

**A COMPARATIVE STUDY OF THE
METAL FABRICATION AND
WELDING (HEAVY) TRADE
COURSE IN TAFE NSW BETWEEN
2001 and 2004**

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in total fulfilment of the requirements for the
degree of Doctor of Philosophy in Education**

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DECLARATION

I hereby certify that the work embodied in this thesis is the result of original research and has not been submitted for a higher degree at any other University or Institution.

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26th October 2007

ABSTRACT

This comparative study between the old Metal Fabrication and Welding (MF&W) trade course 7792 and the newly introduced MF&W trade course 3449, focuses on the data, discussions and recommendations which are likely to help establish what benefits or deficiencies this major change has had on the knowledge base of the current apprentices from the trade course. This is being accomplished by comparing the results from an exit test undertaken by stage III MF&W (Heavy) 7792 apprentices at the Hunter Institute of TAFE in 2001 and the results from exit tests for stage III MF&W (Heavy) 3449 apprentices in New South Wales (NSW) in 2004. These data are supplemented and complemented by an analysis of phone interviews with teachers of MF&W (Heavy) TAFE NSW conducted in 2005.

A comparison of the data collected from the stage III Metal Fabrication and Welding (Heavy) apprentices who completed the exit tests in 2001 with those who completed the exit tests in 2004 at TAFE NSW, showed that there was a decline in exit knowledge in the mean scores of the apprentices. When the results of Institute 1's relating to 2001 was compared with the results of 2004, the same pattern occurred, whereby it was shown that there was a decline in exit knowledge. This was due to the employers not understanding and embracing the change, or even favouring the changes. In 2004, there were no significant differences between the results of different NSW Institutes. This indicates that the level of material taught on-the-job and off-the-job did not differ across the State.

A majority of the MF&W (Heavy) Teachers in NSW who were interviewed indicated that the course did not meet industry needs. The teachers expressed the opinion that the welding component was reasonable in its outcomes but felt that the fabrication part of the course lacked substance in the drawing interpretation, trade calculations and the computer aided drawing components of the course. They preferred the old method of teaching lock-step delivery over competency based training (CBT) method and overwhelmingly indicated that the CBT method had not improved the learning outcomes of the apprentices since the changes that occurred in 1991. The findings indicate that the on-the-job

assessment of the apprentice's training was largely ineffective due to the reluctance of the employers to participate in the system. The teachers felt that this was due mainly to the fact that the employers 'tick and flick' approach (whereby the apprentices are given a pass for the competency without completing it) towards doing the assessments. A large majority of those interviewed indicated that the changes to the trade course that occurred from 2001 to 2004 did not result in any improvements in the knowledge base of the apprentices.

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