The Challenges Faced by Generation Alpha in Practising Digital Citizenship

Nur Syamimi Che Mohd Amran[1]

Faculty of Education, National University of Malaysia, 43600 Bangi, Selangor, Malaysia
Email: ramzulmimi@gmail.com

Hafizhah Zulkifli[2]

Faculty of Education, National University of Malaysia, 43600 Bangi, Selangor, Malaysia
Email: hafizhah_zulkifli@ukm.edu.my

Abstract
The rapid digital transformation has positioned Generation Alpha as the first cohort to be entirely raised in a highly connected, technologically immersive environment. Within this context, digital citizenship has become an essential competency; however, significant challenges persist in ensuring that this generation practises it ethically and responsibly. This study aims to identify and analyse the key challenges faced by Generation Alpha in embracing digital citizenship. Employing a Systematic Literature Review (SLR) methodology, this study reviewed 25 peer-reviewed articles published between 2019 and 2025, using thematic qualitative analysis. Article selection was guided by the PRISMA protocol, focusing on high-quality literature from Scopus, Web of Science, and ERIC. The review uncovered three dominant challenges: first, digital literacy gaps, including the inability to assess the credibility of online information and manage digital footprints; second, the adverse effects of social media on digital identity, emotional regulation, and value formation; and third, educational constraints involving curriculum inadequacies and the limited capacity of educators to guide ethical digital behaviour. The findings further revealed that only 55.5% of the reviewed articles directly focused on Generation Alpha, indicating a significant gap in the literature. In conclusion, this review highlights the urgent need for a holistic pedagogical approach that actively involves parents, educators, and policy frameworks to guide Generation Alpha towards becoming discerning, responsible, and ethical digital citizens. The study calls for the development of a comprehensive digital education framework to support the moral and social development of this emerging generation in a rapidly evolving digital landscape.
Keywords: Generation Alpha, Digital Citizenship, Digital Literacy, Social Media, Values-Based Education

Introduction
The 21st century has witnessed an unprecedented acceleration in digital transformation, reshaping every dimension of human life. Within this revolution, Generation Alpha—those

born after 2010—emerges as the first cohort born entirely in the digital era. These digital natives grow up surrounded by smart technologies, artificial intelligence, social media, and hyperconnectivity, all of which shape not only their learning environments but also their communication styles, identity formation, and civic participation. As technology becomes increasingly embedded in everyday life, cultivating responsible, ethical, and informed digital participation becomes imperative. This necessity is encapsulated in the concept of digital citizenship, which includes competencies such as digital literacy, online ethics, cyber safety awareness, and responsible engagement in virtual communities.

Despite their natural familiarity with technology, Generation Alpha faces multifaceted challenges in navigating the digital world. Unlike previous generations, who transitioned gradually into digital spaces, this generation is exposed directly to both the benefits and risks of the digital ecosystem from an early age. Their constant exposure to vast information flows, algorithm-driven content, and the dynamics of social media exposes them to risks such as misinformation, cyberbullying, digital dependency, and identity manipulation. Moreover, their cognitive and emotional development is still in progress, raising concerns about their capacity to act responsibly online without structured guidance and support.

A growing concern is the absence of consistent and systematic digital ethics education within formal institutions, combined with insufficient parental involvement in monitoring children's digital behaviours. Gaps in the delivery of comprehensive digital literacy training are particularly evident in areas such as information evaluation, moral reflection, and the reinforcement of civic digital values. Furthermore, the lack of pedagogical consistency and unequal access to technological infrastructure exacerbate the challenges in delivering effective digital citizenship education. In many cases, students are exposed to online content without a robust ethical framework, leading to behavioural patterns shaped more by social conformity than by principled values (Rusnali, 2021).

This review article systematically synthesises academic literature to explore the key challenges faced by Generation Alpha in practising digital citizenship. By analysing 25 selected scholarly articles published between 2019 and 2025, the study identifies recurring themes and critical gaps in the literature. Through thematic analysis, the review provides a comprehensive overview of the digital threats, educational constraints, and sociocultural influences shaping Generation Alpha's digital experience. Ultimately, the paper contributes to the existing body of knowledge by outlining future-oriented strategies for nurturing ethical, resilient, and digitally empowered young citizens.

Literature Review
The integration of digital tools into early education has created both opportunities and concerns regarding Generation Alpha's ability to navigate online environments responsibly. The development of digital citizenship among this cohort is closely tied to their evolving cognitive, emotional, and social stages, which influence how they engage with online content. Research shows that while digital fluency is increasingly normalized, fundamental competencies such as critical thinking, information evaluation, and ethical judgment remain underdeveloped in young learners (Pangrazio & Sefton-Green, 2021; Rahm & Fejes, 2015; Tektona, 2022; Fernández-Prados & Lozano-Díaz, 2021). Many schools have struggled to implement comprehensive digital citizenship curricula, with learning environments often

shaped more by access to devices than by structured ethical guidance (Pangrazio & Sefton-Green, 2021). This gap highlights how early exposure to digital platforms does not necessarily result in mature or responsible usage, especially when social values and digital ethics are not explicitly taught.

Another significant challenge relates to the effects of social media usage on identity development and emotional well-being among children. Studies highlight that Generation Alpha faces amplified psychological pressures due to constant digital connectivity, with issues such as low self-esteem, social comparison, and digital dependency becoming more pronounced (Saputra & Al Siddiq, 2020; Contreras et al., 2023). The omnipresence of mobile internet and digital platforms has blurred the boundaries between education, entertainment, and social life, increasing the risk of misinformation and exposure to inappropriate content (Piccerillo et al., 2025). Furthermore, the influence of algorithmic feeds and online influencers can distort young users' perception of reality and undermine their ability to think independently and regulate their emotions effectively (Seabra et al., 2021; Amelia et al., 2024; Dacka, 2023). These findings reinforce the urgency for digital citizenship education that incorporates emotional intelligence and critical media literacy from an early age.

Another key challenge is the unequal access to digital tools and competent guidance, particularly across socio-economic and geographic divides. While infrastructure development has expanded global access to digital technology, a significant disparity remains in the quality of digital education and access to competent support systems (Contreras et al., 2023; Clough & Closier, 2018). This "digital divide" is further complicated by inconsistencies in curriculum design, teacher training, and parental engagement in guiding children through online spaces (Younis et al., 2024). For example, in countries like Indonesia and Turkey, teachers often report challenges managing online classrooms due to limited technological infrastructure and insufficient pedagogical tools for digital ethics education (Mittal et al., 2024).

