MINISTRY OF EDUCATION

Te Tāhuhu o te Mātauranga

How long do people spend in tertiary education?

Report
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1 Summary

This study explores three aspects of tertiary study – duration, attrition, and completion – from an equivalent full-time student (EFTS) perspective. Aside from the traditional interest in EFTS from a resourcing perspective, the significant move away from full-time full-year study in recent years has raised interest in how this part-time study affects patterns of participation, retention, duration, completion and system efficiency.

This study looks at questions such as:

- How long do students spend in tertiary education, and what is the difference between calendar year and EFTS year duration?
- What is the average time to qualification completion or withdrawal?
- What percentage of students leaves in the first-year?
- How does persistence in study vary by level studied?
- How many students study full-time for a full-year, and how does this vary by level of qualification and year of study?
- How more likely is it that full-time full-year students complete their qualification successfully?
- What percentage of EFTS does not lead to a qualification?
- How much longer do students typically take beyond the prescribed qualification time?

The study takes the cohort of domestic students starting at any public tertiary education provider in 1998, and tracks their equivalent full-time enrolment, retention and completion over a six-year period until the end of 2003. It looks at how long people would study for if their study was adjusted for part-time, or part-year, study and if all breaks were removed. One equivalent full-time student is approximately equivalent to 1,200 hours of study a year – including contact time with tutors or lecturers plus time spent in independent study, doing assignments and examinations – or 35 hours a week for 34 weeks a year and each student's total annual study load can be represented as a fraction of one EFTS [1]. This study analyses completion in terms of whether the student completed a *qualification* at the level they started.[2]

Some of the main findings of the study are:

- The average bachelors graduate took 3.1 years of equivalent full-time study, and was enrolled over 3.6 calendar years. The average doctorate graduate took 3.5 years of equivalent full-time study, enrolled over 4.2 calendar years. The average certificate completer took 0.8 years of equivalent full-time study, enrolled over 1.8 calendar years.

[1] These are approximate rules for full-time equivalent study. For a detailed description of how EFTS is determined, refer to the 2005 Tertiary Funding Guide available online from the Tertiary Education Commission. http://www.tec.govt.nz/funding_guide/student_component/4_4.htm. The definition used in this report differs from the definition of full-time full-year study used for determining eligibility for Student Loans and Student Allowances, which is 0.8 EFTS.

[2] Other interesting measures of completion, such as course completion rates and completion of qualifications at different levels to the one started are not covered in this study.

- There is a strong relationship between study load and completion. The lower the EFTS studied per year, the lower the rate of completion. This holds across all levels of study up to an EFTS value of 1.0. Study loads above this do not seem to increase or decrease overall rates of completion.

- Around 19% of students studied full-time for a full-year (ie at 1.0 EFTS or more) in 2003. The level of full-time full-year study fell noticeably between 1998 and 2001, with a more gradual decline and levelling off between then and 2003. The average student starting in 1998 studied at 0.62 EFTS over the course of their study.

- While 57% of students starting a qualification in 1998 had not completed at that level six years later, these students used 33% of the total EFTS used by this cohort. Students starting a sub-degree level qualification in 1998 used 34% of all EFTS used by the 1998 qualification starters between 1998 and 2003. However, they used 47% of the entire EFTS used by students not completing.

- A third of all students starting a qualification in 1998 left in their first year. Of all the students who left without completing, most (62%) did so in their first calendar year of study. Over three-quarters (77%) of people who left without completing a qualification left after one year or less of equivalent full-time study.

- In terms of EFTS years, 38% of completers took longer than the time 'prescribed' by their institution for that qualification. This was highest for bachelors graduates at 56%, and doctoral graduates at 47%, and least for shorter qualifications.

- While 41% of certificate starters were enrolled in more than one calendar year, just 18% were enrolled for more than one equivalent full-time year. By contrast, around 35% of bachelors students enrolled in more than three calendar years, while around 36% were enrolled in more than three EFTS years. Around 44% of doctorate starters were enrolled more than four calendar years, while 35% were enrolled more than four EFTS years.

- Doctorate starters persist longer in their studies than students at other levels. Over one in five of the 750 students starting a doctorate in 1998 were still studying in 2003. Of these, some 72% had spent more than four years of equivalent full-time study. A further 7% of starters were not enrolled in 2003, but had also spent more than four EFTS years. Overall around 35% of doctorate students had spent more than four EFTS years.

- Common departure points for certificate students (both completers and non-completers) are at 0.1, 0.5 and 1.0 EFTS years. Around 30% of non-completers left after 0.1 EFTS of study, while 22% of completers left after 1.0 EFTS year.

- Common departure points for bachelors non-completers are at 0.3, 0.5 and 1.0 EFTS years, while the main departure points for completers are at 3.0 and 4.0 EFTS years.

- While the main departure points for doctorate non-completers are at 0.5 and 1.0 EFTS years, more will persist to two, three, four and five EFTS years; there is closer alignment between completers and non-completers in departure points at three, four and five EFTS years.

2 Introduction

Over the latter part of the 1990s and the early 2000s, the proportion of students in part-time part-year study increased noticeably, with more part-time lower level qualifications offered and more flexible learning options available. This was partially in response to the needs of older students wanting to study and combine this with work or family responsibilities, and was particularly the case at polytechnic and wānanga providers. The stronger economy over this period has also been one of the likely factors influencing the shift towards more students combining work with study.

This trend has raised interest in the impact of part-time study on indicators such as participation, duration, attrition, completion and system efficiency. For example, while we know that around half of all students starting a qualification do not complete it, the majority of those will leave during their first year, having used relatively few resources. So what percentage then of *equivalent full-time study* does not lead to a qualification? Similarly, many part-time students will take many years to complete a qualification. Do these students use more resources, over the duration of their studies, than someone studying full-time?

Information on the numbers of students in the tertiary education sector is usually presented in two ways: the *numbers* of students (ie headcounts) or in terms of EFTS. One full-time student using this measure is approximately equivalent to 1,200 hours of study a year, or 35 hours a week for 34 weeks a year, and each student's total annual study load can be represented as a fraction of one EFTS [3].

Traditionally, interest in an EFTS analysis of enrolments has been driven from a resourcing perspective – naturally so, as EFTS are the principal metric for calculating government tuition subsidies. However, in this study, we explore three additional aspects of tertiary study from an equivalent full-time study perspective: duration of study, attrition and completion.

The study takes the cohort of domestic students starting at any public provider in 1998, tracks their equivalent full-time enrolment to study the attrition and completion of this group over the six-year period until the end of 2003. Details on the numbers in this study are contained in Table 1 below. More details on the data, definitions and methods used for this study can be found in the technical notes section at the end of this report.

