

Homeschooling in the Digital Age: The Role of Technology in Supporting Home Education

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ABSTRACT

This research discusses the use of technology in homeschooling and its impact on children's learning processes. By adopting a literature review approach, we identify, evaluate, and synthesize current research findings related to technology-based homeschooling. This study outlines the benefits of technology as a source of information and a learning tool, as well as the challenges faced in its implementation, such as accessibility, parental technology skills, and data security. Additionally, we investigate the social and emotional impacts experienced by homeschooling students who utilize technology in their learning. Through a combination of systematic literature review and traditional review, this research aims to provide deeper insights into the potentials and challenges within homeschooling education, as well as recommendations for developing more effective homeschooling practices in the future.

Keywords: homeschooling, technology, challenges

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INTRODUCTION

In an era of globalization marked by rapid technological advancements, education is undergoing a significant transformation in the ways and methods used to deliver teaching materials. One of the increasingly popular forms of education is homeschooling, which is an education system where children learn at home with the guidance of parents or tutors, instead of attending formal schools. Homeschooling offers greater flexibility in determining curriculum and learning methods that suit the individual needs and interests of students. By using technology, the learning process in homeschooling can become more interesting and effective, giving students access to a variety of rich sources of information.

Technology plays an important role in supporting homeschooling by providing platforms and tools that allow parents to manage their child's learning more efficiently. The use of various educational apps, learning videos, and interactive websites has broadened educational horizons, allowing parents to present material in a more creative and engaging way. This not only helps to increase children's interest in learning, but also allows them to learn at a pace that suits their individual abilities. However, behind these advantages, there are equally important challenges, including gaps in access to technology and potential social isolation for homeschooling students.

One of the significant challenges in technology-based homeschooling is accessibility. Not all families have the same resources in terms of technology devices and internet connections. This limitation can lead to inequality in the quality of education received by children. In remote areas, for example, many families still struggle to access stable internet, so they are hampered in

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utilizing existing online learning resources. In addition, the lack of training and understanding of the use of technology among parents can reduce the effectiveness of the learning process. Many parents who do not have a formal education background find it difficult to implement educational technology properly, potentially hindering their children's academic development.

Social aspects are also a concern in homeschooling. Homeschooled students may have difficulty in building healthy social relationships, especially if they do not have the opportunity to interact with peers directly. Social interaction is essential for a child's emotional development and communication skills, which are necessary in everyday life. With technology, such as communication apps and online learning platforms, there are opportunities to address this issue of social isolation. However, face-to-face interaction is still very much needed to achieve a good balance in children's social development. Therefore, parents need to be active in finding ways to ensure that their children stay connected to their communities and peers.

With these various factors in mind, it is important to explore more deeply how technology can be an effective tool in supporting homeschooling. A thoughtful and balanced use of technology can create engaging and rewarding learning experiences, while still maintaining the social aspects that are crucial to a child's development. For this reason, further research on the implementation of technology in homeschooling and its impact on students' academic and social-emotional development is needed. Through a deep understanding of the challenges and opportunities that exist, we can formulate more effective approaches to improve the quality of homeschooling education in this digital era.

METHODS

The research method in this journal uses a literature review approach, which aims to identify, evaluate, and synthesize research results relevant to the topic of technology-based homeschooling. This process includes several important steps, namely topic selection, literature search, analysis, and report writing. In this context, we adopted two main methods commonly used in literature research: systematic literature review (SLR) and traditional review.

The Systematic Literature Review (SLR) method is conducted in a systematic and structured manner to collect and analyze data from various previous studies. The first step in SLR is to determine the inclusion and exclusion criteria, which will guide the selection of relevant studies. Next, we conducted a literature search in various academic databases to find studies that met these criteria. After data collection, analysis was conducted using a standardized approach to identify patterns, trends and gaps in existing research. This method allowed us to get a clearer picture of the current state of research and helped in identifying areas that require further research (Rahayu et al., 2019).

