

e-Safety Literacy of Primary School Principals

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Abstract

e-Safety competence is proving to be crucial for the educational community, creating a safe digital environment for students while supporting them in developing their digital skills. The e-Safety literacy of school principals ensures the safety of their students, especially in primary school. The aim of the study was to investigate e-Safety literacy related issues of primary school principals focusing on exploring what they know about e-Safety as well as what actions they are taking to promote e-Safety issues to teachers and parents and how they rate the level of knowledge and skills of teachers in their school on e-Safety issues. Ten primary school principals participated in the study answering a semi-structured interview. The results showed that all participants have a satisfactory level of knowledge about the risks of the internet, consider it important to inform parents about e-Safety, and request targeted training on e-Safety management issues in the educational community.

Keywords: e-Safety, e-Safety Literacy, school principals, primary school.

Introduction

Schools, as key pillars of education, have increasingly adopted digital tools to improve both teaching and administrative processes in the rapidly evolving digital age. These tools offer numerous benefits, such as increased efficiency and personalized learning, but they also pose significant challenges, particularly in e-Safety (Redecker, 2017).

Issues related to the use of digital technologies by young people are high on the European Commission's agenda, with topics such as mental health, cyberbullying, addiction to digital applications, and the protection of young people receiving particular attention (Dede, 2009; Gallego-Arrufat et al., 2019; Gordillo et al., 2021).

To address these challenges, frameworks such as the European Framework for the Digital Competence of Educators (DigCompEdu) and the European Framework for the Digital Competence of Educational Organizations (DigCompOrg) have been developed. The DigCompEdu and DigCompOrg frameworks include competences related to e-Safety such as the protection of personal data, privacy, health and digital identity management. These frameworks provide structured guidance on the competences that teachers, school principals and institutions need to thrive in a digital environment while maintaining high standards of safety (Kampylis et al., 2015; Carretero et al., 2017; Gordillo et al., 2021).

Beyond data protection, e-safety involves creating an environment where students and staff can safely browse the internet. This includes protecting students from cyberbullying, exposure to inappropriate content, and other risks associated with digital platforms (Van Wart et al., 2019; Karatrantou & Papalouka, 2025).

School principals play an important role in empowering students to use these technologies safely, ethically, and responsibly. Ensuring e-safety in schools is a complex process that is influenced by various factors, such as technological infrastructure, staff training, and institutional culture. A lack of awareness and training among staff members often leads to poor compliance with e-safety policies (Tomczyk, 2020; Reisoğlu & Çebi, 2020; Rocha Estrada et al., 2022).

The e-safety of children and young people has become one of the research priorities of media education and school practice (Govender, Skea, 2019; Gordillo, Barra, López-Pernas, & Quemada, 2021). There is a worldwide concern for children's online safety and a growing necessity for e-safety skills to be taught to children from a very young age as part of their schooling (Nicolaidou, & Venizelou, 2020).

Education leaders, as school principals, play a decisive role in shaping the e-safety landscape in schools. As decision-makers, they are responsible for establishing policies and procedures that ensure the safe use of digital technologies. This includes establishing protocols for data protection, setting guidelines for ethical use of technology, and promoting a culture of accountability among staff and students (Sarva et al., 2022; Thuy Nguyen & Habók, 2024; Karatrantou & Stamatelos, 2025).

e-Safety

The field of e-Safety covers competences related to protecting devices and digital content, protecting personal data and privacy in digital environments, understanding risks and threats in digital environments, the appropriate use and sharing of personal data, the prevention of health risks and threats to physical and psychological well-being when using digital technologies, and understanding the environmental impact of digital technologies and their use (Tomczyk, 2021; Tomczyk, 2025).

Cultivation competences that increase the level of e-Safety supports the overall level of digital literacy and requires a holistic approach. It must consider all the important others in the process of media socialization: educators, parents and agencies that provide support in critical situations, such as cybercrime (e.g., *long-term cyberbullying, hacking, sexual abuse, addictions*).

Teachers have a strong knowledge of methods for enhancing students' critical thinking, creativity, communication, and collaboration skills, characteristics that integrate young people into contemporary society, help them use media safely, and participate in the culture mediated by social media (Tomczyk, 2020; Thuy Nguyen & Habók, 2024). However, teachers' level of knowledge and skills in e-Safety still require education and training (Rocha Estrada et al., 2022).

