ABSTRACT

In this present digital generation, technology has become a learners' everyday universal language that teachers can incorporate into their teaching to maximize learners' participation in accessing and evaluating new knowledge. However, teachers often seem to be novices to technology which widens the gap between how they deliver knowledge and how learners acquire it. Research shows that that integrating technology in the teaching and learning remains a challenge for many teachers. Furthermore, research also shows that preservice teachers (PSTs) do not feel sufficiently equipped to incorporate ICT into their classrooms because they often claim that they are not adequately prepared during their teacher training (Enochsson & Rizza, 2009). According to studies, if teachers are introduced to ICT usage and learn ICT skills during their teacher training program, they are more likely to incorporate ICT into their teaching subjects (Jita, 2016); Chikacha, et al, 2014). In this regard, the main purpose of the research was to explore how prepared were the PSTs at a South African university to integrate ICT in their teaching practices in the teaching of Life Sciences. To understand the PSTs' preparedness to integrate ICT, a TPACK framework and the research questions which guided the study were considered. A mixed methods research approach was adopted, and data was collected using a questionnaire and an interview to the PGCE and 4th year BEd PSTs who enrolled for Life Sciences at a South African university. The findings revealed that the majority of PSTs at this South African university believed they had capabilities in TK, TCK, TPK, TPACK, and modelling of technology relating to the teaching and learning Life Sciences. It was revealed that lecturers' ICT modelling and previous interactions with ICT usage contributed to PSTs' ICT capabilities and preparedness to use ICT in their teaching practices.