As a complement, we also applied the traditional review method, which is more narrative and less formal in its analysis process. This method involves gathering information from multiple sources without strict criteria, allowing the authors to express their thoughts and interpretations more flexibly. While this method is easier to conduct, we recognize that the traditional review may not cover all relevant research and may result in bias in the synthesis of information (Sugiyono, 2012).

Both methods have their own advantages and disadvantages. SLR tends to be more comprehensive and objective, but requires more time and resources. On the other hand, traditional reviews are faster and easier to conduct, but may not cover the entirety of relevant research. Therefore, the selection of the appropriate method in this research largely depends on the purpose of the research and the nature of the topic under study. In this case, a combination of both methods is expected to provide a deeper insight into technology-based homeschooling and identify the challenges and opportunities that exist in it.

The researcher selected three videos from Elvis Duran and The Morning Show's YouTube channel, each of which has a different female singer as their guest star. The female singers chosen are the most popular ones these past few years, namely Taylor Swift, Selena Gomez, and Camila Cabello. After watching the selected videos repeatedly, the researcher transcribed the data. It

needs to be highlighted that the analysis focused on the lexical choices of the radio hosts, because they represent how the media portrays these female singers as public figures. Since the data was analyzed using Fairclough's Three Dimensional Approach (1995), it was done in several steps. First of all, the researcher examined the lexical choices of the radio hosts. The next step was identifying the discourse practice, which is how the interview was conducted by Elvis Duran and The Morning Show as the chosen media. After gathering all the findings, the researcher analyzed the data further, by referring to gender-related theories from Lakoff (1973) and Tannen (1990). Last but not least, the researcher was able to draw the conclusion.

RESULTS AND DISCUSSION

Technology as a Homeschooling Learning Resource and Tool

The use of technology in homeschooling has become a key factor in increasing the effectiveness and flexibility of learning. In homeschooling, the role of parents as primary educators often poses challenges in delivering a variety of teaching materials that suit the needs and interests of children. Technology comes as a solution to this challenge, assisting parents in creating a more personalized and engaging learning environment for children.

One of the biggest benefits of technology in homeschooling is its ability to provide access to diverse sources of information and learning materials. By utilizing online platforms such as educational websites, learning videos, and educational apps, parents can access relevant and quality content to support their child's learning. This allows them to tailor teaching materials to their child's learning style, which in turn can improve learning effectiveness. For example, a child who loves science can learn through online science experiment videos, while a more visual child can learn through infographics or educational games. According to Khaerunnisa (2023), with this ease of access, technology serves not only as a tool, but also as a source of information that enriches students' learning experience at home.

Furthermore, technology allows for better interaction between students and teachers, including tutors or teachers hired specifically for homeschooling. Through the use of technology such as video conferencing, children can communicate directly with teachers for real-time guidance. This is very important in homeschooling because often parents have to double up as teachers and caregivers. Not all parents have a background in education, so they may feel burdened to master every aspect of the teaching material that the child needs. With technology, parents can more freely seek help from external sources. According to Heryani (2017), the role of video conferencing in homeschooling helps reduce the burden on parents because they do not need to fully master every lesson taught to children.

In addition, the use of learning apps allows children to learn independently in a supervised setting. These apps are often designed with an attractive and interactive interface, so children can learn more enjoyably. In addition, many learning apps also provide assessment or evaluation features, so parents can monitor their child's learning progress regularly. For example, apps like Khan Academy or Ruangguru in Indonesia provide lessons in the form of videos and quizzes that help children learn and test their understanding. By utilizing apps like these, homeschooling becomes more structured and provides an experience similar to formal education, without leaving the flexibility that homeschooling offers.

Technology also supports more innovative learning approaches, such as blended learning. In this approach, face-to-face learning is combined with online learning. Although homeschooling is generally done entirely at home, technology allows the blended learning approach to provide variety in the learning process. By utilizing various educational apps and digital media, students can learn in a more interactive way. For example, they can use digital simulations to understand complex concepts or join virtual classes that allow them to learn alongside their peers online. Shabrina (2017) states that this approach can increase children's motivation and interest in learning because it provides a more dynamic learning experience that suits their needs.