In addition, family dynamics play a significant role in shaping children's early exposure and understanding of digital platforms, but few studies have investigated how family involvement mediates ethical digital behaviour (Fernández-Prados et al., 2021; Dacka, 2023). Moreover, the educational system itself is often ill-equipped to meet the digital needs of Generation Alpha due to a lack of unified policy frameworks and fragmented approaches to digital citizenship integration. Although the concept of digital citizenship is increasingly recognised, there is little consensus on its core components or effective methods of assessment (Fernández-Prados & Lozano-Díaz, 2021; Alenezi & Alfaleh, 2024). Teachers frequently lack clarity on what digital citizenship entails beyond basic digital literacy, and institutional support for developing ethical reasoning or civic engagement in digital spaces remains limited (Ribble & Miller, 2013; Kohli & Arora, 2024). This lack of a coherent pedagogical strategy results in inconsistent implementation, hindering efforts to cultivate a shared understanding of digital responsibilities across educational levels. In some contexts, efforts to enhance digital literacy have been narrowly focused on technical skills, overlooking the critical, civic, and participatory aspects that are essential for meaningful digital citizenship.

Research Question
Research questions are fundamental to a systematic literature review (SLR), as they serve as the foundation and guide throughout the entire review process. They inform the inclusion

and exclusion criteria for studies, thereby shaping the scope and direction of the review and ensuring its relevance and coherence with the topic of interest. A clear research question guarantees a thorough and methodical literature search that includes all pertinent studies that touch on important facets of the subject. This not only ensures a thorough examination of the existing evidence but also minimises the risk of bias. Research questions also make it easier to classify and arrange the data from included studies, offering a framework for evaluating results and combining them to produce insightful conclusions. In addition, they enhance the overall focus and clarity of the review, helping to maintain a structured and purposeful approach.

Defining the research questions (RQs) is not only the most crucial step in planning but also the most essential component of any SLR (Kitchenham, 2007), as it guides the entire review process. This is particularly important given that the primary aim of our SLR is to determine and evaluate the current state of the art. This study used the PICo framework, a mnemonic approach for formulating research questions, especially in qualitative research, as suggested by Lockwood et al. (2015). The acronym PICo stands for Population, Interest, and Context. Based on the objectives of this review and guided by the PICo framework, the research questions formulated for this study are as follows:

i.   How do digital literacy challenges among Generation Alpha affect their ability to critically evaluate information in the context of practising digital citizenship?
ii. What is the impact of early exposure to social media and digital content on the development of identity and ethical behaviour in Generation Alpha as digital citizens?
iii. In the context of formal education, what challenges do educators and parents face in guiding Generation Alpha towards responsible digital citizenship?

Material and Methods

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework is a widely adopted standard for conducting systematic literature reviews that ensures transparency, accuracy, and consistency throughout the process (Braxton, 2023). The PRISMA guidelines provide researchers with structured instructions on how to systematically identify, screen, and incorporate studies in their review, thereby increasing the precision and rigour of their analysis. The approach also emphasises the value of randomised trials, recognising their ability to minimise bias and provide robust evidence for the review. Due to their extensive coverage and reliability, significant databases—Web of Science, Scopus and ERIC—were used in this investigation. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) technique is a useful tool for conducting systematic literature reviews.

The four main phases of the PRISMA framework comprises four main phases; identification, screening, eligibility, and data abstraction. Databases are examined during the identification phase to locate all relevant studies. The screening phase involves comparing these studies against predetermined criteria in to exclude low-quality or irrelevant research. The remaining studies are thoroughly assessed to make sure they satisfy the inclusion requirements during the eligibility phase. Lastly, the data abstraction phase concentrates on extracting and synthesising information from the included studies, which is necessary for generating trustworthy and significant conclusions. This systematic approach guarantees that the review is carried out rigorously, producing reliable findings that can direct further study

and practice.

Identification
In this study, essential steps of the systematic review process were employed to gather a substantial body of relevant literature. The process started with the selection of keywords, followed by the identification of related terms using dictionaries, thesauruses, encyclopaedias, and previous research. All relevant terms were identified, and search strings were formulated for the Web of Science and Scopus databases (as shown in Table 1). This initial phase of the systematic review resulted in 161 publications relevant to the study topic from the below databases.

Table 1
The search string

Scopus	TITLE-ABS-KEY (challenges AND of AND students AND digital AND citizenship) AND (LIMIT-TO (OA , "all")) OR ''continuing AND learning'' OR ''long-lasting AND learning) AND digital AND (LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2023) OR LIMIT-TO (PUBYEAR , 2024) OR LIMIT-TO (PUBYEAR , 2025)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SUBJAREA , "SOCI")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (SRCTYPE , "j") **Date of Access: April 2025**
WoS	(challenges AND of AND students AND digital AND citizenship) AND (LIMIT-TO (OA , "all")) AND digital AND (Topic) and 2025 or 2024 or 2023 or 2022 or 2021 or 2020 or 2019 (Publication Years) and Article (Document Types) and English (Languages) and Article (Document Types) **Date of Access: April 2025**
ERIC	("digital citizenship" OR "online responsibility") AND ("generation alpha" OR "young students" OR "children") AND (challenges OR barriers OR issues) **Date of Access: April 2025**

Screening
Potentially relevant research items were assessed during the screening step to ensure they align with the predetermined research question(s). At this stage, the selection of studies often focused on topics related to Malaysian e-learning. At this point, duplicate documents are identified and removed. Following the initial exclusion of 161 publications, 45 papers remained for further analysis based on specific inclusion and exclusion criteria (refer to Table 2). The primary inclusion criterion was the type of literature, as it represents the main source of valuable insights. This includes book series, book reviews, meta-syntheses, meta-analyses, conference proceedings, and chapters that were not included in the most recent studies. Only English-language publications from 2019 to 2025 were included in the review. A total of ten publications were rejected due to duplication.

Table 2
Search and Screening Criteria for Study Selection

Criterion	Inclusion	Exclusion
Language	English	Non-English
Timeline	2019 – 2025	< 2019
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press
Subject Area	Digital citizenship, education	Besides Digital citizenship

Eligibility
During the review process, 161 articles were initially selected for evaluation. However, various exclusion criteria were applied at different stages of the analysis. Articles were excluded for several reasons, including lack of relevance to the study's field, titles that did not adequately address the main research question, and abstracts misaligned with the study's objectives. Furthermore, some articles were excluded due to the unavailability of full-text access, which prevented a comprehensive assessment of their content. As a result, 45 articles were removed from the analysis, reducing the number of studies considered for further evaluation.

Following this exclusion process, 119 studies remained and were included in the qualitative analysis. These studies demonstrated clear relevance to the research objectives and provided sufficient data to support a thorough qualitative evaluation. Focusing on this refined selection enabled a more targeted exploration of the research topic, facilitating a deeper understanding of the subject matter and yielding valuable insights for the overall analysis.

