

**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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TABLE OF CONTENTS

Declaration	i
Abstract	ii
Acknowledgments	iv
Table of Contents	v
List of Figures	xii
List of Tables	xiii
List of Appendices	xv
CHAPTER ONE	
Introduction	
1.1 Focus of the Study	1
1.2 Global Trends	2
1.3 Evolution of Apprenticeship Training in Australia and New South Wales	4
1.3.1 Apprenticeships	4
1.3.2 New Apprenticeships Scheme	7
1.4 Current Trends in Apprenticeship Training	8
1.5 The Research Problem	11
1.6 The Purpose and the Specific Objectives of the Study	12
1.7 Research Methodology and the Sample	13
1.8 The Theoretical Framework for the Study	15
1.8.1 Competency Based Training (CBT)	15
1.8.2 Workplace Training and Assessment	16

1.9	Definition of Terms	18
1.10	Significance of the Study	19
1.11	Limitations of the Study	19
1.12	Format of the Study	20

CHAPTER TWO

Review of Related Literature

2.1	Introduction	21
2.2	Definition of an Apprenticeship	22
2.3	Global Influences	23
2.4	Evolution of Apprenticeship Training in Australia and New South Wales	29
2.4.1	Apprenticeships	30
2.4.2	Milestones in the development of Australian apprenticeships	32
2.4.3	Metal Industry Award 1984. Provision on the Implementation of Competency Standards Guide	47
2.4.3.1	Competency Standards	47
2.4.3.2	Classification Levels	57
2.4.3.3	Towards Higher Classification Levels	63
2.4.3.4	Additional Competency Category	65
2.4.3.5	Assessment of Competency	68
2.4.3.6	A Guide for Assessment	72
2.4.3.7	Five Themes for the Next Generation	76
2.4.4	Lifelong Learning: The Future of Public Education in NSW Report	82

2.4.4.1 Summary of issues raised in feedback	84
2.4.4.2 Main Features of Report	86
2.4.4.3 Teaching and Learning	87
2.4.4.4 TAFE and Community Education	87
2.4.4.5 TAFE Services	87
2.4.4.6 State wide TAFE service and support	87
2.4.4.7 Community Education	88
2.4.4.8 Strategic Planning and Regulation	88
2.4.4.9 Corporate Services	88
2.4.4.10 Corporate Communications	88
2.4.4.11 Office of the Director-General	89
2.4.5 Growth of apprenticeships in Australia	89
2.4.5.1 Australian apprenticeships in an international context	90
2.4.5.2 Broadening the occupational base of Australian apprenticeships	91
2.4.5.3 Changes in the level of qualifications of apprenticeships, traineeships and new apprenticeships	92
2.4.5.4 Opening up apprenticeships to all ages	92
2.4.5.5 Changing characteristics of apprentices	93
2.4.5.6 Completion and attrition rates in apprenticeships and traineeships	93
2.4.5.7 Future directions: expanding new apprenticeships	94
2.4.5.8 New Apprenticeships	95
2.4.5.9 Skilling Australia's Workforce Act 2005	95
2.5 Workplace Learning and Assessment	97

2.6	Competency Base Training in Australia	98
2.7	Metal Fabrication and Welding (Heavy) in NSW	99
2.8	Current Trends in Apprenticeship Training	106
2.8.1	Bridging the skill divide 2003	109
2.9	Summary	111

CHAPTER THREE

Research Methodology and Design

3.1	Introduction	112
3.2	Research Methodology and Design	112
3.2.1	Stage 1 of the course modules	114
3.2.2	Stage 2 of the course modules	115
3.2.3	Stage 3 of the course modules	116
3.3	Research Sample	121
3.4	Exit Test Design	122
3.4.1	Structure of the Test	122
3.4.2	Exit Test Layout	122
3.5	Phone Interview Design	124
3.5.1	Section 1 General information	124
3.5.2	Section 2 Trade Course Information	124
3.6	The Research Questions	124
3.7	Theoretical Framework of the Study	125
3.7.1	Workplace Training and Assessment	126