In addition to these benefits, technology in homeschooling also presents challenges. One of them is limited access for families who do not have adequate devices or a stable internet connection. The cost of accessing technology can be a burden for some families, especially those

who live in remote areas. On the other hand, dependence on technology can also reduce the social interaction of children, who may rarely meet with peers in a homeschooling learning environment. Therefore, parents need to be wise in utilizing technology while still providing time for children to interact directly outside of learning activities.

Technology has brought many positive impacts in the implementation of homeschooling. Not only does it make access to learning resources easier, it also provides flexibility in organizing schedules and teaching materials according to the needs of the child. This is important because homeschooling usually offers greater freedom in determining learning methods that suit children's interests. However, to maximize its benefits, parents must be wise in choosing and using technology. They need to ensure that the use of technology in homeschooling remains balanced with learning activities that involve direct social interaction. In this way, technology can be an effective partner in creating a rich, flexible, and engaging learning experience for homeschooled children.

Digital Platform for Home Schooling Learning Management

Accessibility to educational resources has increased significantly with the advent of digital technology. However, despite this convenience, there are challenges that need to be considered, especially regarding the balance between the use of technology and traditional learning methods. While technology offers a range of engaging educational resources, such as interactive learning videos and digital modules, excessive use of electronic devices or too much screen time can cause distraction for children. Not only does this reduce concentration in learning, but it can also reduce children's social interaction. Therefore, it is important for parents to find the right balance between digital learning and non-digital activities, such as reading books, playing outside, or interacting with peers directly. This balance is necessary so that children are not only skilled in using technology, but also have good social skills (Hernholm, 2024).

Digital platforms for homeschooling learning management have become an increasing trend in recent years. This is due to their ability to assist parents in managing curriculum, scheduling learning activities, and facilitating communication with educational experts. For example, platforms like Google Classroom and Moodle are very effective for uploading learning materials, assigning tasks, and monitoring student progress. Through these platforms, parents can more easily supervise and provide feedback on their child's work. This creates a more structured and organized learning system, thus improving the quality of their homeschooling education. With easy access to various resources and the ability to interact online, this digital platform allows parents to provide a better learning experience for their children (Heryani, 2017).

Some of the main functions of digital platforms in homeschooling management include using information technology to access global educational resources, facilitating the integration of multi-subject learning, and providing real-time access for monitoring students' progress. For example, Khan Academy Kids offers interactive multimedia content designed for young children, which makes learning fun and effective. The platform not only provides varied learning materials, but also facilitates a more flexible way of learning, where students can learn at their own pace. In addition, apps like ClassDojo allow parents to monitor their children's academic and social behavior online. With this feature, parents can see their child's overall development, including in academic and social aspects, so as to provide necessary interventions if any problems are detected. This provides an advantage in supporting holistic child development (Suparman, 2023).

However, while digital platforms have many advantages, such as high flexibility and accessibility, there are still some disadvantages that need to be considered. One of the main disadvantages is the reliance on the internet, which can be a challenge for families who live in rural areas or have poor internet connections. In these situations, access to online learning platforms can be limited, potentially hindering a child's learning process. Furthermore, the use of digital platforms can also lead to over-reliance on technology, where children lose traditional learning skills. They may become accustomed to learning methods that rely on multimedia and interactivity, but lack the development of basic skills such as conventional book reading or in-

person discussions. Therefore, it is important to maintain a balance in learning approaches, so that children still get a well-rounded and balanced learning experience (Mulyadi, 2007).

