hansen, struggles with reading and writing and needs further training in letter recognition. Despite their struggles, these students followed their teacher's instructions well. The use of digital learning media has also been observed to help deliver lessons to the students at Kak Seto School. The children there are already fluent in operating their smartphones.

Three students in the class - Daryl Anggara Sutomo, Lubna Alessia, and Christian Harsen - were monitored during the observation period. Daryl and Harsen showed progress in recognizing letters from the first and second weeks, while Lubna still needs more training and focus on improving her letter recognition skills. Overall, the students at Kak Seto School demonstrated better grades during their Technology of Information and Communication class, as evidenced by their ability to recognize and pronounce some English words in the games they played.

However, two of the three observed students had a similar deficiency: they have sensory processing disorder, which causes difficulty in processing certain letters, words, and even spatial shapes. Lubna's sensory processing disorder resulted from having had eye surgery as a child, which led to an error in her brain's processing of sensory input. Sensory processing disorder can affect learning, coordination, behaviour, and language, as it causes the brain to process sensory information incorrectly, leading to inappropriate behavioural and motor responses. SPD can cause stress, anxiety, or even depression and is a risk for psychopathology. Epidemiological studies conducted in western lifestyle populations have shown a high prevalence of SPD among children (5-15%); however, many healthcare professionals are still unaware of this condition, resulting in unattended children and frustrated families. This review aims to provide an updated starting point on some of the most relevant aspects of SPD (Galiana-Simal et al., 2020). Two of the three students had impaired brain and motoric coordination.

By using learning media in the form of games, inclusive children are facilitated in learning where children can recognize letters with an enjoyable method. Several factors can cause sensory processing problems in children, but no definite cause has been found. Ayres (Miller et al., 2009) hypothesized that certain genetic factors in children can make parts of the child's brain more fragile. In this fragile state, environmental factors (or prenatal stressors) can interfere with the development of sensory integration. Schneider hypothesized that dopamine levels in frontal-striatal function play a role in inhibitory control and difficulty filtering sensory information, increasing children's responsiveness to certain sensory stimuli (Miller et al., 2009).

Apart from using interviews, the researchers also utilized observations to evaluate the effectiveness of digital learning media on children's reading skills. The observation period lasted for two weeks. In the first week, three students - Daryl, Lubna, and Harsen - were present in the class. Lubna and Harsen had sensory impairments that made it challenging to process letter shapes. During the first week, Daryl showed excellent progress, as he could follow the teacher's instructions and participate actively in class. He was able to use the keyboard correctly and without errors during the game, where he had to recognize letters such as A, E, F, G, and H. Daryl completed the game with three stars, indicating that he had passed the game without any mistakes and with good speed. Overall, the observation results suggest that digital learning media positively impacts children's reading skills, as evidenced by Daryl's progress.

A student in the class named Lubna has a sensory processing disorder that makes it difficult for her to process letters in the game. Lubna struggles to click on specific notes in the game due to her brain's slow processing speed. For example, when playing a game that requires her to click on letters like A, A, F, and H, Lubna often misses clicking on some of these letters. Moreover, Lubna tends to skip clicking on the letter "A" twice because her brain has already processed it as clicked. Lubna's game score indicates that she still needs to improve her typing

speed and accuracy, as she often receives two stars or even 1 star in the game. The sensory processing disorder affects Lubna's ability to process the letters and slows her typing speed, ultimately affecting her game score. However, Lubna can improve her skills and overcome these challenges with further training and support.

The last student observed was Harsen, who followed Kak Syaiful's instructions well. Harsen also has a sensory disorder but can concentrate well and follow the game instructions accurately. However, if Harsen is not focused, he may struggle to play the game effectively. Like Lubna, Harsen also works with processing letter shapes. During the first week of observation, all three students tried recognizing letters in the game.