3.7.2	Competency Based Training	127
3.8	Summary	128

CHAPTER FOUR

Analysis of Data from the Exit Tests conducted 2001-2004 and Phone Interviews with Metal Fabrication and Welding (Heavy) TAFE NSW Teachers 2005

4.1	Introduction	129
4.2	Abbreviations and Terminologies	130
4.3	Exit Test Data of Institute 1 of TAFE 2001	131
4.4	Exit Test Data of TAFE NSW 2004	132
4.5	Different Sections of the Exit Test Results 2001	133
4.6	Different Sections of the Exit Test Results 2004	136
4.7	Exit Test Data of Institute 1 Rural and Urban TAFE NSW Campuses 2001	139
4.8	Exit Test Data of Rural and Urban TAFE NSW Campuses 2004	142
4.9	Phone Interviews of TAFE NSW MF&W (Heavy) Teachers 2005 Section 1.	146
4.9.1	Length of Teaching Service of MF&W (Heavy) Teachers Interviewed	147
4.9.2	Experience of Teaching Stage 3 MF&W (Heavy) Trade Course	147
4.9.3	Qualification of Teachers Interviewed	148
4.9.4	Phone Interview Section 2 Responses	149
4.9.5	Has the Trade Course Met Industry Needs?	149
4.9.6	Have the Welding and Fabrication Components of the Course Met Industry Needs?	149

4.9.7	Have the Changes to the Course had an Impact on the Tuition Delivery Techniques?	151
4.9.8	Improvement in Knowledge and Skills	151
4.9.9	Does the Location of Training Affect Learning Outcomes?	152
4.9.10	Was there an Increase or Decrease in Student Numbers?	152
4.9.11	Is the On-the-job Assessment Process being Correctly Implemented by Employers?	153
4.10	Summary	154

CHAPTER Five

Analysis of Results, Exit Tests and Phone Interviews 2001-2005.

5.1	Introduction	155
5.2	Exit Test	156
5.2.1	Comparison of all Exit Test Results in 2001 and 2004 (2-tailed T-Test)	156
5.2.2	Comparison of all Exit Test Results in Institute 1 2001 and 2004 (2-tailed T-Test)	157
5.2.3	Comparison between Institute 1 and other Institutes in TAFE NSW 2004 (2-tailed T-Test)	158
5.2.4	Comparison of Groups in Part A of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	159
5.2.5	Comparison of Groups in Part B of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	160
5.2.6	Comparison of Groups in Part C of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	161
5.2.7	Comparison of Groups in Part D of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	162
5.2.8	Comparison of the Urban and to Rural Texts Results in 2001 and 2004	163

5.2.9	Comparison of the Urban in Part A of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	164
5.2.10	Comparison of the Rural in Part A of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	165
5.2.11	Comparison of the Urban in Part B of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	166
5.2.12	Comparison of the Rural in Part B of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	167
5.2.13	Comparison of the Urban in Part C of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	168
5.2.14	Comparison of the Rural in Part C of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	169
5.2.15	Comparison of the Urban in Part D of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	171
5.2.16	Comparison of the Rural in Part D of the Exit Test Results in 2001 and 2004 (2-tailed T-Test)	171
5.3	Phone Interviews Descriptive Analysis	172
5.3.1	Section 1	172
5.3.2	Section 2	172
5.4	Summary	173

CHAPTER SIX

Summary, Conclusion and Recommendations

6.1	Introduction	174
6.2	Purpose and Objectives of the Study	174
6.3	Summary of the Findings	176
6.3.1	The Sections of the Exit Test Results	177
6.3.2	Urban to Rural Results	178

6.3.3	Sections of Exit Test of the Urban to Rural Results	179
6.3.4	Teacher's Response to Change	181
6.4	Conclusions	182
6.5	Recommendations	184
6.6	In conclusion	185
	Bibliography	186
	Appendices	194