The importance of parental involvement in the homeschooling learning process cannot be underestimated. By utilizing digital platforms, parents can play an active role in supervising and supporting their children's learning. This includes monitoring learning progress, customizing teaching materials according to children's needs, and ensuring that children use technology wisely. Through this collaboration, parents can create a learning environment that not only supports academic achievement, but also helps children develop the social and emotional skills needed to interact with the outside world.

In addition, parents also need to pay attention to the mental and physical health aspects of their children. Prolonged use of digital devices can cause fatigue, both physical and mental, which affects children's motivation and concentration in learning. Therefore, creating a balanced routine between study time with physical activities and social interaction is very important. Parents are advised to set time limits on device use and encourage children to do activities outside the home, such as playing sports or participating in community activities. In this way, children not only get a quality education, but also valuable social experiences that support their overall development (Hernholm, 2024).

The integration of digital platforms in homeschooling provides many opportunities and challenges. While technology offers greater access and innovative learning methods, it is important for parents to maintain a balance between digital and traditional learning. With a thoughtful approach, parents can utilize the potential of digital platforms to enhance the quality of homeschooling education, while still paying attention to the social and emotional needs of the child. Active involvement of parents in the learning process, close supervision, and balanced time management will help children to grow into skilled and balanced individuals to face challenges in this increasingly digitalized world.

Challenges of Technology-Based Homeschooling

The challenges of technology-based homeschooling are of growing concern in this digital age, especially given the major shift in the way education is conducted. One of the major challenges is the uneven accessibility of technology in different regions. Many families, especially those living in remote or less developed areas, face difficulties in obtaining the necessary devices to support their child's learning. Limited access to devices such as laptops or tablets, as well as stable internet connections, can result in inequalities in the quality of education received by children. This inequality not only hinders their academic development, but also widens the education gap in society. Therefore, it is important for the government and educational institutions to provide adequate infrastructure so that all students, regardless of location, can access the necessary technology for homeschooling (Sukerti, 2023).

In addition, the lack of technological understanding and skills among parents and teachers is also a significant challenge. Many parents involved in homeschooling do not have a formal educational background or experience in using educational technology. This often hinders the effectiveness of teaching and learning, as parents may not know how to optimally utilize digital resources to support their children. Without adequate knowledge of various educational tools and platforms, parents may find it difficult to provide education that meets the required standards. To address this issue, training and mentoring for parents is needed so that they can make good use of technology in their children's learning process. This training program will not only improve parents' technology skills, but also give them the confidence to be actively involved in their children's education (Grafitty, 2023).

Another challenge is data security and student privacy. With the increasing use of digital platforms for learning, the risk of student personal data leakage increases. Homeschooling parents and organizers must ensure that the systems used are secure and protect their children's personal information. This includes using software that has data encryption and strict access procedures to prevent misuse of information. In addition, awareness of the importance of data security needs to be raised among homeschooling parents and organizers. Parents need to be

informed on how to protect their children's personal data and choose a safe platform to use. If not properly addressed, these data security issues can result in serious consequences, including identity theft and privacy violations (Sukerti, 2023).

Social interaction is a big challenge in technology-based homeschooling. Homeschooled children may feel isolated due to the lack of interaction with peers. Social interaction is important for children's emotional and social development, helping them learn the communication and collaboration skills needed in society. When children do not have the opportunity to interact with their peers directly, they may have difficulty in building healthy social relationships. Therefore, parents need to find ways to connect children with homeschooling communities or other study groups. Joining study groups or extracurricular activities can provide children with opportunities to socialize and collaborate with peers, thus supporting their social development. In this way, homeschooling can not only provide quality education, but also ensure that children remain connected to their social environment (Grafitty, 2023).

While technology-based homeschooling offers many advantages, the challenges that exist need to be seriously addressed. Unequal accessibility, lack of technology skills among parents, data security concerns, and lack of social interaction are all important issues that need to be addressed to ensure that homeschooling can run effectively and efficiently. Support from the government, educational institutions, and the community is needed to overcome these challenges, so that all children can enjoy equitable and quality education in this digital era. With the right approach, these challenges can be turned into opportunities to improve the homeschooling education system and make it more inclusive and sustainable in the future.

