

Generation Alpha Development Policy and Strategy in the Digital Era: A Thai Perspective

Pongsakorn Limna, Tanpat Kraiwanit, Arnon Kasrisom,
Kris Jangjarat, Saranchana Asanprakit, and Yarnaphat Shaengchart

Rangsit University, Pathum Thani, Thailand

Corresponding Author: pongsakorn.l65@rsu.ac.th

Received: January 18, 2024. Revised: February 13, 2024. Accepted: April 2, 2024.

Abstract

While Generation Alpha (the cohort born after 2010) is currently the youngest population cohort, it has a brand influence and purchasing power beyond its years and has also been shaping the social media landscape through popular culture influencers and emerging consumers. It is critical to understand the characteristics of Generation Alpha, because they represent the future and provide a lens through which to view the next decade and beyond. This study sought to explain the development policy and strategy for Generation Alpha in the digital era using a qualitative approach. Purposive sampling was used to conduct in-depth interviews with 11 key informants who were academics, educators, experts and workers in the fields of development for Generation Alpha in Thailand. Content analysis was utilised to analyse the data. The findings revealed that the digital era has brought about significant changes in the way children learn, play and interact with the world around them. The development policy and strategy for Generation Alpha in the digital era should be designed to support the healthy development of and positive outcomes for young children, while also addressing the unique opportunities and challenges presented by digital technologies.

Keywords: Generation Alpha, Development, Policy, Strategy, Digital Era

Introduction

Globalisation is entering a new stage of development in the digital age, as illustrated by advances in information and communication technology (ICT) and the spread of the internet and mobile communications (Farhadi et al., 2012). There is now a generation that accounts for more than one in every seven people; this generation is influencing the purchasing power in their households and is critical to the future, but few people have heard of this cohort. They will outnumber the Baby Boomers within the next four years, and many will live to see the twenty-second century: This is Generation Alpha, the current generation of children born beginning in 2010. Generation alpha are the children of Millennials children and the younger siblings of Generation Z (McCrindle & Fell, 2020). What is most significant about Generation Alpha is the digital environment into which they are being born. Technology is an integral part of their daily lives, which is influenced by parents, educators and a variety of other social interactions (Tootell et al., 2014).

Children in Generation Alpha are the first to be born entirely within the twenty-first century. They are immersed in technology and defined by diversity in key areas such as race and ethnicity, as well as family structure and finances. They are also the first generation to have an early childhood defined by the COVID-19 pandemic, as many members of this generation were preschoolers or had not yet been born, and they were born between the early 2010s and the mid-2020s (The Annie E. Casey Foundation, 2023). Rapid technological development and innovation breakthroughs, such as artificial intelligence (AI) and the internet of Things (IoT), are some of the key factors contributing to the development of Generation Alpha, who are truly digital natives and the most technologically literate generation (Pattrawiwat & Tuntivivat, 2021). In short, Generation Alpha are young children who are already different from their predecessors in terms of technological and internet immersion. Drone delivery, augmented reality, electric vehicles, smart homes, robots, a cashless society and embedded technologies are all standard in the world of Generation Alpha (Vichienwanitchkul, 2021).

Several studies on Generation Alpha have already been conducted. For instance, Reis (2018) analysed the cohort's behaviour with a focus on the family and school environment to project how these characteristics could affect the organisational environment. Rusman et al. (2019) discussed the demand for preschool education in Generation Alpha on edutainment leisure in Malaysia. Gupta et al. (2022) studied the influence of cartoon characters on Generation Alpha in purchase decision-making, supported by the theory of planned behaviour. Nevertheless, limited research has been conducted in Thailand regarding the development policy and strategy for Generation Alpha in the digital era. This study endeavours to rectify

this gap in the literature. The findings and insights generated from this research can serve as a foundation for informed policymaking and strategic planning in the education sector, particularly with respect to the integration of technology and the needs of the Generation Alpha cohort. Additionally, it highlights the importance of future research endeavours in exploring and addressing the evolving educational landscape in Thailand and beyond.

