

A digiTech framework: Learning through play with ‘robots’

The role of digital technologies in early childhood education is increasingly discussed and negotiated in learning centres. It is emerging from research that educators’ technological pedagogical content knowledge is key to the quality of learning experiences with digital technologies for young children. The aim of the current research was to identify and document how educators see and understand learning opportunities for young children as they play with tangible coding technologies (TCT’s) or ‘robots’. This action research project involved four early childhood educators working in a University’s early years centre that provides long day care and a kindergarten program. In collaboration with the educators we observed young children (3 and 4 year olds), engaging and developing computational thinking skills and general technology competencies through play-based learning with TCT’s. We investigated and compared how children learned through play with two types of TCT's; bee bots and cubetto. An outcome of this research was an innovative early years digital technologies framework, which assisted the educators to see and respond to learning opportunities for young children as they played with the TCT. This early years ‘DigiTech’ framework was based on the empirical evidence obtained through the research and drew on concepts and processes such as number sense, algorithms (making steps and rules), mathematical reasoning (patterns and generalisations), data and digital knowledge, and creating solutions. Learning stories from the research will be shared and used to illustrate the DigiTech framework.

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