

UNIVERSITY OF SOUTHERN QUEENSLAND

THE DEVELOPMENT OF LEARNING AND  
TEACHING STRATEGIES AND TECHNICAL  
TEXTS FOR DIVERSE GROUPS OF ADULT  
LEARNERS

A Dissertation submitted by

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# Abstract

Designing, developing and delivering effective technical education for diverse groups of adult learners is important for both the learners and the future of the technical discipline. The many nuances associated with adult learners, combined with the challenges associated with exploring technically complex topics, make effective technical education difficult to achieve. An understanding of adult learners and teaching, coupled with a robust development framework can help produce effective teaching strategies and technical texts for diverse groups of adult learners.

A literature review focusing on current research regarding adult learners was conducted to investigate some of the nuances of the adult learner. Specifically, the differences between adult learning and child learning were explored which lead to research on the role of experience in learning, the different approaches adult students typically take to learning, and the likely diversity in preferred learning styles within groups of adult learners. The literature review also investigated the role of the teacher in adult education, focusing on the need for learning facilitation in adult education. The desirable characteristics of teachers of adults were also investigated leading to an appreciation of the attitudes, attributes and approaches that teachers can take to enhance the learning experience for adults.

A conceptual framework for the development and delivery of adult education courses was proposed and explained. The framework was based on established complex problem solving principles and covered the entire lifecycle of an adult education course from the identification of a need for a course through to its delivery (and revision). The framework was based on a top-down approach to educational design. This was articulated using a *VEE* diagram that explained how the lifecycle stages (*decision, design, development, and delivery*) could build upon one another through concepts such as traceability, ongoing verification and feedback. The principles of adult learning and teaching were integrated into the framework via the activities associated with the design, development and delivery of courses.

The framework, and the information contained in the literature review, has been applied to the development of three different technical courses for three different groups of

adult learners. As a result of the application of the framework and the development of these courses, a number of technical texts has been written and published to support the courses. The adaptability and success of the framework are evidenced by the ongoing and expanded adoption of the courses to support adult education, the publication record being established by the texts, and the positive student and peer review of the adult teaching strategies employed in those courses.

It is concluded that the framework and the analyses arising from the literature review have the potential to be of value and interest to other teachers responsible for the design, development and/or delivery of adult education in technical fields.

# Certification

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

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## ENDORSEMENT

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