Literature Review

The term Generation Alpha was coined in a 2008 report on the subject by consulting firm McCrindle. By 2025, this generation will number more than two billion people, making it the largest in history (Winter, 2022). Children born between the 2010s and the mid-2025s are considered Generation Alpha. This generation, known as digital natives, has been exposed to and immersed in the digital world since their early years of life, and technology plays an important role in influencing their way of life and behaviours (Rusman et al., 2019; Pattrawiwat & Tuntivivat, 2021). Massive changes are happening in the workforce, as some jobs disappear and new jobs emerge. Members of Generation Alpha will work in emerging fields such as cyber-security, app development, and cryptocurrency. They will be lifelong learners, working multiple jobs across multiple careers. They will also need to be adaptable, constantly upskilling and retraining to remain relevant to the changes that are expected as they progress through their working lives (McCrindle & Fell, 2020).

Generation Alpha is unquestionably distinct from previous generations, particularly in terms of information access. Children holding a device in everyday life is not uncommon. This fact should be investigated further in terms of the balance in the speed of obtaining and managing information. The greater the availability of information, the greater the expectation that children will have a good filter for news or information that is classified as reasonable and vice versa – namely information that is classified as not making sense. Not every child has the ability to filter information; children require stimulation to think at a high level. The goal is for children to be able to think at a high level and then use that ability to gain the ability to filter information (Putri & Umah, 2020). Educators and parents are increasingly reporting the impact of digital culture on the daily lives and relationships of young children. Children today are growing up in a world saturated with digital technologies. Adapting to this phenomenon, classrooms are evolving into an environment that supports the interface between digital technologies as educational tools and digital technologies as social tools. This mini-ethnographic case study sought to gain a better understanding of how young children's social interactions are influenced by their use of digital tools. The study concludes that educators and parents of young children should carefully examine their digital affordances to identify

and support what children gain from their engagement in digital culture, particularly in the worlds of digital media (Kaplan-Berkley, 2022).

By incorporating ICT into instruction, teachers can meet the global demand for technology-based teaching, learning tools and equipment to replace traditional teaching techniques. ICT is regarded as one of the most critical components in the country's future development and success. The purpose of this study was to determine what teachers thought about the importance of ICT integration in assisting the education and learning process of Generation Alpha. It was confirmed that incorporating ICT benefits both teachers and students. One of the most critical elements for the efficacy of technology-based education and learning is adequate teacher preparation with ICT tools and equipment. It was also discovered that continuing education programmes for teachers have a significant impact on increasing the quality of student learning (Senjaya et al., 2021).

Methodology

This study employed a qualitative approach, and in-depth interviews were conducted. Qualitative research aims to explain why a specific phenomenon has occurred by elucidating the contexts in which individuals or groups make decisions and behave in specific ways (Mohajan, 2018). In-depth interviews provide detailed answers on a specific topic, resulting in accurate information to meet the research objectives, and communication in both directions facilitates the collection of additional data throughout an interview (Rutledge & Hogg, 2020). To achieve the primary data, the researchers used the documentary method to review secondary data for appropriate key survey questions. Purposive sampling was used, which is a common technique in qualitative research in which researchers use their expertise to select the most useful sample. The goal is to comprehend everything there is to know about a particular phenomenon or population (Shaheen & Pradhan, 2019). Participants who meet the following three requirements will be included in this study. The requirements for participation were as follows: 1) Participants had to be at least 18 years old; 2) Participants had to be Thai citizens residing in Thailand to ensure that their experiences were within the Thai context; and 3) Participants had to have recent knowledge and practical experience in the fields of development for Generation Alpha. With the aid of this criterion, participants were guaranteed to be sufficiently knowledgeable in the fields of development for Generation Alpha in question and capable of sharing insightful opinions on how it was adopted and used. Thus, the study's respondents included 11 academics, educators, experts and workers in the fields of development for Generation Alpha in Thailand.

