

NATIONAL VOCATIONAL EDUCATION  
AND TRAINING RESEARCH PROGRAM

## TECHNICAL PAPER

# Student load and employment outcomes attached to mid-level qualifications

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**Australian Government**

**Department of Industry, Innovation,  
Climate Change, Science, Research  
and Tertiary Education**





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The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Australian Government, state and territory governments or NCVER.

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# About the research

## *Student load and employment outcomes attached to mid-level qualifications*

Gavin Moodie, RMIT University and Nick Fredman, The University of Melbourne

This technical paper is part of a wider three-year program of research, 'Vocations: the link between post-compulsory education and the labour market', which is investigating the educational and occupational paths that people take and how their study relates to their work. It is specifically interested in exploring trends in mid-level qualifications (diplomas, advanced diplomas and associate degrees) over time.

The paper uses data on vocational education and training (VET) and higher education enrolments as well as student outcomes and destinations surveys to analyse these trends. It looks particularly at the share of student load of these qualifications by comparison with certificate IVs and bachelor degrees. The next part of the research will further investigate how mid-level qualifications are being used by different industry sectors in education and the workplace.

## Key messages

- Contrary to popular belief that diplomas are being displaced by bachelor degrees, from 2002 to 2011 diplomas in the VET sector maintained their share of student load, whereas bachelor degrees lost 4.5 percentage points of their load.
- Student load for diplomas and advanced diplomas in the VET sector was relatively stable between 2002 and 2007. Diplomas in particular have grown strongly since 2007.
- The share of student load attaching to diplomas and advanced diplomas varies remarkably for different fields of education. The four largest fields are: management and commerce; society and culture; health; and creative arts.

This suggests that changes are due to factors in the particular field of education and industry area, rather than the characteristics of the qualification type.

Tom Karmel  
Managing Director, NCVET



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# Introduction

This technical paper has been prepared as part of a three-year consortium research program entitled 'Vocations: the link between post-compulsory education and the labour market'. There are three strands in the project: the first focuses on entry to vocations and how to improve occupational and further study outcomes from entry-level vocational education and training (VET). The second focuses on the role of educational institutions in fostering vocations and how to improve occupational outcomes and educational pathways in vocational education and between vocational and higher education. The third focuses on understanding the nature of vocations, their potential improvement and the development and use of skills in four broad industries. This technical paper is part of strand 2. It explores available data to analyse the changing patterns of enrolments in mid-level qualifications and their employment outcomes. It will be further complemented by work in the project that will examine data from the 2011 Student Outcomes Survey to investigate in more detail the employment, occupation and skill level outcomes of 2010 vocational graduates after training, by field and level of qualification.

In the project's 2011 synthesis discussion paper (Wheelahan, Moodie & Buchanan 2012) it was noted that the diploma has been a mid-level qualification, preparing graduates for mid-level occupations, and that it also has been a 'cross over' qualification between vocational and higher education (Karmel & Nguyen 2003). In 2008 the Council of Australian Governments (COAG; 2008, p.7) 'agreed to double the number of higher qualification completions (diploma and advanced diploma) between 2009 and 2020'. However, the project's synthesis discussion paper noted Karmel's (2008) observation that diploma enrolments had been static from 2003 to 2007 and that diploma graduates' occupation progression was being displaced by bachelor graduates. The paper further noted Karmel's (2010) finding that many of the jobs that required diplomas as the entry-level qualification now require degrees and diploma and degree graduates now compete for the same jobs.

Karmel's findings were based on enrolment data from 2002 to 2007 and on census data on the jobs that possessors of differing qualifications held. As will be seen below, the patterns in enrolment evident from 2002 to 2007 have not necessarily continued from 2008. This paper considers patterns of enrolment in tertiary education by level and field of qualification. To further examine the contention that diplomas are being displaced by degrees in the labour market, the employment rates of graduates by level and field of qualification are also considered. This examination is part of the vocations project's analysis of the links between education and work and, in particular, its investigation of the current role of mid-level qualifications and the potential role of such qualifications in improving the flows in and between education and work (Wheelahan, Moodie & Buchanan 2012).

Although Karmel argued that diploma graduates were being displaced by bachelor graduates in employment, it is also worth examining whether diplomas are being displaced by associate degrees, which have increased very strongly since 2005, despite remaining a small proportion of enrolments in mid-level qualifications. It is also possible that diplomas are losing enrolment share to certificates. Furthermore, it is possible that enrolments in one level change independently of enrolments in other

levels. This paper therefore compares enrolments in these qualifications, which are understood to be mid-level qualifications:

- certificate IV
- diploma
- advanced diploma
- associate degree
- bachelor degree.

This paper uses National Centre for Vocational Education Research (NCVER) and Commonwealth enrolment data from the Student Outcomes Survey and the Graduate Destination Survey respectively. Note that NCVER enrolment figures for 2011 were adjusted slightly in August 2012, after the data for this paper were extracted. The actual figures for VET enrolments in 2011 may then be slightly different from those presented here, but this does not affect the overall analyses and arguments.

The present paper complements Karmel (forthcoming), who uses 2006 census data to examine the employment outcomes of diploma graduates. This technical paper offers a broad description of trends in Australian mid-level qualifications over time.

# Mid-level qualifications: student load

We first consider certificate IV, diploma, advanced diploma, associate degree, bachelor (pass) and bachelor (honours) full-year training equivalents (student load) reported by NCVET from 2002 to 2011 (table 1). We note that the vocational advanced diploma load fell by 4% over the period. However, since Karmel (2008) questioned what has been happening to VET diplomas and advanced diplomas, the vocational diploma load has increased substantially: increasing by 68% from 2002 to 2011, a net increase of 49% in the student load of all vocational diplomas from 2002 to 2011. However, the student load in certificate IV increased by a significant 83%.

**Table 1 Mid-level qualification student load reported by NCVET by broad program level, 2002–11**

Year	Certificate IV	Diploma	Advanced diploma	Sub-total VET diplomas	Associate degree	Bachelor degree (pass)	Bachelor degree (honours)
2002	71 891	75 122	27 423	102 545	24	731	0
2003	75 775	74 492	28 145	102 637	0	938	3
2004	74 903	72 701	25 388	98 089	0	1 028	14
2005	74 567	74 189	24 565	98 755	0	1 036	57
2006	77 429	75 232	23 483	98 714	113	1 041	17
2007	82 753	79 619	21 905	101 525	157	528	0
2008	84 037	84 797	21 755	106 552	0	526	0
2009	100 531	96 422	25 441	121 863	91	1 358	0
2010	114 813	113 232	26 995	140 227	94	1 212	0
2011	131 289	126 248	26 362	152 610	72	1 310	0
<b>Change 2002–11</b>	<b>59 399</b>	<b>51 126</b>	<b>-1 061</b>	<b>50 065</b>	<b>47</b>	<b>580</b>	<b>0</b>
<b>% change 2002–11</b>	<b>83</b>	<b>68</b>	<b>-4</b>	<b>49</b>	<b>195</b>	<b>79</b>	<b>0</b>

Source: VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Next we consider undergraduate student load reported by the Department of Industry, Innovation, Science, Research and Tertiary Education (table 2). This table includes student load in mixed field programs, which are less than 1% of total load. There's probably some double-counting of bachelor student load reported by NCVET (shown in table 1) and the bachelor student load reported by the Department of Industry, Innovation, Science, Research and Tertiary Education (shown in table 2). The Department of Industry, Innovation, Science, Research and Tertiary Education reported that non-table A/B providers had a load of 22 162 EFTSL<sup>1</sup> in baccalaureates in 2011. 'Non-table A/B providers' refers to all non-self-accrediting higher education providers and includes any providers which also reported to NCVET. Bachelor student load reported to NCVET increased by 79% from 2002 to 2011 but was still only 0.2% of total undergraduate load in 2011 and so any double-counting is unlikely to significantly affect the proportions of load in other undergraduate programs.

'Other undergraduate' includes mostly higher education diplomas and advanced diplomas, and these increased strongly from 2002 to 2011. Even larger has been the almost fivefold increase in student load in associate degrees, although these were still only 1% of total undergraduate higher education

<sup>1</sup> EFTSL = equivalent full-time student load.

load in 2011. Nonetheless, baccalaureates remain 96% of higher education undergraduate student load.