Data Abstraction and Analysis
An integrative analysis was employed as one of the assessment strategies in this study to examine and synthesise a variety of research designs (quantitative, qualitative, and mixed methods). The aim of this rigorous analysis was to identify relevant key topics and subtopics. The thematic development process began with the data collection stage. Figure 2 shows how the authors meticulously analysed a compilation of 25 publications for assertions or material relevant to the topics of the current study, Both the methodologies and findings of the included studies were examined. Subsequently, the lead author collaborated with other co-authors to generate themes grounded in the evidence within the context of this review.

Finally, the developed themes were refined to ensure their consistency and coherence. To validate the identified issues, the review was conducted by two experts, one specialising in teaching and learning, and the other in SLR. The expert review phase contributed to establishing domain validity by ensuring the clarity, relevance, and adequacy of each sub-theme. Revisions were made at the author's discretion based on the feedback and comments provided by the experts.

Table 3
Primary Studies

No.	Title of Article	Author(s) and Year	Journal/Source	SCOPUS	WOS	ERIC
1	A Systematic Literature Review of Education for Generation Alpha	Höfrová et al. (2024)	Discover Education	/		
2	Alpha Generation and Digital Literacy	Rusnali (2021)	Al-Azhar Indonesia Journal of Islamic Studies		/	
3	Alpha Generation's Social Media Use and Emotional Intelligence	Piccerillo et al. (2025)	International Journal of Adolescence and Youth		/	
4	Strengthening Digital Inclusion through E-Government	Chohan & Hu (2022)	Information Technology for Development	/		
5	Students' Behavior as Digital Natives and Learning Engagement	Cimene et al. (2024)	Psychology and Education		/	
6	Social media and Digital Citizenship: The Urgency of Digital Literacy	Saputra & Siddiq (2020)	International Journal of Emerging Technologies in Learning	/		
7	Understanding online community citizenship behaviors through social support and social identity	Chiu et al. (2015)	International Journal of Information Management	/		
8	Alpha Generation's Social Media Use: Sociocultural Influences and Emotional Intelligence	Piccerillo et al. (2025)	International Journal of Adolescence and Youth	/		
9	The Impact of Social Media Consumption on The Quality of Social Interactions of Generation Alpha	Meirisa et al. (2024)	Cendekia: Journal of Teacher Professional Education	/		
10	Understanding Generation Alpha	Kumar (n.d.)	-			/
11	Generation Alpha's Engagement with Digital Media and Technology	Mittal et al. (2024)	IJCRT Journal		/	
12	Enhancing digital citizenship education in Saudi Arabian elementary schools: designing effective activities for curriculum integration	Alenezi & Alfaleh (2024)	Frontiers in Education	/		

No.	Title of Article	Author(s) and Year	Journal/Source	SCOPUS	WOS	ERIC
13	The Use of Technology in Teaching and Learning Al-Quran: An Overview of Ethical Aspects and Its Impact on The Formation of Moral Values.	Mustapa et al. (2024)	Jurnal Pengajian Islam		/	
14	Promotion of mental health in young adults via mobile phone app: study protocol of the Eco Web (emotional competence for wellbeing in Young adults) cohort multiple randomised trials	Newbold et al. (2020)	BMC Psychiatry	/		
15	Education for Digital Citizenship: Socio-Civic Skills Development	Peart et al. (2024)	European Journal of Educational Research	/		
16	A Review of Evidence on the Role of Digital Technology in Shaping Attention and Cognitive Control in Children	Vedechkina & Borgonovi (2021)	Frontiers Media S.A	/		
17	Ḥikmah (wisdom) pedagogy and students' thinking and reasoning abilities	Rosnani Hashim, Suhailah Hussien, Adesile M. Imran (2014)	Intellectual DIscourse		/	
18	Sociocultural Influences of social media on Emotional Intelligence	Piccerillo et al. (2025)	International Journal of Adolescence and Youth	/		
19	Digital Literacy Competence in Generation Alpha	Rusnali (2021)	Al-Azhar Indonesia Journal of Islamic Studies		/	
20	Enhancing Digital Citizenship Education in Elementary Schools	Alenezi & Alfaleh (2024)	Frontiers in Education		/	
21	Digital Competences of Digital Natives: Measuring Skills in the Modern Technology Environment	Pongrac et al. (2025)	Informatics	/		
22	Layanan Konsultasi Melalui ParentalMediationuntuk Meningkatkan Literasi Digital Siswa	Muslih (2022)	Jurnal Bimbingan Konseling Islam	/		
23	Improving Civic	Aini (2023)	Proceedings of	/		

No.	Title of Article	Author(s) and Year	Journal/Source	SCOPUS	WOS	ERIC
	Intelligence Through Citizenship Education Based on Digital Literature Curriculum		the 4th Annual Civic Education Conference (ACEC 2022)			
24	Digital Citizenship Behaviour	Pangrazio & Sefton-Green (2021)	Journal of New Approaches in Educational Research	/		
25	Educational leadership in an online world: Connecting students to technology responsibly, safely, and ethically	Ribble & Miller (2013)	Journal of Asynchronous Learning Network	/		

Quality of Appraisal

According to the guidelines proposed by Kitchenham (2007), once primary studies have been selected, their quality must be assessed and quantitatively compared. In this study, we applied the quality assessment (QA) framework proposed by ALAwAmRAh et al. (2024), which consist of six QAs for our SLR. The scoring procedure for evaluating each criterion involves three possible ratings: "Yes" (Y) with a score of 1 if the criterion is fully met, "Partly" (P) with a score of 0.5 if the criterion is partially met but contains some gaps or shortcomings, and "No" (N) with a score of 0 if the criterion is not met at all.