Furthermore, research literature shows that there is a necessity for e-safety to be taught from preschool and primary education levels. Therefore, there is a clear and urgent need to promote training activities to develop teachers' digital competence (Tomczyk, 2020; Tomczyk et al., 2023).

The holistic development of digital literacy including e-Safety literacy requires collaboration between teachers, parents and institutions to support e-Safety and respond to critical situations (Gallego-Arrufat, Torres-Hernández, & Pessoa, 2019; Karatrantou & Papalouka, 2025).

Unicef (2023) asks for '*School child protection committees*', at school level comprised representatives from teachers, school counsellors, parents and students. The committees should be responsible for the '*School safety framework*', policy or strategy to diagnose and prioritize safety concerns of students, teachers and parents within a school. The framework, policy or strategy should be used to develop a school safety plan to address concerns, and to monitor progress of the implementation and results of the school safety plan.

The role of school principals in e-Safety of school community.

Policy creation and effective crisis management are two key areas where school principals can make a real difference to e-safety in schools. e-safety policies set the framework for how schools work, making sure data is protected, ICT is used properly, and online threats are prevented (Redecker, 2017). School principals need to develop clear and realistic policies that meet the needs of the school community. These policies should cover critical issues such as personal data management, safe internet access, and the use of educational platforms. It is important to include guidelines for protecting students from online threats, such as cyberbullying and misinformation. Compliance with regulations such as the General Data Protection Regulation (GDPR) is at the core of these policies (European Commission, 2018; European Commission, 2020).

School principals must have soft skills and hard skills such as technological and digital literacy skills, learning innovation skills, communication & listening skills as main skills that a modern principal must cultivate and develop to inspire students, teachers and parents (Sonsaard & Darbavas, 2019). They are expected to be able to manage crises related to e-Safety. This includes responding immediately to data violation incidents, taking measures to ensure safety, and informing the parties involved. Crisis management skills are vital, as they determine how effectively a school can limit the consequences of such incidents (Wu et al., 2019).

Safety policies must be accompanied by appropriate training and awareness-raising for users. Teachers, students, and parents must be informed about the measures taken and actively involved in their implementation.

The involvement of all members of the school community enhances the effectiveness of policies and creates a supportive environment (Van Wart et al., 2019). With proper guidance, school principals can ensure that schools are working as safe digital environments that respond to the challenges of the modern age.

Working with the wider educational community and parents is a critical part of ensuring e-safety in schools. School principals play a key role in creating a collaborative environment that promotes awareness, prevention, and response to threats in digital space (Redecker, 2017).

One of the key priorities in this collaboration is raising awareness among the school community about the importance of e-safety. Teachers, students, and parents need to understand the threats that exist online. School principals can organize seminars and workshops that focus on safe browsing practices, enhancing the knowledge and confidence of all parties involved (Wu et al., 2019; Krein, 2024; Okunlola, 2024).

Parents are important partners in this effort. School principals can provide informational materials and guidance to parents on the safe use of the internet by their children. Regular meetings between schools and parents can also facilitate the exchange of views.

Additionally, several initiatives in schools worldwide such as the “*Safer Internet Day*”, since 2004, a day dedicated to raise awareness of emerging e-safety issues, that celebrated in approximately 160 countries worldwide, aim to promote the safer and more responsible use of online technologies, especially among children and young people (Nicolaidou, & Venizelou, 2020). The active participation of school communities in such events and initiatives is important and school principals ought to facilitate it.

Also, it is important to notice that aiming to protect children from online risks, there is a legislative framework that includes age restrictions prohibiting students under the age of 13 to create accounts, and nowadays a consultation of European Union member states of the European Union is active on the establishment of a European Digital Age Limit of 15 years (Hellenic Republic Ministry of Digital Governance, 2025).

Concluding, by systematically implementing best practices and providing appropriate support, school principals can play a decisive role in creating a safe and functional digital environment in schools.

Aim of the study and research questions



The study aims to explore what school principals know about e-Safety as well as what actions they are taking to promote e-Safety issues to teachers and parents.

Additionally, how they rate the level of knowledge and skills of teachers in their school on e-Safety issues as well as what teachers, parents and the State could and would do, is also discussed.

The research questions the study tries to answer are:

- *What do school principals know about e-Safety?*
- *What actions are they taking to promote e-Safety issues to teachers and parents?*
- *How do they rate the level of knowledge and skills of teachers in their school on e-Safety issues?*
- *How do they perceive the State's actions to include e-Safety issues in the educational process?*

Method

In the context of this study, a qualitative research methodology was adopted, using focused semi-structured interviews as a research tool to meet the needs of the research questions.

