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Digital and emotional competencies of children and young people: An analysis of documents and reports[1]

Competencias digitales y emocionales de niños y jóvenes: análisis de documentos e informes

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Abstract:
The pervasive presence of digital technologies in daily life highlights the need to integrate emotional and digital dimensions in education. The objective of this study is to analyze how international frameworks and reports addressing digital competencies of children and young people incorporate emotional competence. A qualitative analysis of the documents was conducted based on a mapping performed in the Web of Science database. The search yielded 645 records. Selection based on inclusion and exclusion criteria included 11 literature reviews. From these, 30 documents were identified, covering frameworks, curriculum proposals, and research reports produced by recognized organizations. The eligibility process resulted in the inclusion of seven documents. Data extrac-

Resumen:
La presencia generalizada de las tecnologías digitales en la vida cotidiana resalta la necesidad de integrar las dimensiones emocional y digital en la educación. El objetivo de este estudio es analizar cómo los marcos e informes internacionales que abordan las competencias digitales de niños y jóvenes incorporan la competencia emocional. Se realizó un análisis cualitativo de los documentos a partir de un mapeo realizado en la base de datos Web of Science. La búsqueda arrojó 645 registros. La selección, basada en criterios de inclusión y exclusión, incluyó 11 revisiones bibliográficas. De estos, se identificaron 30 documentos que abarcan marcos, propuestas curriculares e informes de investigación elaborados por organizaciones reconocidas. El proceso de elegibilidad

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tion and coding were performed based on three categories derived from theoretical models of emotional competence. The analysis revealed 45 emotional aspects, with emotional awareness being the most frequent competence, followed by empathy and emotional regulation. The findings demonstrate that digital competence frameworks increasingly recognize the emotional dimension of digital interaction, although most still approach it superficially. This study contributes by systematizing digital emotional competencies as the intersection between emotional and digital domains, offering a foundation for future research and curricular development.

Keywords:
Emotional intelligence; digital literacy; digital emotional competence; digital technologies.

de los documentos incluyó siete. La extracción y codificación de datos se realizó con base en tres categorías derivadas de modelos teóricos de competencia emocional. El análisis reveló 45 aspectos emocionales, siendo la conciencia emocional la competencia más frecuente, seguida de la empatía y la regulación emocional. Los hallazgos demuestran que los marcos de competencia digital reconocen cada vez más la dimensión emocional de la interacción digital, aunque la mayoría aún la aborda superficialmente. Este estudio contribuye al sistematizar las competencias emocionales digitales como la intersección entre los dominios emocional y digital, ofreciendo una base para futuras investigaciones y desarrollos curriculares.

Palabras clave:
Inteligencia emocional; alfabetización digital; competencia emocional digital; tecnologías digitales

Résumé:
La présence généralisée des technologies numériques dans la vie quotidienne met en évidence la nécessité d'intégrer les dimensions émotionnelle et numérique dans l'éducation. L'objectif de cette étude est d'analyser comment les cadres et rapports internationaux traitant des compétences numériques des enfants et des jeunes intègrent la compétence émotionnelle. Une analyse qualitative des documents a été réalisée à partir d'une cartographie effectuée dans la base de données Web of Science. La recherche a donné 645 résultats. La sélection, fondée sur des critères d'inclusion et d'exclusion, a retenu 11 revues de la littérature. Parmi celles-ci, 30 documents englobant des cadres, des propositions curriculaires et des rapports de recherche élaborés par des organisations reconnues ont été identifiés. Le processus d'éligibilité des documents en a sélectionné sept. L'extraction et le codage des données ont été réalisés sur la base de trois catégories issues de modèles théoriques de la compétence émotionnelle. L'analyse a révélé 45 aspects émotionnels, la conscience émotionnelle étant la compétence la plus fréquente, suivie de l'empathie et de la régulation émotionnelle. Les résultats démontrent que les cadres de compétences numériques reconnaissent de plus en plus la dimension émotionnelle de l'interaction numérique, bien que la plupart l'abordent encore de manière superficielle. Cette étude apporte une contribution en systématisant les compétences émotionnelles numériques à l'intersection des domaines émotionnel et numérique, offrant ainsi une base pour de futures recherches et développements curriculaires.

Mots-clés:
Intelligence émotionnelle; littératie numérique; compétence émotionnelle numérique; technologies numériques.

