



Editorial Introduction: Digital Competence in Teacher Education across Europe

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Background and Rationale

The rationale for this special issue is based on the increasing and now almost ubiquitous use of technology in teaching and learning. As the exposure to technology in the classroom increases, so too will the requirement for all teachers to be digitally competent in its use for classroom teaching and learning. This special issue aims to evaluate student teachers' attitudes towards ICT, their understanding of digital competence, and how teacher training institutions prepare them to work in an ever-changing and evolving digital classroom. This special issue will also examine “digital distractions” viewed as potential downsides in the digitisation of classrooms. Furthermore, this publication will propose a new digital competence framework that includes Pedagogical, Ethical, Attitudinal, and Technological (PEAT) elements. It will discuss the rationale for its creation and the affordances that this framework offers.

The origins for this publication grew from an Erasmus+ funded project, Developing ICT in Teacher Education (DiCTE) 2017-2020. The project aimed to explore and investigate how five teacher education institutions in four European countries instill and build the necessary skills that allow student teachers to develop into professionally competent users of digital technology in the

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context of teaching and learning. The project aimed to gain an insight into student teachers' digital competence upon entering teacher education, as well as students' experience of digital competence in their education. Hence, the overarching aim or outcome of the project was to identify the different levels and understanding of professional digital competence in teacher education across the five institutions through a sharing of best practices and research (McGarr & McDonagh, 2019)

In choosing the content and context in the call for papers for this special issue the editors intended to cast a net wide enough to capture relevant research for student teachers, in-service teachers, and teacher educators. Tømte et al. (2015) note that while it is clear and widely accepted that teacher education plays a critical role in preparing teachers to integrate digital technologies in teaching and learning, it also embellishes them with the skills and open-mindedness to adapt to changing technologies and curricula going forward. However, despite this, Tømte et al. (2015) also note that teacher education does not pay enough attention to developing student teachers' digital competence. Cognisant of this dissonance, this special issue will discuss the importance of digital competence, the multi-dimensional elements of digital competence, and the potential road map to producing digital competent teachers of the future.

Teacher education institutions are a critical component to help develop digitally competent teachers of the future (Starkey, 2020, p.38). Student teachers require new levels of digital competency that now go beyond information communication technology (ICT) and encompass ethical and pedagogical elements to their digital competency toolkit (Erstad, 2010). The ethical dimension, which forms part of the aforementioned PEAT framework, is presented in this special issue by Milton et al. They explored “the knowledge, awareness, and understanding of cyberethics held by preservice teachers” and they noted a disparity “between the perceived knowledge or competence and the declared practices of some preservice teachers”. This inconsistency of “perceived knowledge” could be directly linked to the techno-positive reporting that accompanies much of what we read about ICT in schools. However, student teachers' attitudes towards ICT examined by Camilleri et al. could also form part of this positive technocentric disposition, bearing in mind that according to Aslan and Zhu (2017), this positive attitude is a key component for ICT use in the classroom. In their study, Camilleri et al discuss and report on student teachers' attitudes in the first year of their studies. The attitudinal element, which also forms a second dimension of the PEAT framework. This insight into student teachers' attitudes at such a very early stage of their formal teacher education training programme offers an insightful lens into their beliefs and attitudes to ICT before engaging with their respective teacher education programs. Do they enter into the profession with predisposed techno-centric positivity, or are they capable critical thinkers concerning ICT in teaching and learning?

Lisborg et al. “investigate how digital competencies are being integrated into teacher education”. They found that digital competence “is a fluid and expanding term, making it difficult to find a ‘one-size-fits-all’ approach”. Also discussing students teachers' digital competence in this publication are Almås et al. where they disclose how “teacher education prepares them for working life”. They also importantly report that student teachers see the role that teacher training plays in developing their digital competency and must go beyond the simple nuts and bolts of how to use

ICT. They propose that teacher training should help them develop and engage “in more critical discussions about educational opportunities and challenges that digitalisation offers”. This is supported by findings in another paper published in this special issue by Zilli et al. which suggests that student teachers understand that digital competence is a key competency that should encompass more than just the technology and includes other elements of professional competency. These competencies and their importance have truly been magnified during the recent COVID pandemic.

Instilling these new digital competencies in student teachers increases the pressure on teacher education institutions and teacher training to meet this demand. European Commission teacher competency frameworks, discussed by Nagel in this special issue define what student teachers “should know and be able to do” on completion of their teacher training. However, is it right to assume that teacher educators are professionally digital competent professionals, capable of providing this increased and evolving digital competency? Furthermore, Hatlevik et al. argue, in this special issue, that all that glitters isn’t gold, in other words, not all use of technology will improve teaching and learning. In their findings, they focus on “some of the challenges and possible pitfalls of the extensive use of digital technologies” and also explore “student teachers’ perceptions of digital downsides”. This more critical lens applied to technology use in teaching and learning is not new (McDonagh & McGarr, 2015) however Hatlevik et al. approach this analysis in the context of the global COVID pandemic teachers and teacher educators found themselves working in since March 2020. A sudden and necessary reliance on technology compelled teaching and learning to go online.

To publish a special issue that explores and examines the different elements of digital competence without examining the current digital competency frameworks would have been short-sighted and could potentially have left significant gaps in this special issue. McDonagh et al. go further than reporting on current frameworks and present an alternative digital competence framework, the PEAT model. This model was “designed to capture the different dimensions of teachers’ professional digital competence” and the authors believe that “there are a number of unique affordances offered by the PEAT framework”. To be more specific the PEAT model was “developed from the existing literature” where “it draws on the existing knowledge rather than being ideologically driven”. The PEAT framework also places ethical, explored in the paper in this issue by Milton et al. and attitudinal, explored by Camilleri et al. aspects as “key dimensions” where “it elevates their importance to an equal footing with the technical and pedagogical aspects and recognises the interconnected nature of all four dimensions”.

In publishing this special issue we have endeavored to provide an up-to-date and current review of literature and research in the area of Digital Competence currently being undertaken across Europe and hope that in reading this publication that we have offered new insights into digital competencies in teacher education.

References

- Aslan, A., & Zhu, C. (2017). Starting Teachers' Integration of ICT into Their Teaching Practices in the Lower Secondary Schools in Turkey. *Educational Sciences: Theory & Practice*, 18(1), 23-45. <https://doi.org/10.12738/estp.2018.1.0431>
- Erstad, O. (2010). Educating the Digital Generation. *Nordic Journal of Digital Literacy*, 1, 56-70.
- European Parliament and the Council. (2006). *Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning*. Official Journal of the European Union, L394/310.
- McDonagh, A., & McGarr, O. (2015) Technology leadership or technology somnambulism? Exploring the discourse of integration amongst information and communication technology coordinators. *Irish Educational Studies*, 34(1), 55-68. <https://doi.org/10.1080/03323315.2015.1010292>
- McGarr, O. & McDonagh, A., (2019). Digital Competence in Teacher Education. Output 1 of the Erasmus+ funded Developing student Teachers' Digital Competence (DICTE) project <https://dicte.oslomet.no/>
- Starkey, L., (2020). A review of research exploring teacher preparation for the digital age. *Cambridge Journal of Education*, 50(1), 37-56. <https://doi.org/10.1080/0305764x.2019.1625867>
- Tømte, C. E., Kårstein, A., Enochsson, A.-B., & Buskqvist, U. (2015). Educating online student teachers to master professional digital competence: the TPACK-framework goes online. *Computers & Education*, 84, 26-35. <https://doi.org/10.1016/j.compedu.2015.01.005>