[3] These are approximate rules for full-time equivalent study. Actual EFTS values are determined by each provider and submitted to the tertiary Education Commission for approval for funding purposes. This report is based on these approved values. For a detailed description of how EFTS is determined refer to section 4 of the 2005 Tertiary Funding Guide, available online from the Tertiary Education Commission.
http://www.tec.govt.nz/funding_guide/student_component/4_4.htm

Table 1: Students in this study

Qualification level	1998 starting students		EFTS used between 1998 and 2003		Completed by 2003	Left without completing by 2003	Still studying in 2003
	Number	Percent	Number	Percent			
Certificate	54,470	40%	36,826	22%	34%	62%	4%
Diploma	20,000	15%	20,652	12%	27%	69%	3%
Bachelors	36,190	27%	86,009	51%	48%	46%	6%
Honours, PG Cert/Dip	13,660	10%	13,573	8%	53%	45%	2%
Masters	4,530	3%	6,994	4%	56%	41%	3%
Doctorate	750	1%	2,473	1%	33%	45%	22%
All levels	134,800	100%	168,153	100%	38%	57%	4%

Notes:

1. The percentage completing excludes those who completed at a different level to the one started at.
2. See technical notes on page 21 for full table notes and definitions.
3. The final doctorate completion rate has been estimated elsewhere[4] to be between 54%-57%. Many doctoral students (22%) were still studying after six years, and a reasonable proportion of those not enrolled in 2003 had already completed two, three or four years of doctorate study, and may return in a later year to complete.

[4] Ministry of Education, 2004, *Retention, Completion & Progression in Tertiary Education 2003*.

3 How much tertiary study is full-time?

Less than one in five students (19%) study full-time for a full year, that is, at 1.0 EFTS or more[5]. It is important to note, however, that many students whose programmes of study are less than a year, such as many students enrolled in certificate level study, may still be studying full-time, but for part of the year only.

The level of full-time full-year study has fallen since 1998, with most of the shift to part-time or part-year study occurring in 1999, 2000 and 2001. This was largely as a result of the expansion of sub-degree study at private providers, wānanga and polytechnics over this period. Much of this increase has been in students aged over 30, many of whom are combining study with other work or family commitments. By contrast, the level of full-time, full-year study at bachelors level has remained constant since 1998 at around 42%.

Doctorate students are more likely to be full-time than any other students although the proportion in full-time full-year study at the doctoral level has dropped since 1998. Around 63% were in full-time full-year study in 2003 compared with 74% in 1998.

Table 2: Percent of students who study full-time full-year, 1998-2003

Qualification level	Year						Average 1998-2003
	1998	1999	2000	2001	2002	2003	
Certificate	13%	15%	11%	9%	7%	7%	10%
Diploma	26%	28%	21%	19%	21%	22%	23%
Bachelors	43%	42%	42%	42%	42%	44%	42%
Honours, Postgrad Cert/Dip	30%	28%	20%	19%	19%	18%	22%
Masters	39%	35%	36%	28%	26%	24%	31%
Doctorate	74%	74%	79%	72%	58%	63%	70%
Over all levels	28%	29%	24%	22%	19%	19%	24%

Notes:
1. A full-time full-year student is defined as someone whose combined EFTS use for a year is 1.0 EFTS. This excludes those full-time students who study for part of the year (eg many certificate level students).
2. See technical notes on page 21 for full table notes and definitions.

The average student's study load increased each year of study, up to the typical year of completion for a qualification, then it began to drop. Students persisting after this were more likely to be studying part-time.

Table 3: Average study load (EFTS per student) by year of study

Qualification level	Year of Study						Over all years of study
	1	2	3	4	5	6	
Certificate	0.44	0.41	0.38	0.35	0.34	0.37	0.41
Diploma	0.58	0.56	0.53	0.44	0.40	0.36	0.56
Bachelors	0.79	0.84	0.93	0.81	0.71	0.63	0.84
Honours, Postgrad Cert/Dip	0.65	0.59	0.43	0.39	0.38	0.38	0.59
Masters	0.76	0.69	0.58	0.50	0.47	0.46	0.69
Doctorate	0.85	0.86	0.94	0.87	0.75	0.73	0.86
Over all levels	0.58	0.62	0.74	0.65	0.54	0.48	0.62

Notes: See technical notes on page 21 for full table notes and definitions.

[5] In this study, 1.0 EFTS is used to represent a full-time full-year student. This differs from the definition of full-time full-year study used for determining eligibility for Student Loans and Student Allowances, which is 0.8 EFTS.

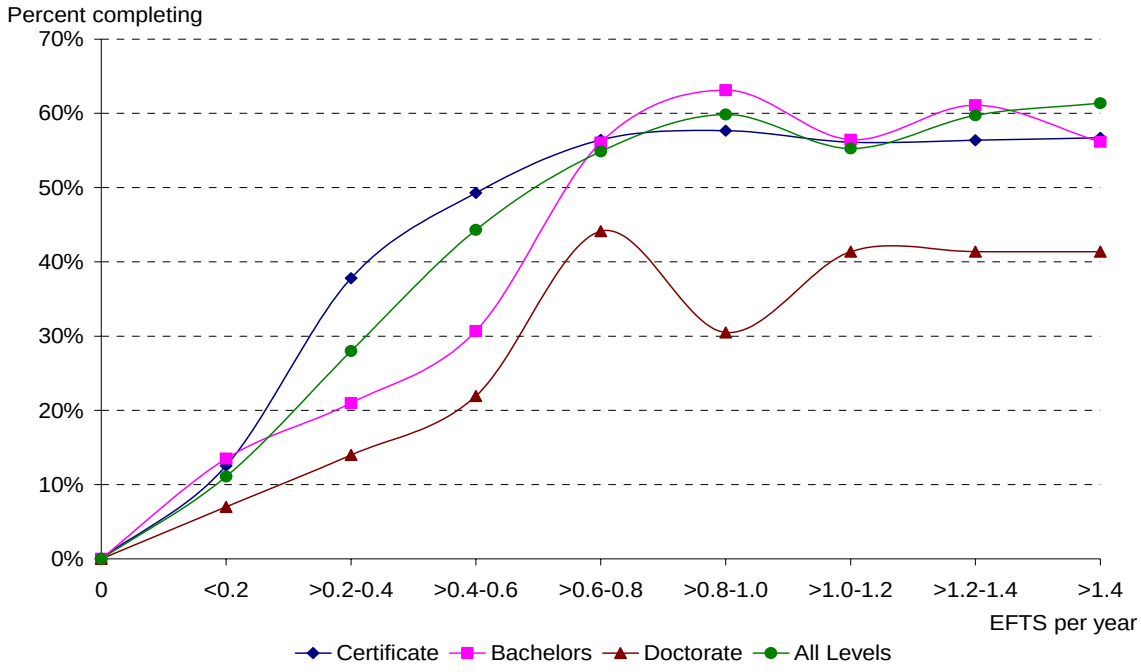
4 Full-time students are more likely to complete

Overseas research has established a positive relationship between the amount of time committed to study and the chance of successfully completing[6].