LIST OF FIGURES

4.1	Institute 1 of TAFE MF&W (Heavy) Test Results 2001	132
4.2	TAFE NSW MF&W (Heavy) Exit Test Results 2004	132
4.3	Institute 1 of TAFE Exit Test Part A Results 2001	134
4.4	Institute 1 of TAFE Exit Test Part B Results 2001	134
4.5	Institute 1 of TAFE Exit Test Part C Results 2001	135
4.6	Institute 1 of TAFE Exit Test Part D Results 2001	135
4.7	TAFE NSW MF&W (Heavy) Exit Test Part A Results 2004	137
4.8	TAFE NSW MF&W (Heavy) Exit Test Part B Results 2004	137
4.9	TAFE NSW MF&W (Heavy) Exit Test Part C Results 2004	138
4.10	TAFE NSW MF&W (Heavy) Exit Test Part D Results 2004	138
4.11	Institute 1 Rural to Urban Campuses Exit Test Results 2001	139
4.12	Institute 1 Rural to Urban Campuses Exit Test Part A Results 2001	140
4.13	Institute 1 Rural to Urban Campuses Exit Test Part B Results 2001	141
4.14	Institute 1 Rural to Urban Campuses	

	Exit Test Part C Results 2001	141
4.15	Institute 1 Rural to Urban Campuses Exit Test Part D Results 2001	142
4.16	Comparison of Rural to Urban Campuses Exit Test Results 2004	143
4.17	Comparison of Rural to Urban Campuses Exit Test Part A Results 2004	143
4.18	Comparison of Rural to Urban Campuses Exit Test Part B Results 2004	144
4.19	Comparison of Rural to Urban Campuses Exit Test Part C Results 2004	145
4.20	Comparison of Rural to Urban Campuses Exit Test Part D Results 2004	145
4.21	Response Rate of MF&W (Heavy) Teachers Phone Interviews	146
4.22	MF&W (Heavy) Teachers Interviewed Years of Teaching	147
4.23	MF&W (Heavy) Teachers Years of Experience in Teaching Stage 3 of the Trade Course	148
4.24	MF&W (Heavy) Teachers Interviewed Qualifications	149
4.25	Welding Component of Trade Course needs Improvement	150
4.26	Fabrication Component of Trade Course needs Improvement	150
4.27	Implementation of on-the-job Assessment Processes Correctly	153

LIST OF TABLES

4.1	Apprentice Response Rate Institute 1 of TAFE 2001	131
4.2	Institute 1 of TAFE NSW Exit Test Results 2001	133
4.3	The Exit Test Results 2004	136
4.4	Rural and Urban Campuses Exit Test Results 2001	139

4.5	Rural and Urban Campuses Exit Test Results 2004	142
5.1	Comparison of all Exit Test Results in 2001 and 2004	157
5.2	Comparison of the Exit Test Results in Institute 1 2001 and 2004	158
5.3	Comparison of Exit Test Results between Institute 1 and other Institutes in TAFE NSW 2004	159
5.4	Comparison of Groups in Part A of the Exit Test Results in 2001 and 2004	160
5.5	Comparison of Groups in Part B of the Exit Test Results in 2001 and 2004	161
5.6	Comparison of Groups in Part C of the Exit Test Results in 2001 and 2004	162
5.7	Comparison of Groups in Part D of the Exit Test Results in 2001 and 2004	163
5.8	Comparison of Urban to Rural Exit Test Results in 2001 and 2004	164
5.9	Comparison of Urban Part A Exit Test Results in 2001 and 2004	165
5.10	Comparison of Rural Part A Exit Test Results in 2001 and 2004	166
5.11	Comparison of Urban Part B Exit Test Results in 2001 and 2004	167
5.12	Comparison of Rural Part B Exit Test Results in 2001 and 2004	168
5.13	Comparison of Urban Part C Exit Test Results in 2001 and 2004	169
5.14	Comparison of Rural Part C Exit Test Results in 2001 and 2004	170
5.15	Comparison of Urban Part D Exit Test Results in 2001 and 2004	171