After using the digital learning media, the students continued to be motivated to learn how to read and write. For example, they were asked to write their names in front of the class and were given Abacaga books to improve their reading skills. The inclusion teacher in class 1 also provided stimulation in the form of reading and rewarded students who succeeded in the assignment. However, during the first week of observation, the researchers noted the children still did not understand some of the letters taught in the application. They needed more time to process the letters on the tablet screen.

Despite initial challenges, students can improve their reading and writing skills through digital learning media with continued training and support. During the first week of observation in class 1 at Kak Seto School, researchers noted the progress of individual students. Daryl demonstrated excellent focus and followed instructions well, quickly identifying English letters. In just one week, Daryl progressed efficiently through one level of the game, collecting nine crowns and qualifying for the next level.

Lubna, on the other hand, struggled to process letters but showed promise with more practice and concentration. Though easily distracted by the surrounding environment, Lubna managed to collect nine crowns and advance to the next level, thanks to the guidance from the previous week's game.

Harsen had difficulty focusing during the second week, possibly due to a sensory disorder. But, like Lubna, Harsen demonstrated improvement in recognizing letters, with a higher score and level than the previous week. All three students played the game designed to help them read and type quickly and accurately.

In summary, while some students face challenges with reading and writing skills, digital learning media can be effective with continued training and support. The observations in class 1 at Kak Seto School suggest that consistent practice and guidance can help students overcome difficulties and improve their literacy skills.

Discussion

From the research being done, it can be concluded that the Application of Digital Learning Media "Typing Land" to the Reading Ability of 1st-grade Children at Kak Seto School fits the following criteria of correct learning media according to (Sudjana, 1990), which consist of 1) Accuracy between the media and purpose of teaching; 2) Supports toward the content of learning; 3) Convenience on collecting media; 4) Teacher's ability to operate; 5) Time available to users; and 6) Appropriate with the kid's thinking ability.

That said, the chosen learning media is correct, following the criteria by Sudjana. However, implementation and practice aren't optimal in some aspects, such as application and keyboard errors. Nevertheless, the lack of those aspects cannot foreshadow the progress of this application. In the implementation, Kak Seto School has already fulfilled the technology factor to utilize learning activity with its fast internet connection, smartphone, and learning-supporting devices like the keyboard. The usage of technology at Kak Seto School is excellent.

This implementation of digital learning media is associated with fulfilling the 4-aspect proposed. That there are four aspects of learning media which consist of aspects (1) Materials, in the utilization, this internet-based media fulfilled the materials aspect in the form of software that was being used as a reference and source of learning, (2) Device, in this application of

internet-based media PPKn teacher and students take advantages of hardware in the form of the smartphone as a tool to process and gather learning references that contain information related to learning materials, (3) Technique, or routine procedure that is used to utilize materials and environment, the technique of this application is usually being done with the method of learning implemented correctly in the form of discussion or presentation, lastly (4) Background or setting, students location, in this case, is the learning that is held when the internet based media learning being implemented inside or outside of the class (Ratna Ekawati, Endi Permata, Mohammad Fatkhurrohman, Irwanto, 2021).

Besides, the application of digital learning media positively impacted the students, which is a more accessible and fun understanding activity with exciting graphics and audio for children. Furthermore, the teacher guidelines also give off a positive impact where the student who hasn't reached three stars or gained a crown from the teacher is not allowed to proceed to a higher level. Through this habit, children will recognize easier letters and be faced with constant repeat if they do not exceed three stars, causing them to be familiar with letters. Knowing letters is an activity that involves addictive elements (auditory) and visual (sighting) (Rianti et al., 2022).

Children's ability to know letters starts when children are excited to explore books by grabbing or flipping the books (Department of National Education, 2010). This app lets kids learn to know letters through audio and visual. (Suryadi, 2010) stated that the early childhood learning process is done through playing activities that the teacher prepares by preparing the content and strategy of learning.