**Table 2 Undergraduate student load reported by the Commonwealth by broad program level, 2002–11**

Year	Other undergraduate	Associate degree	Bachelor	Total undergraduate higher education
2002	8 083	1 175	487 866	497 124
2003	7 838	1 031	499 701	508 570
2004	5 769	913	504 658	511 340
2005	5 687	1 778	512 858	520 323
2006	5 003	3 479	525 717	534 199
2007	14 994	3 991	542 602	561 587
2008	18 373	5 194	559 440	583 007
2009	20 990	5 207	598 245	624 442
2010	23 294	6 640	634 179	664 113
2011	21 500	6 891	655 250	683 641
<b>Change 2002–11</b>	<b>13 417</b>	<b>5 716</b>	<b>167 384</b>	<b>186 517</b>
<b>% change 2002–11</b>	<b>166</b>	<b>486</b>	<b>34</b>	<b>38</b>

Source: Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.1).

The vocational and higher education student load in associate degrees and baccalaureates shown in tables 1 and 2 are aggregated to give the mid-level qualification student load shown in table 3.

**Table 3 Mid-level qualification student load, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	Sub-total VET diplomas	HE other undergraduate	Associate degree	Bachelor
2002	71 891	75 122	27 423	102 545	8 083	1 199	488 597
2003	75 775	74 492	28 145	102 637	7 838	1 031	500 642
2004	74 903	72 701	25 388	98 089	5 769	913	505 700
2005	74 567	74 189	24 565	98 755	5 687	1 778	513 951
2006	77 429	75 232	23 483	98 714	5 003	3 592	526 775
2007	82 753	79 619	21 905	101 525	14 994	4 148	543 130
2008	84 037	84 797	21 755	106 552	18 373	5 194	559 966
2009	100 531	96 422	25 441	121 863	20 990	5 298	599 603
2010	114 813	113 232	26 995	140 227	23 294	6 734	635 391
2011	131 289	126 248	26 362	152 610	21 500	6 963	656 560
<b>Change 2002–11</b>	<b>59 399</b>	<b>51 126</b>	<b>-1 061</b>	<b>50 065</b>	<b>13 417</b>	<b>5 764</b>	<b>167 963</b>
<b>% change 2002–11</b>	<b>83</b>	<b>68</b>	<b>-4</b>	<b>49</b>	<b>166</b>	<b>481</b>	<b>34</b>

Source: Calculated from tables 1 and 2.

Table 4 shows certificate IV, diploma, advanced diploma, associate degree and baccalaureate programs' share of the student load of these mid-level programs from 2002 to 2011. It will be noted that, while advanced diplomas lost a 1.2-percentage-point share of load of these programs, diplomas increased their share by 1.6 points, giving a net increase for all vocational diplomas of 0.4. If higher education's 'other undergraduate' student load is mostly higher education diplomas, all diplomas have increased their share of mid-level qualification student load by 1.3 percentage points from 2002 to 2011. Diplomas' share of mid-level qualifications has not been reduced by baccalaureates'

increased share: baccalaureates have lost 4.5-percentage-point share since 2002. It will be noted that baccalaureates lost their share of mid-level qualifications even after 2009 when higher education bachelor enrolments were starting to increase strongly with the phased introduction of the demand-driven system. Certificate IVs increased their share of mid-level qualifications student load markedly, by 2.4 percentage points.

**Table 4 Mid-level qualification share of student load, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	Sub-total VET diplomas	HE other undergraduate	Associate degrees	Bachelor
2002	9.3	9.7	3.5	13.2	1.0	0.2	63.1
2003	9.6	9.4	3.6	13.0	1.0	0.1	63.3
2004	9.6	9.3	3.2	12.5	0.7	0.1	64.5
2005	9.4	9.3	3.1	12.4	0.7	0.2	64.8
2006	9.6	9.3	2.9	12.2	0.6	0.4	65.0
2007	9.8	9.4	2.6	12.0	1.8	0.5	64.0
2008	9.5	9.6	2.5	12.1	2.1	0.6	63.6
2009	10.4	9.9	2.6	12.6	2.2	0.5	61.8
2010	10.8	10.7	2.5	13.2	2.2	0.6	59.9
2011	11.7	11.3	2.4	13.6	1.9	0.6	58.5
<b>Change 2002–11</b>	<b>2.4</b>	<b>1.6</b>	<b>-1.2</b>	<b>0.4</b>	<b>0.9</b>	<b>0.5</b>	<b>-4.5</b>

Source: Calculated from table 3.

# Mid-level qualifications: employment outcomes

One possibility is that changes in student load are related to changes in employment outcomes. In this section we visually examine the relationship between student load and the mid-level qualification employment rate by plotting the measures together. The general and descriptive examination of student load and graduate employment rates undertaken here follows that of Aamodt and Arnesen (1995). A more analytic approach, which seeks more formal evidence of a causal relation by regressing one time series against a time lag of another time series, is precluded here because the yearly observations between 2002 and 2011 are too few to generate robust results.

Employment data for higher education graduates are available from the Graduate Destination Survey, which is administered some four months after graduates complete their program. Table 5 shows the proportion of bachelor graduates who reported being employed full-time. Only around half of bachelor graduates are employed full-time four months after graduation. While this seems rather low, very high proportions of bachelor graduates proceed to further study, particularly arts and science graduates who proceed to postgraduate study in education, law and other vocational fields.

**Table 5 Estimated bachelor degree graduates in full-time employment, 2002–11**

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
53.2	53.7	52.9	54.5	54.7	56.5	56.4	52.2	49.3	49.4

Source: Derived from Graduate Destination Survey.

Perhaps a better indicator of employment outcomes for bachelor graduates is the number of graduates in full-time employment as a percentage of graduates available for full-time employment. These are set out in table 6.

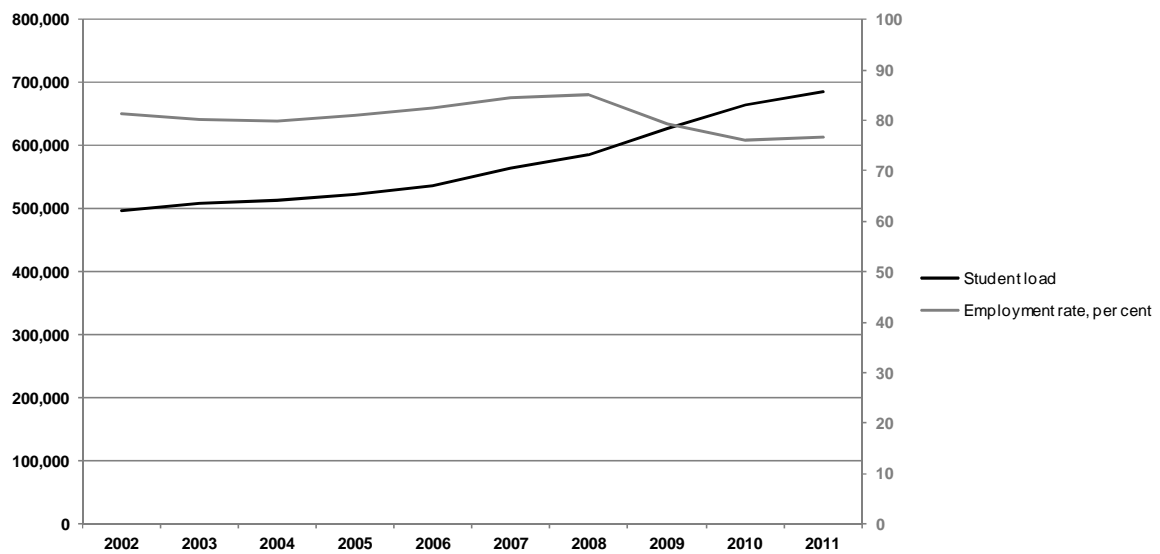
**Table 6 Bachelor degree graduates in full-time employment as a percentage of graduates available for full-time employment, 2002–11**

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
81.3	80.1	79.7	80.9	82.4	84.5	85.2	79.2	76.2	76.6

Source: Graduate Careers Australia (2011, table 2).

Figure 1 shows baccalaureate student load on the same graph as the employment rate. It will be noted that both bachelor student load and bachelor graduate employment rate increased gradually from 2002 to 2008, but changed markedly after the onset of the Global Financial Crisis in 2007, when the bachelor employment rate fell sharply and the growth in baccalaureate student load increased markedly.