5.16 Comparison of Rural Part D Exit Test Results in 2001 and 2004	172
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LIST OF APPENDICES

Appendix “A”	194
List of Figures	
Figure A 1 TAFE New South Wales Institutes’ Geographical Boundaries	195
Figure A 2 Hunter Institute of TAFE	195
Figure A 3 New England Institute of TAFE	196
Figure A 4 North Coast Institute of TAFE	196
Figure A 5 Riverina Institute of TAFE	197
Figure A 6 Southern Western Sydney Institute of TAFE	197
Figure A 7 Western Sydney Institute of TAFE	198
Figure A 8 Western Institute of TAFE	198
Figure A 9 Illawarra Institute of TAFE	199
Figure A 10 North Sydney Institute of TAFE	199
Figure A 11 Southern Sydney Institute of TAFE	200
Appendix “B”	201
Table B 1 Institute 1 of TAFE Metal Fabrication and Welding (Heavy) Course Plans 7792	202
Table B 2 Institute 1 of TAFE Metal Fabrication and Welding (Heavy) Course Plans 3449	203
Appendix “C”	204
Table C 1 Institute 1 of TAFE Metal Fabrication and Welding (Heavy) Training Plan 3449	205

Stage 1 of the course modules	207
Stage 2 of the course modules	208
Stage 3 of the course modules	209
Competencies used in the MF&W Trade Course	211
Appendix “D”	
Administration Sheets for Phone Interviews of Teaching Staff	222
Copy of the Letter to Snr Head and Head Teachers	223
Copy of the Letter to Teachers	225
Appendix “E”	227
Phone Interview Design	228
Section 1 General Information – Question Explanations	228
Section 2 Trade Course Information – Question Explanations	229
Phone Interview Question Sheet	232
Appendix “F”	237
Phone Interview Data	238
Appendix “G”	241
Administration Sheet for Exit Test	242
Appendix “H”	243
Apprentice Information Sheet on the Exit Test	244
Appendix “I”	
Letters to the Institute Directors, Faculty Directors and Senior/ Head Teachers of Engineering and Manufacturing Areas in NSW	245
Copy of the Letter to Institute Director	246
Copy of the Letter to Faculty Director	247

Copy of the Letter to Snr Head and Head Teachers	250
Appendix “J”	
Exit Test Data 2001	251
List of Figures	
Figure J.1 Campus 1 Exit Test Results 2001	253
Figure J.2 Campus 1 Exit Test Part A Results 2001	254
Figure J.3 Campus 1 Exit Test Part B Results 2001	254
Figure J.4 Campus 1 Exit Test Part C Results 2001	255
Figure J.5 Campus 1 Exit Test Part D Results 2001	255
Figure J.6 Campus 2 Exit Test Results 2001	257
Figure J.7 Campus 2 Exit Test Part A Results 2001	257
Figure J.8 Campus 2 Exit Test Part B Results 2001	258
Figure J.9 Campus 2 Exit Test Part C Results 2001	258
Figure J.10 Campus 2 Exit Test Part D Results 2001	259
Figure J.11 Campus 3 Exit Test Results 2001	260
Figure J.12 Campus 3 Exit Test Part A Results 2001	261
Figure J.13 Campus 3 Exit Test Part B Results 2001	261
Figure J.14 Campus 3 Exit Test Part C Results 2001	262
Figure.J.15 Campus 3 Exit Test Part D Results 2001	262
Figure J.16 Campus 4 Exit Test Results 2001	264
Figure J.17 Campus 4 Exit Test Part A Results 2001	264
Figure J.18 Campus 4 Exit Test Part B Results 2001	265
Figure J.19 Campus 4 Exit Test Part C Results 2001	265
Figure.J.20 Campus 4 Exit Test Part D Results 2001	266