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Introduction

The present scenario of constant experience and the overlapping of everyday life with digital technologies points out the need to improve digital and emotional competencies. The integrated approach of these two competencies can qualify and improve digital experience, as well as take advantage of connection and learning opportunities. In this way, digital competence is reinforced as a multidimensional construct (Gutiérrez-Cabello et al., 2015).

Considering that children and young people have their lives increasingly more connected and in nets (James et al., 2021) and the emotional impacts resulting from the interaction with digital technologies, there is the need for education mediation, as part of media literacy or digital competence (Knaus, 2023).

Furthermore, the experiences resulting from the interaction with digital technologies include an array of positive and negative emotions, which influence behaviors, mental processes, and decision-making (Gazzaniga et al., 2018). It is fundamental to understand how they are experienced, expressed, and dealt with in digital contexts, which refers to digital emotional competencies.

Given this, this study seeks to answer: How are emotional aspects and competencies addressed within frameworks and reports that define digital competencies for children and young people? The aims this work aims to analyze documents and reports that approach the digital competencies of children and young people to identify the approximations between them and the emotional ones. Hence, we wish to describe emotional competencies or aspects approached in the systematization of these competencies. The analysis also considered the described aspects related to emotions. Emotional aspects refer to the internal experience of emotions: feelings, moods, affective states, and sentiments (Scherer, 2005). They include how events are appraised, how one feels physiologically, and what emotional responses one experiences (Lent, 2013). These aspects differ from the competencies that suppose more structured descriptions, encompassing knowledge, skills, and attitudes.

Theoretical Framework

In general terms, the notion of competence is multifaceted and varies across contexts and areas (Scallon, 2015). It is commonly understood as involving the coordinated use of knowledge, skills, and attitudes that enable effective action and problem-solving (Vuorikari et al., 2022). The Council of the European Union (2018) specifies that knowledge encompasses facts, concepts, and theories; skills refer to the ability to apply knowledge to achieve outcomes; and attitudes relate to dispositions and mindsets that guide behavior. Among key competencies for lifelong learning, digital competence stands out encompassing the use of digital technologies in a confident, critical, and responsible way in work and in society participation.

The connections established from the use of digital technologies involve emotional aspects that can contribute with motivation, interest, and greater commitment in learning processes. Moreover, the possibilities of connection with other people and the contact of other points of view increase (Knaus, 2023). In this sense, the approach to digital competencies needs to consider how emotional aspects can influence the interaction with digital technologies.

Emotional competence gathers terms that carry ample definitions, without unanimity, leading to different understandings. Despite this, it is recognized that this competence can be acquired through contextual and cultural experiences (Lau & Wu, 2012), that is, its acquisition is influenced by experiences, classmates, school, media, social itineraries, and knowledge (Buckley & Saarni, 2006).

According to Von Salisch (2022), emotional competence refers to the experimentation, expression, and regulation of a variety of emotions, as well as understanding one's own emotions and those of others. The following dimensions can be highlighted: emotional awareness, emotional regulation, and empathy.

Emotional awareness involves becoming aware of one's own and others' emotions based on situational data and expressive cues (Alzina & Escoda, 2007; Saarni, 1999; 2000). Therefore, it is possible to associate this skill with self-knowledge to recognize how emotions and thoughts influence behavior (CASEL, 2020). This better understanding allows for greater openness to other ways of being and doing (Pérez-Escoda et al., 2021).

Emotional regulation refers to the efforts people undertake to influence

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their emotions and how they experience or express them (Gross, 2024) by monitoring, assessing, and modifying emotional reactions (Hare & Parent, 2022; Villani, 2018). Thus, it involves the capacity to manage emotions appropriately, supposing the awareness of the relationship between emotion, cognition, behavior, and the use of strategies (Alzina & Escoda, 2007).

Empathy includes cognitive and affective elements. It can be defined as an emotional response directly or imaginably experienced, involving the understanding of emotions, and recognizing that the source of the emotion is not one's own (Cuff et al., 2016). This competence involves the ability to feel or express emotions and behaviors consistent with the emotional experience of others, based on the relevance of the experience and situation to that person (Eisenberg et al., 2015; Hare & Parent, 2022; Saarni, 1999).