To address ethical concerns, the current study implemented measures to ensure participant validity and protection. The surveys used in the study underwent a rigorous validation process that included the expertise of three specialists with backgrounds in social sciences to increase the reliability of the data collection instruments. Strict protocols were established, and ethical standards were upheld. These included explicitly prohibiting participants under the age of 18 from participating in the study, thereby protecting the rights and well-being of vulnerable populations. Participants were given detailed information about the research objective, and a clear and unequivocal statement emphasised their voluntary participation and the right to withdraw from the study at any time. These precautions were put in place actively to address potential ethical concerns and to uphold the principles of participant rights, autonomy, and informed consent.

Documentary analysis, an invaluable qualitative research approach, involves a methodical exploration of various documents to extract meaningful insights and understanding of a particular phenomenon, as outlined by Jangjarat et al. (2023). In the context of this study, the documentary analysis encompassed a comprehensive review and examination of documents and literature pertaining to the concepts, theories, contextual factors, and issues associated with regulatory strategies and policies related to the development policy and strategy for Generation Alpha in the digital era. Furthermore, content analysis, a qualitative method for systematically and objectively describing and quantifying specific phenomena through the use of valid inferences derived from verbal, visual or written data (Maghazi, 2021), was used to analyse the qualitative data collected through the in-depth interviews.

Results

Policy and strategy for Generation Alpha in the digital era

The digital era has brought about significant changes in the way children learn, play and interact with the world around them.

- The increasing use of screens in early childhood has raised concerns about the impact on children's development. Researchers are exploring the potential effects of excessive screen time on language development, social-emotional skills and attention.
- Digital literacy skills, such as understanding how to navigate technology, use digital resources and evaluate digital content, are increasingly important for success in today's world.

- With the increasing use of digital devices, it is important to teach children about online safety, including how to protect personal information, avoid cyberbullying and engage in responsible online behaviour.
- Virtual learning environments offer new opportunities for early childhood education, including interactive activities, personalised learning and access to a wide range of resources.
- Digital tools can also offer new opportunities for play and creativity in early childhood, including coding, animation and multimedia creation.
- The digital era has also brought about new challenges for parents, including managing screen time, monitoring online activity and promoting digital literacy skills.

Promoting digital literacy skills in Generation Alpha

Digital literacy skills are becoming increasingly important for success in today's world, and it is important to promote these skills in Generation Alpha to prepare these children for the digital age; this requires a thoughtful and intentional approach. By providing children with opportunities to explore and experiment with digital tools, while also promoting critical thinking and healthy digital habits, we can help prepare them for success.

- It is never too early to start building digital literacy skills. Even infants and toddlers can benefit from exposure to age-appropriate digital tools and resources, such as interactive apps and educational games.
- Teach young children basic digital skills, such as how to use a mouse or touch screen, navigate simple apps and find age-appropriate content online. These skills can be developed through play and exploration.
- It is important to use technology in a purposeful way that supports learning and development. For example, digital tools can be used to support language development, maths skills and creative thinking.
- Digital tools provide opportunities for children to explore and experiment in new ways. Encourage children to try out different apps, games and programmes, as well as use technology to create their own projects and designs.
- Teach children to be critical consumers of digital content, and to evaluate information they find online. Encourage children to ask questions, think critically about the information they encounter and seek out multiple sources of information.
- Children learn by example, so it is important for parents and educators to model healthy digital habits. This includes using technology in a balanced and purposeful way, setting limits on screen time and being mindful of online safety and privacy.

Learning through activities

Learning activities are a great way to support the development of Generation Alpha and promote a love of learning. Learning activities can be a fun and effective way to support children's development. By providing children with a variety of opportunities to learn and explore, we can help promote a love of learning that will last a lifetime.