The semi-structured interview questions were based on the research of Tomczyk et al. (2023) and Tomczyk et al. (2025) on e-Safety.

The semi-structured interview included 28 questions:

- 8 questions concerned demographic data, knowledge background, and educational and management experience of school principals,
- 14 questions related to school principals' knowledge of the risks posed by Internet use,
- 3 questions referred to the actions taken by school principals to promote e-Safety issues to teachers and parents of students,
- 2 questions concern the perceived level of knowledge and skills of school teachers on e-Safety issues for integration into their teaching,
- 1 question concerns the promotion of the integration of e-Safety issues into the teaching framework by the State.

The validity and reliability of the semi-structured interview questions were thoroughly checked using the back-translation method, content validity review by a team of three researchers specializing in digital literacy and e-Safety issues, and face validity review through three pilot interviews with school principals, whose data were not used for analysis for the purposes of this study.

The sampling method used was purposive and convenient sampling, as semi-structured interviews were conducted with school principals to whom the researchers had easy access. To analyze the research data, the method of thematic analysis by hand was chosen, with the theme as the unit of analysis.

The code reproducibility test (Krippendorff, 2004) with the participation of two coders was used to verify the reliability of the thematic analysis codes, yielding satisfactory reliability (0.91).

Results and Discussion

Ten (10) interviews were conducted with school principals in rural (2#10), semi-urban (4#10), and urban (4#10) areas of Primary Education in Achaia.

Six (6) men and four (4) women participated in the study, ranging in age from 39 to 60, with 16 to 36 years of teaching experience and 2 to 16 years of experience as school principals.

All participants (10#10) held master's degrees, and two (2#10) participants held doctoral degrees. All (10#10) had been trained in ICT, and ICT in Education, and six (6#10) participants had been trained in e-Safety.

It is important to be noted that all participants answered the questions concerning knowledge about e-Safety issues correctly.

In tables 1, 2, 3, 4 and 5 the coded participants' answers per thematic axis and code category as they derived during the thematic analysis of the data are presented:

Table 1. School principals' knowledge concerning Cyberbullying.

Code category	Codes
Cyberbullying	<ul style="list-style-type: none"> • Bullies behave in a threatening (9#10), aggressive (9#10), and offensive manner (4#10). • Cyberbullying occurs by sending messages (6#10), possessing and threatening to publish photos (4#10) and videos (3#10) of victims. • Cyberbullying causes harm to victims (10#10). • Cyberbullying causes psychological (10#10), social (7#10), academic (1#10), physical (1#10), and moral (1#10) harm to victims. • Cyberbullying is a very common phenomenon (9#10). • Cyberbullying phenomenon is moderate (5#10), high (4#10) and low (1#10).
Need to act	<ul style="list-style-type: none"> • There is a need for teachers to take action to prevent incidents of cyberbullying (10), such as: <ul style="list-style-type: none"> <i>a) training teachers to deal with cyberbullying and online risks (5#10),</i> <i>b) informing students about the online risks (1#10),</i> <i>c) the need for communication and cooperation between teachers and parents to deal with cyberbullying incidents (1#10).</i> • Schools need to take action to prevent cyberbullying (6#10) organizing info sessions on cyberbullying and e-Safety for: <ul style="list-style-type: none"> <i>a) students (6#10), parents (4#10), teachers (3#10).</i> • There is a need for parents to take action to prevent cyberbullying (4#10): <ul style="list-style-type: none"> <i>a) informing their children about the dangers of the internet (2#10),</i> <i>b) supervising their children while they are using the internet (2#10),</i> <i>c) informing their children about cyberbullying (1#10),</i> <i>d) informing themselves about how to deal with cyberbullying (1#10),</i> <i>e) preventing their children from creating social media accounts (1#10).</i> • There is a need for actions by the state to prevent cyberbullying (3#10): <ul style="list-style-type: none"> <i>a) to raise awareness of the problem among the state (1#10),</i> <i>b) to inform all citizens about cyberbullying (1#20),</i> <i>c) to introduce a course on the dangers of the internet (1#10),</i> <i>d) to criminalize the phenomenon (1#10).</i> • Students themselves should take actions to prevent cyberbullying (1#10), such as immediately informing adults around them if they are victims.

All participants (10#10) correctly define "cyberbullying."