Audrin and Audrin's (2023) study systematized approximations between digital competencies and emotional intelligence or competence. They presuppose that both are mutually influenced and emphasize that this integration requires the components of emotional self-regulation and a broad understanding of abilities and digital knowledge (Audrin & Audrin, 2023).

The mobilization of emotional competencies in the experiences with digital technologies can help improve them, decreasing stress, and digital leadership that involves dealing with complex challenges resulting from the use of emerging technologies (Audrin & Audrin, 2023; Ertiö, 2024). This reinforces that digital competence can be connected to general well-being, emphasizing the need for a balanced approach that includes emotional aspects (Waight & Holley, 2020).

Therefore, to identify approximations between digital and emotional competencies (or aspects) we conducted a selection and analysis of documents and reports produced by organizations and broadly disseminated. To this end, we adopted the methodological procedures described in the following section.

Empirical Framework

The research was based on document analysis, which included curriculum proposals, frameworks, and research reports published by international organizations.

The initial search for documents to be analyzed was conducted in the

Web of Science database. The search string ("digital competence" OR "Digital Emotional Intelligence" OR "digital emotional competence") AND ("curriculum proposal" OR framework OR "research report") was used in the Topic. The search yielded 645 papers published up to 2024.

Articles were selected based on a reading of the title and abstract, considering the following inclusion criteria: a) literature reviews; b) include students, children, or adolescents as participants or focus on them; c) address the levels of education compatible with school education (elementary, middle, and high school). Empirical studies, those with a focus restricted to teachers, or those focused on higher education were excluded. This stage resulted in 11 papers.

After a thorough reading, the cited documents were mapped. Additionally, 25 documents listed in one of the identified documents (DQ Institute, 2019) were included, bringing the initial selection to 30.

In the next phase, the researchers assessed their eligibility by reading the documents and considering inclusion criteria b, c, and d. The eligibility analysis of the analyzed documents resulted in the inclusion of seven documents whose information was extracted and analyzed.

The extraction of information sought to identify and codify emotional aspects and competencies that were included in the description or discussion of digital competencies.

To ensure the validity and reliability of the coding process, a triangulation procedure was employed involving both the verification of theoretical construct and the participation of expert judges. The categories used for coding—emotional awareness (EA), emotional regulation (ER), and empathy (EM)—were derived from established theoretical frameworks of emotional competence (Alzina & Escoda, 2007; Buckley & Saarni, 2006; Von Salisch, 2022), providing a strong conceptual foundation and enabling theoretical triangulation (Flick, 2018). The coding was performed independently by two researchers, who compared and discussed discrepancies until a consensus was reached (Creswell & Poth, 2018). Additionally, the coherence between the coded excerpts and the original contexts of the documents was systematically verified to prevent interpretative bias.

On the tables with the description of the data, we highlighted the coded excerpts and identified the category using the acronyms in brackets. Each item was coded based on the table (2, 3, 4, etc.) in which it is described and the marker used (a, b, c, etc.), for example, when referring to the third competence on table 4, we used T4-c.

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The coded results were analyzed per table, and we present a synthesis of all associations to describe the main emotional competencies identified in the approach of digital competencies or in the interaction with digital technologies.

Results and Discussion

The review results indicate different types of documents that propose approaching emotional aspects in the interaction with digital technologies focused on children, young people, and students. Table 1 presents the information of each document included.

Table 1
Information of analyzed documents.

Title	Organization - authors	Year	Description
Education for a Connected World framework: A framework to equip children and young people for digital life (2020)	UK Council For Internet Safety	2020	Framework for children and young people
Teaching digital citizens in today's world: Research and insights behind the Common Sense K–12 Digital Citizenship Curriculum.	Common Sense Media (EUA) - James; Weinstein; Mendoza	2021	School curriculum proposal for digital citizenship
DQ Global Standards Report 2019: Common Framework for Digital Literacy, Skills and Readiness	DQ Institute	2019	Framework proposal
Digital technology, play and child well-being: Responsible innovation in technology for children	UNICEF	2024	Research report
ISTE. Standards	International Society for Technology in Education	2024	Framework proposal
Digital Kids Asia-Pacific: Insights into Children's Digital Citizenship	UNESCO	2019	Research report and framework for children
Digital Literacy for Children: Exploring Definitions and Frameworks; Scoping Paper	UNICEF - Nascimbeni; Vosloo	2018	Research report and framework for digital citizenship

Source: created by the authors.