- Reading is a powerful tool for promoting early literacy skills and language development. It is vital to encourage children to read books and other age-appropriate materials, and take time to discuss the stories and ideas they encounter.
- Play is a natural way for children to learn and explore the world around them. It is critical to provide children with opportunities for open-ended play with toys, blocks and other materials, and encourage them to use their imaginations and creativity.
- Art and creativity can help promote fine motor skills, self-expression and problem-solving skills. Provide children with opportunities to experiment with different art materials and techniques, and encourage them to create their own projects and designs.
- Music and movement can help promote gross motor skills, rhythm, timing and emotional expression. It is critical to encourage children to sing, dance and play musical instruments, and provide opportunities for them to listen to a variety of types of music.
- Science and nature exploration can help promote curiosity, observation and critical thinking skills. It is vital to provide children with opportunities to explore the natural world through hands-on activities such as gardening, observing animals and conducting simple experiments.
- Social-emotional learning can help promote healthy relationships, emotional regulation and empathy. It is essential to provide children with opportunities to practise social skills through role-playing, group activities and games that promote cooperation and teamwork.

Social-emotional development

Social-emotional development is a critical aspect of children's development, as it lays the foundation for healthy relationships and emotional well-being. Promoting social-emotional development in Generation Alpha requires a holistic approach that supports children's emotional, social and cognitive development. By providing children with a safe and nurturing environment, opportunities to develop social skills and emotional regulation and connections with family and community members, we can help promote healthy social-emotional development that will serve as a foundation for success later in life.

- Attachment is the emotional bond that develops between a child and their primary caregiver. A secure attachment can help promote a sense of safety and security, and can serve as a foundation for healthy relationships later in life.
- Self-regulation is the ability to manage one's emotions, thoughts and behaviours in appropriate ways. This includes developing skills such as impulse control, attention and emotional regulation.
- Empathy is the ability to understand and respond to the feelings of others. This involves developing the ability to take another person's perspective, recognise and respond to their emotions and show care and concern for their well-being.
- Social skills are the behaviours and attitudes that allow individuals to interact effectively with others. These include skills such as communication, cooperation and problem-solving.
- Play is a natural way for children to explore social interactions, roles and relationships. Through play, children develop social skills, creativity and emotional regulation.
- Family and community connections are important for social-emotional development, as they provide children with a sense of belonging and social support. It is important to provide children with opportunities to connect with family members, friends and community members.

Brain development in Generation Alpha

Brain development in Generation Alpha is a critical phase that lays the foundation for later learning, behaviour and health. Understanding childhood brain development is critical for promoting healthy development and positive outcomes for children. By providing children with experiences and environments that support healthy brain development, we can help set them on a path for success and well-being later in life.

- Neuroplasticity is the ability of the brain to change and adapt in response to experiences. Early childhood is a period of heightened neuroplasticity, as the brain is rapidly developing new neural connections in response to environmental stimuli.
- Sensitive periods are specific times in development when the brain is particularly receptive to certain types of experiences. For example, the first three years of life are a sensitive period for language development, and exposure to language-rich environments during this time can have long-lasting effects on language ability.
- Stress and adversity can have a negative impact on brain development in early childhood. Exposure to chronic stress can lead to changes in the brain's stress

response system, which can have negative effects on learning, behaviour and both physical and mental health.

- Nutrition and sleep are critical for healthy brain development. Adequate nutrition and sleep can help support the development of neural connections and promote cognitive and behavioural development.
- Responsive caregiving is important for promoting healthy brain development in early childhood. Consistent and responsive care from parents and caregivers can help support emotional regulation, stress management and social and cognitive development.
- Early childhood education can provide children with opportunities for early learning and development, and can help support healthy brain development. High-quality early childhood programmes can provide children with rich learning environments, positive relationships with teachers and peers and opportunities for cognitive and social-emotional development.

