

Teacher Education

Niall Seery and Mikko Huhtala

The work of Paul Docherty and Wendy Fox-Turnbull unpacks the conceptions of technology and engineering from the perspective of student teachers of primary education and highlight the need to address balanced gender participation, perspectives on career relevance and the conceptions of engineering and technology. Findings highlight a need to bring clarity to the constructs and contemporary definitions of engineering and technology education and address the lack of diversity. The important role of the teacher is centrally presented in this research.

Teacher identity and the development of their identity is well captured by the research of Ritesh Khunyakari. The focus on task design in mediating the processes of design and make activities captures both the centrality of the task and also the development of the epistemic identity. The introspective focus on designing, balanced with the purposes of technology brings to the fore the contextual and situational challenges facing the teacher educator in preparing the next generation of design and technology teachers. Further developing the theme of teacher identity, Matt McLain, Drew McLain, David Wooff and Dawne Irving-Bell report on their research into pre-service Teachers' perspectives on modelling and explaining. Particularly in practical education, modelling and explaining are core pedagogical approaches which allowed for an investigation into the subjective values of pre-service teachers. The research supports the identification of two dominant archetypes, teacher-expert and teacher-facilitator and highlights the significance of their findings for pre-service teachers and teacher educators.

Developing identity within existing professional communities is the focus of the research by Elizabeth Reinsfield and Wendy Fox-Turnbull. The Mātanga (Māori term for expert) project aims to reposition the agency within the professional community and develop teacher's specialist identity by focusing on technological and technical thinking. Teachers' perceptions about the nature and purpose of technology education are captured and the Mātanga project addressed the questions of how it fostered understanding of the curriculum, the development of sustained professional learning and development communities and the connection with subject identity. The Mātanga project presents a comprehensive approach to developing a consolidated understanding of curriculum in context.

In their work on creative pedagogy Tanner Huffman and Melissa Zrada bring to the fore perspectives on creative activity relevant to design and technology education. Their research highlights the links to design instruction research, while acknowledging the variability in practice and raise useful questions for future research investigation into creative pedagogy. Further advocating for the role of creative activity in schools, Mart Soobik reports on a study that utilised a 55-item questionnaire with 90 teachers. The data was considered with respect to years of teaching experience and 3 cohorts were identified. Variance was recorded between more experienced teachers acknowledging the integration of creative activity in current practice, while more novice teachers reflected on the need for teaching material to support the delivery of creative activities. Insights are also presented on the disposition of students across different age groups towards creative activities.

Practice related activities are presented in a number of papers. With a focus on flexible curriculum design and innovative pedagogies, Rona Grobler and Piet Ankiewicz focus on the development and competency of final year technology student teachers while engaged with work-integrated learning. This comparative study highlights useful insights into the importance of the mentor teacher in the development of pre-service teachers and the nature of directed supports. The work of Ulla Kiviniemi captured the potential of craft education in supporting an internationalisation agenda and framed an approach that supported reciprocal interactions between student teachers (as instructors) and international students. This work demonstrated a number of areas with potential, including language-speaking practice, meaningful interactions, and cultural exchanges. In addition, this work highlights the role and stage of development of the student teacher as a factor in encouraging participants to explore and discover new ideas through the medium of handicrafts.