The documents of UNESCO (2019) and James, Weinstein and Mendoza (2021) when approaching digital competencies refer to the broader idea of digital citizenship that simply supposes "the responsible use of technology to learn, create, and participate" (James et al., 2021, p. 5).

Digital citizenship also includes being able to "engage with other users and with content in an active, critical, sensitive and ethical manner; and navigate the online and ICT environment safely and responsibly, being aware of one's own rights" (UNESCO, 2019, p. 15). This concept strongly approaches digital competencies and includes a conceptual expansion to contemplate aspects of participation and citizenship. However, this expansion does not explicitly include emotional aspects.

Among the documents analyzed is the Education for a Connected World framework focused on children and young people. It describes the knowledge and digital skills, highlighting what children should know in terms of technology, its influence on behavior and development, and which skills they need to develop. The framework is organized under eight aspects. These aspects seek to promote the development of safe and appropriate behaviors in the long run.

Three aspects include emotional competence. The aspect *self-image and identity* explore the differences between online and offline identity, starting from self-awareness, shaping online identity, and the influence of media in disseminating stereotypes. *On-line bullying* explores bullying, online aggression, and how technology impacts those issues. It also highlights the relation of emotional aspects in exploring the impact technology has on health, well-being, and lifestyle, for example, mood, sleep, body health, and relationships. (UK Council for Internet Safety, 2020). Table 2 presents he competencies described in the framework that include emotional aspects.

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Table 2

Emotional competencies taken from Education for a Connected World framework

Self-image and identity:
a) I can recognise, online or offline, that anyone can say 'no' / 'please stop' / 'I'll tell' / 'I'll ask' to somebody [ER] who makes them feel sad, uncomfortable, embarrassed or upset. [EA].
b) I can recognise that there may be people online who could make someone feel sad, embarrassed or upset. [EA].
c) "If something happens that makes me feel sad, worried, uncomfortable or frightened I can give examples of when [EA] and how to speak to an adult I can trust and how they can help. [ER]."
d) "I can give examples of issues online that might make someone feel sad, worried, uncomfortable or frightened; [EA]; I can give examples of how they might get help."
e) I can describe some of the pressures that people can feel when they are using social media [EA] ((e.g. peer pressure, a desire for peer approval, comparing themselves or their lives to others, 'FOMO').
Online bullying
f) I can recognise when someone is upset, hurt or angry online. [EA]
g) I can explain why people need to think carefully about how content they post might affect others, their feelings [EM] and how it may affect how others feel about them (their reputation).
Health, well-being and lifestyle
h) I can explain why spending too much time using technology can sometimes have a negative impact on anyone, e.g. mood, [EA], sleep, body, relationships; […].
i) I can explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable [EA] (e.g. age restricted gaming or web sites)

Source: UK Council for Internet Safey (2020)

Table 2's competencies are written as statements because they are systematized to guide one's assessment. The items T2-a, T2-c, and T2-i refer to emotional self-awareness that supposes being aware of one's own emotions (Alzina & Escoda, 2007; Saarni, 1999; 2000). Emotional awareness also includes others, referring to the capacity to discern and understanding other people's emotions based on situational data and expressive clues (Saarni, 1999; 2000), which can be identified in items T2-b, T2-d, T2-f, and T2-h. Another emotional competence in the table from the framework is empathy, shown in items T2-c, T2-e, and T2-g.

The research report Teaching digital citizens in today's world describes that children from 0 to 8 years old spend almost 2.5 hours interacting with screens, and from 5 to 8 years they spend 3 hours a day in this fashion. A large percentage (67%) of children from five to 8 years old have their own mobile device. From this data, we can infer that as children grow up, screen use increases, and the activities diversify (James et al., 2021). In this report, the authors also defend that the intense interaction with digital technologies makes it essential to approach social and emotional competencies in these spaces. Certain competencies stand out among them, such as managing emotions, showing empathy, and developing rewarding relationships (James et al., 2021).

When proposing a curriculum that encompasses digital literacy, James et al. (2021) highlight that though students need to learn practical skills to navigate the digital world, they also need to cultivate dispositions to apply these skills in their daily lives.

In this sense, Table 3 presents the aspects related to emotional competencies presented in the curriculum guidelines for digital citizenship, observing the organization by skills, strategy, and dispositions.