For New Zealand domestic students starting a qualification in 1998, there is a positive linear relationship[7] between EFTS loads per year (up to values of 1.0) and the percentage of students completing. That is, students who committed more time to study were associated with an increased likelihood of completing. This is shown in Figure 1 below.

Interestingly, students who studied more than 1.0 EFTS did not appear to increase or decrease their chance of completion[8]. A dip at doctorate level occurs at loads of 1.0 EFTS, which is the most common level at which doctorate students are enrolled (45%). It is likely that a proportion of students will enrol but will subsequently not be able to devote themselves full-time to study, however because of the self-directed nature of doctoral work they do not formally withdraw.

Figure 1: Full-time students are more likely to complete



Notes:
1. EFTS per year represents the average EFTS use per student over each year they are enrolled for between 1998 and 2003.
2. See technical notes on page 21 for full table notes and definitions.

[6] See for example, McInnis, Hartley, Polesel, Teese (2000), *Non-Completion in Vocational Education and Training and Higher Education*, page 37. Also O'Toole, Stratton, Wetzel (2003) *A longitudinal analysis of part-time enrollment and the persistence of students who enrol part time* in Research in Higher Education Vol. 44, No. 5.
7 Correlation coefficients range by qualification level between 0.6 – 0.9.
[8] Less than 9% of students studied at more than 1 EFTS, 5% at 1.1, 2% at 1.2 and less than 1% at 1.3 or more.

5 Average time to completion or withdrawal

On average, a student who started a bachelors degree in 1998 took 3.1 EFTS years to complete, and was enrolled with or without breaks over four calendar years. Students who did not complete left after an average of 1.3 EFTS years and, of these, half left in the first year.

Students completing doctorates took on average 3.9 EFTS years to complete, but, unlike other levels of study, more of those who left without completing persisted beyond their first year. In fact, half of those leaving did so after two equivalent full-time years of doctoral study[9]. In general, students at postgraduate level are more likely to persist longer than undergraduate students before withdrawing.

Table 4: Median time in study – for completers and non-completers

Qualification level	Median calendar years enrolled			Median equivalent full-time years enrolled		
	All	Completers	Non-completers	All	Completers	Non-completers
Certificate	1	1	1	0.5	0.8	0.3
Diploma	1	2	1	1.0	1.2	0.5
Bachelors	3	4	1	2.2	3.1	1.0
Honours, PG Cert/Dip	1	2	1	1.0	1.0	0.5
Masters	2	2	1	1.5	1.8	1.0
Doctorate	4	4	2	3.5	3.9	2.0
All levels	2	2	1	0.9	1.1	0.5

Notes:
1. The percentage completing excludes those who completed at a different level to the one started at.
2. 'All' includes those still studying in 2003.
3. See technical notes on page 21 for full table notes and definitions.

Table 5: Mean time in study – for completers and non-completers

Qualification level	Mean calendar years enrolled			Mean equivalent full-time years enrolled		
	All	Completers	Non-completers	All	Completers	Non-completers
Certificates	1.6	1.8	1.4	0.7	0.8	0.5
Diplomas	1.8	2.2	1.6	1.0	1.5	0.8
Bachelors	2.8	3.6	1.8	2.4	3.1	1.3
Honours, PG Cert/Dip	1.7	1.8	1.4	1.0	1.2	0.7
Masters	2.2	2.4	1.8	1.5	1.7	1.2
Doctorate	3.8	4.2	2.7	3.3	3.5	2.3
All levels	2.0	2.5	1.5	1.2	1.8	0.7

Notes:
1. The percentage completing excludes those who completed at a different level to the one started at.
2. 'All' includes those still studying in 2003.
3. See technical notes on page 21 for full table notes and definitions.

[9] Many doctoral students extend their study over a long period, greater than the six year window analysed in this study. It is likely that a proportion of those who have left after one or two full-time years of study may return to complete in the future. This will be revealed as the time span of available longitudinal data grows.

Table 6: What percentage of students leave in the first year?

Qualification level	Percentage of all starting students who left in the first year without completing	Percentage of non-completers enrolled in exactly one calendar year between 1998 and 2003	Percentage of non-completers enrolled for one EFTS year or less between 1998 and 2003
Certificate	40%	65%	90%
Diploma	43%	61%	74%
Bachelors	25%	56%	54%
Honours, Postgrad Cert/Dip	30%	67%	80%
Masters	20%	50%	57%
Doctorate	17%	37%	40%
All levels	33%	62%	77%

See technical notes on page 21 for full table notes and definitions.

Table 6 shows first year attrition, on a calendar year basis and an EFTS year basis. The level of first year attrition is naturally related to the length of qualification; the highest first year attrition rates are in the one and two year certificate and diploma level qualifications. The higher the level of full-time full-year study, such as for bachelors and doctorate levels, the less the difference was between calendar year and EFTS year attrition in the first year.

Table 7: Rates of completion – actual compared with part-time part-year adjusted

Qualification level	Actual (calendar) or Adjusted (EFTS)	Year of study					
		1 year or less	up to 2	up to 3	up to 4	up to 5	All
Certificate	Calendar	18%	27%	31%	33%	34%	34%
	EFTS	23%	31%	33%	34%	34%	34%
Diploma	Calendar	10%	17%	23%	26%	27%	27%
	EFTS	10%	20%	26%	27%	27%	27%
Bachelors	Calendar	4%	8%	24%	38%	45%	48%
	EFTS	5%	9%	21%	36%	43%	48%
Honours, PG Cert/Dip	Calendar	26%	42%	49%	52%	53%	53%
	EFTS	32%	47%	52%	53%	53%	53%
Masters	Calendar	11%	33%	47%	53%	55%	56%
	EFTS	13%	43%	54%	56%	56%	56%
Doctorate	Calendar	2%	3%	7%	18%	28%	33%
	EFTS	3%	5%	11%	21%	30%	33%
All levels	Calendar	13%	21%	29%	34%	37%	38%
	EFTS	16%	24%	30%	35%	37%	38%