- QA1. Is the purpose of the study clearly stated?
- QA2. Is the interest and relevance of the study clearly articulated?
- QA3. Is the study methodology clearly defined?
- QA4. Are the concepts of the approach clearly explained?
- QA5. Is the study compared to and benchmarked against similar work?
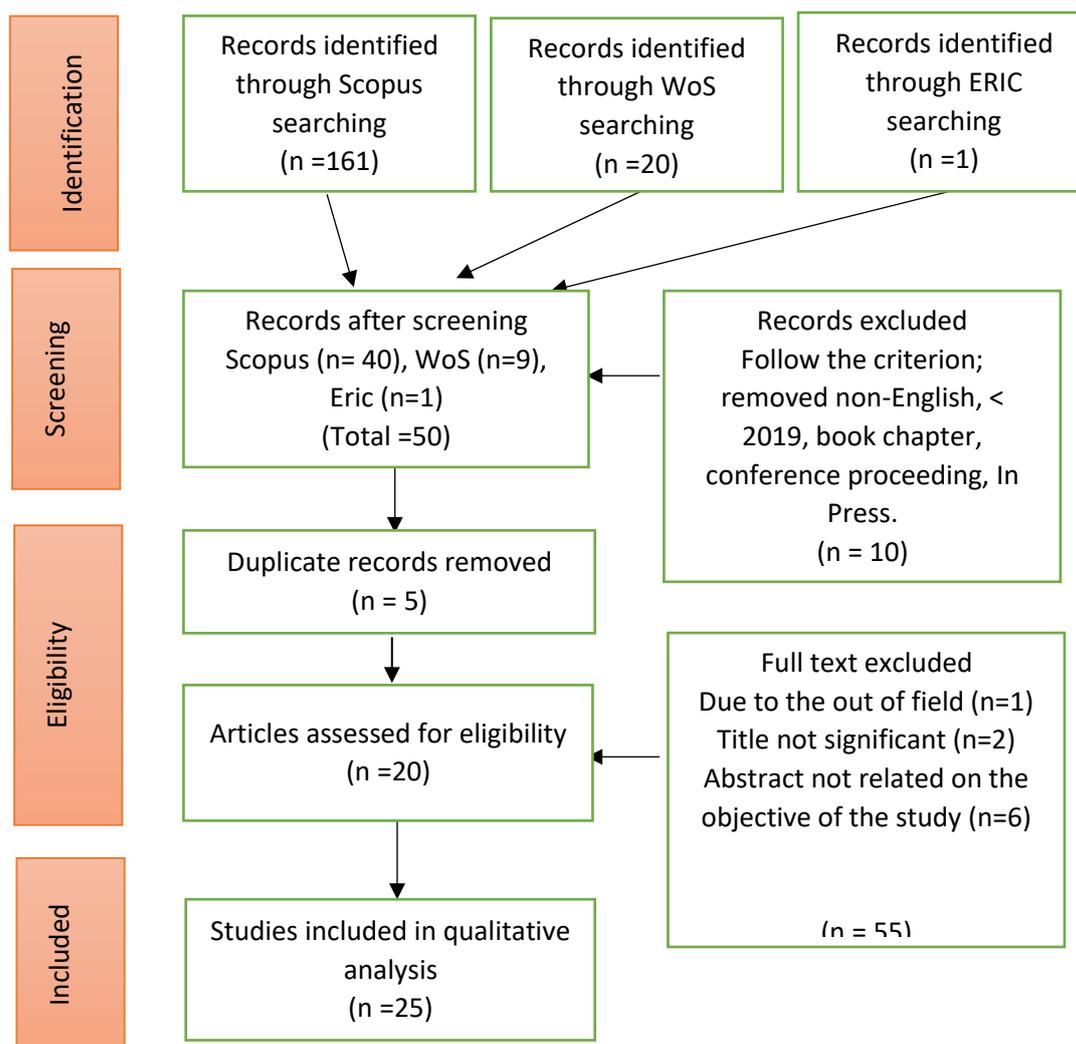- QA6. Are the limitations of the study clearly identified?

Figure 1: Flow diagram of the proposed searching study (Moher et al., 2010)

Result and Finding
Based on quality assessment, Table 4 presents the result of assessment evaluation for selected primary studies.

Highest Score: The studies by Mittal et al. (2024), Alenezi and Alfaleh (2024) both achieved the **highest quality appraisal score of 100%**. These studies fully satisfied all six quality assessment criteria (QA1–QA6), including a clearly stated study's purpose, well-articulated relevance and contribution, well-defined methodology and concepts, meaningful comparison with existing works, and explicit acknowledgment of study limitations. Their comprehensiveness positions them as exemplary references for understanding digital behaviour and ethical development in Generation Alpha.

Lowest Score: The paper by Rusnali (2021), *Alpha Generation and Digital Literacy*, along with two others, received the **lowest quality score of 42%**. These studies only partially fulfilled some criteria and failed to adequately address key areas such as conceptual clarity, comparisons with previous work, and detailed discussion of limitations. While still relevant to the review, their inclusion in the core thematic synthesis may require supplementary validation. Here is the quality assessment table for the selected papers:

Table 4
Quality Assessment of Primary Studies

No.	Author	QA 1	QA 2	QA 3	QA 4	QA 5	QA 6	Total Mark	(%)
1	Höfrová et al. (2024)	Y	Y	Y	Y	P	Y	5.5	92%
2	Rusnali (2021)	Y	P	P	P	N	N	2.5	42%
3	Piccerillo et al. (2025)	Y	Y	Y	P	P	P	4.5	75%
4	Chohan & Hu (2022)	Y	Y	Y	Y	Y	P	5.5	92%
5	Cimene et al. (2024)	Y	Y	P	P	P	N	3.5	58%
6	Saputra & Siddiq (2020)	Y	Y	Y	Y	P	Y	5.5	92%
7	Chiu et al. (2015)	Y	Y	Y	Y	Y	P	5.5	92%
8	Piccerillo et al. (2025)	Y	P	P	P	Y	P	4.5	75%
9	Meirisa et al. (2024)	Y	Y	P	P	N	N	3	50%
10	Kumar (n.d.)	Y	P	P	P	N	N	2.5	42%
11	Mittal et al. (2024)	Y	Y	Y	Y	Y	Y	6	100%
12	Alenezi & Alfaleh (2024)	Y	Y	P	Y	P	Y	5	83%
13	Mustapa et al. (2024)	Y	Y	P	P	P	N	3.5	58%
14	Newbold et al. (2020)	Y	Y	Y	P	P	P	4.5	75%
15	Peart et al. (2024)	Y	Y	Y	Y	Y	P	5.5	92%
16	Vedechkina & Borgonovi (2021)	Y	Y	P	Y	P	P	4.5	75%
17	Höfrová et al. (2024)	Y	Y	Y	Y	Y	P	5.5	92%
18	Piccerillo et al. (2025)	Y	Y	Y	P	Y	Y	5.5	92%
19	Rusnali (2021)	Y	P	P	P	N	N	2.5	42%
20	Alenezi & Alfaleh (2024)	Y	Y	Y	Y	Y	P	5.5	92%
21	Pongrac et al. (2025)	Y	Y	P	P	N	N	3	50%
22	Muslih (2022)	Y	P	P	P	P	P	3.5	58%
23	Aini (2023)	Y	Y	Y	Y	Y	P	5.5	92%
24	Pangrazio & Sefton-Green (2021)	Y	Y	Y	P	N	N	3.5	58%
25	Ribble & Miller (2013)	Y	Y	Y	Y	Y	Y	6	100%

Theme 1: Digital Literacy and the Ability to Critically Evaluate Information among Generation Alpha

Generation Alpha represents the first cohort to grow up entirely in the digital age, with widespread access to smart devices, social media, and the internet from a very young age. Rusnali (2021) assert that although this generation demonstrates a high level of proficiency in using technology, their digital literacy does not necessarily align with the label of "digital native". The ability to identify, assess, and critically use information remains a significant challenge for this demographic. Additionally, Al-Abdullatif and Gameil (2020) emphasise that the development of socio-civic digital skills—such as those assessed in the DIGISOC questionnaire—remains underdeveloped, limiting Generation Alpha's ability to evaluate the validity and credibility of information sources. Gibson (2024) further supports this view, highlighting persistent gaps in critical information evaluation skills.