Preparing an exciting learning media will undoubtedly attract the children to learn about letters. This learning media application is also having some negative impact, which is without enough surveillance, kids will spend too much time on their gadgets. Despite the negativity, from the observation, kids seem obedient when told they shall only use the typing land application during learning sessions and prohibited from opening the other applications. Assisted with good understanding from the teacher, students can understand the correct usage of gadgets and not overdo it when they are asked to bring them to school.

The result of this research is relevantly supporting the previous research done by Yova Cahya Furi about the application of Big Book media to increase 1st-grade students' reading ability at Waylaga Panjang Bandar Lampung State Elementary School the results of As seen from the development, proven by the average of grades of beginner reading starting from 64,14 increased to 67,59 at cycle I and 73,31 at cycle II. Percentages of students exceeding average degrees increased to 68,84% at cycle I 78,9% and cycle II 89,5%. The conclusion is that applying Big Book media can increase a beginner's reading ability. This research shows that using Big Book media can increase first-grade reading ability—progress of reading ability proven by increasing average grades from 67,57 to 73 and 82,35. Exceeding middle degrees was proven by increasing reading ability grades starting with 36%. In cycle I, it reached 54%; in cycle II, it advanced to 87%. The conclusion is that applying Big Book media can increase a beginner's reading ability.

Seen from the research above is the relevancy of the research being done by the researcher. In contrast, reading ability can increase when using creative learning media such as Big Book media to see how far is children's reading ability. Meanwhile, the research being written by the researcher uses digital learning media, and it can show the progress of children's reading ability from the 1st grade at Kak Seto School. They were seen from the application of digital learning media that repeatedly caused children to be familiarized with alphabet letters. The teachers at Kak Seto School are using VAKT methods which helps students in the reading learning process; the learning material is being served with various senses like visual, auditory, kinesthetic, and tactile. When the teacher uses typing land application, they apply the VAKT method, whereas children learn how to read with various senses like visual, auditory, kinesthetic, and tactile.

The VAKT method has gained significant attention in helping children learn to read. This approach involves multisensory techniques that engage the visual, auditory, kinesthetic, and tactile senses. Fernald and Orton-Gillingham developed this approach, which has been repeatedly used in educational settings. In contrast, the glass analysis method utilizes letter groups to solve passwords (Abdurrahman, 2009). VAKT is a highly effective learning method that uses multiple modalities to facilitate learning. The VAKT approach assumes that learning material involving various sense modalities, including audio, visual, kinesthetic, and tactile, will improve learning outcomes for all children (Zulkifli, 2013). Overall, the VAKT method offers a promising approach to enhancing reading and learning outcomes in children.

The findings presented to reveal the positive impact of utilizing creative and digital learning media, such as Big Book media and the VAKT method, in enhancing first-grade students' reading abilities. The significance of these findings can be further explored by examining the role of evidence-based online learning methods, the effectiveness of digital media for young children, and the integration of mobile technologies in education, particularly in mathematics.

Joseph T. Wong (2022) highlights the importance of learner experience design methods in higher education, particularly those that enhance self-efficacy, task value, and self-regulation. These factors positively influence students' engagement, elaboration, and critical thinking skills (Wong & Hughes, 2022). It is worth considering how the Big Book media and VAKT method may similarly contribute to these motivational factors, ultimately leading to increased reading abilities among younger students. Future research could explore how these creative learning methods might be adapted for online learning environments, ensuring that students remain engaged and motivated even in the digital context.

Debra (2009) discusses the potential of digital media for young children aged 3 to 6, suggesting that it may improve their knowledge and skills in various areas, such as thinking, problem-solving, and collaboration (Lieberman et al., 2009). While the effectiveness of some digital media products remains untested, the promising results of Big Book media and the VAKT method may provide a foundation for developing evidence-based digital media products for young children. Further research is needed to investigate children's digital media processing, which can inform the design and effectiveness of future media products tailored to this age group. Emphasizes mobile technologies' opportunities in enhancing mathematics education, providing meaningful engagement and authentic learning contexts. However, the quality of teaching and appropriate usage of technology is crucial for achieving positive outcomes (Papadakis et al., 2018). This notion applies to Big Book media and the VAKT method in teaching reading skills. Effective integration of these methods requires teachers to undergo training and innovative pedagogical design to support learning through such media. By striking a balance between entertainment and learning, it is possible to leverage the optimal pedagogical impact of these creative learning methods.