Table 3

Emotional competencies taken from Teaching digital citizens in today's world.

Skill:
a) Explore perspectives with curiosity and empathy [EM].
Strategy:
b) Think about other people's points of view. [EM].
c) Care for other people's feelings [EM].
Dispositions:
d) Slow down and self-reflect [EA].
e) Explore perspectives with curiosity and empathy [EM]

Souce: James et al. (2021)

In Table 3, the items T3-a, T3-b, and T3-e cite empathy and highlight thinking from other people's points of view. Item T3-c can be associated with the emotional awareness of others and T3-d of oneself (Alzina & Escoda, 2007; Saarni, 1999; 2000). However, it is observed that emotional competence focuses on cognitive awareness or behavioral indicators, with little exploration of its cultural, relational, and developmental dimensions.

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2030, ONU's Sustainable Development Goals (SDGs), the Universal Declaration of Human Rights (UDHR), and the OECD Well-being Framework. Based on this, the Institute systematizes a framework organized in three levels composed by eight areas and 24 competencies that include knowledge, skills, attitudes, and values (DQ Institute, 2019).

The framework starts with the definition that digital intelligence: "a comprehensive set of technical, cognitive, meta-cognitive, and socio-emotional competencies that are grounded in universal moral values and that enable individuals to face the challenges and harness the opportunities of digital life." (DQ Institute, 2019, p. 8).

Table 4 describes the emotional competencies identified in the framework, keeping the description and organization into knowledge, skills, and attitudes.

Table 4

Emotional competencies taken from the framework of DQ Institute.

Digital Empathy
Knowledge a) "Individuals understand how their online interactions might affect others's feelings [EA] [EM] and recognize how others may be influenced by their online interactions (e.g., effects of online trolls). (DQ Institute, 2019, p. 23).
Skills b) "Individuals develop socio-emotional skills by becoming sensitive to and respecting others' perspectives and emotions [EA] [EM] through synchronous and asynchronous interactions online and are able to regulate and respond accordingly [RE]" (DQ Institute, 2019, p. 23)
Attitudes c) "Individuals demonstrate an awareness and compassion for the feelings, [EM], needs, and concerns of others online." (DQ Institute, 2019, p. 23)
Self-awareness and Management
Knowledge a) "Individuals understand how their own value systems influence and are influenced by their digital environments, [EA] and become equipped to explain how one's mood can affect others. [EA] " (DQ Institute, 2019, p. 31).
Skills b) "Individuals are able to identify and explain their emotions, reflect on how their feelings may be influenced by their digital experiences [EA] and manage their moods and impulses accordingly with active self-regulation [RE]. […]. They manage their emotions [RE] as well as competencies to foster cooperation and positive interactions between internal and external stakeholders in order to fulfill their goals." (DQ Institute, 2019, p. 31)
Attitudes c) "Individuals exhibit an awareness of their own moods [EA] and are actively able to manage their impulses [RE] accordingly, thereby respecting others during online communication." (DQ Institute, 2019, p. 31)
Relationship Management
Knowledge a) "[…]. They understand how different behavioral norms and emotional reactions may vary depending on the platform and context. [EA]" (DQ Institute, 2019, p. 39).
Skills b) […]
Attitudes c) […]

Source: DQ Institute (2019)

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Among the competencies described are *digital empathy,* defined as "The ability to be aware of, be sensitive to, and be supportive of one's own and other's feelings, needs and concerns online." (DQ Institute, 2019, p. 23). In the organization, the items T4-a, T4-b, and T4-c correspond to the knowledge, skills, and attitudes of digital empathy. Furthermore, item T4-c also refers to emotional awareness when describing an "awareness and compassion for the feelings" and T4-b in the description that people "are able to regulate and respond accordingly," which can be associated with emotional regulation.

Self-awareness and Management competence are understood as the capacity to recognize and manage how someone's system of values and digital competencies fit the digital environment (DQ Institute, 2019). Though part of the descriptions are more related to social competencies, we can relate some aspects to emotional competence to emotional awareness, such as in item T4-d that understands that "emotional reactions may vary depending on the platform and context." T4-e and T4-f are also related to emotional regulation.