Dual language development in Generation Alpha

Dual language development is an important topic for Generation Alpha, as many children are growing up in households where more than one language is spoken. Dual language development in Generation Alpha is a complex and multifaceted process that requires support from multiple sources. By providing children with regular exposure to both languages, opportunities to use both languages in meaningful ways and positive attitudes towards bilingualism, we can help promote healthy dual language development and set children on a path for success in a multilingual world.

- Bilingualism can have cognitive and socio-emotional benefits for children. Bilingual children have been found to have better executive function skills, higher academic achievement and increased cultural awareness.
- Language exposure is critical for dual language development. Children need to be exposed to both languages regularly to develop proficiency in both.
- Children also need opportunities to use both languages in meaningful ways. This can include using both languages in conversation with family members, friends and teachers, as well as in reading, writing and other language-based activities.
- Code-switching is the ability to switch between languages within a single conversation or activity. This is a common practice in bilingual households and can help promote language proficiency and cognitive flexibility.
- Parent and caregiver involvement is important for supporting dual language development in early childhood. Parents and caregivers can provide children with

rich language environments, opportunities to practise both languages and positive attitudes towards bilingualism.

- Educational programmes that support dual language development can also be beneficial for children. Dual language immersion programmes, for example, provide children with instruction in both languages and can help promote bilingualism and academic achievement.

Inclusion and diversity in the development of Generation Alpha

Inclusion and diversity are important topics in the development of Generation Alpha, as children from different backgrounds and abilities come together in early childhood settings. Promoting inclusion and diversity in Generation Alpha is critical for ensuring that all children have the opportunity to thrive and succeed. By creating inclusive environments, promoting diversity awareness and anti-bias education and providing individualised support and positive teacher–child relationships, we can help promote a sense of belonging and support for all children.

- Inclusive environments are those that are welcoming and supportive of all children, regardless of their background or abilities. This includes environments that are physically accessible, culturally responsive and free from bias and discrimination.
- Diversity awareness involves helping children understand and appreciate differences in race, ethnicity, language, culture and ability. This includes providing children with opportunities to learn about and celebrate different cultures, languages and traditions.
- Anti-bias education involves helping children develop critical thinking skills and attitudes that challenge bias and stereotypes. This includes teaching children about social justice and equity, as well as promoting positive attitudes towards diversity and inclusion.
- Family and community partnerships are important for promoting inclusion and diversity in early childhood settings. This includes working with families to understand and support their children’s cultural and linguistic backgrounds, as well as collaborating with community members to provide diverse learning experiences.
- Individualised support is important for meeting the unique needs of all children, including those with disabilities or special needs. This includes providing individualised education plans and accommodations, alongside working with families to ensure that children receive the support they need to succeed.
- Positive teacher–child relationships are important for promoting inclusion and diversity in early childhood settings. Teachers who build positive relationships with

all children, and who show respect and understanding for different backgrounds and abilities can help create a sense of belonging and support for all children.

Discussion

Digitalisation has resulted in significant changes in how children learn, play and interact with their surroundings. Policies and strategies should prioritise the achievement of Generation Alpha development goals, which include physical, cognitive, language, social-emotional and creative development. Digital technologies can be used to support the achievement of these goals. Still, it is important to ensure that screen time and technology use are balanced and developmentally appropriate. The findings are in line with those in the study of Lau and Lee (2021), who suggested the need for schools to work on a balance of types of learning during class suspension by introducing diversified on- and off-line activities, as well as supporting parents in navigating children's screen time.

Family engagement is critical for supporting the healthy development of Generation Alpha in the digital era. Development policies and strategies should prioritise engagement with families to provide guidance on healthy digital habits and support for children's digital experiences at home. Lestari et al. (2020) found that the use of digital technology in early childhood is influenced by parents as the centre for determining the pattern of gadget use in children in downtown, urban and rural areas. Parents' backgrounds and parenting patterns at home influence various aspects of child development, such as the development of understanding, social emotional, social cognition, language, culture, creativity and so on.