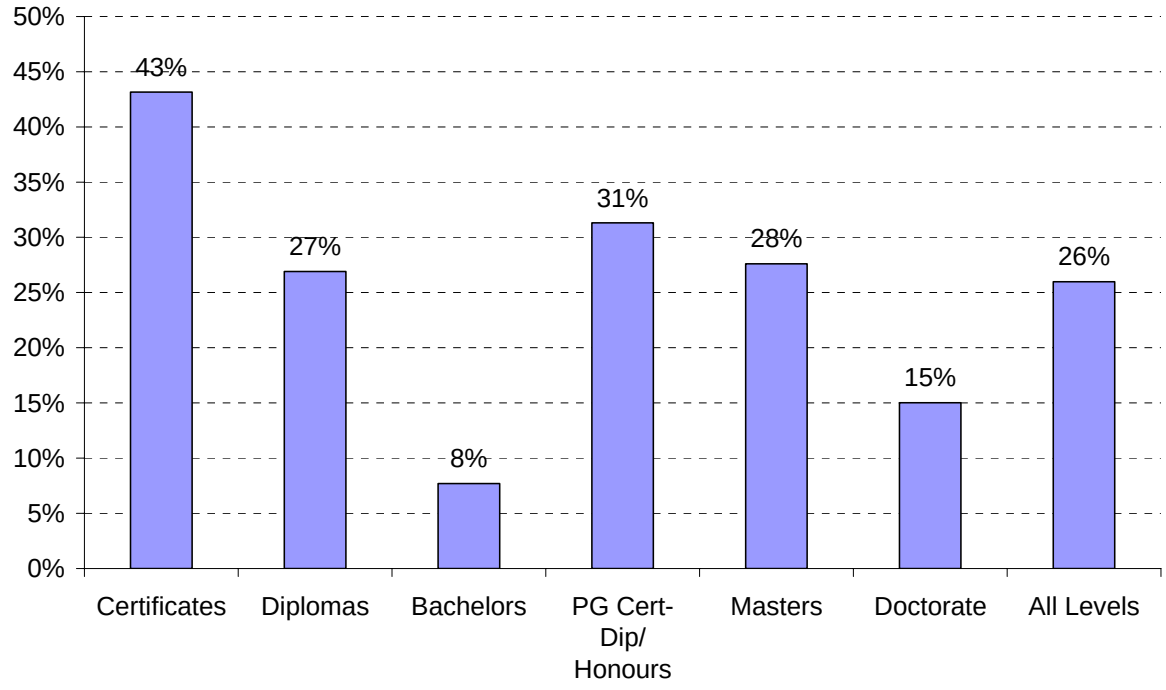
Notes:
1. The percentage completing excludes those who completed at a different level to the one started at.
2. The small number of students completing multi-year qualifications in the first year of study can be partially explained by transfer of credit for prior learning from qualifications at a different level, and also in part to data matching.
3. See technical notes on page 21 for full table notes and definitions.

Table 7 compares rates of completion by year of study – calendar years of enrolment compared with EFTS years of enrolment. Again the greatest differences are seen at those levels with the least full-time full-year study. For example, after one year of certificate study, where 18% had completed after one calendar year, compared with 23% after one EFTS year. At bachelors level we see *fewer* students completing after three EFTS years,

compared with three calendar years of study. This is explained by the high number of completers who take a little more than three EFTS years to complete. The median prescribed time for a bachelors degree was 3.0 EFTS years, but the median actual time was 3.1 EFTS years. While 24% had completed after three calendar years of enrolment, some of these 24% used a little more than three EFTS years.

By dividing the total EFTS years used by the total number of calendar years used by the same students, we get a proxy for how much faster completion rates might be if all students studied full-time[10]. This is shown in Figure 2 below.

Figure 2: How much faster are completion rates when adjusted for part-time study?



Notes:
1. The graph shows the percentage gain in years when the combined EFTS-years of study taken to complete are compared with the combined calendar years taken to complete.
2. See technical notes on page 21 for full table notes and definitions.

When adjusted for part-time, part-year study and breaks, completion rates were sped up by 26%. That is, the number of total EFTS years taken for a student to complete their qualification was around 26% less than the number of calendar years they were enrolled in.

The gains were highest for the shorter one or two year qualifications, where there was less full-time full-year study, and lowest at the bachelors and doctorate level qualifications, where more students were studying full-time.

[10] This should be treated as a crude proxy only, as it is likely that a part-time student's EFTS time to completion would reduce if that same student studied full-time.

6 What percentage of study does not lead to a qualification?

From Table 1, around 38% of students who started a qualification in 1998 had completed at that level six year later. A further 5% were still studying, while an estimated 57% had left without completing a qualification at the level they started[11]. This has given rise to claims of excessive 'wastage', in particular in the context of the large expansion in government subsidised sub-degree level enrolments since 1999, where non-completion rates are normally higher.[12]

A recent New Zealand study[13] confirmed the overseas research that most withdrawal from study occurs in the first year. As government funding is largely based on EFTS, it is interesting to also look at the percentage of EFTS that are used by students who leave without completing a qualification.

Table 8: What percentage of equivalent full-time study does not lead to a qualification?

Qualification level	Percentage of starting students who haven't completed	Percentage of total EFTS used by those not completing at this level	Percentage of non-completing EFTS used by each level	Percentage of all EFTS used by each level
Certificate	62%	42%	28%	22%
Diploma	69%	52%	19%	12%
Bachelors	46%	25%	38%	51%
Honours, Postgrad Cert/Dip	45%	31%	7%	8%
Masters	41%	31%	4%	4%
Doctorate	45%	32%	1%	1%
All levels	57%	33%	100%	100%

Notes:
1. The percentage not completing includes those who completed at a different level to the one started at, or who are still studying.
2. A small percentage of EFTS is used by students studying at other levels than those shown. These are included in the 'All levels' totals but not shown separately.
3. See technical notes on page 21 for full table notes and definitions.

Table 8 compares headcount with EFTS to provide two different measures of attrition. Students who started but did not complete lower level qualifications used proportionately more EFTS than those not completing the higher levels. While 46% of students starting a bachelors degree did not complete it, these students used around 25% of the total EFTS used in bachelors level study over the six years. This reflects the high proportion of non-completers who leave during the first year.

Over all levels, 57% of students did not complete a qualification at the level they started, but used just 33% of all the EFTS used by the cohort over the six year period. While sub-degree level study comprised a third (34%) of all EFTS used between 1999 and 2003, around 47% of all EFTS used by students not completing were at sub-degree level, reflecting the lower completion rates at these levels.

[11] These figures exclude those who completed at a different level to the one they started. Of those starting in 1998, 3% had completed a qualification at a different level to the one they started. An estimated 52% of students had left without completing any qualification.

[12] Not all attrition is bad, and not all resources that are used by students leaving without gaining a qualification are 'wasted'. For example, students who enrol for a qualification but abandon it once they have met vocationally related objectives, which may be after passing only two or three courses. For a good summary of this issue, see McInnis, Hartley, Polesel, Teese (2000), *Non-Completion in Vocational Education and Training and Higher Education*, pages 8-10.

[13] Ministry of Education (2004) *Pathways in Tertiary Education 1998-2003*. www.minedu.govt.nz/goto/tertiaryanalysis.

7 Do students take longer than they should?

We know from earlier studies than many students take longer than the 'normal' time prescribed by institutions to complete a qualification[14]. This largely reflects the many New Zealand students who are undertaking study part-time.

The question is then asked, how long do people take to complete if we adjust for time not in study? That is, how long would people take if everyone studied full-time continuously over the duration of the qualification?