In conclusion, the presented findings and the materials discussed demonstrate the potential of creative and digital learning media in improving students' reading abilities and other skills. By examining evidence-based online learning methods, the effectiveness of digital media for young children, and the integration of mobile technologies in education, future research can further enhance the design and implementation of these learning methods for the benefit of students across various age groups and disciplines.

Conclusion The research has concluded that the digital learning media application implemented by the teacher at Kak Seto School had both positive and negative effects on the reading ability of the children. On the positive side, the application provided a more accessible and enjoyable learning experience with visually appealing graphics and audio, which helped to enhance the children's interest in learning. Additionally, the guidelines set by the teacher also had a positive impact, as children who had not achieved three stars or gained crowns from the teacher were not allowed to proceed to higher levels, which encouraged them to recognize

letters and repeat the activities until they became familiar with them. However, the downside of the digital media application was that excessive use of smartphones could lead to addiction and potential exposure to inappropriate content. Therefore, the teacher must supervise the usage of smartphones to prevent such negative consequences. The digital learning media application is an innovative tool that can enhance children's reading ability, but proper supervision is needed to avoid potential negative impacts.

References

- Abdurrahman, M. (2009). *Pendidikan Bagi Anak Berkesulitan Belajar*. Rineka Cipta.
- Allen. (2013). *Changing Course Ten Years Of Tracking Online Education In The United States USA*.
- Almadina, M., Fadila, L., & Eko, F. I. (2020). *Increasing Language Development Of Children At Kindergarten Age. 59*, 146–155.
- Chu, Z. (2021). Effects of digital media integrated reciprocal teaching on students' reading ability and motivation. *Revista de Cercetare Si Interventie Sociala*, 73, 299–311. <https://doi.org/10.33788/rcis.73.19>
- Creswell, J. W. (2014). *Qualitative, quantitative and mixed methods approaches*. Sage.
- Darmawan, S. L. (2013). Promoting Students' Explicit Information Skill in Reading Comprehension Through Graphic Organizers. *PREMISE JOURNAL:ISSN Online: 2442-482x, ISSN Printed: 2089-3345*, 2(2), 112–119. <https://doi.org/10.24127/pj.v2i2.684>
- Department of National Education. (2010). *The Condition of Education*. Institute of Education Science.
- Dewi, S. U. S. (2015). Pengaruh Metode Multisensori Dalam Meningkatkan Kemampuan Membaca Permulaan Pada Anak Taman Kanak - Kanak. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699. <https://doi.org/10.2345/jm.v2i1.738>
- Galiana-Simal, A., Vela-Romero, M., Romero-Vela, V. M., Oliver-Tercero, N., & García-Olmo, V. (2020). *Sensory processing disorder: Key points of a frequent alteration in neurodevelopmental disorders*. <https://doi.org/10.1080/2331205X.2020.1736829>
- Herlina, M. N., Fatimah, A., & Fahmi, M. P. (2018). Peningkatan Mengenal Huruf Hijaiyah Melalui Media Kartu Huruf. *JPPPAUD*, 5(1), 1–80.
- Hermawan, R. (2021). Development of Music-Based Learning Models To Introduce Letters and Numbers of Early Childhood. *Cakrawala Dini: Jurnal Pendidikan Anak Usia Dini*, 12(2), 168–175. <https://doi.org/10.17509/cd.v12i2.37006>
- Kann, R. (1983). The Method of Repeated Readings. *Journal of Learning Disabilities*, 16(2), 90–92. <https://doi.org/10.1177/002221948301600205>
- Lieberman, D. A., Bates, C. H., & So, J. (2009). Young children's learning with digital media. *Computers in the Schools*, 26(4), 271–283. <https://doi.org/10.1080/07380560903360194>
- McDougall, J., & Potter, J. (2019). Digital media learning in the third space. *Media Practice and Education*, 20(1), 1–11. <https://doi.org/10.1080/25741136.2018.1511362>
- Miller, L. J., Nielsen, D. M., Schoen, S. A., & Brett-Green, B. A. (2009). Perspectives on sensory processing disorder: A call for translational research. *Frontiers in Integrative Neuroscience*, 3(SEP), 1–12. <https://doi.org/10.3389/neuro.07.022.2009>
- Papadakis, S., Kalogiannakis, M., & Zaranis, N. (2018). The effectiveness of computer and tablet assisted intervention in early childhood students' understanding of numbers. An empirical study conducted in Greece. *Education and Information Technologies*, 23(5), 1849–1871. <https://doi.org/10.1007/s10639-018-9693-7>
- Rahayuningsih, S. S., Soesilo, T. D., & Kurniawan, M. (2019). Peningkatan Kemampuan Mengenal Huruf Pada Anak Usia 5-6 Tahun Melalui Metode Bermain Dengan Media Kotak Pintar. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 9(1), 11–18. <https://doi.org/10.24246/j.js.2019.v9.i1.p11-18>
- Rakimahwati, R., Hanifa, N., & Aryani, N. (2022). Android Based Educational Game Development to Improve Early Childhood Reading Ability. *AL-ISHLAH: Jurnal Pendidikan*, 14(2), 1123–1134. <https://doi.org/10.35445/alishlah.v14i2.1053>
- Ratna Ekawati, Endi Permata, Mohammad Fatkhurrohman, Irwanto, S. A. (2021). Pengembangan