**Figure 1 Baccalaureate student load and graduates employed full-time as a percentage of those available for full-time employment, 2002–11**

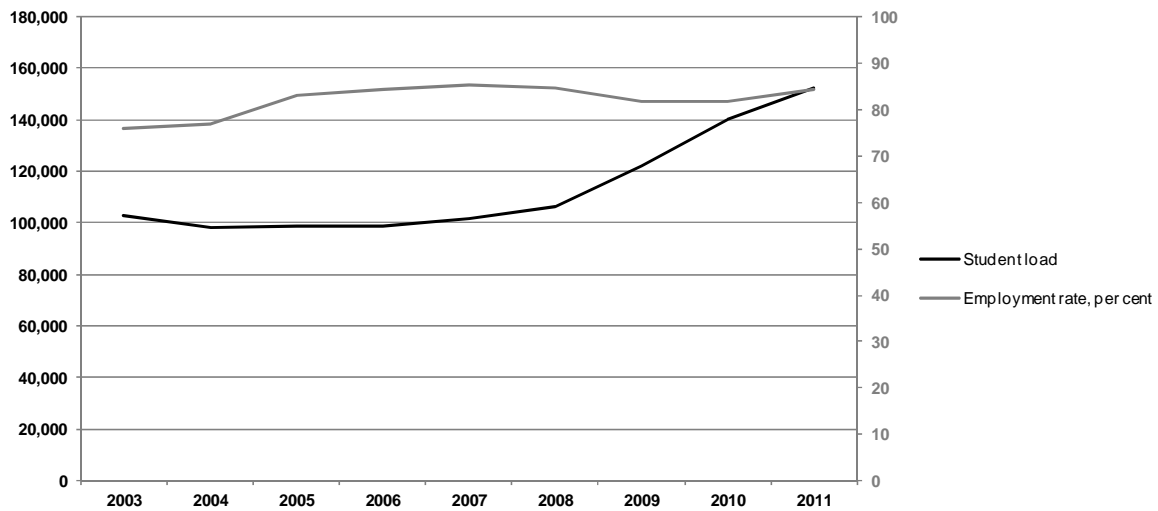


Source: As for tables 1 and 6.

Employment data for vocational education graduates are available from the Student Outcomes Survey. Unfortunately the vocational and higher education employment data are collected and reported differently, so they can't be compared with each other. The Graduate Careers Australia survey of higher education outcomes distinguishes between those working part-time and looking for full-time work and those working part-time and not looking for full-time work. Unfortunately, NCVER's Student Outcomes Survey, which measures vocational education student outcomes, does not make this distinction in measuring the full-time employment rate. Hence for the vocational education data the proportion employed at all is used for simplicity. Also note that the scope of the Student Outcomes Survey changed in 2005. Prior to 2005, this survey only included students who had studied in Commonwealth- or state-funded programs through TAFE (technical and further education) and other public providers. From 2005 the survey also included publicly funded students in private providers and fee-for-service students at public and community providers. Although the results for the two sectors can't be compared directly, we can compare results for each survey over time. Vocational student outcomes data are available from 2003. For clarity of presentation, data are aggregated for graduates of diplomas and above. While this includes baccalaureates and vocational graduate certificates as well as diplomas, diplomas are the big majority of these graduates and thus dominate employment rates. Figure 2 plots student load for vocational diploma and above and the proportion of vocational diplomas and above graduates employed after training for 2003 to 2011. There doesn't seem to be a good relation between student load and employment rate. But, as with baccalaureates, shown in figure 1, student load for vocational diplomas and above increased markedly following the onset of the Global Financial Crisis after 2007.



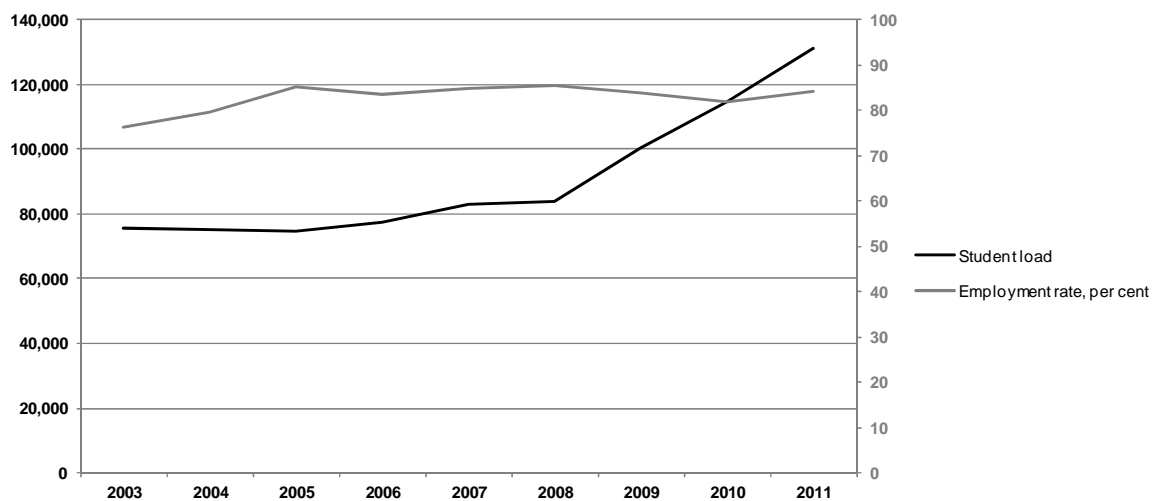
**Figure 2 Vocational diploma and above student load and percentage of graduates employed after training, 2003–11**



Source: VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); NCVER (2003, 2004).

The results for certificate IVs are given in figure 3. Again, it doesn't show a strong relation between student load and employment. Indeed, the most striking aspect of figure 3 is the stability of the certificate IV employment rate, notwithstanding a strong increase in student load after 2007.

**Figure 3 Certificate IV student load and percentage of graduates employed after training, 2003–11**



Source: VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); NCVER (2003, 2004).

The graphs of student load and employment rates for baccalaureates, diplomas and certificate IVs show little relation between student load and employment rate. However, these figures for all fields may disguise larger relations for at least some fields of education. We now examine the same data by broad field of education to determine whether there are any distinctive patterns by field or industry.

# Summary student load data by broad field of education

The following tables consider student load by field of education, excluding mixed field programs as these have an indeterminate field. The totals therefore don't match those in the earlier tables that included mixed field programs. The broad fields of education with the largest student loads in mid-level qualifications in 2011 were society and culture (237 699 equivalent full-time students) and management and commerce (213 918) (table 7). Health was also large, with 115 057 equivalent full-time students. Small fields were food, hospitality and personal services (10 966) and agriculture, environmental and related studies (16 089). Diplomas are very important in food and hospitality, where they account for 34% of all mid-level qualification student load, and in agriculture, environmental and related studies (28%). Diplomas are substantial in architecture and building (20%), management and commerce (17%), society and culture (14%), creative arts (14%), health (14%) and information technology (10%). Advanced diplomas are substantial in engineering and related technologies, where they are 8.8% of all mid-level qualification student load, and architecture and building (8.7%), and are sizeable in management and commerce (4.9%), creative arts (4.4%), and agriculture, environmental and related studies (3.3%).

**Table 7 Mid-level qualification student load by qualification level and broad field, 2011**

Broad field	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
Agriculture, environmental studies	3 274	4 499	535	310	7 471	16 089
Architecture and building	6 488	5 927	2 583	165	14 663	29 826
Creative arts	8 275	11 533	3 665	3 273	56 348	83 094
Education	9 059	809	39	499	43 793	54 198
Engineering and related	12 620	6 146	6 172	2 089	42 911	69 939
Food, hospitality, personal	6 089	3 680	0	181	1 016	10 966
Health	9 363	15 826	726	868	88 274	115 057
Information technology	7 042	4 332	601	4 275	26 611	42 861
Management and commerce	34 868	37 255	10 426	8 250	123 119	213 918
Natural and physical sciences	1 784	1 850	102	2 355	84 816	90 906
Society and culture	27 122	33 704	1 512	8 058	167 302	237 699
<b>Total</b>	<b>125 984</b>	<b>125 561</b>	<b>26 361</b>	<b>30 323</b>	<b>656 324</b>	<b>964 553</b>

Note: HE = higher education.

Source: Calculated from VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.1).

The largest volume increase in student load in mid-level qualifications from 2002 to 2011 was in baccalaureates, which increased by 167 794 equivalent full-time students (table 8). The largest bachelor increases were in management and commerce (43 090) and health (42 688). Student load increased substantially in both diplomas and advanced diplomas in architecture and building, while diplomas increased substantially in society and culture, creative arts, health, and agriculture, environmental and related studies. Student load increased substantially in diplomas but fell in advanced diplomas in management and commerce, and food, hospitality and personal services. Student load fell substantially in diplomas and modestly in advanced diplomas in information technology. These rather different outcomes for diplomas and advanced diplomas in different fields

suggest that student load is changing, not because of the characteristics of the qualification type, but because of different factors in each field and industry.