Generation Alpha development policies and strategies should prioritise online safety for young children, including strategies for protecting children's personal information, addressing cyberbullying and promoting responsible online behaviour. According to Glazzard and Stones (2019), social media can have a negative impact on the mental health of children and young people, but its use can also be beneficial and have positive effects. Schools play an important role in teaching young people how to use social media safely and responsibly. Still, schools cannot address all issues, and parents, social media platforms and advertising companies all have a responsibility to protect children and young people from harm

Finally, development policies and strategies related to Generation Alpha should prioritise equity and access to digital resources and educational technology, particularly for children from low-income families or underrepresented groups. This would include strategies for addressing the digital divide and providing equal access to high-quality early childhood education. Tate and Warschauer (2022) concluded that equitable learning occurs when every learner, regardless of race, ethnicity or socioeconomic status, belongs, contributes and thrives.

Equity in education is not static, and efforts to improve equity more broadly have yielded significant results in relatively short periods of time. With the right policies and practices, the influence of socioeconomic status on student performance can be reduced, although other inequalities have been more persistent (e.g. gender, immigrant background). Sustainable access to physical resources must be prioritised, which includes both hardware replacement and access to high-speed internet.

Recommendation

The digital era has resulted in significant changes in the way children learn, play and interact with the world around them. Digital literacy should be a key component of the development policies and strategies targeting Generation Alpha. This would include ensuring that young children have access to high-quality digital resources and educational technology, as well as providing teachers and caregivers with training and support to effectively integrate digital tools into education. Development policies and strategies in the digital era should be designed to promote healthy development and positive outcomes for young children, while also addressing the unique opportunities and challenges presented by digital technologies. It is critical to ensure that young children are prepared for success in the digital age by prioritising early childhood development goals, digital literacy, family engagement, online safety, professional development, equity and access.

This study adds to the existing literature on education development policy and strategy in the digital era. Hence, this study's findings may aid scholars in broadening their research by incorporating more potential elements. The measurements could be used to guide future research on educational development policy and strategy in the digital era. For further research, a quantitative approach, such as online questionnaires, should be considered to explain the phenomenon of relationships in a large group in general.

References

- Farhadi, M., Ismail, R., & Fooladi, M. (2012). Information and communication technology use and economic growth. **PloS One**, 7(11), e48.
<https://doi.org/10.1371/journal.pone.0048903>.
- Glazzard, J., & Stones, S. (2019). **Social media and young people's mental health. Selected Topics in Child and Adolescent Mental Health**, 7.
<https://doi.org/10.5772/intechopen.88569>.
- Gupta, A., Kumar, J., Tewary, T., & Virk, N. K. (2022). Influence of cartoon characters on generation alpha in purchase decisions. **Young Consumers**, 23(2), 282-303.
<https://doi.org/10.1108/YC-06-2021-1342>.
- Jangjarat, K., Limna, P., Maskran, P., Klayklung, P., & Chocksathaporn, P. (2023) Navigating the digital frontier: A review of education management in the age of technology. **Journal of Management in Business, Healthcare, and Education**, 1, 1-11.
<https://ssrn.com/abstract=4447062>.
- Kaplan-Berkley, S. (2022). Digital tools and streaming media converge to inspire social interactions of generation alpha. **International Journal of Early Childhood**, 54(2), 185-201. <https://doi.org/10.1007/s13158-021-00301-y>.
- Lau, E. Y. H., & Lee, K. (2021). Parents' views on young children's distance learning and screen time during COVID-19 class suspension in Hong Kong. **Early Education and Development**, 32(6), 863-880. <https://doi.org/10.1080/10409289.2020.1843925>.
- Lestari, T., Herawati, N. I., Permatasari, E., & Ariningrum, P. R. (2020). Developmentally appropriate digital practice (DADP): Integration of ICT with game-based self-care learning in early childhood education. In **Borderless Education as a Challenge in the 5.0 Society** (pp. 173-181). Routledge.
<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003107279-35/developmentally-appropriate-digital-practice-dadp-integration-ict-game-based-self-care-learning-early-childhood-education-lestari-herawati-permatasari-ariningrum>.
- Maghazi, K. H. (2021). "Content analysis", an effective tool of investigation in social sciences. **International Journal of Research in Engineering Technology**, 6(1), 1-22.
<http://ijoret.com/volume6/issue1/IJORET-V6I1P3.pdf>.
- McCrindle, M., & Fell, A. (2020). **Understanding generation alpha**. Australia: McCrindle Research Pty Ltd. <https://generationalalpha.com/wp-content/uploads/2020/02/Understanding-Generation-Alpha-McCrindle.pdf>.
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. **Journal of Economic Development, Environment and People**, 7(1), 23-48.
<https://ideas.repec.org/p/pramprapa/85654.html>.