Figure J.21 Campus 5 Exit Test Results 2001	267
Figure J.22 Campus 5 Exit Test Part A Results 2001	268
Figure J.23 Campus 5 Exit Test Part B Results 2001	268
Figure J.24 Campus 5 Exit Test Part C Results 2001	269
Figure.J.25 Campus 5 Exit Test Part D Results 2001	269

List of Tables

Table J.1 Campus 1 Exit Test Results 2001	253
Table J.2 Campus 1 Exit Test Part A Results 2001	253
Table J.3 Campus 1 Exit Test Part B Results 2001	254
Table J.4 Campus 1 Exit Test Part C Results 2001	255
Table J.5 Campus 1 Exit Test Part D Results 2001	255
Table J.6 Campus 2 Exit Test Results 2001	256
Table J.7 Campus 2 Exit Test Part A Results 2001	257
Table J.8 Campus 2 Exit Test Part B Results 2001	258
Table J.9 Campus 2 Exit Test Part C Results 2001	258
Table J.10 Campus 2 Exit Test Part D Results 2001	259
Table J.11 Campus 3 Exit Test Results 2001	260
Table J.12 Campus 3 Exit Test Part A Results 2001	261
Table J.13 Campus 3 Exit Test Part B Results 2001	261
Table J.14 Campus 3 Exit Test Part C Results 2001	262
Table.J.15 Campus 3 Exit Test Part D Results 2001	262
Table J.16 Campus 4 Exit Test Results 2001	263

Table J.17 Campus 4 Exit Test Part A Results 2001	264
Table J.18 Campus 4 Exit Test Part B Results 2001	265
Table J.19 Campus 4 Exit Test Part C Results 2001	265
Table.J.20 Campus 4 Exit Test Part D Results 2001	266
Table J.21 Campus 5 Exit Test Results 2001	267
Table J.22 Campus 5 Exit Test Part A Results 2001	268
Table J.23 Campus 5 Exit Test Part B Results 2001	268
Table J.24 Campus 5 Exit Test Part C Results 2001	269
Table.J.25 Campus 5 Exit Test Part D Results 2001	269
Table.J.26 Institute 1 of TAFE MF&W (Heavy) Exit Test Results 2001	270
Table.J.27 Institute 1 of TAFE Exit Test Part A Results 2001	270
Table.J.28 Institute 1 of TAFE Exit Test Part B Results 2001	270
Table.J.29 Institute 1 of TAFE Exit Test Part C Results 2001	270
Table.J.30 Institute 1 of TAFE Exit Test Part D Results 2001	270
Table.J.31 Rural and Urban Campuses Marks Part A 2001	270
Table.J.32 Rural and Urban Campuses Marks Part B 2001	270
Table.J.33 Rural and Urban Campuses Marks Part C 2001	270
Table.J.34 Rural and Urban Campuses Marks Part D 2001	270
Appendix “K” Exit Test Data 2004	271
List of Figures	
Figure K.1 Campus 1 Combined Group Exit Test Results 2004	273
Figure K.2 Campus 1 Group 1 Exit Test Part A Results 2004	273

Figure K 3 Campus 1 Group 1 Exit Test Part B Results 2004	274
Figure K 4 Campus 1 Group 1 Exit Test Part C Results 2004	274
Figure K 5 Campus 1 Group 1 Exit Test Part D Results 2004	275
Figure K 6 Campus 1 Group 2 Exit Test Part A Results 2004	276
Figure K 7 Campus 1 Group 2 Exit Test Part B Results 2004	276
Figure K 8 Campus 1 Group 2 Exit Test Part C Results 2004	277
Figure K 9 Campus 1 Group 2 Exit Test Part D Results 2004	277
Figure K10 Campus 1 Combined Exit Test Part A Results 2004	278
Figure K11 Campus 1 Combined Exit Test Part B Results 2004	278
Figure K12 Campus 1 Combined Exit Test Part C Results 2004	279
Figure K13 Campus 1 Combined Exit Test Part D Results 2004	279
Figure K 14 Campus 2 Exit Test Results 2004	280
Figure K 15 Campus 2 Exit Test Part A Results 2004	281
Figure K 16 Campus 2 Exit Test Part B Results 2004	281
Figure K 17 Campus 2 Exit Test Part C Results 2004	282
Figure K 18 Campus 2 Exit Test Part D Results 2004	282
Figure K 19 Campus 4 Exit Test Results 2004	284
Figure K 20 Campus 4 Exit Test Part A Results 2004	284
Figure K 21 Campus 4 Exit Test Part B Results 2004	285
Figure K 22 Campus 4 Exit Test Part C Results 2004	285
Figure K 23 Campus 4 Exit Test Part D Results 2004	286
Figure K 24 Campus 5 Exit Test Results 2004	287
Figure K 25 Campus 5 Exit Test Part A Results 2004	288
Figure K 26 Campus 5 Exit Test Part B Results 2004	288