**Table 8 Change in student load of mid-level qualifications from 2002 to 2011, by qualification level and broad field**

Broad field	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
Agriculture, environmental studies	292	1 252	224	-608	1 783	2 943
Architecture and building	3 280	1 651	1 857	142	4 158	11 089
Creative arts	3 230	3 416	48	2 577	15 577	24 847
Education	2 395	388	33	131	6 310	9 255
Engineering and related	6 891	103	-779	1 624	13 268	21 108
Food, hospitality, personal	2 415	3 072	-113	181	925	6 479
Health	3 959	13 323	274	375	42 688	60 619
Information technology	-2 856	-4 856	-416	4 003	-14 882	-19 006
Management and commerce	19 496	14 853	-2 861	7 634	43 090	82 392
Natural and physical sciences	1 271	190	97	1 826	22 129	25 512
Society and culture	15 732	17 102	395	3 156	32 686	69 071
<b>Total</b>	<b>59 399</b>	<b>50 494</b>	<b>-1 241</b>	<b>18 796</b>	<b>167 794</b>	<b>296 054</b>

Source: Calculated from VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.1).

While student load in food, hospitality and personal services is still small, it grew strongly proportionately from 2002 to 2011. The largest proportions in baccalaureates and vocational diplomas were offset somewhat by a fall in advanced diplomas (table 9). Health grew very strongly, also proportionately substantially in vocational diplomas. Advanced diplomas grew proportionately very strongly in natural and physical sciences, education, and architecture and building, although from very small bases.

**Table 9 Percentage change in student load of mid-level qualifications from 2002 to 2011, by qualification level and broad field**

Broad field	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
Agriculture, environmental studies	10	39	72	-66	31	22
Architecture and building	102	39	256	617	40	59
Creative arts	64	42	1	370	38	43
Education	36	92	490	35	17	21
Engineering and related	120	2	-11	349	45	43
Food, hospitality, personal	66	505	-100	0	1 016	144
Health	73	532	61	76	94	111
Information technology	-29	-53	-41	1 472	-36	-31
Management and commerce	127	66	-20	1 239	54	63
Natural and physical sciences	248	11	1 787	438	35	39
Society and culture	138	103	35	64	24	41
<b>Total</b>	<b>83</b>	<b>68</b>	<b>-4</b>	<b>202</b>	<b>34</b>	<b>44</b>

Source: Calculated from VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.1).

Baccalaureates had the largest share of student load in mid-level qualifications in most fields of education in 2011, overwhelmingly so in natural and physical sciences (93.3%) and education (80.8%) (table 10). Advanced diplomas had substantial shares of student load in engineering and related technologies (8.8%) and architecture and building (8.7%). Vocational diplomas had large shares of student load in food, hospitality and personal services (33.6%) and agriculture, environmental and related studies (28.0%) and substantial shares in architecture and building (19.9%) and management and commerce (17.4%). Certificate IVs had the largest share of student load in food, hospitality and personal services (55.5%) and substantial shares of student load in all fields except natural and physical sciences (2.0%) and health (8.1%). Again, this suggests that fields are very important in shaping their qualification profile.

**Table 10 Mid-level qualification share of student load by broad program level, 2011**

Broad field	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
Agriculture, environmental studies	20.3	28.0	3.3	1.9	46.4	100.0
Architecture and building	21.8	19.9	8.7	0.6	49.2	100.0
Creative arts	10.0	13.9	4.4	3.9	67.8	100.0
Education	16.7	1.5	0.1	0.9	80.8	100.0
Engineering and related	18.0	8.8	8.8	3.0	61.4	100.0
Food, hospitality, personal	55.5	33.6	0.0	1.7	9.3	100.0
Health	8.1	13.8	0.6	0.8	76.7	100.0
Information technology	16.4	10.1	1.4	10.0	62.1	100.0
Management and commerce	16.3	17.4	4.9	3.9	57.6	100.0
Natural and physical sciences	2.0	2.0	0.1	2.6	93.3	100.0
Society and culture	11.4	14.2	0.6	3.4	70.4	100.0
<b>Total</b>	<b>13.6</b>	<b>13.0</b>	<b>2.7</b>	<b>2.9</b>	<b>67.8</b>	<b>100.0</b>

Source: Calculated from VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.1).

Vocational diplomas had a large increase in their share of student load in mid-level qualifications from 2002 to 2011 in food, hospitality and personal services, with an increased share of 20.0 percentage points, which was offset somewhat by a fall in advanced diploma share (-2.5) (table 11). There were large increases in health (9.2), society and culture (4.3), and agriculture, environmental and related studies (3.3). However, diplomas lost shares in information technology (-4.7), engineering and related technologies (-3.6) and architecture and building (-2.9). Again, there was considerable variation by broad field of education.

**Table 11 Mid-level qualification change in share of student load from 2002 to 2011, by broad program level, percentage points**

Broad field	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc degrees	All bachelor	Total
Agriculture, environmental studies	-2.3	3.3	1.0	-5.1	3.2	0.0
Architecture and building	4.6	-2.9	4.8	0.4	-6.9	0.0
Creative arts	1.3	-0.1	-1.8	2.7	-2.2	0.0
Education	1.9	0.6	0.1	0.1	-2.6	0.0
Engineering and related	6.3	-3.6	-5.4	2.0	0.7	0.0
Food, hospitality, personal	-26.4	20.0	-2.5	1.7	7.2	0.0
Health	-1.8	9.2	-0.2	-0.2	-7.0	0.0
Information technology	0.4	-4.7	-0.2	9.5	-5.0	0.0
Management and commerce	4.6	0.4	-5.1	3.4	-3.3	0.0
Natural and physical sciences	1.2	-0.5	0.1	1.8	-2.6	0.0
Society and culture	4.7	4.3	0.0	0.5	-9.4	0.0
<b>Total</b>	<b>2.9</b>	<b>1.6</b>	<b>-1.2</b>	<b>1.5</b>	<b>-4.9</b>	<b>0.0</b>

Source: Calculated from VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012); Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.1).

# Summary of employment rates by broad field of education

Higher education baccalaureate graduates in full-time employment as a proportion of those available for full-time employment are shown in table 12 according to the discipline groups reported by Graduate Careers Australia. Graduate Careers Australia adopted its discipline grouping in the 1980s, well before the revised standard groupings were adopted. It has maintained these groupings, which preserves the continuity of its statistics but reduces direct comparability with other tertiary education statistics. Therefore the table shows only fields which may be compared with vocational education employment outcomes. It will be noted that employment rates differ markedly by field and change substantially over time.

**Table 12 Bachelor graduates in full-time employment as a percentage of graduates available for full-time employment, by selected aggregated field of education**

Field of education	2003	2005	2007	2009	2011
Agriculture	73.5	80.3	78.5	77.0	70.9
Building	83.4	91.0	91.2	83.2	81.8
Visual/performing arts	54.2	60.3	66.3	51.6	52.3
Business studies	76.9	81.1	85.1	76.8	76.4
Accounting	87.5	86.9	86.4	85.1	78.6
Education – initial	82.7	77.9	80.2	78.1	74.3
Aeronautical engineering	83.9	89.1	92.1	78.4	75.2
Civil engineering	94.3	95.7	97.8	94.4	89.5
Electrical engineering	82.1	87.3	89.9	85.4	86.1
Electronic/computer engineering	73.5	78.3	86.9	78.3	82.5
Nursing, initial	97.5	96.2	97.4	96.3	92.0
Computer science	68.1	73.7	83.0	80.0	77.9
Veterinary science	92.5	94.0	94.0	92.1	88.4
<b>All</b>	<b>80.1</b>	<b>80.9</b>	<b>84.5</b>	<b>79.2</b>	<b>76.6</b>

Source: Graduate Careers Australia (2011, table 2).

Table 13 shows the proportions of vocational diploma and above graduates employed after graduating, from 2003 to 2011, for each broad field of education and for the selected narrow fields of education relevant to the case studies examined in the vocations project (primary industry, health, electrical/engineering, finance). These are not directly comparable with the baccalaureate employment rates shown in table 12 because of the differences in the relevant surveys (and also, as explained previously, the 2005 change in the scope of the survey). Nonetheless, rates also differ markedly by field and over time for the same field.