- Pattrawiwat, K., & Tuntivivat, S. (2021). Family strengths in generation alpha in the Thai context. **The Journal of Behavioral Science**, 16(3), 16-26. <https://so06.tci-thaijo.org/index.php/IJBS/article/view/251636>.
- Putri, W. T. A., & Umah, R. Y. H. (2020). The improving of higher-order thinking skills as information filter for alpha generation. **Al-Bidayah: jurnal pendidikan dasar Islam**, 12(1), 125-138. <https://doi.org/10.14421/al-bidayah.v12i1.341>.
- Reis, T. A. D. (2018). Study on the alpha generation and the reflections of its behavior in the organizational environment. **Journal of Research in Humanities and Social Science**, 6(1), 9-19. <https://www.questjournals.org/jrhss/papers/vol6-issue1/C610919.pdf>.
- Rusman, N. S., Ismail, H. N., & Syed Jaafar, S. M. R. (2019). Demand of preschool education by alpha generation on edutainment leisure in the city. **International Journal of Built Environment and Sustainability**, 6(1-2), 121-128. <https://doi.org/10.11113/ijbes.v6.n1-2.391>.
- Rutledge, P. B., & Hogg, J. L. C. (2020). In-depth interviews. **The International Encyclopedia of Media Psychology**, 1-7. <https://doi.org/10.1002/9781119011071.iemp0019>.
- Senjaya, P., Purba, J. T., Parani, R., & Tukiran, M. (2021). Teacher perception of ICT and alpha generation student. **Jurnal Studi Guru dan Pembelajaran**, 4(3), 740-748. <https://doi.org/10.30605/jsgp.4.3.2021.1508>.
- Shaheen, M., & Pradhan, S. (2019). Sampling in qualitative research. In **Qualitative Techniques for Workplace Data Analysis** (pp. 25-51). IGI Global. <https://doi.org/10.4018/978-1-5225-5366-3.ch002>.
- Tate, T., & Warschauer, M. (2022). Equity in online learning. **Educational Psychologist**, 57(3), 192-206. <https://doi.org/10.1080/00461520.2022.2062597>.
- The Annie E. Casey Foundation. (2023). **What is generation alpha?**. The Annie E. Casey Foundation. <https://www.aecf.org/blog/what-is-generation-alpha>.
- Tootell, H., Freeman, M., & Freeman, A. (2014). Generation alpha at the intersection of technology, play and motivation. In **2014 47th Hawaii International Conference on System Sciences** (pp. 82-90). IEEE. <https://doi.org/10.1109/HICSS.2014.19>.
- Vichienwanitchkul, M. (2021). **Generation alpha deep dive – The generation that grew-up with COVID-19**. Enabler Space. <https://www.enablerspace.com/marketing-psychology/generation-alpha-growing-up-with-covid-19/>.
- Winter, D. (2022). **Generation alpha: Everything brands need to know**. Shopify. <https://www.shopify.com/blog/gen-alpha#>.