It is important to notice that all participants (10#10) claim that their students have social media accounts, pointing out that their students have accounts on TikTok (9#10), Instagram (6#10), Facebook (5#10), and Viber (1#10).

Table 2. School principals' knowledge concerning online threats.

Code category	Codes
cyberstalking	<ul style="list-style-type: none"> • A key characteristic is the stalker obsessively monitoring the victim's traces.
Pornographic material	<ul style="list-style-type: none"> • It is very possible for children to meet such material on the internet (10#10): <i>a) while browsing the internet (9#10), b) with the help of their older friends (8#10), c) through encouragement from adult family members (3#10), d) to satisfy their curiosity about their sexual development (2#10), e) through the appearance of relevant advertisements while surfing the internet (1#10), f) lack of supervision by their parents is responsible for children encountering such material (4#10)</i>
Meet online friends	<ul style="list-style-type: none"> • Primary school children do not meet online friends in person, due to (7#10): <i>a) their parents' supervision, prevents them meeting strangers (4#10), b) their young age (1#10), c) their fear of the unknown (1#10).</i> • In case primary school children meet online friends in person, it may be due to: <i>a) their desire to satisfy their needs for communication (3#10), b) their curiosity to meet strangers (3#10), c) their lack of developed critical thinking (1#10), d) the sense of neglect they feel by their families (1#10).</i>
Sexting	<ul style="list-style-type: none"> • Sexting is the online exchange of messages (7#10), videos (5#10), and photos (6#10) of a sexual nature for the purpose of sexual gratification.
"Hate speech"	<ul style="list-style-type: none"> • "hate speech" is a criminal offense (7#10). • Individuals use their social media accounts to attack users or groups of users and incite other users to put violence against them, targeting characteristics of users or groups of users related to (7#10): <i>a) religion (7#10), b) race (6#10), c) political beliefs (4#10), d) gender (5#10), e) ethnicity (3#20).</i>
Fake news	<ul style="list-style-type: none"> • The purpose of fake news is to misinform users/citizens (8#10). • There is a difficulty of recognizing fake news (8#10). • Cross-checking information from various sources as a way of recognizing fake news (8#10). • There is too much fake news that citizens are exposed to daily (7#10). • The use of artificial intelligence has led to an increase in the amount of fake news and made it more difficult to identify (6#10).
Challenge-type games	<ul style="list-style-type: none"> • The "Blue Whale" game has a negative impact on children (9#10), many children have committed suicide (9#10) and self-harmed (8#10). • Social media platform TikTok encourages the spread and promotion of challenge-type games among children.

Advertisement	<ul style="list-style-type: none"> Personalized advertisements are promoted to users based on: <ul style="list-style-type: none"> a) gender (9#10), b) age (9#10), c) searches on search engines (8#10), d) geographical location (6#10), e) cookies they have accepted (3#10), f) interests and preferences they have indicated in their social media accounts (2#10), g) data collected from their devices (2#10).
Digital detoxification	<ul style="list-style-type: none"> digital detoxification can be achieved by: <ul style="list-style-type: none"> a) reducing gradually the internet use (6#10), b) limiting the use of digital devices (5#10), c) offering help to addicted individuals by psychologists (3#10), d) with appropriate medical assistance (3#10), e) with family support for addicts (2#10).

All participants can describe correctly what cyberstalking is, how children can find Pornographic material on the internet, their tension to Meet online friends or not, the ways Sexting is appearing, what "Hate speech" is, what happens with Fake news, the dangers of Challenge-type games, the way Advertisement works and how users can achieve Digital detoxification.

Table 3. The actions of school principals to promote e-safety issues to teachers and parents of their students

Code category	Codes
Parents' action needed	<ul style="list-style-type: none"> School principals consider that to ensure their children's safety online, parents should: <ul style="list-style-type: none"> supervise their children while they are browsing the internet (6#10), inform their children about the risks on the internet (5#10), install parental control software on their children's digital devices used to connect to the internet (3#10), set time limits for their children's internet use (3#10), inform themselves about the risks of internet use (2#10), be able to set and adhere to limits and rules for their own internet use (1#10), not allow their children to have their own personal digital devices (1#10), keep a common stance as parents on the issue of their children's e-safety (1#10) spend time doing sports activities with their children (1#10) stop thinking that the internet is a babysitting tool (1#10)
School principals' actions to parents	<ul style="list-style-type: none"> Inform students' parents about e-Safety organizing relevant short seminars and informative meetings (5#10). Although they organize informative activities for the parents just a few parents respond to their call (2#10). Plan to inform parents (2#10).
School principals' actions to teachers	<ul style="list-style-type: none"> Encourage teachers at their school to incorporate e-safety issues into their teaching (7#10)

School principals talk about parents' action needed to be taken by them as they consider the role of parents crucial but not all of them inform parents about e-Safety issues. Most school principals encourage teachers at their school to incorporate e-safety issues into their teaching.