Figure K 27 Campus 5 Exit Test Part C Results 2004	289
Figure K 28 Campus 5 Exit Test Part D Results 2004	289
Figure K 29 Campus 7 Exit Test Results 2004	291
Figure K 30 Campus 7 Exit Test Part A Results 2004	291
Figure K 31 Campus 7 Exit Test Part B Results 2004	292
Figure K 32 Campus 7 Exit Test Part C Results 2004	292
Figure K 33 Campus 7 Exit Test Part D Results 2004	293
Figure K 34 Campus 8 Exit Test Results 2004	295
Figure K 35 Campus 8 Exit Test Part A Results 2004	295
Figure K 36 Campus 8 Exit Test Part B Results 2004	296
Figure K 37 Campus 8 Exit Test Part C Results 2004	296
Figure K 38 Campus 8 Exit Test Part D Results 2004	297
Figure K 39 Campus 9 Exit Test Results 2004	298
Figure K 40 Campus 9 Exit Test Part A Results 2004	299
Figure K 41 Campus 9 Exit Test Part B Results 2004	299
Figure K 42 Campus 9 Exit Test Part C Results 2004	300
Figure K 43 Campus 9 Exit Test Part D Results 2004	300
Figure K 44 Campus 10 Exit Test Results 2004	302
Figure K 45 Campus 10 Exit Test Part A Results 2004	302
Figure K 46 Campus 10 Exit Test Part B Results 2004	303
Figure K 47 Campus 10 Exit Test Part C Results 2004	303
Figure K 48 Campus 10 Exit Test Part D Results 2004	304
Figure K 49 Campus 11 Exit Test Results 2004	305

Figure K 50 Campus 11 Exit Test Part A Results 2004	306
Figure K 51 Campus 11 Exit Test Part B Results 2004	306
Figure K 52 Campus 11 Exit Test Part C Results 2004	307
Figure K 53 Campus 11 Exit Test Part D Results 2004	307

List of Tables

Table K 1 Campus 1 Combined Group Exit Test Results 2004	272
Table K 2 Campus 1 Group 1 Exit Test Part A Results 2004	273
Table K 3 Campus 1 Group 1 Exit Test Part B Results 2004	274
Table K 4 Campus 1 Group 1 Exit Test Part C Results 2004	274
Table K 5 Campus 1 Group 1 Exit Test Part D Results 2004	275
Table K 6 Campus 1 Group 2 Exit Test Part A Results 2004	275
Table K 7 Campus 1 Group 2 Exit Test Part B Results 2004	276
Table K 8 Campus 1 Group 2 Exit Test Part C Results 2004	276
Table K 9 Campus 1 Group 2 Exit Test Part D Results 2004	277
Table K10 Campus 1 Combined Exit Test A Results 2004	278
Table K11 Campus 1 Combined Exit Test B Results 2004	278
Table K12 Campus 1 Combined Exit Test C Results 2004	278
Table K13 Campus 1 Combined Exit Test D Results 2004	279
Table K 14 Campus 2 Exit Test Results 2004	280
Table K 15 Campus 2 Exit Test Part A Results 2004	281
Table K 16 Campus 2 Exit Test Part B Results 2004	281
Table K 17 Campus 2 Exit Test Part C Results 2004	282
Table K 18 Campus 2 Exit Test Part D Results 2004	282