The third competence identified as *relationship management* is described by DQ Institute (2019) is the capacity of skillfully managing one's online relationships through cooperation, conflict management, and persuasion. It distances itself from emotional competence because it is focused on issues of relationship and social interaction, citing only in T4-g an aspect that was associated with emotional competencies. The items T4-h and T4-i were not coded in the mapping of emotional competencies, as they focus on social competencies, not citing emotional aspects or competencies.

The report Digital technology, play and child well-being approaches digital games in childhood seeks to raise opportunities related to digital games and characterize design aspects of the digital environment that are more likely to promote or hinder children's well-being (UNICEF, 2024).

The report is based on a study involving 300 children from 13 countries to analyze risks and opportunities online. The results raise evidence that digital games can positively influence well-being in several ways, increase feelings of competence and creativity, reinforce social connections, help regulate emotions, and allow personal exploration and identity formation (UNICEF, 2024).

The research shows 14 design characteristics that are important for

digital games to promote better well-being. Table 5 shows the characteristics that are related to emotional aspects or competencies.

Table 5

Emotional competencies taken from Digital technology, play and child well-being.

Características de design a) Opportunities to empathize [EM], for example through character and narrative; b) opportunities for humour, [RE], for example through humorous characters and narratives;

Source: UNICEF (2024, p.8)

When focusing on digital games, UNICEF (2024) report includes more specifically the mobilization of emotional competencies in the design. Highlighting empathy (T5-a) in the relationship with characters and games as strategies for emotional regulation (T5-b). Despite the recognition that games can mobilize emotions, these aspects are rarely explored. Although studies reinforce that characters are important for working with emotions, for example (Pacella & López-Pérez, 2018; Hortinela-Duden, 2019).

The International Society for Technology in Education (ISTE) describes the parameters of innovation and excellence in education, considering technologies. It is organized under four sections: students, educators, education leaders, and coaches. Analysis of the student section revealed intersections with emotional competence in approaching Digital Citizen, related to the responsibilities and opportunities of participation in digital communities, as seen on Table 6.

Table 6

Emotional competencies taken from International Society for Technology in Education

a) Manage their digital identity and understand the lasting impact of their online behaviors on themselves and others [EA] and make safe, legal and ethical decisions in the digital world. b) Demonstrate empathetic, [EM] inclusive interactions online and use technology to responsibly contribute to their communities. c) Safeguard their well-being [EA] by being intentional about what they do online and how much time they spend online. [RE]

Source: ISTE (2024).

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The competencies taken from ISTE focused on students have approximations with the emotional competencies when describing item T6-a, the understanding of the impacts of online behavior on the person and on others, which also supposes the emotional impacts associated with emotional awareness. This competence is also coded on item T6-c in the capacity of safeguarding well-being, which supposes being aware of your own emotional state and taking actions in this direction, which is related to emotional regulation that is also coded in this item. Empathy is clearly expressed in item T6-b.

The Digital Kids Asia-Pacific (DKAP) proposes a set of competencies under five domains, among which includes Digital Emotional Intelligence (UNESCO, 2019). Table 7 highlights the coded aspects.

Table 7

Emotional Competencies taken from Digital Kids Asia-Pacific

Domain Digital Emotional Intelligence
a) Self-Awareness: The ability to use introspection to explain one's moods, emotions, drives, and how these affect oneself and others in the digital context [EA]
b) Self-Regulation: The ability to manage emotions, moods and impulses during online engagements. [RE]
c) Self-Motivation: […].
d) Interpersonal Skills: […].
e) Empathy: The ability to demonstrate awareness and compassion for the feelings, needs and concerns of others during digital interactions [EM]

Source: UNESCO (2019, p. 10)

The domain of Digital Emotional Intelligence describes emotional competencies related to the use of digital Technologies. The item T7-a called self-awareness is related to the management of emotions and the ability of dealing with impulses, associated to emotional regulation. Finally, the item T7-e expresses aspects related to empathy in digital interactions.

The items T7-c and T7-d were not coded because they are related to interpersonal abilities and self-motivation, without being clearly connected to emotions. The prediction of these items in the domain reinforces the digital emotional competencies and recognizes that they have implications in social interactions (Von Salisch, 2022).

The report Digital Literacy for Children: Exploring Definitions and

Frameworks describes several structures of digital literacy competencies that were developed by international organizations. Based on these documents, they describe the Digital Citizenship Education Framework (CoE), which contains some competencies that are not completely relevant to children, such as Organizational Cyber Security Management (Nascimbeni & Vosloo, 2019).