In the context of early education, Höfrová et al. (2024) highlight that early digital training for teachers plays a crucial role in shaping students' self-perception regarding critical thinking, problem-solving, and innovation. However, a significant gap persists in the

implementation of digital literacy training across educational institutions, which consequently limits students' exposure to ethical and objective evaluation of digital information. This concern is supported by Ribble and Miller (2013), who report that students frequently trust digital content without engaging in critical review, with only a minority demonstrating the ability to evaluate sources based on credibility and context.

Furthermore, research by Brunetti et al. (2020) points out that explicit instruction in critical thinking skills, particularly for students who are English language learners, significantly enhances their ability to evaluate digital information. Although this study focuses on higher education, the findings remain highly relevant to Generation Alpha, who are increasingly exposed to diverse and often conflicting digital content. The absence of strong evaluative skills places this generation at risk of becoming passive consumers of technology, making them more susceptible to digital manipulation and the spread of misinformation.
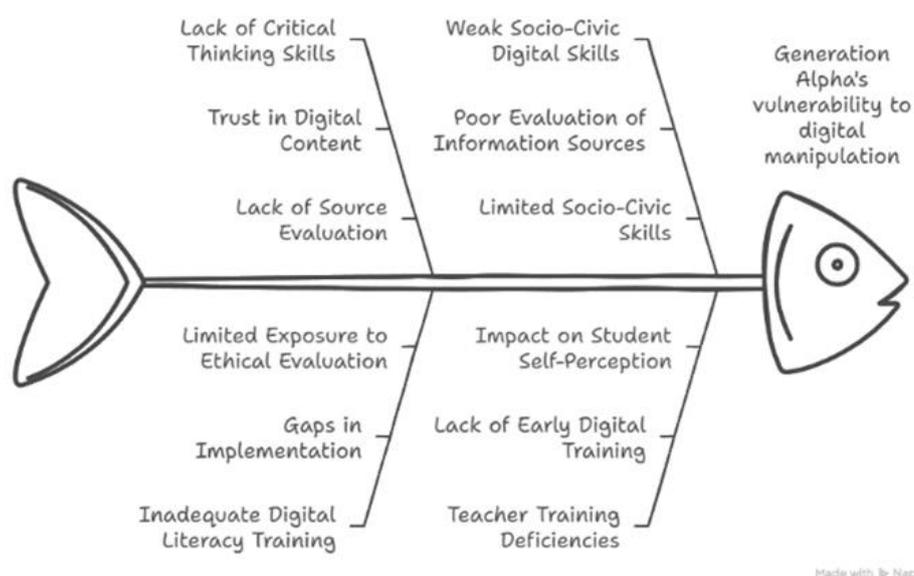

Figure 2: Challenges in Digital Literacy for Generation Alpha

Theme 2: The Influence of Social Media on the Formation of Digital Identity and Ethics Among Generation Alpha
The role of social media in shaping digital identity and ethical behaviour among Generation Alpha is both significant and complex. Research by Piccerillo et al. (2025) explores how young users form emotional and social perceptions through online platforms, which often contribute to the development of personal identity and behavioural norms. Children are increasingly influenced by online personas, trends, and feedback systems, which may either reinforce positive digital citizenship or normalise unethical conduct. The authors further explain that this generation often lacks structured ethical frameworks to critically interpret and internalise what they encounter online.

In a related study, Rusnali (2021) emphasise the unregulated exposure of children to social media content as a key factor in the premature formation of identity, often without appropriate guidance or critical reflection. The absence of digital empathy, coupled with

pressure to conform to online popularity standards, can lead to diminished self-worth and socially inappropriate online behaviours. Mittal et al. (2024) highlight the urgent need to integrate socio-civic values in educational curricula to counter the erosion of moral judgement and to instil reflective digital practices.

Furthermore, Althibyani and Al-Zahrani (2023) observe that the absence of ethical modelling in digital environments, both in educational settings and at home, enables peer influence to dominate moral development. As digital interactions increasingly shape daily life, the challenge lies in equipping Generation Alpha with the capacity to navigate digital spaces with a balanced sense of identity and ethical awareness. The evidence suggests that meaningful engagement with ethical content on digital platforms, combined with adult-led discussions and guidance, is crucial for fostering long-term digital responsibility.
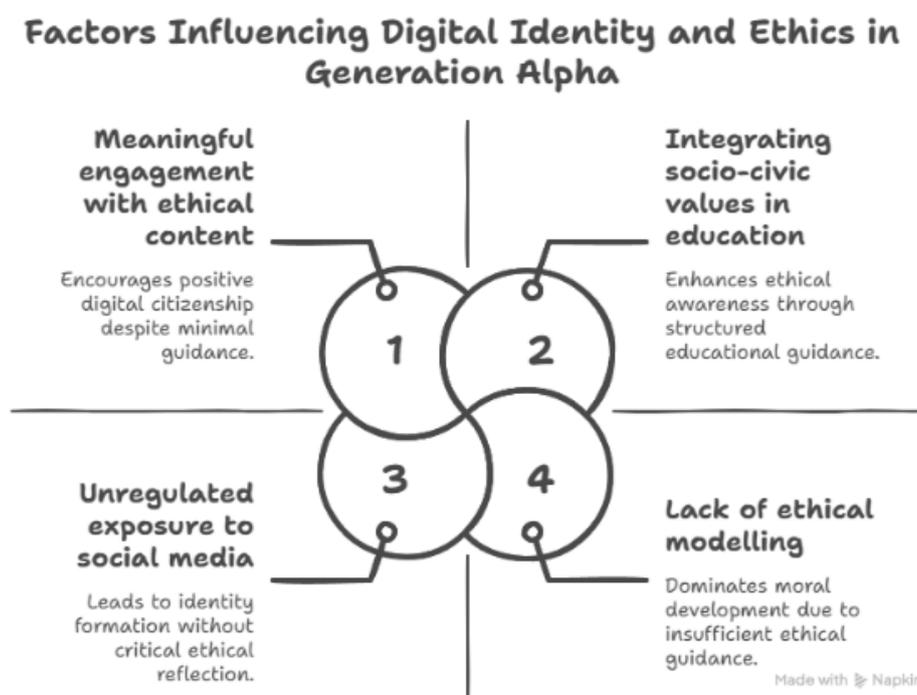

Figure 3: Factors Influencing Digital Identity and Ethics in Generation Alpha

Theme 3: Educational Barriers and Inequities in Access to Ethical Digital Guidance
Inequities in access to quality digital education have been identified as major barriers to cultivating ethical digital citizens among Generation Alpha. Research by Chohan and Hu (2022) highlights a persistent digital divide between urban and rural students, especially in terms of technology infrastructure and access to comprehensive ICT training. Government e-initiatives aimed at promoting digital inclusion are only effective when supported by consistent curricula and well-trained educators. The authors further emphasise that the lack of resources and teacher training hinders the integration of digital ethics into daily instruction, leaving students to rely on intuitive, and often inadequate, understanding of appropriate online behaviour.