Table K 19 Campus 4 Exit Test Results 2004	283
Table K 20 Campus 4 Exit Test Part A Results 2004	284
Table K 21 Campus 4 Exit Test Part B Results 2004	285
Table K 22 Campus 4 Exit Test Part C Results 2004	285
Table K 23 Campus 4 Exit Test Part D Results 2004	286
Table K 24 Campus 5 Exit Test Results 2004	287
Table K 25 Campus 5 Exit Test Part A Results 2004	287
Table K 26 Campus 5 Exit Test Part B Results 2004	288
Table K 27 Campus 5 Exit Test Part C Results 2004	289
Table K 28 Campus 5 Exit Test Part D Results 2004	289
Table K 29 Campus 7 Exit Test Results 2004	290
Table K 30 Campus 7 Exit Test Part A Results 2004	291
Table K 31 Campus 7 Exit Test Part B Results 2004	292
Table K 32 Campus 7 Exit Test Part C Results 2004	292
Table K 33 Campus 7 Exit Test Part D Results 2004	293
Table K 34 Campus 8 Exit Test Results 2004	294
Table K 35 Campus 8 Exit Test Part A Results 2004	295
Table K 36 Campus 8 Exit Test Part B Results 2004	296
Table K 37 Campus 8 Exit Test Part C Results 2004	296
Table K 38 Campus 8 Exit Test Part D Results 2004	297
Table K 39 Campus 9 Exit Test Results 2004	298
Table K 40 Campus 9 Exit Test Part A Results 2004	299
Table K 41 Campus 9 Exit Test Part B Results 2004	299
Table K 42 Campus 9 Exit Test Part C Results 2004	300

Table K 43 Campus 9 Exit Test Part D Results 2004	300
Table K 44 Campus 10 Exit Test Results 2004	301
Table K 45 Campus 10 Exit Test Part A Results 2004	302
Table K 46 Campus 10 Exit Test Part B Results 2004	303
Table K 47 Campus 10 Exit Test Part C Results 2004	303
Table K 48 Campus 10 Exit Test Part D Results 2004	304
Table K 49 Campus 11 Exit Test Results 2004	305
Table K 50 Campus 11 Exit Test Part A Results 2004	305
Table K 51 Campus 11 Exit Test Part B Results 2004	306
Table K 52 Campus 11 Exit Test Part C Results 2004	307
Table K 53 Campus 11 Exit Test Part D Results 2004	307
Table K54 TAFE NSW MF&W (Heavy) Part A Results 2004	308
Table K55 TAFE NSW MF&W (Heavy) Part B Results 2004	308
Table K56 TAFE NSW MF&W (Heavy) Part C Results 2004	308
Table K57 TAFE NSW MF&W (Heavy) Part D Results 2004	308
Table K58 Rural and Urban Campuses Marks Part A 2004	308
Table K59 Rural and Urban Campuses Marks Part B 2004	308
Table K60 Rural and Urban Campuses Marks Part C 2004	308
Table K61 Rural and Urban Campuses Marks Part D 2004	308
Appendix "L"	
Clause 6E of the Metal Industry Award-Part 1.	309
6E- Classification/Reclassification	310
Facilitation of Implementation	313
Table L1. Award Classification Levels	315

Appendix “M”	
Stage Three Metal Fabrication and Welding (Heavy) Exit Test	317
Section A Multiple Choice Questions	320
Section B Short Answer Questions	329
Section C Calculation Problems	332
Section D Development Sketches	334
Appendix “N”	
Exit Test Question Explanations	337
Section A Multiple Choice Questions	338
Section B Short Answer Questions	353
Section C Calculation Problems	354
Section D Development Sketches	356