Table 9: Percent of completers who complete in the prescribed time

Qualification level	Median prescribed qualification EFTS years (for all starters)	Median prescribed qualification EFTS years (for those completing)	Median actual EFTS years used by those completing	Percent of completers who complete in the prescribed time
Certificate	0.6	0.6	0.8	67%
Diploma	2.0	2.0	1.2	73%
Bachelors	3.0	3.0	3.1	44%
Honours, Postgrad Cert/Dip	1.0	1.0	1.0	78%
Masters	2.0	2.0	1.8	72%
Doctorate	4.0	4.0	3.9	63%
All levels	1.0	1.2	1.1	62%

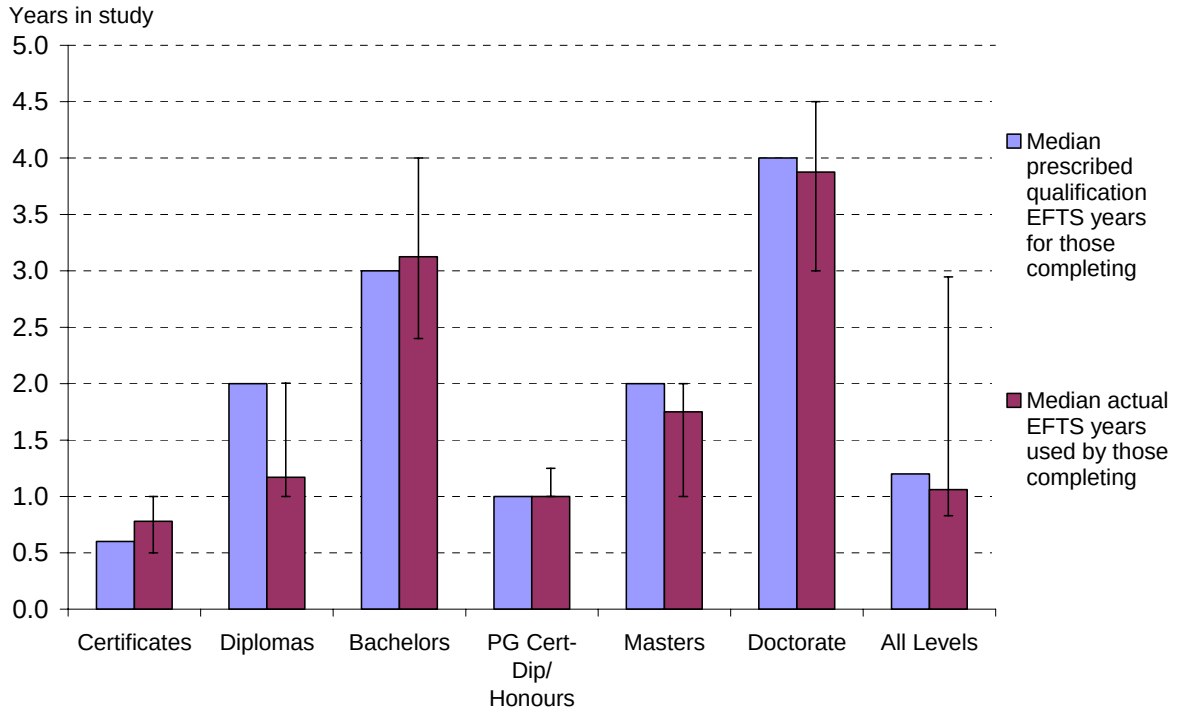
Notes:
1. Percent completing is based on whether the student completed in the prescribed time of the specific qualification they enrolled in rather than if they completed in the overall mean or median prescribed time as given in the table.
2. The percentage completing excludes those who completed at a different level to the one started at.
3. See technical notes on page 21 for full table notes and definitions.

Table 9 shows that even after adjusting for part-time study, around 38% of completers take longer than the prescribed time to gain all the requirements for the qualification. Diploma completers, both undergraduate and postgraduate, are more likely than other students to complete within the prescribed time.

There are a number of reasons why students may take longer than the prescribed time to complete. These include failing and re-sitting of particular courses, papers, units or modules within the qualification, or a change of qualification or specialisation during study. Given that bachelors degrees would generally have the highest number of unit, module or course components, this explains, in part, why the percent of bachelors students completing 'in time' is the lowest of any level. This rate reflects also the fact that many students take extra papers or options that result in a total of more than three EFTS years.

[14] Ministry of Education (2004) *Pathways in Tertiary Education 1998-2003*. Available at www.minedu.govt.nz/goto/tertiaryanalysis.

Figure 3: Actual time to completion compared with prescribed time to completion



Notes:
1. The error bars show the inter-quartile range, that is the duration of study from the 25th percentile student to the 75th percentile student. The nth percentile is the mark at which n% of students are at or below.
2. The percentage completing excludes those who completed at a different level to the one started at.
3. See technical notes on page 21 for full table notes and definitions.

Figure 3 compares median actual time to completion with the median prescribed time to completion for qualifications at that level. The differences at diploma level relate largely to changes in provision of teaching qualifications around 1999. Degrees in education or teaching became more common in 1999, and subsequently a large percentage of college of education students who started a teaching diploma in 1998 switched to degrees in 1999. This artificially lowered the real completion rate for students beginning a diploma in 1998.

8 Persisting in study from year to year

Around 49% of all students starting any qualification in 1998 were enrolled in one calendar year only, 23% in two calendar years and 28% in three or more calendar years. The average number of years enrolled was two. Table 10 shows the effect on the duration of study, when this study is compressed into EFTS.

Table 10: Percent of students persisting in study from year to year

Qualification level	Calendar years of study						
	1	2	3	4	5	6	All years
Certificate	58.6%	26.9%	8.8%	3.5%	1.5%	0.6%	100.0%
Diploma	52.2%	26.5%	12.3%	5.4%	2.4%	1.2%	100.0%
Bachelors	28.9%	14.7%	21.8%	18.3%	10.3%	6.1%	100.0%
Hons, PG Cert/Dip	56.5%	27.2%	10.3%	4.4%	1.3%	0.3%	100.0%
Masters	31.9%	34.1%	18.4%	9.9%	4.5%	1.3%	100.0%
Doctorate	18.8%	7.9%	10.8%	18.5%	21.1%	22.9%	100.0%
All levels	49.3%	23.3%	13.0%	8.0%	4.1%	2.3%	100.0%
Qualification level	Equivalent full-time years of study						
	1 year or less	More than 1 and up to 2	More than 2 and up to 3	More than 3 and up to 4	More than 4 and up to 5	More than 5 years	All years
Certificate	81.7%	12.4%	4.7%	0.9%	0.2%	0.0%	100.0%
Diploma	66.4%	15.0%	14.2%	3.6%	0.7%	0.1%	100.0%
Bachelors	31.0%	13.8%	12.9%	23.0%	11.2%	8.1%	100.0%
Hons, PG Cert/Dip	69.3%	17.8%	10.9%	1.7%	0.3%	0.1%	100.0%
Masters	37.0%	23.5%	33.5%	4.5%	1.2%	0.2%	100.0%
Doctorate	20.7%	3.7%	11.5%	18.7%	24.3%	21.2%	100.0%
All levels	63.3%	13.7%	9.8%	7.5%	3.4%	2.4%	100.0%