ALAwAmRAh et al. (2024) report that educational challenges arise not only from infrastructural limitations but also from inconsistencies in digital values curricula. Although many primary schools implement varied approaches to civic digital education, the absence of standardised frameworks prevents meaningful impact. Teachers frequently report that they have not received formal training to guide students on issues such as online safety, responsibility use, and appropriate digital conduct. This situation is further exacerbated by limited parental involvement in reinforcing digital learning at home. Rusnali (2021) highlight that only a minority of parents recognise their role as facilitators in their children's use of technology.

Moreover, formal education often fails to emphasise reflective learning within digital contexts, resulting in a lack of internalised ethical principles. Amelia et al. (2024) argue that without structured training in digital empathy and moral reasoning, students are left vulnerable to harmful behaviours such as cyberbullying, oversharing, and the normalisation of inappropriate content. Alenezi and Alfaleh (2024) reinforce this by observing that primary school children are more influenced by online social norms than by formal instruction. These findings underscore the urgent need for a cohesive, value-driven digital education framework that integrates both school and home environments in developing a responsible Generation Alpha (Piccerillo et al., 2025)
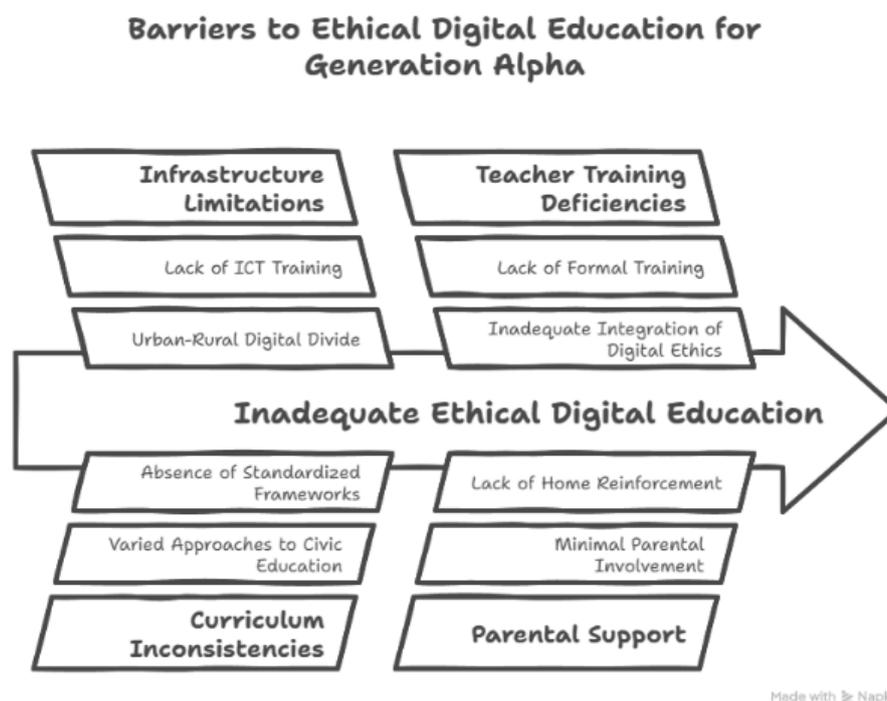

Figure 4: Barriers to Ethical Digital Education for Generation Alpha

Discussion and Conclusion
Widespread exposure to digital technologies from an early age has not inherently equipped young users with the skills to critically evaluate the content encountered online. Despite their familiarity with digital platforms, significant challenges remain in developing information assessment competencies. High usage does not equate to high literacy, particularly in discerning the reliability and authenticity of digital sources. Many learners continue to rely on surface-level judgements without employing structured methods to evaluate credibility.

Within formal education systems, inconsistencies in the implementation of digital literacy instruction have hindered the cultivation of essential critical thinking competencies. Educational institutions often lack cohesive strategies for integrating evaluative competencies into the curriculum, resulting in learners being inadequately prepared to navigate digital environments responsibly (Rodrigues et al., 2021). In many cases, trust in online content is formed without critical scrutiny, and learners demonstrate limited awareness of the need to question the origin, intent, and validity of digital messages. Structured instruction that promotes reflective digital thinking has been shown to play a pivotal role in enhancing these competencies. However, the ongoing absence of systematic guidance and pedagogical emphasis on digital ethics, critical reasoning, and media literacy leaves young individuals susceptible to misinformation, manipulation, and passive consumption. Without well-defined frameworks and targeted teaching interventions, the transformative potential of technology to support informed, ethical digital participation remains underutilised.

Digital environments have increasingly become primary spaces for identity formation and moral development among young individuals. The influence of social media platforms extends beyond communication, actively shaping behavioural norms and emotional frameworks. Exposure to curated digital content and interactions with virtual personas has contributed to the construction of identity in ways that are often premature and unmoderated. The internalisation of social cues from these platforms occurs in the absence of clear ethical guidance, resulting in inconsistencies in digital conduct. The absence of structured moral education within both formal learning environments and domestic settings has led to insufficient digital empathy and weak ethical judgement. The normalisation of peer-driven standards in online spaces often overrides critical reflection, encouraging actions based on conformity rather than principle. Without consistent modelling of responsible digital behaviour, the likelihood of reproducing unhealthy or unethical patterns increases. Efforts to introduce socio-civic values and digital ethics into educational frameworks remain fragmented. Comprehensive strategies that reinforce ethical digital engagement through reflection, dialogue, and guided interpretation are necessary to counteracting the negative effects of unregulated digital exposure. The sustained integration of ethical literacy into early education is essential in enabling younger generations to navigate digital landscapes with awareness, self-regulation, and moral consideration.

Disparities in access to structured digital education have significantly contributed to the inconsistent development of ethical awareness among young learners. Variations in technological infrastructure and limitations in teacher preparation have created uneven learning environments, especially across different geographic and socioeconomic settings. Educational programmes designed at enhancing digital inclusion appear to be less effective when not supported by standardised curricula and adequately trained educators. In many educational contexts, the integration of digital values into classroom instruction remains fragmented. The absence of standardised pedagogical models for teaching digital responsibility has led to inconsistencies in students' understanding and application of ethical behaviour online. Formal training for educators in this area is often lacking, thereby reducing the effectiveness of digital citizenship education. Additionally, insufficient parental involvement in managing digital use at home further undermines the continuity of ethical reinforcement beyond the classroom.

