RESEARCH SUMMARY

Technology in the Early Childhood (EC) Classroom Starts with the Educator – An Exploration of the Use of Digital Tools by EC Undergraduates.

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Introduction

Children now grow up in media-rich, digital environments and actively engage in the use of technology as part of their daily family life (Aubrey & Dahl, 2014). Patterns of technology use by young children in the western world have changed significantly and on average, children under five spend up to two and a quarter hours a day with screen media; a figure that has been rising steadily since 2011 (Rideout, 2017). Young children’s ownership of digital devices has increased (Marsh et al., 2015) and many use both digital technology and the internet every day (Edwards, Straker & Oakey, 2018). This constant exposure influences daily experiences, interactions and culture, and children enter early childhood education and care (ECEC) settings with advanced ‘funds of knowledge’ related to technology (Hedges, 2011). While technology permeates virtually all aspects of twenty-first century society, its integration in ECEC settings remains problematic, due in part to educator’s limited knowledge about how to use technology to support children’s play (Edwards & Bird, 2017).

Rationale

Early childhood educators have a responsibility to advocate for the appropriate use of technology with young children and act as media mentors (Donohue, 2017) for parents, families and other professionals. Debate has advanced beyond whether technology should be used with young children. Now research is concerned with how best to model technology’s appropriate use in ECEC and support children’s play and learning in the digital age (Gray & Palaiologou, 2019). Educators’ perspectives influence decisions about introducing technology in ECEC settings, and knowledge and understanding about selection criteria, integration and core principles of use, impact pedagogy. This study aims to investigate educator perspectives and explore the impact of further training on these beliefs.

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Method

An online questionnaire was used to elicit pre-service educators’ perspectives about the use of technology in early childhood settings. A purposeful convenience sample was used, restricted to Bachelor of Early Childhood Education (BECE) students in DCU. This cohort participates in a Technology in Learning module, delivered in semester one on the second year of the degree programme. The module covers topics including digital childhoods; current debates around the use of technology in ECEC; the role of the adult in integrating and planning for technology in play; technology as a learning tool; being a media mentor; and finally, assessment and selection of digital devices and software. In addition to theoretical content, the module also includes hands-on experimentation with digital and analogue devices, software and apps. Students are challenged to consider their use either by adults and/or children to promote children’s play ideas, learning and formative assessment.

All students (approx. sixty per year) were asked to complete a questionnaire prior to starting the Technology in Learning module and immediately after the module was completed. In the first cohort the return rate was high; ninety-six percent prior to the module and ninety percent after the module was completed. The survey questions ranged from perspectives on use of technology by young children; perceived suitability of specific devices; educators’ role in using or supporting children to use digital devices; and impact on children (positive or negative). Pre- and post- results were compared to determine whether further information, knowledge and understanding influences pre-service educator’s perspectives about the use of technology in ECEC settings.

Initial Findings

Initial results indicate that that participating in the Technology in Learning module impacts pre-service educators’ perspectives on the use of technology as a learning tool in ECEC. A higher percentage of respondents deemed children’s use of technology in ECEC appropriate after completing the module. However, caveats relating to the children’s age and the type of device being used were proposed by many. In addition, post-module replies were more definitive, with less neutral responses selected for scaled-response questions, and significantly longer responses submitted to open-ended questions.
A second cohort will be surveyed this academic year (2019-2020) with final results expected in early 2020.

References


• Sandra O’Neill is an Assistant Professor of Early Childhood Education in Dublin City University. Her research interests include STEM in early childhood education, children’s rights and the intersection between the pre-primary and compulsory education systems. She is currently undertaking doctoral studies in the University of Sheffield, focusing on Early Childhood Mathematics.