Table 4. The rated level of literacy of schoolteachers on e-Safety issues for inclusion in their teaching

Code category	Codes
Sufficient literacy	<ul style="list-style-type: none"> Teachers do not have sufficient knowledge and skills to incorporate digital safety issues into their teaching (8#10). Teachers have sufficient knowledge and skills to incorporate digital safety issues into their teaching (2#10).
Need for training	<ul style="list-style-type: none"> There is a strong need for additional training for teachers at their school to incorporate e- safety issues into their teaching (10#10). Not enough relevant training opportunities are provided for teachers in their schools (7#10). The training opportunities provided by private (3#10) and public (1#10) institutions

School principals consider that teachers do not have sufficient knowledge and skills to incorporate digital safety issues into their teaching and there is a strong need for additional training for teachers concerning e-Safety. There is a lack of training opportunities for teachers in their schools.

Table 5. State Promotion of the integration of e-Safety issues into education

Code category	Codes
The current situation	Those responsible for formulating and implementing educational policies do not substantially support the inclusion of e-Safety issues in teaching (7#10)
Action by the State	Those responsible for formulating and implementing educational policies support the inclusion of digital security issues in teaching through (3#10): <i>a) changes to the curriculum (1#10),</i> <i>b addition of e-Safety modules into lesson materials (1#10),</i> <i>c) teacher training opportunities (1#10).</i>

The State and the educational authorities should promote the integration of e-Safety issues into teaching and learning, but they do not substantially support this. Changes to the curriculum at schools, addition of e-Safety modules into lesson materials and teacher training opportunities are necessary.

Conclusion

The aim of the study was to investigate e-Safety literacy of primary school principals, exploring what they know about e-Safety as well as what actions they are taking to promote e-Safety issues to teachers and parents of their students and how they rate the level of knowledge and skills of teachers in their school on e-Safety issues.

Ten primary school principals participated in the study answering the questions of semi-structured interview concerning the level of basic knowledge in the field of e-Safety, the degree of informing parents, and the needs of teachers in digital security issues.

The thematic analysis of the participating school principals' answers offered answers to the research questions as follows:

What do school principals know about e-Safety?

School principals seem to be aware of the dangers facing their students on the Internet, particularly cyberbullying, harm caused to victims of cyberbullying, ways of dealing with cyberbullying, cyberstalking, the possibility of students coming into contact with sexual or pornographic material on the Internet, students meeting friends they have met online in person, sexting, hate speech, fake news, the impact of the "Blue Whale" game and other "challenge" games on young people, the ways in which advertisements are selected to appear on users' social networks, students' ownership of social media accounts, and digital detoxification. It is interesting to note that school principals are aware that their students have social media accounts, even though the legal framework sets age restrictions that prevent students under 13 from creating accounts, during the consultation of European Union member states of the European Union on the establishment of a European Digital Age Limit of 15 years (Hellenic Republic Ministry of Digital Governance, 2025).

What actions are they taking to promote e-Safety issues to teachers and parents?

Although school administrators outline good practices that parents can use to ensure their children's safety online, most of them are not willing to inform their students' parents about e-safety. School principals who inform the parents about e-safety do so by organizing seminars on e-safety. Most principals seem to encourage teachers at their schools to include e-safety issues in their teaching.

How do they rate the level of knowledge and skills of teachers in their school on e-Safety issues?

Most school principals rating the level of knowledge and skills of teachers on e-Safety issues for inclusion in their teaching, point out that teachers do not have sufficient knowledge and skills to do so, supporting the need for additional teacher training in their schools, highlighting that there is lack of such training.

How do they perceive the State's actions to include e-Safety issues in the educational process?

Most school principals emphasize that the State and the educational authorities do not effectively and adequately promote the inclusion of e-Safety issues in the educational process in primary schools. The State and the educational authorities should promote the integration of e-Safety issues into teaching and learning, but they do not substantially support this. Changes to the curriculum at schools, addition of e-Safety modules into lesson materials and teacher training opportunities are necessary.

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