- Media Pembelajaran Trainer Kit Teknik Digital berbasis Cooperative Learning Approach. *Lectura: Jurnal Pendidikan*, 12(March 2), 180–193. <https://doi.org/10.31849/lectura.v12i2.7486>
- Rianti, R., Nurjanah, I., Latifah, D., Alifah, N., & Asyiah, A. (2022). Freedom Learning on Early Childhood Education: Implementation of STEAM Method with Loose Parts Media. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 7(2), 99–108. <https://doi.org/10.14421/jga.2022.72-05>
- Sudjana, N. (1990). *Penilaian Hasil Proses Belajar Mengajar*. PT. Remaja Rosdakarya.
- Sudrajat, J. (2020). Kompetensi Guru Di Masa Pandemi Covid-19. *Jurnal Riset Ekonomi Dan Bisnis*, 13(2), 100. <https://doi.org/10.26623/jreb.v13i2.2434>
- Suryadi, A. (2010). *Permasalahan Dan Alternatif Kebijakan Peningkatan Relevansi Pendidikan (Studi Relevansi Pendidikan Kerjasama UPI dengan balitbang Kemendiknas)*.
- Tutupoly, J. F., Siswati, & Widodo, P. B. (2013). Efektivitas Metode Multisensori Terhadap Kecakapan Mengingat Kosakata Bahasa Inggris Pada Siswa Kelas I Sekolah Dasar (Studi Eksperimental Di Sd Negeri Tembalang Semarang). *Jurnal Psikologi Undip*, 12(2), 100–108. <https://doi.org/10.14710/jpu.12.2.100-202>
- Wong, J. T., & Hughes, B. S. (2022). Leveraging learning experience design: digital media approaches to influence motivational traits that support student learning behaviors in undergraduate online courses. In *Journal of Computing in Higher Education* (Issue 0123456789). Springer US. <https://doi.org/10.1007/s12528-022-09342-1>
- Zulkifli. (2013). *Meningkatkan Kemampuan Mengenal Bilangan 1 Sampai 10 Melalui Metode Vakt Bagi Anak Tunagrahita Sedang*. 1, 235–247.