
Summary of the literature review

The Erasmus+ “*Pedagogical Digital Competences as a key element for the digital transformation*” project (D-Paideia) is funded by Erasmus+ GA101087643 (Grant Agreement). The **D-Paideia project** is based on challenges that have been identified during the pandemic experience that occurred in 2020. Before the pandemic, DigCompEdu was considered one of the most comprehensive frameworks for teachers’ digital competence in education. However, the Covid-19 pandemic highlighted the framework’s limitations, particularly the absence of descriptors that address the social and emotional challenges of digital teaching and learning that emerged during lockdowns. As a result, there is a need to update DigCompEdu to ensure that it adequately covers this aspect and to train teachers for future challenges.

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Please cite as: Ranieri, M., Gabbi, E., Ancillotti, I. (2023). WP2 - Summary of the literature review. [D-Paideia project report].

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LITERATURE REVIEW: Teachers' digital competence

The review of scientific literature on teachers' digital competences aims to create a sound theoretical background for the D-Paideia Digital Pedagogical Competence Qualifications Framework. The analysis is based on an extensive literature review that was conducted in May 2023 by the University of Florence research team to identify the pedagogical needs and competences required of teachers as they emerged from the Covid-19 pandemic period and its educational consequences.

The literature review consists of three sections, including the theoretical background, the definition of educators' digital competence and the teachers' needs before and after Covid-19. The first section provides a **theoretical background** for describing the international research view in the field of teachers' digital competences:

- There is no unique definition of teacher digital competence in the scientific literature. The different definitions emphasise mainly: the technological competence, the content knowledge, attitudes towards the technology use, the pedagogical competence, ethical considerations, the cultural awareness, the critical approach and the professional engagement.
- Teachers' digital competence doesn't exclusively refer to technical skills but involves more complex dimensions linked to digital practices entailing the use of different skills.
- An integrated approach to teacher digital competence is fundamental to capturing the complexity of such a dynamic concept.

The second section aims to understand **how educators' digital competence is defined** in different contexts and to identify areas that could be added to DigCompEdu based on other existing models:

- Although included in the DigCompEdu, the digital communication component does not appear to be sufficiently expanded in its mediating role in the relationship with students.
- The ability to intervene for enhancing teachers' and students' digital well-being, as well as health protection, is a factor regarded as important in online education practices and inherently linked to digital competence.
- Critical awareness of ICT policy in education and local resources is essential for teachers' reflection and agency in an ever changing social-economic landscape to improve their effectiveness.
- Motivational and attitudinal factors could play an essential role in the acquisition and testing of digital teaching skills.

The third section focuses on the **digital competence of European teachers before and after the Covid-19 pandemic** to highlight their educational needs and expectations:

- The effects of the lockdown on teachers and students showed that the emotional, social and psychological dimensions of digital teaching and learning cannot be ignored.
- The Emergency Remote Teaching experience indicated that maintaining relationships - collaboration and communication - with students, families and colleagues appears to be a relevant aspect of distance learning.
- Online or blended learning requires more attention for students with special educational needs, especially for students with disabilities and those with low socio-economic background.
- In order to provide comprehensive training, ICT training programmes for teachers should focus on digital pedagogy and class management in an online environment.

For more information, please visit our website at www.d-paideia.eu.