

Faculty of Arts and Education

**A longitudinal study of beginning teachers' pedagogical
identity and their use of ICT**

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**This thesis is presented for the Degree of
Doctor of Philosophy
of
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[Date to be added]

DECLARATION

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

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ABSTRACT

The educational policy environment in Australia explicitly supports the integration of information and communications technologies (ICT) through targeted initiatives covering infrastructure, equipment, electronic learning materials and professional development. However, for all the energy expended to encourage teachers to use ICT, it is reported that few teachers take full advantage of the significant opportunities that ICT present. A number of reasons have been cited to explain this, the most compelling of which are bound up with teachers' knowledge and skills in harnessing ICT and their beliefs about ICT and teaching itself.

This research presents a 3 year longitudinal study of a cohort of 35 beginning teachers located in Western Australia. The focus on beginning teachers is purposeful. It is suggested that this segment of the teaching profession can provide useful insights into the affordances and risks that teachers face in harnessing ICT. Beginning teachers may also provide a window into *how* ICT will be taken up in the future. The aim of the research, therefore, is to describe and explain beginning teachers' beliefs, knowledge, dispositions and skills in using ICT within the context of their school environment(s).

The research literature characterises beginning teachers as having positive self-perceptions of their ability to use ICT, and embracing contemporary, student-centred theories of learning. Given these preconditions, it might seem likely that beginning teachers would seek to integrate ICT into their teaching in innovative ways. The seven research questions that underpin and guide the research are aimed, at least in part, at confirming or challenging this assertion.

The study adopts a mixed method approach in seeking to understand and interpret the dynamic nature of participants' beliefs about teaching and their knowledge, dispositions and skills in using ICT within their socio-cultural context. A rich data set, gathered over 3 years and using qualitative and quantitative techniques, is presented to provide evidence in relation to the study's research questions. The longitudinal nature of the study provides opportunities to interpret this data set over time, adding to the strength and credibility of the research.

Participants articulated pedagogical beliefs that aimed to engage students in active meaning making. However, the way in which participants used ICT was generally limited to presentation-style teaching, completion of worksheets using a narrow range of productivity software and the use of the World Wide Web for simple inquiries or reinforcement. There was a clear mismatch between the ideals that participants claimed to hold to be important and their capacity to use ICT to help realise these ideals. Four interrelated factors are posited to explain this: lack of clarity over beliefs and how ICT can support these beliefs; variability of perceptions within schools of the affordances and risks of using ICT; embedded structural constraints that stall the creative use of ICT; and, deficiencies in technological-pedagogical-content knowledge.

The study may interest educational policy-makers, school leaders, managers, teachers and other learning professionals who are considering how to conceptualise, plan, implement and/or enhance the use of ICT within their local context. A model is presented to help educators grapple with the implications of using ICT in the classroom and explore its transformative potential.

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Glossary

Digital Education Revolution

An Australian funding initiative that seeks to contribute sustainable and meaningful change to teaching and learning in Australian schools that will prepare students for further education, training and to live and work in a digital world. ("Experience the Digital Education Revolution", 2009)

Epistemological beliefs

Beliefs about the nature of knowledge.

Government schools

Schools that are predominantly funded by government. Also called public or state schools.

ICT

Information and communications technologies. Refers to any technologies used for processing information and communicating (Anderson, 2008). This can include computers, mobile devices such as laptops, phones and iPods electronic games and software.

K-12

An expression describing the years of education between kindergarten and the final year of schooling in Australia (Year 12).

Learning Federation

The Learning Federation is a collaborative venture between all Australian states and territories.

Coordinated by the Curriculum Corporation, the purpose of the Learning Federation is to manage the national resource pool and infrastructure of digital curriculum resources.

Pedagogical beliefs

Teachers' beliefs about teaching and learning (Lim & Chai, 2008, p. 808).

Private schools

Schools that are predominantly funded by private sources. In Australia, these include catholic and independent schools.

Public schools

Schools that are predominantly funded by government. Also called government or state schools.

State schools

Schools that are predominantly funded by government. Also called government or public schools.

Statements of learning for ICT

Statements released by the Australian Commonwealth Government in 2006 that make explicit to teachers, the types of uses that ICT should be put. Five categories are identified: inquiring, creating, communicating, and operating with ICT as well as ethics, and issues associated with ICT.

Web 2.0

Refers to a perceived second generation of web-based communities and hosted services, including social networking sites (e.g. blogs, wikis, Facebook, Twitter), which facilitate collaboration and sharing between users (Sutherland, Robertson, & John, 2009).