TEACHER DIGITAL COMPETENCE: BRINGING EDUCATION TO THE NEXT LEVEL

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Abstract. The digital revolution has transformed the way people access information, communicate and learn. It is teachers' responsibility to set up environments and opportunities for deep learning experiences that can uncover and boost learners' capacities. Twenty-first century competences can be seen as necessary to navigate contemporary and future life, shaped by technology that changes workplaces and lifestyles. This study explores the concept of digital competence and provide insight into the European Framework for the Digital Competence of Educators.
Keywords: technology; digital competence; digital revolution; competence

Introduction. The digital revolution has transformed the way people access information, communicate and learn. Preschoolers are already familiar with digital devices. Young people today are more connected than ever, using the Internet for gaming, chatting and social networking, with a significant increase in its usage among young children. However, the digital revolution has not yet been matched by mainstream transformations of education systems, teaching and learning.

It is teachers' responsibility to set up environments and opportunities for deep learning experiences that can uncover and boost learners' capacities. Teachers are called on to be activators of meaningful learning, not just facilitators, being creative in choosing from a wide palette of strategies to be mixed and adjusted to context and learner [2].

Twenty-first century competences can be seen as necessary to navigate contemporary and future life, shaped by technology that changes workplaces and lifestyles. They underscore new skills, but also lay new emphasis on old ones, thus equipping individuals for new ways of thinking, ways of working, tools for working and living in the world, as outlined in the Assessment and Teaching of Twenty-First Century Skills (ATC21S) framework [1]

There follows the need for powerful shifts in teaching/learning processes and in the assessment of learning, with related challenges. Therefore, **the purpose** of this study is to explore the concept of digital competence and provide insight into the European Framework for the Digital Competence of Educators.

Methods. In our research we utilize literature review as well as educational reports analysis as the main method of investigation. This technique makes it possible to answer the main research question and explore the concept of digital competence and its implementation.

Results. Digital competence is essential for learning, work and active participation in society. Competences are defined here as a combination of knowledge, skills and attitudes appropriate to the context. Key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment [5].

The concept of competence in teaching involves tacit and explicit pedagogical subject knowledge, cognitive and practical skills and dispositions (motivation, beliefs, value orientations and emotions. Competence means that teachers act professionally and appropriately in a situation and en-

sures teachers' undertaking of tasks effectively (achieving the desired outcome) and efficiently (optimising resources and efforts).

Digital skills are widely acknowledged as being a future skills requirement, not only for employability but also for the economic performance of the country. However, their parameters are often difficult to define.

The European Commission defines digital competence as one of the key competences citizens need in order to participate in today's society. Specifically, the European Commission [93; p. 5] specifies that "digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society." On this basis, we believe that today's teachers should be able to train citizens to use digital technologies as a natural part of their daily lives.

The teacher's role is becoming the one of a coach and facilitator, guiding learners to take ownership of learning, though enquiries, interpretations, correlations and understanding. Learners no longer only need access to information, but also need to have the opportunity to develop the skills to interact with it.

"The European Digital Competence Framework for Citizens", also known as "DigCom" [8], identifies the key components of digital competence in 5 areas which can be summarised as below:
1) Information and data literacy
2) Communication and collaboration
3) Digital content creation
4) Safety
5) Problem solving

"The Six Elements of Digital Capability framework" [7], designed by JISK, the UK research organisation, defines the following elements of digital capability:
• ICT Proficiency (functional skills)
• Information, data and media literacies (critical use)
• Digital creation, problem solving and innovation (creative production)

• Digital communication, collaboration and partnership (participation)
• Digital learning and development (development)
• Digital identity and wellbeing (self-actualising)

All European countries have a specific national strategy related to digital competence. At the time of the study, digital competence was taught through a cross-curricular approach in all but two EU countries at primary level and in all countries at secondary level – in addition to other approaches used in several countries such as integrating ICT into particular subjects or teaching it as a separate subject.

Teacher competence frameworks can serve three main purposes: defining outcomes of teacher education, criteria for teacher recruitment and selection, and teacher professional development needs. They can provide teachers with a clear image of their roles, promoting attitudes to professional reflection and autonomy along teachers' careers. Then, as reference points for key professional knowledge and skills, they can support effective professional development at individual and institutional level, by helping focus on learning priorities and needs at different career stages [4].

Providing shared standards for professional profiles, teacher competence frameworks can also contribute to ensuring effective teacher education provision. Finally, depending on context features, teacher competence frameworks can also help acknowledge achievement in education practitioners' careers [4]. Overall, teacher competence frameworks can support teacher quality, empowerment and responsibility if they have a formative focus and have been shaped promoting teachers' ownership [4].