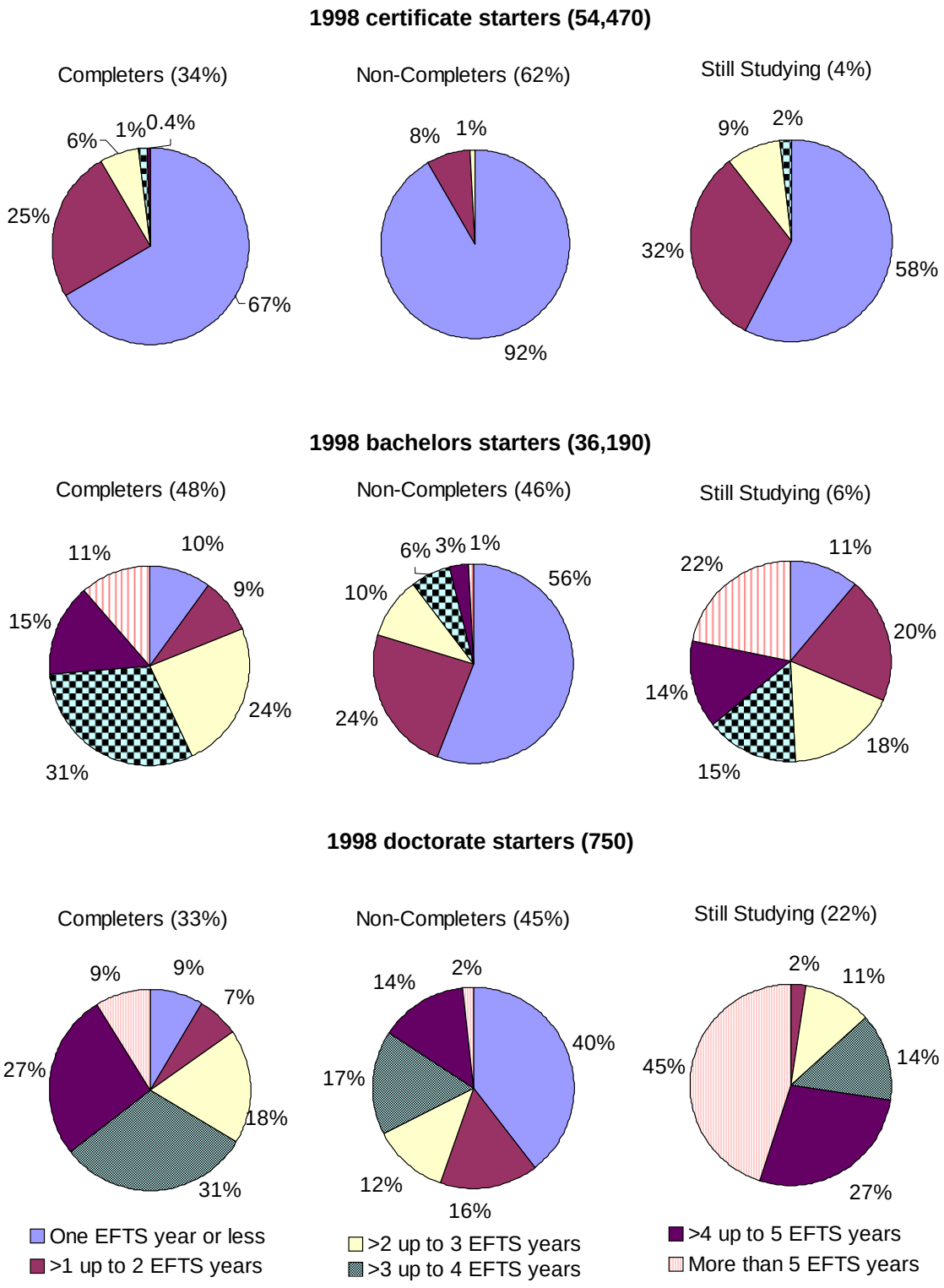
See technical notes on page 21 for full table notes and definitions.

While 41% of certificate starters were enrolled in more than one calendar year, just 18% were enrolled for more than one EFTS year. By contrast, the difference for bachelors and doctorate students was much less (71% and 69% for bachelors, and 81% and 79% for doctorates), reflecting the lower proportion of part-time, part-year study, and the longer length of qualifications at these levels,.

Around 35% of bachelors students enrolled in more than three calendar years, while around 42% were enrolled in more than three EFTS years. Around 44% of doctorate starters were enrolled for more than four calendar years and 45% were enrolled for more than four EFTS years.

Figure 4 shows these distributions graphically for certificate, bachelors and doctorate starters and by those completing, non-completing and still studying in 2003.

Figure 4: Persisting in study, certificate, bachelors and doctorate students over 6 years



Notes:

1. Still studying includes all those who were enrolled in 2003 who had not yet completed. This will include a number who started in 1998, had a break in following years and returned in 2003.
2. See technical notes on page 21 for full table notes and definitions.

From Figure 4:

- Around 55% of bachelors completers took three to four EFTS years to complete their degrees.

- A quarter of those students completing their bachelors degree took more than four EFTS years to complete their degree and 57% spent more than three EFTS years.

- 4% of 1998 certificate starters had not completed and were still enrolled at certificate level in 2003. Of these, 89% had spent two or less EFTS years in study and 11% had spent more than two EFTS years in study.

- Of those who started a bachelors degree and left without completing it, 56% spent one EFTS year or less, while 10% spent more than three EFTS years. While these students were not enrolled in 2003, some may return in the future to complete[15].

- While 33% of students who completed a certificate were enrolled in more than one EFTS year, just 9% of non-completers were.

- In 2003, 6% of 1998 bachelor starters had not completed and were still enrolled at bachelors level. Just over half of these had spent more than three years in EFTS, while just under a third had spent two or less EFTS years. Around 22% of those still studying (about 480 students) had spent more than five EFTS years at bachelors level.

