Hands of the World intercultural project: developing student teachers' digital competences through contextualised learning

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Palabras clave: PIXEL-BIT,

Publicado el 21 de Mayo de 2021

Student teachers are working within a digital landscape which is evolving constantly and rapidly. A proliferation of digital technology has emerged as a ubiquitous feature of daily life, enabling individuals and communities to connect with each other and to respond to the challenges of global events such as the COVID-19 pandemic. The notion that digital technology would no longer be a salient feature within our lives was predicted by Weiser (1993) who coined the term ‘ubiquitous computing’. Weiser foresaw that digital technology would become smaller and everywhere: ‘in the walls, on wrists and in ‘scrap computers’ (like scrap paper) lying about to be grabbed as needed’ (Weiser, 1993, p1). The extent to which this has happened was shown in the recent UK Ofcom (2020a) report which focused on the rise of the use of smart technology, stating that in 2020, 51% of people aged 16+ had an internet connected smart
TV, compared to 40% in 2019, 22% owned smart speakers and 18% owned smart watches. Alongside the ubiquity of digital technology, Dutton and Blank (2013, p12) highlighted the mobility and accessibility affordances of digital technology where users were becoming ‘less tethered to their desktop computer and more mobile in terms of devices, locations and patterns of use’. This is supported further in an overview by UK Online Measurement (UKOM, 2019) which reported that 64% of UK adults used smartphones and 11% used tablets while 25% used desktops.

Digital technology is also enabling ‘cross-platform digital media consumption’ (ComScore, 2013), where users deploy multi-platforms rather than single devices. In 2019, it was noted that 62% of UK adults used multi-platforms, compared to 34% using mobile phones exclusively and 4% making use of a desktop only (UKOM, 2019). The COVID-19 pandemic saw many human behaviours shifting from face-to-face interactions to online exchanges for social activities, shopping, work and education. One third of users’ online time was spent on Facebook or Google at the start of the COVID-19 pandemic, however, when countries went into lockdown, entertainment companies, such as TikTok™, Houseparty™ and Zoom™, saw an exponential increase in usage (Ofcom, 2020b). Educators and students quickly became key users of technology (Vargo et al. 2020) which created challenges as many had to learn quickly how to use online platforms and applications to enable learning to continue remotely (Sun et. al., 2020). Activities such as web conferencing were new and unfamiliar and presented challenges. Higher levels of stress were identified in teachers in Germany who were teaching remotely with stress particularly apparent among those who were teaching for four hours or more online each day (Klapproth et. al., 2020). Ofcom (2020b) noted that around 559,000 UK children did not have internet access and 1.8 million children do not have access to a computer or laptop out of approximately 11,800,000 children. Such digital exclusion, the lack of access to materials online and the differences in devices used, all impact on the online learning experience.

Teachers have faced barriers in the use of technology for many years such as difficulties in accessing technology and having inadequate time to develop their digital competence to promote effective teaching and learning (European
Commission, 2019; OCED, 2020). Various researchers and policy makers have highlighted the importance of developing teachers’ digital competence skills (European Commission, 2020; Scottish Government, 2016) to enable them to integrate digital technologies successfully into teaching and learning within their practice, whether face-to-face or online, alongside preparing young people to be active citizens in a digitised world (Klapproth et al., 2020). The European Commission (2020) acknowledged the importance of teachers being able to deploy digital technology ‘skillfully, equitably and effectively’ to enable an inclusive and high-quality education for all by creating a Digital Education Action Plan: 2021 – 2027. This follows on from The European Commission’s European Framework for the Digital Competence of Educators ( Redecker & Punie, 2017), which has 22 digital competences organized into six areas pertaining to an educators’ professional competences:

- Professional engagement
- Digital resources
- Teaching and learning
- Assessment
- Empowering Learners and learners’ competences
- Facilitating learners’ digital competence.

Teacher Education Institutions (TEIs) are committed to developing student teachers’ digital technology skills, however, like educators in other settings, they have encountered challenges, such as workload demands, lack of digital competence and competing priorities. The obstacles impeding the integration of technology into TEIs are not new and have been noted by various researchers over time (Simpson et al., 1998; Sutton, 2011). Many TEIs have developed student teachers’ digital technology skills through isolated ICT courses or units (Falloon, 2020). This approach has many positives, however, there it has been criticized for having a too narrow focus and for not being contextualized (Ferrari, 2012; Janssen et al., 2013). The digital competence of mentor teachers as they provide support and the student teachers’ limited time using computers whilst in school have presented further barriers (Grove, 2008). Ryn and Sandaran (2020) noted that lack of ICT literacy and time limitations continues to hinder the development of digital skills among teachers. Student teachers have also met
with a range of challenges over the years within schools, such as difficulties accessing digital technology and a lack of in-school technical support.

The Scottish Government is cognizant of the need to develop teachers’ skills and confidence in the use of digital technology to support teaching and learning and seeks to improve access to all learners (Scottish Government, 2016). The Scottish Government also acknowledged the importance of student teachers developing their understanding of the ‘place, purpose and pedagogy’ of digital technologies for teaching and learning. To this end, The Scottish Council of Deans of Education were invited to create The National Framework for Digital Literacies in Initial Teacher Education (SDCE, 2020). The framework goes beyond developing student teachers’ digital competence and encourages students to develop a critical understanding of the pedagogical uses of technology underpinned by research.

There has been growing awareness of the need to refocus and move away from teaching basic ICT skills towards the pedagogy of ICT for over 20 years (Simpson et al. 1998; Lambert et al., 2008). The Scottish Government noted the importance of Teacher Education to promote ‘the benefits of using digital
technology to enhance learning and teaching' within a wide range of formal and informal learning opportunities to develop students' digital skills and pedagogy (Scottish Government, 2016). Firmly embedded in the General Teaching Council for Scotland’s Standards for Provisional Registration is the need for student teachers to have knowledge and understanding of digital technologies to support learning (GTCS, 2021). With this emphasis on digital technology and the demands for remote teaching and learning which came into even sharper focus as a result of the COVID-19 pandemic, it is imperative that student teachers are supported to develop their digital competence.

Referencias bibliográficas:


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**Fuente original del artículo:**


**Cómo citar esta entrada:**

Sharon Tonner-Saunders is lecturer in Technologies-ICT and Music in the School of Education. She joined the University in August 2008 after working for seven years as a primary school teacher, where the last four years were spent teaching ICT to all primary pupils. During this time, Sharon was awarded the British Council's eTwinning Award for Excellence in using innovative methods to connect children with their peers around the world. This followed shortly with Sharon becoming a British Council eTwinning Ambassador where her role is to promote and train European educators how to use technologies to create collaborative projects with schools around Europe.

Sharon has developed this innovative approach to using technologies in education. This has been acknowledged at the University where she has been awarded:

- CASS Award for Professional and Public Research Graduates - Jan 2012
- DUSA Innovation in Teaching Award - May 2011
- Honorary Graduates Award for Innovative Teaching - May 2010

Jill trained as a teacher in the 1980s and has experience of teaching at all stages in the primary school from Primary 1 to Primary 7. For many years Jill combined her teacher career with her interest in local politics. From 2003 to 2007 she was Leader of Dundee City Council and she returned to teaching in August 2007. Now working as a member of the School of Education, Social Work and Community Education at Dundee, her responsibilities include supporting distance learning students in the field of Childhood Practice and pre-service teaching with B.Ed. and PGDE students.

Jill is a trustee of the oldest children's charity in Scotland, Carolina House Trust, and a member of the Council of the Al Maktoum College, Dundee. When not working, she enjoys family life with her husband Sami and son Adam.