**Table 13 Proportion of vocational diploma and above graduates employed after graduating, by field of education, 2003–11**

Field of education	2003	2005	2007	2009	2011
Natural and physical sciences	70.3	69.7	75.5	64.0	61.4
Information technology	59.9	68.4	65.6	55.2	63.1
Engineering and related technologies	78.7	83.1	86.7	81.8	83.0
Process and resources engineering	80.3	93.9	100.0*	86.6	87.7
Electrical and electronic engineering and technology	76.9	73.5	77.8	87.3	76.9
Architecture and building	82.3	90.1	88.7	77.5	83.9
Agriculture, environmental and related studies	82.1	88.7	88.3	89.6	92.3
Agriculture	76.1	93.2	92.8	97.6	94.2
Health	88.5	90.9	89.3	89.1	91.0
Nursing	94.8	95.2	95.9	93.6	91.0
Veterinary studies	100.0*	100.0*	100.0*	100.0	78.0
Education	92.0	96.2	96.1	89.9	98.2
Management and commerce	81.0	84.6	85.9	82.4	85.7
Accountancy	75.4	88.0	100.0*	100.0*	100.0*
Banking, finance and related fields	63.1	71.1	66.0	64.8	68.6
Society and culture	81.1	83.9	87.2	86.7	83.7
Creative arts	65.2	68.5	77.5	66.0	68.2
Food, hospitality and personal services	82.6	85.8	90.3	81.6	71.8
<b>Total</b>	<b>77.7</b>	<b>82.2</b>	<b>84.7</b>	<b>80.8</b>	<b>83.4</b>

Note: \* Result unreliable as cell size fewer than 10.  
Source: NCVER (2003, 2005, 2007, 2009, 2011).

Table 14 shows the proportion of certificate IV graduates employed after graduating by field of education, from 2003 to 2011. Again, rates vary markedly by field and time.

**Table 14 Proportion of certificate IV graduates employed after graduating, by field of education, 2003–11**

Field of education	2003	2005	2007	2009	2011
Natural and physical sciences	83.1	75.9	77.7	70.7	59.6
Information technology	52.3	61.7	58.2	61.3	58.2
Engineering and related technologies	84.8	87.7	90.8	89.4	94.6
Process and resources engineering	90.1	95.0	97.5	96.1	95.9
Electrical and electronic engineering and technology	89.0	90.1	89.9	87.4	96.1
Architecture and Building	87.1	91.8	89.8	91.3	88.3
Agriculture, environmental and related studies	80.5	86.4	86.2	89.9	90.1
Agriculture	85.7	80.3	88.3	90.5	91.1
Health	86.9	87.4	90.8	86.6	87.7
Nursing	88.3	88.1	90.2	85.9	86.0
Veterinary studies	88.3	92.3	96.4	89.6	87.6
Education	93.8	92.7	94.8	93.1	91.2
Management and commerce	80.0	88.0	87.7	84.2	83.7
Accountancy	90.9	100.0*	100.0*	79.6	77.6
Banking, finance and related fields	53.3	90.4	82.6	71.9	72.9
Society and culture	71.2	82.7	85.0	82.9	83.0
Creative arts	60.7	69.4	66.1	64.5	60.3
Food, hospitality and personal services	73.6	83.8	85.3	81.9	85.8
<b>Total</b>	<b>76.4</b>	<b>85.3</b>	<b>85.1</b>	<b>83.6</b>	<b>83.1</b>

Note: \* Result unreliable as cell size fewer than 10.  
Source: NCVER (2003, 2005, 2007, 2009, 2011).

A comparison between employment rates for each level of qualification in each field of education from 2003 to 2011 and student load in each level of qualification in each field of education from 2003 to 2011 discloses no obvious pattern. While student load and employment rates from 2003 to 2011 seemed to be related in some fields and qualification levels, they did not seem to be related in other fields and qualification levels. At this stage of the analysis, the most that can be concluded is that there is no simple relation between student load in a qualification field and level and the employment rate of its graduates. This is being investigated in more detail by the team and may be the subject of a subsequent report.



# Conclusion

This study considered the contention that the currency of diplomas in the labour market was being overtaken by baccalaureates or other mid-level qualifications. Our analysis of more recent data on student load for mid-level qualifications found that vocational diplomas had maintained their share of the student load of these qualifications from 2002 to 2011. However, this varies by broad field of education. Diplomas and advanced diplomas together increased their share of mid-level qualifications in food, hospitality and personal services (by 17.5 percentage points, from a very small base), health (9.0), society and culture (4.3) and agriculture, environmental and related studies (4.3). Vocational diploma student load shares fell in engineering and related technologies (-9.0), information technology (-4.9) and management and commerce (-4.7).

Diplomas did not lose student load share to baccalaureates: in fact, bachelors lost a 4.9-percentage-point share of mid-level student load. Certificate IVs increased their share of mid-level qualification student load, by 2.9 percentage points. The largest gains in certificate IV shares were in engineering and related technologies (6.3), society and culture (4.7), architecture and building (4.6) and management and commerce (4.6).

Changes in the shares of mid-level qualification student load do not seem to be related to employment rates, either for qualifications as a whole or in each broad field. Aamodt and Arnesen (1995) examined the relation between increasing enrolment in higher education and decreasing rates of graduate employment in Norway in the 1980s and early 1990s. They found that patterns varied by field of education. In a period of economic stagnation there was a general pattern of increasing higher education enrolment and falling graduate employment rates. However, this did not hold true for health fields, in which student numbers were tightly capped and stable and occupational progression was highly regulated; high graduate employment rates continued. While enrolments in agricultural science were also stable, the employment of graduates in this field fell considerably. Agricultural science graduates, unlike health graduates, were not protected from competition from graduates of other fields such as maths and natural sciences.

Similarly, this present study found a general pattern of increasing enrolments at all levels, but particularly in certificate IVs after the 2008 Global Financial Crisis, and a marked combination of increasing enrolment and decreasing graduate employment in that time in baccalaureates. The study similarly found considerable variation in enrolment patterns and employment rates between graduates of different fields of education at different levels. In examining occupational progression, researchers in strand 3 of the vocations project have emphasised that labour markets are segmented and that it is necessary to examine institutional arrangements and modes of occupational progression (or more frequently lack thereof) (Yu, Bretherton & Schultz 2012). The evidence presented in this paper suggests that, if there is a general pattern of diplomas being supplanted by bachelor degrees, this contention needs to be considerably amended by an analysis segmented by field and considering other levels of qualification. This argument will be tested by further work in the project, whereby, using the latest vocational student outcomes data, a descriptive and analytical examination of the relationships between field, level of qualification, employment and the occupation and skills levels of employment will be conducted.

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# Appendix

## Mid-level qualification student load by broad program level in each broad field of study 2002–11

### Agriculture, environmental and related studies

Student load in mid-level qualifications in agriculture, environmental and related studies increased most in bachelors (by 1783 equivalent full-time students) and vocational diplomas (1252) from 2002 to 2011, partly at the expense of a fall in student load in higher education diplomas and associate degrees (-608) (table A1). There was a large percentage increase in student load in advanced diplomas (72 percentage points), but from a very small base of only 312 equivalent full-time students in 2002.

**Table A1 Mid-level qualification student load by broad program level, agriculture, environmental and related studies, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	2 981	3 247	312	918	5 688	13 146
2003	2 577	3 496	347	783	5 965	13 168
2004	2 359	3 504	340	578	6 180	12 961
2005	2 217	3 050	185	403	5 788	11 643
2006	2 220	2 869	287	368	6 064	11 809
2007	2 353	3 087	165	329	5 985	11 919
2008	2 403	3 517	243	324	6 328	12 815
2009	2 428	3 643	295	319	6 594	13 278
2010	3 010	4 662	420	316	7 341	15 748
2011	3 274	4 499	535	310	7 471	16 089
<b>Change 2002–11</b>	<b>292</b>	<b>1 252</b>	<b>224</b>	<b>-608</b>	<b>1 783</b>	<b>2 943</b>
<b>% change 2002–11</b>	<b>10</b>	<b>39</b>	<b>72</b>	<b>-66</b>	<b>31</b>	<b>22</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

In agriculture, environmental and related studies, shares of student load increased from 2002 to 2011 in vocational diplomas (up 3.3 points), advanced diplomas (1.0) and all baccalaureates (3.2) at the expense of higher education diplomas and associate degrees (-5.1) and certificate IVs (-2.3)(table A2).

**Table A2 Mid-level qualification share of student load by broad program level, agriculture, environmental and related studies, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	22.7	24.7	2.4	7.0	43.3	100.0
2003	19.6	26.5	2.6	5.9	45.3	100.0
2004	18.2	27.0	2.6	4.5	47.7	100.0
2005	19.0	26.2	1.6	3.5	49.7	100.0
2006	18.8	24.3	2.4	3.1	51.4	100.0
2007	19.7	25.9	1.4	2.8	50.2	100.0
2008	18.8	27.4	1.9	2.5	49.4	100.0
2009	18.3	27.4	2.2	2.4	49.7	100.0
2010	19.1	29.6	2.7	2.0	46.6	100.0
2011	20.3	28.0	3.3	1.9	46.4	100.0
<b>Change 2002–11</b>	<b>-2.3</b>	<b>3.3</b>	<b>1.0</b>	<b>-5.1</b>	<b>3.2</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Architecture and building

Student load in all mid-level qualifications in architecture and building increased substantially from 2002 to 2011 (table A3). The largest increases were in baccalaureates (4158) and certificate IVs (3280), but there were also substantial increases in advanced diplomas (1857) and diplomas (1651). The large increase in student load in advanced diplomas is unusual. The student load in advanced diplomas was modest in 2002 (726) and increased steadily until 2008 to 854 equivalent full-time students. But there was a jump from 2008 to 2009 and further substantial increases in 2010 and 2011. This suggests either a marked change in employment conditions or a change in regulatory requirements, which made holding an advanced diploma highly desirable or necessary for some occupations.