The consistent omission of reflective learning practices in digital education has led to a limited internalisation of moral reasoning and empathy. In the absence of guided discussions and structured ethical instruction, learners are more susceptible to adopting harmful online behaviours influenced by dominant digital trends. These conditions point to the urgent need for a coordinated approach to digital ethics education—one that is supported across both school and home settings—to promote informed, critical, and responsible digital participation.

The increased integration of digital platforms into everyday environments has introduced both opportunities and complexities in fostering responsible digital behaviour among younger generations. Although frequent exposure to technology is common, the provision of consistent digital ethics education remains fragmented across educational institutions. In many cases, foundational understanding of critical thinking, responsible media usage, and digital identity management is hindered by unequal access to resources, insufficient teacher training, and limited parental mediation. Digital literacy alone is inadequate without a deliberate emphasis on ethical reasoning and evaluative judgement. Learners often encounter challenges in distinguishing credible content from misinformation, particularly in contexts where reflective and civic values are not systematically embedded into learning frameworks. Emotional well-being, social conformity, and the influence of algorithmic content have further shaped digital behaviour in ways that lack guided introspection. A comprehensive response requires strategic alignment of curricular content, teacher preparedness, and family involvement to reinforce ethical digital engagement. Consistent instructional practices and value-driven pedagogy play a central role in shaping informed digital participants capable of exercising discernment, empathy, and accountability in virtual spaces. Without such coordinated efforts, the risk of uncritical digital assimilation may continue to undermine long-term goals for digital citizenship.

Theoretical and Contextual Contributions

This study makes a significant theoretical contribution by expanding the conceptual understanding of digital citizenship within the context of Generation Alpha, a demographic that has received limited attention in academic literature. Through a systematic synthesis of 25 selected articles, the study demonstrates that the challenges faced by Generation Alpha are multidimensional, involving digital literacy, identity formation, and systemic educational constraints. It also challenges the common assumption that growing up in a digital environment automatically equips children with the ethical and critical competencies required for responsible digital engagement.

Theoretically, this review refines existing digital citizenship frameworks by integrating interdisciplinary perspectives from education, psychology, and digital media studies, while paving the way for broader cross-disciplinary research on digital behaviour, ethics, and future citizenship education. In addressing these challenges, this study highlights the potential of Hikmah Pedagogy a values-based, reflective, and dialogical teaching approach grounded in wisdom as a meaningful theoretical lens. Hikmah Pedagogy encourages moral reasoning, deep thinking, and ethical discernment, all of which are essential in guiding Generation Alpha to become responsible digital citizens in an age of overwhelming information and moral ambiguity.

Contextually, the study holds high relevance for contemporary educational practices and policy development, particularly within developing nations and the Southeast Asian region. It highlights the urgent need for comprehensive pedagogical frameworks and systematic teacher training to deliver meaningful digital ethics education. Moreover, the findings provide empirical justification for curriculum reforms that emphasise values-based learning and parental involvement in guiding children's digital practices (Zhang et al. 2024). Therefore, this review not only enriches the academic discourse on digital citizenship but also contributes practically to the development of holistic and context-sensitive educational interventions that align with the evolving developmental needs of Generation Alpha.

Conflicts of Interest
The authors declare no conflicts of interest in relation to the present study.

References
Aini, D. N. (2023). Improving civic intelligence through citizenship education based on digital literature curriculum. *Proceedings of the 4th Annual Civic Education Conference (ACEC 2022).* https://doi.org/10.2991/978-2-38476-096-1_15

Al-Abdullatif, A. M., & Gameil, A. A. (2020). Exploring students' knowledge and practice of digital citizenship in higher education. *International Journal of Emerging Technologies in Learning, 15*(19), 122–142.

ALAwAmRAh, A. F., Ajmi, H. A., Darawsheh, N. A., Alrashdan, H., Alkailanee, K. K., Almheiri, A. S. B. H., Aldarmaki, I. A. E., Darawsheh, O., & Urabi, O. A. (2024). Analyzing Student's Perceptions about the Values of Digital Citizenship. *Journal of Statistics Applications and Probability, 13*(4), 1279–1288.

Alenezi, N., & Alfaleh, M. (2024). Enhancing digital citizenship education in Saudi Arabian elementary schools: Designing effective activities for curriculum integration. *Frontiers in Education, 9.*

Althibyani, H. A., & Al-Zahrani, A. M. (2023). Investigating the effect of students' knowledge, beliefs, and digital citizenship skills on the prevention of cybercrime. *Sustainability*, *15*(15), 11512.

Amelia, D. P., Dewi, D. A., & Hidayat, R. S. (2024). Integrasi literasi budaya dan kewargaan melalui media sosial pada Generasi Z di era digitalisasi. *Indo-MathEdu Intellectuals Journal, 5*(1), 944–956.

Braxton, S. N. (2023). Competency frameworks, alternative credentials and the evolving relationship of higher education and employers in recognizing skills and achievements. *International Journal of Information and Learning Technology, 40*(5), 373–387.

Brunetti, F., Matt, D. T., Bonfanti, A., De Longhi, A., Pedrini, G., & Orzes, G. (2020). Digital transformation challenges: Strategies emerging from a multi-stakeholder approach. *The TQM Journal, 32*(4), 697–724.

Chiu, C. M., Huang, H. Y., Cheng, H. L., & Sun, P. C. (2015). Understanding online community citizenship behaviors through social support and social identity. *International Journal of Information Management, 35*(4), 504–519.

Chohan, S. R., & Hu, G. (2022). Strengthening digital inclusion through e-government: Cohesive ICT training programs to intensify digital competency. *Information Technology for Development, 28*(1), 16–38.

Cimene, F. T. A., Mamburao, M. L., Plaza, Q. B., Nitcha, H. Q., Somalipao, M., Raña, E. J. M., Baseo, E. S., Siao, Q. E. A., Mauna, A. A., & Cimene, D. R. A. (2024). Generation Alpha

students' behavior as digital natives and their learning engagement. *Psychology and Education: A Multidisciplinary Journal, 27*(3), 258–273.

Clough, H., & Closier, A. (2018). Walking the talk: Using digital media to develop distance learners' digital citizenship at the Open University (UK). *The Reference Librarian, 59*(3), 129–133.

Contreras, C., Rivas, J., Franco, R., Gómez-Plata, M., & Luengo Kanacri, P. (2023). Digital media use on school civic engagement: A parallel mediation model. *Comunicar, 31*(75), 89–99.

Dacka, M. (2023). Functioning of the Alpha Generation – Challenges and hazards: The role of media education in the formation of the new generation. *Annales Universitatis Mariae Curie-Skłodowska, Sectio J – Paedagogia-Psychologia, 36*(2), 109–123.