Table 8 presents the emotional competencies extracted from the analyzed report.

Table 8

Emotional competencies taken from Digital Kids Asia-Pacific Quadro de Educação para a Cidadania Digital

a) Knowledge and critical understanding of the self [EA]
b) Skills of listening and observing [EA]
c) Empathy [EM]

Source: Nascimbeni and Vosloo (2019)

When systematizing the framework focused on education for citizenship, Nascimbeni and Vosloo (2019) value digital literacy and include competencies of emotional awareness and empathy. The analysis allows us to infer that knowledge and understanding of self involves recognizing your own emotions (T8-a) and that, to do so, the person needs to listen and observe (T8-b), which are associated with emotional awareness. Item T8-c directly cites empathy as competence. The document does not delve into the emotional aspects despite the possible links with citizenship.

From the analysis conducted and systematized in the frameworks, we can recognize that the documents deal with digital competencies in childhood and teenagehood tend to include emotional competencies. Some have a more delineated systematization and understanding, while others briefly contemplate these competencies. Only two documents, one from the DQ Institute (2019) and another from UNESCO (2019), delineate more clearly the emotional competencies.

Os aspectos emocionais identificados nas estruturas são frequentemente apresentados como comportamentos objetivos ou atitudes protetoras, e não como competências complexas e dependentes do contexto . Parte considerável vincula-se a comportamento seguro ou ético online.

In any case, it is important to stress that thinking about digital competencies for this audience demands a more encompassing definition that

surpasses the abilities related to the use of digital technologies. It's necessary to include cognitive, socioemotional, collaborative, civic, creative production, engaged, and respectful capacities (UNESCO, 2019).

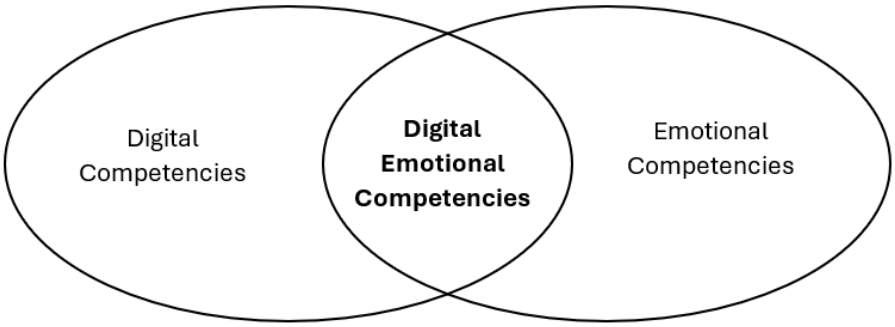
In the documents, we can identify the term digital emotional intelligence (DQ Institute, 2019; UNESCO, 2019) by understanding the difference between the term competence and the choice to use competencies. This corroborates with the shared understanding of other authors that the term competence, instead of intelligence, refers to the idea that competencies can be learned and improved (Buckley & Saarni, 2006; Gerbeth, 2023; Mikolajczak, 2020).

The term emotional digital competence is used by Escalona-Márquez et al. (2024). It is understood as the fusion between digital and emotional competencies. Another work that uses this term refers to a study about self-help application of personalized emotional competence to reduce symptoms of depression and anxiety (Watkins et al., 2024). There are few references to this term in the literature, and the definitions need to be deepened. Therefore, this work proposes to delineate and deepen its definition.

The competencies systematized from the analysis start to be called in this work digital emotional, aiming to gather two fields and delineate the intersection, as represented in Figure 1. These competencies reveal how a person is aware and deals with their emotions and those of others in the digital environment; that is, they are emotional competencies mobilized in the interaction with digital environments.

Figure 1

Representation of the intersection between digital and emotional competencies



Source: created by the authors (2025).

From the extraction and coding of the emotional competencies and aspects described in the documents analyzed, the digital emotional competencies are described and organized into three dimensions corresponding to the emotional competencies defined in the literature review. The dimensions emotional awareness, emotional regulation, and empathy, each grouping of three competencies. Each competence described is based on the set of codes undertaken. Table 9 presents the systematized results.