**Table A3 Mid-level qualification student load by broad program level, architecture and building, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	3 208	4 276	726	23	10 505	18 737
2003	3 527	4 615	768	30	10 746	19 686
2004	3 365	4 852	754	35	11 155	20 161
2005	3 173	5 240	750	47	11 696	20 906
2006	3 172	5 275	770	74	12 116	21 406
2007	3 207	5 554	842	78	12 902	22 583
2008	3 378	5 524	854	98	12 585	22 439
2009	4 099	5 283	1 424	102	13 722	24 630
2010	4 883	5 321	2 197	148	13 880	26 429
2011	6 488	5 927	2 583	165	14 663	29 826
<b>Change 2002–11</b>	<b>3 280</b>	<b>1 651</b>	<b>1 857</b>	<b>142</b>	<b>4 158</b>	<b>11 089</b>
<b>% change 2002–11</b>	<b>102</b>	<b>39</b>	<b>256</b>	<b>617</b>	<b>40</b>	<b>59</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Bachelors don't dominate mid-level qualifications in architecture and building as much as in several other broad fields, and bachelors' share of load fell from 2002 to 2011 by 6.9-percentage points, with

most of the increase in advanced diplomas (4.8) and certificate IVs (4.6) (table A4). VET diplomas also lost student load share (-2.9) but remain very important in architecture and building, with 19.9% share of mid-level qualifications student load in 2011.

**Table A4 Mid-level qualification share of student load by broad program level, architecture and building, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	17.1	22.8	3.9	0.1	56.1	100.0
2003	17.9	23.4	3.9	0.2	54.6	100.0
2004	16.7	24.1	3.7	0.2	55.3	100.0
2005	15.2	25.1	3.6	0.2	55.9	100.0
2006	14.8	24.6	3.6	0.3	56.6	100.0
2007	14.2	24.6	3.7	0.3	57.1	100.0
2008	15.1	24.6	3.8	0.4	56.1	100.0
2009	16.6	21.4	5.8	0.4	55.7	100.0
2010	18.5	20.1	8.3	0.6	52.5	100.0
2011	21.8	19.9	8.7	0.6	49.2	100.0
<b>Change 2002–11</b>	<b>4.6</b>	<b>-2.9</b>	<b>4.8</b>	<b>0.4</b>	<b>-6.9</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Creative arts

Creative arts student load increased strongly from 2002 to 2011 in all mid-level qualifications except advanced diplomas, which increased more modestly by 48 equivalent full-time students or 1.3% (table A5). The largest increase in the amount of student load was in baccalaureates (15 577), but since this was from a sizeable base of 40 772 in 2002, the percentage increase (38%) was less than most other qualifications, although still very strong.

**Table A5 Mid-level qualification student load by broad program level, creative arts, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	5 045	8 117	3 617	696	40 772	58 247
2003	5 827	8 596	3 073	621	41 874	59 991
2004	6 088	8 521	2 648	526	41 894	59 678
2005	5 834	8 432	2 858	524	42 351	60 000
2006	6 385	7 755	2 916	664	42 697	60 416
2007	6 472	7 402	2 806	1 742	44 553	62 975
2008	6 432	7 056	2 898	2 481	47 134	66 002
2009	8 720	9 077	3 507	2 829	51 795	75 928
2010	8 902	10 857	3 855	3 000	55 048	81 662
2011	8 275	11 533	3 665	3 273	56 348	83 094
<b>Change 2002–11</b>	<b>3 230</b>	<b>3 416</b>	<b>48</b>	<b>2 577</b>	<b>15 577</b>	<b>24 847</b>
<b>% change 2002–11</b>	<b>64</b>	<b>42</b>	<b>1.3</b>	<b>370</b>	<b>38</b>	<b>43</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Notwithstanding bachelor and vocational diploma student load increasing strongly from 2002 to 2011 by 38% and 42%, these qualifications lost their share of student load (by 2.2 and 0.1 percentage

points) because associate degrees and higher education diplomas and certificate IVs increased their share of load, by 2.7 and 1.3 percentage points.

**Table A6 Mid-level qualification share of student load by broad program level, creative arts, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	8.7	13.9	6.2	1.2	70.0	100.0
2003	9.7	14.3	5.1	1.0	69.8	100.0
2004	10.2	14.3	4.4	0.9	70.2	100.0
2005	9.7	14.1	4.8	0.9	70.6	100.0
2006	10.6	12.8	4.8	1.1	70.7	100.0
2007	10.3	11.8	4.5	2.8	70.7	100.0
2008	9.7	10.7	4.4	3.8	71.4	100.0
2009	11.5	12.0	4.6	3.7	68.2	100.0
2010	10.9	13.3	4.7	3.7	67.4	100.0
2011	10.0	13.9	4.4	3.9	67.8	100.0
<b>Change 2002–11</b>	<b>1.3</b>	<b>-0.1</b>	<b>-1.8</b>	<b>2.7</b>	<b>-2.2</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Education

Mid-level qualifications of all broad types increased their student load in education from 2002 to 2011 (table A7), but by far the largest increases were in baccalaureates (by 6310 equivalent full-time students) and certificate IVs (2395). Vocational diplomas and advanced diplomas remain very modest in education.

**Table A7 Mid-level qualification student load by broad program level, education, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	6 664	421	7	368	37 483	44 943
2003	7 060	508	7	331	38 676	46 582
2004	5 669	428	19	321	39 113	45 550
2005	5 716	448	23	260	40 385	46 832
2006	4 613	349	85	332	40 771	46 149
2007	6 626	405	63	340	40 521	47 955
2008	6 791	638	11	361	40 611	48 412
2009	7 708	833	39	358	41 694	50 633
2010	8 615	924	41	496	43 034	53 110
2011	9 059	809	39	499	43 793	54 198
<b>Change 2002–11</b>	<b>2 395</b>	<b>388</b>	<b>33</b>	<b>131</b>	<b>6 310</b>	<b>9 255</b>
<b>% change 2002–11</b>	<b>36</b>	<b>92</b>	<b>490</b>	<b>35</b>	<b>17</b>	<b>21</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Mid-level qualifications in education remain dominated by baccalaureates, being 80.8% of all mid-level qualifications in 2011, although they lost share, mostly to certificate IVs (1.9), which were 16.7% of all mid-level qualifications in education in 2011 (table A8).

**Table A8 Mid-level qualification share of student load by broad program level, education, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	14.8	0.9	0.0	0.8	83.4	100.0
2003	15.2	1.1	0.0	0.7	83.0	100.0
2004	12.4	0.9	0.0	0.7	85.9	100.0
2005	12.2	1.0	0.0	0.6	86.2	100.0
2006	10.0	0.8	0.2	0.7	88.3	100.0
2007	13.8	0.8	0.1	0.7	84.5	100.0
2008	14.0	1.3	0.0	0.7	83.9	100.0
2009	15.2	1.6	0.1	0.7	82.3	100.0
2010	16.2	1.7	0.1	0.9	81.0	100.0
2011	16.7	1.5	0.1	0.9	80.8	100.0
<b>Change 2002–11</b>	<b>1.9</b>	<b>0.6</b>	<b>0.1</b>	<b>0.1</b>	<b>-2.6</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Engineering and related technologies

There was a fall of 11% in VET advanced diploma student load in engineering and related technologies from 2002 to 2011 but large increases in student load in certificate IVs (120%), bachelors (45%) and higher education diplomas and associate degrees (349%), although the latter is from a very small base (table A9).