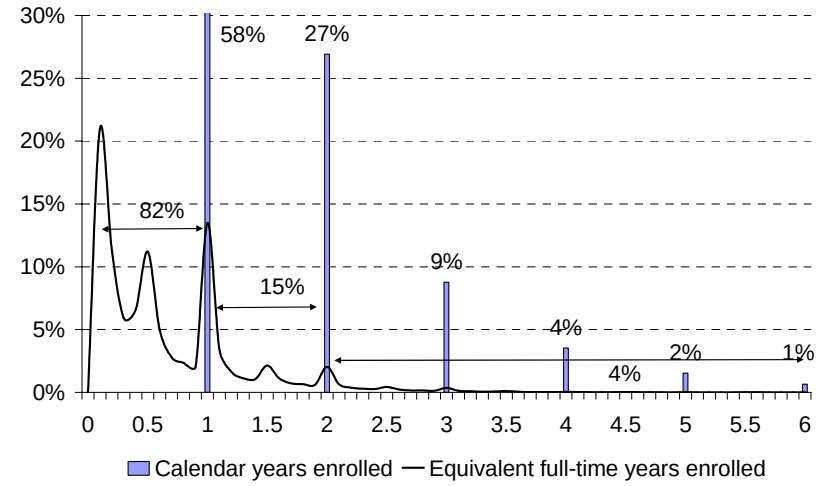
- Doctorate starters differ significantly from other levels in the numbers persisting to completion beyond the average four year 'prescribed' period. Over one in five students starting a doctorate in 1998 were still studying in 2003. Even accounting for breaks in study, some 72% of those still studying had spent more than four years in EFTS. Of the 750 students starting a doctorate in 1998, around 10% had spent more than five EFTS years and were still studying in 2003.

- Most doctorate non-completers leave having used one EFTS or less (as with all other levels). However, unlike other levels, the proportions persisting beyond their first, second, third of even fourth EFTS year before leaving are noticeably higher than other levels. Some 16% of doctoral non-completers had spent more than four EFTS years. It is likely that a reasonable proportion of these may be taking a break in 2003 and return to complete in a later year.

[15] Attrition has been derived by counting those starters who had not completed and were not enrolled in 2003. The current data sources do not yet permit a longer view, and an unknown proportion may return to complete in the future.

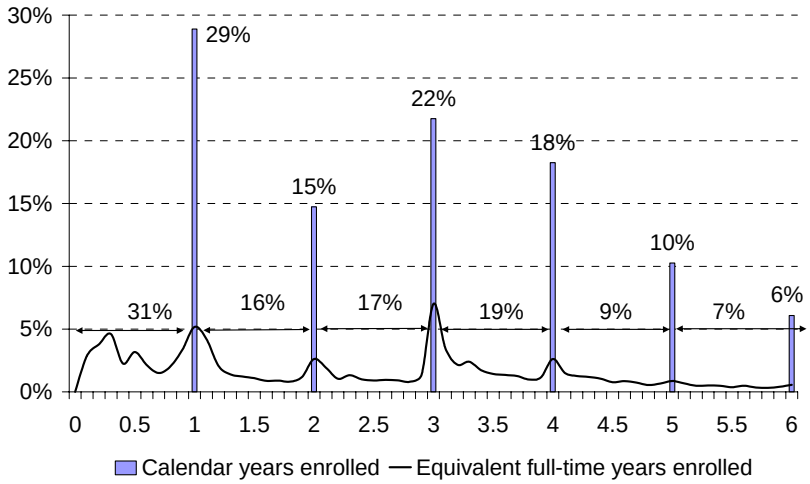
Figure 5: Distribution of years enrolled for certificate, bachelors and doctorate starters

1998 certificate starters by number of EFTS years studied



Part-time part-year study at certificate level is more likely to result in students enrolling in more than one calendar year. While most certificates require less than one EFTS year of study, some 42% were enrolled in more than one calendar year, while 19% were enrolled in more than one EFTS year. The peaks at 0.3 and 0.5 EFTS reflect common departure points for those non-completing.

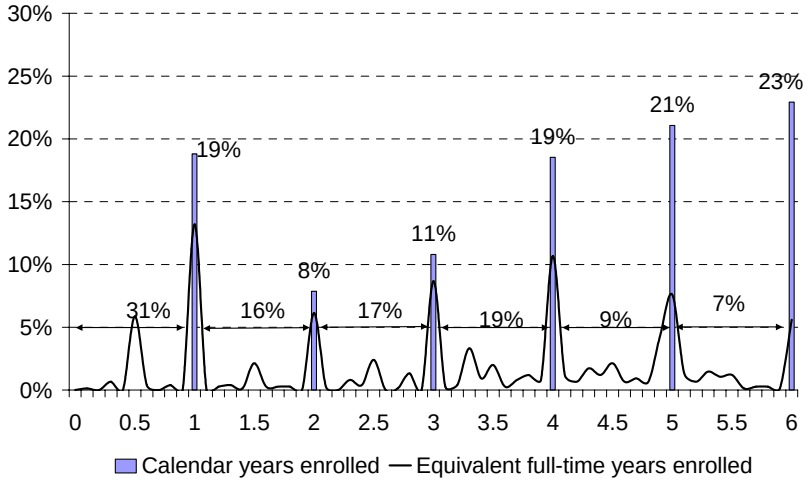
1998 bachelors starters by number of EFTS years studied



By contrast, the higher level of full-time bachelors students is reflected by the similarity in the distributions of calendar and EFTS years of study.

Common departure points for non-completers occur at 0.3 and 0.5 and 1.0 EFTS, while we see the expected peaks at 3.0 and 4.0 years for completers.

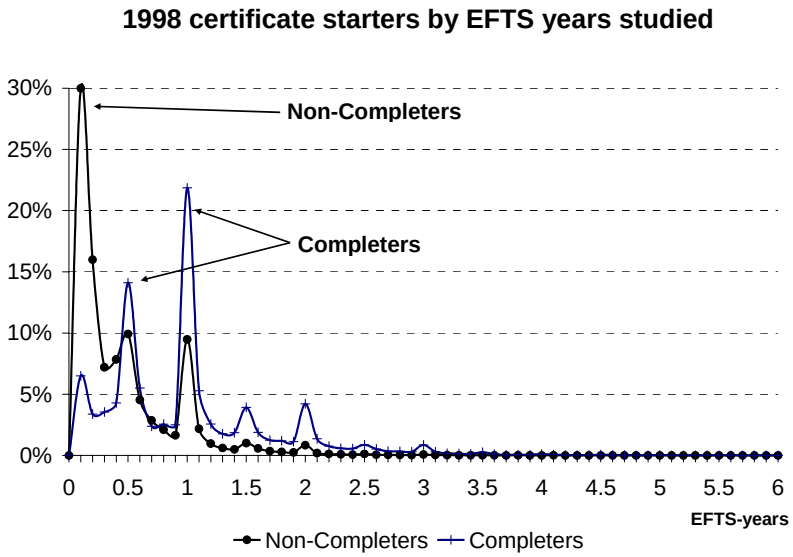
1998 doctorate starters by number of EFTS years studied



Doctorate students, both completers and non-completers stay longer. While the main departure points for doctorate students are at 0.5 and 1.0 EFTS, the percentage enrolled for more than two calendar years increases each year, to beyond the fourth calendar year of enrolment. Similarly, the peaks at three, four and five EFTS years include a higher proportion of non-completers than for other levels.