Social and Emotional Impact of Technology on Homeschooled Students

The influence of technology-based homeschooling on students' social interaction and emotional development can be seen from various aspects. Research shows that homeschooled students often experience limitations in social interactions compared to their peers in conventional schools, which may affect their social skills (Herfinaly & Aryani, 2022). Nonetheless, the use of communication technologies such as instant messaging apps can help students to stay connected with peers, thus supporting the development of their social skills (Salvo, 2018).

In addition, homeschooling can also affect students' emotional development. Homeschooled students often have closer relationships with their families, which can increase self-confidence and emotional support (Lines, 1994). However, it is important for parents to create opportunities for children to interact with peers to avoid excessive social isolation (Kantrowitz & Wingert, 1998).

Technology has become a very important tool in overcoming social isolation, especially through online learning communities and virtual discussion groups. Online platforms allow individuals to connect with people from different backgrounds and locations, creating a wider social network. Research shows that participation in online communities can increase the sense of connectedness and reduce feelings of loneliness (Yusran, 2023). Through discussion forums and study groups, participants can share experiences, ideas and emotional support, which is crucial for their mental health.

In addition, technology allows access to a wide range of educational resources that can be accessed anytime and anywhere. This not only enhances knowledge but also provides opportunities to interact with classmates virtually. According to Salvo (2018), students who engage in online learning tend to feel more connected to their peers compared to those who do not have access to online communities. These interactions help reduce the social isolation often experienced by homeschooling students or those who learn from home.

However, it is important to remember that while virtual interactions have their benefits, face-to-face interactions remain crucial for healthy social and emotional development. Therefore, a combination of online and offline interactions is highly recommended to achieve a good balance in an individual's social life (Herfinaly & Aryani, 2022).

A balance between online learning and activities outside the home is essential to support students' character and social development. Online learning allows students to access information and interact with teachers and peers virtually. However, direct interaction through

out-of-home activities is also needed to build social skills that cannot be fully achieved through online learning (Laksana et al., 2020).

Activities outside the home, such as sports, arts or community activities, provide opportunities for students to interact directly, learn to work together and develop empathy. Research shows that learning experiences that involve direct social interaction can improve students' communication and collaboration skills (Sari et al., 2021). Therefore, it is important for educators to design programs that combine online learning with out-of-home activities to create a holistic learning experience.

Moreover, collaboration between parents, teachers and students is crucial in creating this balance. Parents can encourage their children to engage in physical and social activities outside the home, while teachers can provide online platforms that support learning and character development (Setiawati & Suparno, 2022). Thus, the combination of online learning and activities outside the home will help students grow into emotionally and socially balanced individuals.

CONCLUSION

Technology-based homeschooling offers many advantages in increasing the flexibility and accessibility of education, especially in today's digital age. The use of various digital platforms and learning applications allows parents to create a more personalized and structured learning environment, as well as support learning that suits the needs and interests of the child. Technology serves not only as a tool, but also as a source of information that enriches students' learning experience. However, challenges related to technology accessibility, parental skills, and social interactions need to be addressed to ensure the effectiveness of homeschooling. Although homeschooling provides an opportunity for a closer relationship between child and parent, the risk of social isolation remains. Homeschooled children may face difficulties in developing important social skills. Therefore, it is important for parents to find ways to keep their children connected with peers, either through the homeschooling community or extracurricular activities. In this case, technology can play a positive role in maintaining social connections, but it still needs to be balanced with face-to-face interactions that are essential for healthy emotional and social development. Overall, technology-based homeschooling has great potential to enhance the learning experience, but it needs a wise and balanced approach. Support from parents in managing technology use and providing opportunities for children to socialize are key to ensuring optimal development. By effectively utilizing the potential of technology and maintaining healthy social interactions, homeschooling can be a quality, inclusive, and sustainable education alternative in the future.

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