**Table A9 Mid-level qualification student load by broad program level, engineering and related technologies, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc degrees	All bachelor	Total
2002	5 729	6 043	6 951	465	29 643	48 831
2003	5 834	5 001	7 895	543	30 523	49 796
2004	4 745	4 406	7 333	479	30 375	47 339
2005	4 506	4 638	7 427	533	29 888	46 992
2006	5 408	4 159	7 064	654	30 848	48 133
2007	5 910	5 811	6 106	1 061	32 245	51 133
2008	6 228	6 481	5 760	1 074	34 447	53 990
2009	6 361	6 734	6 507	1 487	37 261	58 350
2010	9 387	6 052	6 392	1 819	40 495	64 146
2011	12 620	6 146	6 172	2 089	42 911	69 939
<b>Change 2002–11</b>	<b>6 891</b>	<b>103</b>	<b>-779</b>	<b>1 624</b>	<b>13 268</b>	<b>21 108</b>
<b>% change 2002–11</b>	<b>120</b>	<b>1.7</b>	<b>-11</b>	<b>349</b>	<b>45</b>	<b>43</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Vocational engineering advanced diplomas fell in proportion of mid-level qualifications from 2002 to 2011 by 5.4 percentage points and diplomas fell by 3.6 points, the balance being taken up mostly by certificate IVs (6.3) and higher education diplomas and associate degrees (2.0) (table A10).

Nonetheless, vocational diplomas and advanced diplomas remained important qualifications in engineering and related technologies, each with 8.8% of mid-level qualifications in 2011.

**Table A10 Mid-level qualification share of student load by broad program level, engineering and related technologies, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	11.7	12.4	14.2	1.0	60.7	100.0
2003	11.7	10.0	15.9	1.1	61.3	100.0
2004	10.0	9.3	15.5	1.0	64.2	100.0
2005	9.6	9.9	15.8	1.1	63.6	100.0
2006	11.2	8.6	14.7	1.4	64.1	100.0
2007	11.6	11.4	11.9	2.1	63.1	100.0
2008	11.5	12.0	10.7	2.0	63.8	100.0
2009	10.9	11.5	11.2	2.5	63.9	100.0
2010	14.6	9.4	10.0	2.8	63.1	100.0
2011	18.0	8.8	8.8	3.0	61.4	100.0
<b>Change 2002–11</b>	<b>6.3</b>	<b>-3.6</b>	<b>-5.4</b>	<b>2.0</b>	<b>0.7</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Food, hospitality and personal services

There was strong growth in student load in all mid-level qualifications except vocational advanced diplomas in food, hospitality and personal services from 2002 to 2011, although in all cases from modest and in some cases off very small bases (table A11). There were large increases in student load in vocational diplomas (3072) and certificate IVs (2415).

**Table A11 Mid-level qualification student load by broad program level, food, hospitality and personal services, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	3 675	608	113	0	91	4 486
2003	3 346	730	112	0	101	4 288
2004	3 292	721	108	0	93	4 215
2005	3 526	935	96	5	140	4 702
2006	3 661	931	35	7	240	4 875
2007	3 843	1 130	2	120	189	5 285
2008	4 028	1 215	0	264	215	5 722
2009	5 132	1 543	0	225	660	7 559
2010	6 305	3 017	0	222	590	10 134
2011	6 089	3 680	0	181	1 016	10 966
<b>Change 2002–11</b>	<b>2 415</b>	<b>3 072</b>	<b>-113</b>	<b>181</b>	<b>925</b>	<b>6 479</b>
<b>% change 2002–11</b>	<b>66</b>	<b>505</b>	<b>-100</b>	<b>–</b>	<b>1 016</b>	<b>144</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).



Certificate IVs lost considerable share of mid-level student load in food, hospitality and personal services from 2002 to 2011, of 26.4 percentage points, gained mostly by vocational diplomas (20.0) and to a lesser extent by baccalaureates (7.2). Vocational advanced diplomas also lost share (-2.5), although their share of total mid-level qualifications has long been modest. Nonetheless, most mid-level student load remains in certificate IVs (55.5% in 2011), with vocational diplomas being the only other important qualification in the field, with 33.6% of student load.

**Table A12 Mid-level qualification share of student load by broad program level, food, hospitality and personal services, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	81.9	13.5	2.5	0.0	2.0	100.0
2003	78.0	17.0	2.6	0.0	2.4	100.0
2004	78.1	17.1	2.6	0.0	2.2	100.0
2005	75.0	19.9	2.0	0.1	3.0	100.0
2006	75.1	19.1	0.7	0.1	4.9	100.0
2007	72.7	21.4	0.0	2.3	3.6	100.0
2008	70.4	21.2	0.0	4.6	3.8	100.0
2009	67.9	20.4	0.0	3.0	8.7	100.0
2010	62.2	29.8	0.0	2.2	5.8	100.0
2011	55.5	33.6	0.0	1.7	9.3	100.0
<b>Change 2002–11</b>	<b>-26.4</b>	<b>20.0</b>	<b>-2.5</b>	<b>1.7</b>	<b>7.2</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Health

There have been substantial increases in student load in mid-level health programs from 2002 to 2011, the largest quantum in baccalaureates (up 42 688 eftsl) but the largest percentage increase in vocational diplomas (532%) (table A13).

**Table A13 Mid-level qualification student load by broad program level, health, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	5 404	2 504	451	493	45 586	54 438
2003	6 186	2 753	458	436	47 927	57 760
2004	6 059	3 106	427	414	49 736	59 742
2005	5 955	4 024	441	377	52 826	63 622
2006	6 679	4 755	490	403	58 568	70 895
2007	7 465	5 725	669	399	65 725	79 984
2008	7 913	6 733	578	637	70 521	86 382
2009	9 929	8 862	615	744	75 916	96 067
2010	9 363	12 458	665	887	83 207	106 579
2011	9 363	15 826	726	868	88 274	115 057
<b>Change 2002–11</b>	<b>3 959</b>	<b>13 323</b>	<b>274</b>	<b>375</b>	<b>42 688</b>	<b>60 619</b>
<b>% change 2002–11</b>	<b>73</b>	<b>532</b>	<b>61</b>	<b>76</b>	<b>94</b>	<b>111</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Vocational diplomas were the only mid-level qualification to increase their share of student load in health from 2002 to 2011, by 9.2 points, mostly at the expense of baccalaureates (-7.0 points) but also at the expense of certificate IVs (-1.8) (table A14). Vocational diplomas are now a substantial mid-level qualification in health, with 13.8% of student load in 2011.

**Table A14 Mid-level qualification share of student load by broad program level, health, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	9.9	4.6	0.8	0.9	83.7	100.0
2003	10.7	4.8	0.8	0.8	83.0	100.0
2004	10.1	5.2	0.7	0.7	83.3	100.0
2005	9.4	6.3	0.7	0.6	83.0	100.0
2006	9.4	6.7	0.7	0.6	82.6	100.0
2007	9.3	7.2	0.8	0.5	82.2	100.0
2008	9.2	7.8	0.7	0.7	81.6	100.0
2009	10.3	9.2	0.6	0.8	79.0	100.0
2010	8.8	11.7	0.6	0.8	78.1	100.0
2011	8.1	13.8	0.6	0.8	76.7	100.0
<b>Change 2002–11</b>	<b>-1.8</b>	<b>9.2</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-7.0</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Information technology

Mid-level qualifications in information technology fell for all levels except for higher education diplomas and associate degrees, which increased strongly off a very small base (table A15).

**Table A15 Mid-level qualification student load by broad program level, information technology, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	Bachelor	Total mid-level
2002	9 897	9 188	1 017	272	41 493	61 868
2003	8 210	8 967	1 465	256	39 610	58 508
2004	6 930	7 956	1 107	230	36 231	52 453
2005	6 674	6 539	772	351	32 085	46 421
2006	5 820	6 082	819	382	27 931	41 033
2007	6 338	4 839	863	1 455	25 505	39 000
2008	6 679	4 383	1 018	1 868	24 018	37 966
2009	7 180	4 324	1 029	2 104	25 869	40 506
2010	7 137	4 453	786	2 076	26 151	40 603
2011	7 042	4 332	601	4 275	26 611	42 861
<b>Change 2002–11</b>	<b>-2 856</b>	<b>-4 856</b>	<b>-416</b>	<b>4 003</b>	<b>-14 882</b>	<b>-19 006</b>
<b>% change 2002–11</b>	<b>-29</b>	<b>-53</b>	<b>-41</b>	<b>1 472</b>	<b>-36</b>	<b>-31</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Bachelors' and vocational diplomas' share of student load of mid-level qualifications fell markedly from 2002 to 2011, taken up mostly by higher education and diplomas and associate degrees, whose share increased by 9.5 percentage points from 2002 to 2011 (table A16). Nonetheless, bachelors still

have most mid-level student load, with 62.1% in 2011. Also important are certificate IVs (16.4%), vocational diplomas (10.1%) and higher education diplomas and associate degrees (10.0%).