Table 9
Systematization of digital emotional competencies

Description of emotional competence	Code
Emotional awareness	
Be aware of one's emotional state in the interactions with the digital environment	T2-a, T2-c, T3-d, T4-e, T4-f, T7-a, T8-a, T8-b
Perceive the emotional state of others in digital interactions	T2-d, T2-f,T4-a, T4-b, T7-a, T8-b
Understand how the digital environment can influence emotions and well-being of oneself and others	T2-b, T2-e, T2-h, T4-d, T4-e, T4-f, T6-a, T6-c
Emotional regulation	
Manage emotions and impulses mobilized in digital interactions	T4-e, T4-f, T5-b, T7-b
Express emotions in an adequate way to the digital context	T4-b
Take decisions that contribute to the change of emotional state resulting from the digital environment	T2-a; T2-c, T6-c
Digital empathy	
Perceive and support emotions, feelings, needs, and concerns with others in digital interactions	T2-g, T3-a, T3-b, T3-c, T3-e, T4-a, T4-b, T8-c
Demonstrate an understanding of other people's emotions in the digital environment	T5-a, T6-b
Have sensibility and compassion in digital interactions	T4-c, T7-e

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The synthesis table allows us to see that among the coded competencies, emotional awareness stands out with 21 records, followed by empathy with 12, and emotional regulation with 9.

The systematization of Table 9 based on the synthesis of the aspects mapped in the documents ends up having a focus more on observable indicators. This can lead to fragmentation and neglect of the understanding that emotional competence is a multidimensional construct (Alzina & Escoda, 2007) and is linked to contextual and cultural experiences (Lau & Wu, 2012).

Among the mapping's contributions, it is worth noting that digital empathy can affect cyberbullying and encourage more ethical and responsible behaviors. For instance, Zych et al.'s (2019) review gathered evidence indicating that those involved in cyberbullying have less empathy because empathy involves the understanding of someone else's emotional experience (Cuff et al., 2016) and is related to feelings, such as compassion (UNESCO, 2019). Thus, when mobilizing the ability of placing oneself in someone's shoes, the tendency is to avoid aggressiveness so that the other does not suffer negative emotions. A better understanding of one's own emotions and the emotions of others allows one to be more open to other ways of being and doing (Pérez-Escoda et al., 2021).

Otherwise, emotional awareness and regulation can moderate the effects of the excessive or inadequate use of technologies. Emotional awareness contributes to perceiving the effects of the digital world on well-being. The awareness regarding the experience of negative emotions, such as excessive anxiety or fear, due to excessive tension when trying to win a game or waiting to receive a message, can help children and young people to better deal with or to use strategies of emotional regulation. Regulation involves the management of emotions and the decrease of impulsive action (UNESCO, 2019). Hence, it is possible to have a better capacity to use strategies, such as changing activities, paying attention to breathing, or stopping interacting with digital technologies.

Conclusion

The results revealed that the approach to the aspects of emotional competence occurs in different ways and perspectives, but mostly contem-

plates three coded dimensions: emotional awareness, emotional regulation, and empathy.

Despite identifying emotional aspects and competencies in the analyzed documents, we observed that there are gaps in many of them, the description is still incipient, and they do not encompass a deeper perspective. The documents adopt the nomenclature of digital emotional intelligence without justifying their option at the expense of using the term competence, even though some of the organizations publishing the documents commonly use the term digital competence.

We understand that the intersection between digital and emotional competencies is recent and has little scientific production. Therefore, it is a emerging field to be explored, considering the intensification of the use of digital technology in everyday life and the risks to the emotional well-being that have been pointed out by several studies. We believe that it is urgent to deepen and map digital emotional competencies to better understand and guide actions that can contribute to its improvement.

The mapping of these competencies holds practical value, particularly in teacher education, as it contributes to the development of a more reflective, empathetic, and self-regulated stance toward technology-mediated interactions. Teachers must gain a deeper understanding of the emotional impacts of technology to foster effective educational mediation. In this way, teachers become better prepared to support students in dealing with technologies, preventing overexposure and misinformation, and promoting the practice of ethical, critical, and emotionally balanced digital citizenship.

Among the limitations of this study is that it focused on the analysis of a small number of documents without including empirical research. Concentrating the analysis on the documents included may limit the perspective of the study, causing documentary bias. Hence, future studies can seek a better understanding of their manifestations, situations in which they are mobilized and their contributions to well-being, and the prevention of emotional risks that emerge from the experiences in digital environments.

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