To better understand the digital competences teachers need to develop to meaningfully integrate digital technologies in education and support the acquisition of

students' digital competences, the European Commission's Joint Research Centre published "The European Framework for the Digital Competence of Educators" (DigCompEdu) [6] with a focus on the digital competences that are specific to the teaching profession. It is based on extensive expert and stakeholder consultations and aims to structure existing insights and evidence into one comprehensive model that is applicable, in principle, to all educational contexts. The generation and dissemination of this framework illustrate how frameworks can contribute to innovation in education and teacher professional development.

The European Framework for the Digital Competence of Educators was designed to align with institutional and contextual requirements in different countries, whilst remaining open to adaptation and updating. It links teachers' and students' digital competence development, and can be linked to institutional capacity building. At the same time, the framework is generic enough to apply to different educational settings and to allow for adaptation as technological possibilities and constraints evolve.

"The European Framework for the Digital Competence of Educators" [6] details 22 educator-specific digital competences, organised in six areas: Professional Engagement, Digital Resources, Teaching and Learning, Assessment, Empowering Learners, Facilitating Learners' Digital Competence.

Applied to the context of school education, **Area 1** (Professional Engagement) describes teachers' efficient, appropriate use of technologies and digital learning opportunities for communication and collaboration with colleagues, students, parents and others.

The core of the DigCompEdu framework is represented by areas 2 to 5 in which technologies are integrated into teaching in a pedagogically meaningful way. **Area 2** (Digital Resources) focuses on the selection, creation, modification

and management of digital educational resources.

Area 3 (Teaching and Learning) deals with planning, designing and orchestrating the use of digital technologies in teaching practice. It focuses on the integration of digital resources and methods to promote collaborative and self-regulated learning processes and on the need to accompany these learner-led processes with effective guidance and support measures.

Area 4 (Assessment) addresses the concrete use of digital technologies for assessing student performance and learning needs to comprehensively analyse performance data and provide targeted, timely feedback to learners.

Area 5, Empowering Learners, emphasises the importance of creating learning activities and experiences that address students' needs and allow them to actively develop their learning journey. Teachers are able to use digital technologies to foster differentiation and personalisation by allowing different levels and speeds, individual learning pathways and objectives. They encourage students' active engagement in digital activities, ensuring equal access to technologies.

Area 6 (Facilitating Learners' Digital Competence) maintains that digitally-competent teachers should facilitate their students' digital competence, enabling them to manage risks and use digital technologies safely and responsibly. Teachers should be able to promote information and media literacy and integrate activities to enable digital problem solving, digital content creation and digital technology use for communication and cooperation.

Each individual competence of the DigCompEdu framework is described along six proficiency levels (from A1 to C2) with a cumulative progression, similar to the Common European Framework of Reference for Languages.

This focus on the pedagogical dimension allows DigCompEdu to supply detail and still be applicable across all sub-

jects in a continuously changing technological landscape. Thus, it explicitly describes how digital technologies can be effectively integrated into teaching and learning, how they can be used to enhance teaching and learning strategies, which key objectives should guide their implementation and how their use can, with growing experience and competence, lead to innovation in education.

Discussion. Digital skills are widely acknowledged as being a future skills requirement, not only for employability but also for the economic performance of the country. Digital competence is one of the key competences citizens need in order to participate in today's society.

The European Framework for the Digital Competence of Educators (DigCompEdu) illustrates how a framework can contribute not only to setting official targets or standards for teachers' digital competence development, but also to engaging teachers themselves in the reflective process of understanding their competence levels and professional development goals. It shows that a well-designed framework is able to reconcile different stakeholders' purposes and act as a booster of innovation in 21st century pedagogies.

However, to become a catalyst for change, the framework must also engage its end-users from grassroots levels. Only if teachers perceive the framework as a useful guideline for their professional development will they be willing to work on their competence.

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ЦИФРОВА КОМПЕТЕНТНІСТЬ ВИКЛАДАЧА: ПЕРЕХІД ОСВІТИ НА НОВИЙ РІВЕНЬ
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Анотація. *Цифрова революція перетворила спосіб доступу до інформації, спілкування та навчання. Тепер це є відповідальністю викладачів створення умов та середовища, у якому можуть розкритися та підвищитися можливості студентів та учнів. Компетенції двадцять першого століття є такі, що вважаються необхідними з огляду на сучасне та майбутнє життя, що формується технологіями, які змінюють робочий простір та життя. У цій статті досліджується концепція цифрової компетентності та забезпечується розуміння Європейської рамки цифрової компетентності освітян.*

Ключові слова: *технологія; цифрова компетентність; цифрова революція; компетенції.*