**Table A16 Mid-level qualification share of student load by broad program level, information technology, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	Bachelor	Total mid-level
2002	16.0	14.9	1.6	0.4	67.1	100.0
2003	14.0	15.3	2.5	0.4	67.7	100.0
2004	13.2	15.2	2.1	0.4	69.1	100.0
2005	14.4	14.1	1.7	0.8	69.1	100.0
2006	14.2	14.8	2.0	0.9	68.1	100.0
2007	16.3	12.4	2.2	3.7	65.4	100.0
2008	17.6	11.5	2.7	4.9	63.3	100.0
2009	17.7	10.7	2.5	5.2	63.9	100.0
2010	17.6	11.0	1.9	5.1	64.4	100.0
2011	16.4	10.1	1.4	10.0	62.1	100.0
<b>Change 2002–11</b>	<b>0.4</b>	<b>-4.7</b>	<b>-0.2</b>	<b>9.5</b>	<b>-5.0</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Management and commerce

All mid-level qualifications except advanced diplomas had considerable increases in student load in management and commerce from 2002 to 2011 (table A17). The increase was particularly large in baccalaureates (43 090 equivalent full-time students), certificate IVs (19 496) and vocational diplomas (14 853). There was a very large percentage increase in higher education diplomas and associate degrees.

**Table A17 Mid-level qualification student load by broad program level, management and commerce, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	15 372	22 402	13 107	616	80 029	131 526
2003	18 359	21 147	12 886	732	84 885	138 009
2004	20 522	21 083	11 595	587	87 415	141 201
2005	18 584	22 192	11 074	137	91 113	143 100
2006	19 612	23 587	9 634	1 403	96 509	150 746
2007	20 439	26 081	9 078	6 147	99 867	161 611
2008	20 469	27 758	9 161	7 894	104 841	170 124
2009	24 502	28 287	10 652	8 886	113 968	186 296
2010	28 013	32 898	11 119	9 513	120 974	202 517
2011	34 868	37 255	10 426	8 250	123 119	213 918
<b>Change 2002–11</b>	<b>19 496</b>	<b>14 853</b>	<b>-2 681</b>	<b>7 634</b>	<b>43 090</b>	<b>82 392</b>
<b>% change 2002–11</b>	<b>127</b>	<b>66</b>	<b>-20</b>	<b>1 239</b>	<b>54</b>	<b>63</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

From the changes in mid-level qualification shares of student load in management and commerce from 2002 to 2011, it seems there may have been a shift from baccalaureates (-3.3) to associate degrees and higher education diplomas (3.4) (table A18).

**Table A18 Mid-level qualification share of student load by broad program level, management and commerce, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diplomas	HE diplomas, all assoc. degrees	All bachelor	Total
2002	11.7	17.0	10.0	0.5	60.8	100.0
2003	13.3	15.3	9.3	0.5	61.5	100.0
2004	14.5	14.9	8.2	0.4	61.9	100.0
2005	13.0	15.5	7.7	0.1	63.7	100.0
2006	13.0	15.6	6.4	0.9	64.0	100.0
2007	12.6	16.1	5.6	3.8	61.8	100.0
2008	12.0	16.3	5.4	4.6	61.6	100.0
2009	13.2	15.2	5.7	4.8	61.2	100.0
2010	13.8	16.2	5.5	4.7	59.7	100.0
2011	16.3	17.4	4.9	3.9	57.6	100.0
<b>Change 2002–11</b>	<b>4.6</b>	<b>0.4</b>	<b>-5.1</b>	<b>3.4</b>	<b>-3.3</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Natural and physical sciences

Student load for mid-level qualifications in the natural and physical sciences are shown in table A19. It will be noted that all mid-level qualifications increased their load from 2002 to 2011, most in baccalaureates (22 129), associate degrees and higher education diplomas (1826), and certificate IVs (1271) (table A19).

**Table A19 Mid-level qualification student load by broad program level, natural and physical sciences, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	Bachelor	Total mid-level
2002	512	1 660	5	529	62 687	65 394
2003	644	1 900	6	480	63 934	66 965
2004	665	1 955	5	394	65 347	68 366
2005	770	1 884	11	440	66 801	69 907
2006	912	1 611	45	546	68 348	71 462
2007	999	1 501	53	1 573	70 402	74 528
2008	1 023	1 505	53	1 953	71 513	76 047
2009	1 025	1 629	58	2 150	76 201	81 064
2010	1 426	1 828	53	2 292	81 800	87 399
2011	1 784	1 850	102	2 355	84 816	90 906
<b>Change 2002–11</b>	<b>1 271</b>	<b>190</b>	<b>96.8</b>	<b>1 826</b>	<b>22 129</b>	<b>25 512</b>
<b>% change 2002–11</b>	<b>248</b>	<b>11</b>	<b>1 787</b>	<b>345</b>	<b>35</b>	<b>39</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Bachelor programs dominate student load in mid-level qualifications in the natural and physical sciences, but nonetheless lost share of student load from 2002 to 2011 (-2.6 percentage points) to associate degrees and higher education diplomas (1.8) and certificate IVs (1.2) (table A20). Vocational diplomas had a small loss of load share (-0.5).

**Table A20 Mid-level qualification share of student load by broad program level, natural and physical sciences, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	Bachelor	Total mid-level
2002	0.8	2.5	0.0	0.8	95.9	100.0
2003	1.0	2.8	0.0	0.7	95.5	100.0
2004	1.0	2.9	0.0	0.6	95.6	100.0
2005	1.1	2.7	0.0	0.6	95.6	100.0
2006	1.3	2.3	0.1	0.8	95.6	100.0
2007	1.3	2.0	0.1	2.1	94.5	100.0
2008	1.3	2.0	0.1	2.6	94.0	100.0
2009	1.3	2.0	0.1	2.7	94.0	100.0
2010	1.6	2.1	0.1	2.6	93.6	100.0
2011	2.0	2.0	0.1	2.6	93.3	100.0
<b>Change 2002–11</b>	<b>1.2</b>	<b>-0.5</b>	<b>0.1</b>	<b>1.8</b>	<b>-2.6</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

## Society and culture

Most levels of mid-level qualifications increased markedly in society and culture from 2002 to 2011 (table A21). Student load in vocational advanced diplomas fluctuated, but began to increase again from 2009.

**Table A21 Mid-level qualification student load by broad program level, society and culture, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	11 391	16 602	1 117	4 902	134 616	168 628
2003	11 463	16 756	1 129	4 657	136 387	170 392
2004	12 445	16 143	1 053	3 120	138 157	170 918
2005	13 453	16 622	928	3 542	140 874	175 419
2006	14 526	17 590	1 330	5 511	142 667	181 624
2007	14 395	17 650	1 237	6 989	145 220	185 490
2008	14 222	19 481	1 161	7 593	147 728	190 186
2009	18 065	25 591	1 288	7 811	155 881	208 637
2010	22 126	30 187	1 450	8 833	162 726	225 322
2011	27 122	33 704	1 512	8 058	167 302	237 699
<b>Change 2002–11</b>	<b>15 732</b>	<b>17 102</b>	<b>395</b>	<b>3 156</b>	<b>32 686</b>	<b>69 071</b>
<b>% change 2002–11</b>	<b>138</b>	<b>103</b>	<b>35</b>	<b>64</b>	<b>24</b>	<b>41</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

Baccalaureates lost considerable share of student load in society and culture from 2002 to 2011 (-9.4 percentage points), mostly to certificate IVs (4.7) and vocational diplomas (4.3) (table A22). Nonetheless, baccalaureates remain very significant, with 70.4% of mid-level qualifications' student load in 2011.

**Table A22 Mid-level qualification share of student load by broad program level, society and culture, 2002–11**

Year	Certificate IV	VET diploma	VET advanced diploma	HE diplomas, all assoc. degrees	All bachelor	Total
2002	6.8	9.8	0.7	2.9	79.8	100.0
2003	6.7	9.8	0.7	2.7	80.0	100.0
2004	7.3	9.4	0.6	1.8	80.8	100.0
2005	7.7	9.5	0.5	2.0	80.3	100.0
2006	8.0	9.7	0.7	3.0	78.6	100.0
2007	7.8	9.5	0.7	3.8	78.3	100.0
2008	7.5	10.2	0.6	4.0	77.7	100.0
2009	8.7	12.3	0.6	3.7	74.7	100.0
2010	9.8	13.4	0.6	3.9	72.2	100.0
2011	11.4	14.2	0.6	3.4	70.4	100.0
<b>Change 2002–11</b>	<b>4.7</b>	<b>4.3</b>	<b>0.0</b>	<b>0.5</b>	<b>-9.4</b>	<b>0.0</b>

Source: Taken and calculated from Department of Industry, Innovation, Science, Research and Tertiary Education (2012, table 4.6), and corresponding tables for previous years and VOCSTATS (<[www.ncver.edu.au/resources/vocstats/intro.html](http://www.ncver.edu.au/resources/vocstats/intro.html)>, viewed 1 August 2012).

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