Fernández-Prados, J. S., & Lozano-Díaz, A. (2021). El reto de la ciudadanía digital activa en la educación superior europea: Análisis del ciberactivismo entre los estudiantes universitarios. *EDMETIC, 10*(1), 118–134.

Fernández-Prados, J. S., Lozano-Díaz, A., & Ainz-Galende, A. (2021). Measuring digital citizenship: A comparative analysis. *Sustainability, 13*(14), 7744.

Gibson, F. (2024). *Reading vs. screening: The development of Generation Alpha* (Honors thesis, Regis University).

Höfrová, A., Balidemaj, V., & Small, M. A. (2024). A systematic literature review of education for Generation Alpha. *Discover Education, 3*(1). https://doi.org/10.1007/s44217-024-00034-z

Jha, Kumar (n.d.). Understanding Generation Alpha. https://doi.org/10.31219/osf.io/d2e8g

Kitchenham, B. (2007). *Guidelines for performing systematic literature reviews in software engineering* (Version 2.3). [Technical report, Keele University and Durham University].

Kohli, A., & Arora, S. (2024). An unconventional education landscape for unconventional 'Generation Alpha'. *International Journal for Multidisciplinary Research, 6*(5), 1–14.

Lockwood, C., Munn, Z., & Porritt, K. (2015). Qualitative research synthesis: Methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence-Based Healthcare, 13*(3), 179–187.

Meirsia, M., Alda, I., Putri, C., Crescentyas, A., Aanish, S., & Hidayah, A. (2024). The impact of social media consumption on the quality of social interactions of Generation Alpha. *Cendekia: Journal of Teacher Professional Education, 1*(1), 30–38. https://journal.cerdasnusantara.org/index

Mittal, V., Chakrabarti, N., & Mehta, H. (2024). Generation Alpha's engagement with digital media and technology. *International Journal of Creative Research Thoughts (IJCRT), 12*(6), d620–d630.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2010). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *International Journal of Surgery, 8*(5), 336–341.

Muslih, Y. N. (2022). Layanan konsultasi melalui parental mediation untuk meningkatkan literasi digital siswa. *Islamic Counseling: Jurnal Bimbingan Konseling Islam, 6*(2), 169–178. https://doi.org/10.29240/jbk.v6i2.4883

Mustapa, M., Arishin, S. S., & Saili, J. (2024). Penggunaan teknologi dalam pengajaran dan pembelajaran Al-Quran: Tinjauan terhadap aspek etika dan kesannya dalam pembentukan nilai moral. *Jurnal Pengajian Islam, 17*(1), 1–6. https://doi.org/10.53840/jpi.v17i1.254

Newbold, A., Warren, F. C., Taylor, R. S., Hulme, C., Burnett, S., Aas, B., Botella, C., Burkhardt, F., Ehring, T., Fontaine, J. R. J., Frost, M., Garcia-Palacios, A., Greimel, E., Hoessle, C.,

Hovasapian, A., Huyghe, V. E. I., Lochner, J., Molinari, G., Pekrun, R., … Watkins, E. R. (2020). Promotion of mental health in young adults via mobile phone app: Study protocol of the ECoWeB (emotional competence for well-being in young adults) cohort multiple randomised trials. *BMC Psychiatry, 20*(1), Article 41. https://doi.org/10.1186/s12888-020-02549-0

Pangrazio, L., & Sefton-Green, J. (2021). Digital Rights, Digital Citizenship and Digital Literacy: What's the Difference? *Journal of New Approaches in Educational Research, 10*(1): 15–27.

Pangrazio, L., & Sefton-Green, J. (2021). Digital rights, digital citizenship and digital literacy: What's the difference? *Journal of New Approaches in Educational Research, 10*(1), 15–27.

Peart, M., Cubo-Delgado, S., & Gutiérrez-Esteban, P. (2022). Exploring the role of digital and socio-civic skills for promoting youth participation and digital citizenship. *European Journal of Educational Research, 11*(2), 697–709. https://doi.org/10.12973/eu-jer.11.2.697

Piccerillo, L., Tescione, A., Iannaccone, A., & Digennaro, S. (2025). Alpha generation's social media use: Sociocultural influences and emotional intelligence. *International Journal of Adolescence and Youth, 30*(1), Article 2454992.

Pongrac, D., Alić, M., & Cafuta, B. (2025). Digital competences of digital natives: Measuring skills in the modern technology environment. *Informatics, 12*(1), Article 7. https://doi.org/10.3390/informatics12010007

Rahm, L., & Fejes, A. (2015). Ubiquitous computing, digital failure and citizenship learning in Swedish popular education. *Citizenship Teaching and Learning, 10*(2), 127–141.

Ribble, M. & Miller, T.N. 2013. Educational leadership in an online world: Connecting students to technology responsibly, safely, and ethically. *Journal of Asynchronous Learning Network, 17*(1): 137–145.

Ribble, M., & Miller, T. N. (2013). Educational leadership in an online world: Connecting students to technology responsibly, safely, and ethically. *Journal of Asynchronous Learning Networks, 17*(1), 137–145.

Rodrigues, A. L., Cerdeira, L., Machado-Taylor, M. de L., & Alves, H. (2021). Technological skills in higher education—Different needs and different uses. *Education Sciences, 11*(7).

Rusnali, A. N. A. (2021). Alpha Generation and Digital Literacy for the Future of the Nation. *Palakka: Media and Islamic Communication*, *2*(2), 110-119.

Saputra, M., & Al Siddiq, I. H. (2020). Social media and digital citizenship: The urgency of digital literacy in the middle of a disrupted society era. *International Journal of Emerging Technologies in Learning, 15*(7), 156–161.

Seabra, F., Teixeira, A., Abelha, M., & Aires, L. (2021). Emergency remote teaching and learning in Portugal: preschool to secondary school Teachers' perceptions. *Education Sciences*, *11*(7), Article 349.

Tektona, R. I. (2022). Kebijakan pendidikan kewarganegaraan dalam era disrupsi globalisasi. *Waskita: Jurnal Pendidikan Nilai dan Pembangunan Karakter*, *6*(1), 73-85.

Vedechkina, M., & Borgonovi, F. (2021). A review of evidence on the role of digital technology in shaping attention and cognitive control in children. *Frontiers in Psychology, 12*, 611155. https://doi.org/10.3389/fpsyg.2021.611155

Younis, H. A., Hayder, I. M., Salisu, S., Muthmainnah, M., Shahid, M., & Younis, H. A. (2024). Enhancing academic knowledge dissemination: A comprehensive guide to crafting

survey, review, and systematic literature review articles. *International Journal of Education Research and Development, 4*(1), 1–12.

Zhang, W., Xu, M., Feng, Y., Mao, Z., & Yan, Z. (2024). The effect of procrastination on physical exercise among college students—The chain effect of exercise commitment and action control. *International Journal of Mental Health Promotion, 26*(8), 611–622.