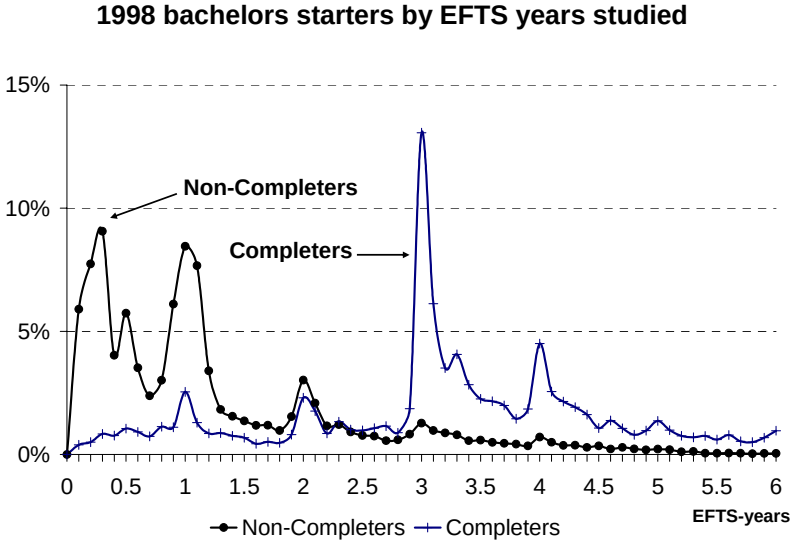
Figure 6: Distribution of EFTS years enrolled for completers and non-completers

A significant 30% of certificate non-completers leave at 0.1 EFTS (3 to 4 full-time weeks). While the main departure points for non-completers are in the first EFTS year, at 0.1, 0.5 and 1.0 in particular, many completers also leave with less than 1.0 EFTS years of study. Around 6% complete after 0.1 EFTS, 14% complete at 0.5 EFTS and 22% at 1.0 EFTS.

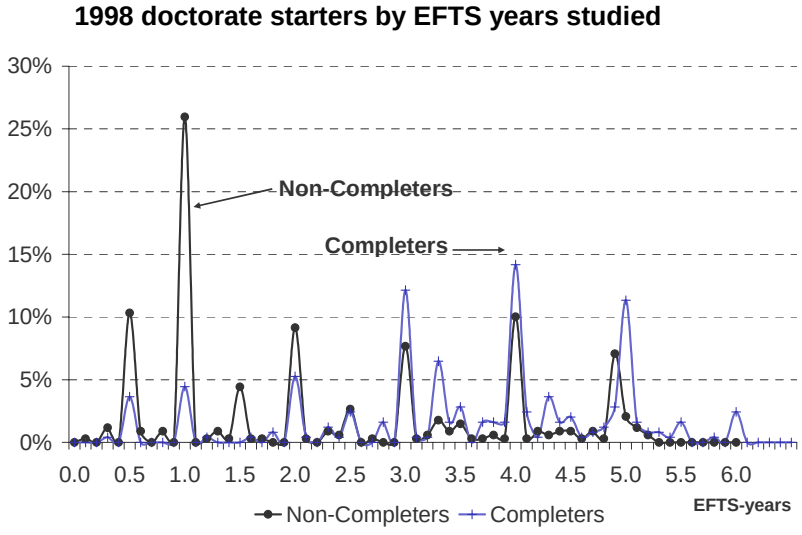


The longer length of bachelors degrees acts to show the more marked difference in duration between non-completers and completers at this level.

There are significant departure points at 0.3, 0.5 and 1.0 EFTS years for non-completers, with the major departure points for completers at 3.0 and 4.0 EFTS years as expected.



With the exception of normal first year departure, the longer persistence of doctorate non-completers is shown in the figure alongside, with much closer alignment in the two distributions at longer lengths of study.



Technical notes

This study builds on earlier studies of retention and completion published in 2004[16].

The main source of rates comes from a derived dataset matching unit record qualification enrolment records with completion records over the period 1994 to 2003. The Ministry of Education's Single Data Return survey[17] provided both source enrolment and completions data.

The methodology used to calculate rates was developed internally within the Ministry of Education. As there was no unique student identifier in the data prior to 2003 with which to match students across providers and years exactly, other fields collected in the SDR were used to estimate whether a student was also enrolled in other years.

For a full report on the data and methodology used, and a discussion and assessment of the quality of the matching, refer to the project's technical documentation and matching assessment reports[18].

All data in this study relates to domestic students who started a formal programme of study of greater than one equivalent full-time week of study at a public tertiary education provider in 1998.

Parts of the tertiary education sector not included were:

- Students continuing a qualification started before 1998.
- Students at private tertiary education providers.
- International students.
- Learners engaged in on-job training.
- Learners in non-formal study, such as adult and community education.
- Students whose total EFTS was less than a week per year.

Completers were defined as those students who had successfully completed a qualification at the same level as the one they started by the end of 2003. This definition excludes those who complete at a different level to the one they started at or those who return to complete after 2003. This study does not capture those students whose qualification is awarded by a non-provider organisation, such as the New Zealand Qualifications Authority or an Industry Training Organisation where a completion record is not supplied by the enrolling provider as part of the Single Data Return. Importantly, the term 'completion' in this report is used to refer to successful completion of a *qualification* rather than a *course*.

Non-completers are defined as those students who had not successfully completed a qualification at the same level as the one they started in 1998 and who were not enrolled in

[16] Ministry of Education, (2004) *Retention, Completion & Progression 2003, Pathways in Tertiary Education 1998-2003,* and *New Zealand's Tertiary Education Sector Profile & Trends*, all available at www.minedu.govt.nz/goto/tertiaryanalysis
[17] Single Data Return (SDR) is the name of the electronic survey of information collected from tertiary education providers. For more information on the information collected see www.steo.govt.nz.
[18] Ministry of Education, (2004) *Retention, Completion & Progression 2003, Technical Documentation*. and Ministry of Education (2005) *Assessment of Matching*, both at www.minedu.govt.nz/goto/tertiaryanalysis

2003. Some non-completers will subsequently return in later years and complete, while some non-completers will have completed a qualification at a different level.

Still-studying students are those residual (neither completers nor non-completers) students who haven't completed a qualification at the level they started, and who were enrolled in 2003. Many of this group will have taken a break at some time since starting in 1998.

Equivalent full-time student (EFTS) is defined in the Tertiary Funding Guide[19] as 'The measure of tertiary teaching input for Student Component funding. EFTS is the length, in part or whole academic years, that it would take an average, full-time learner to complete a qualification. One (1.0) EFTS unit is defined as the student workload that would normally be carried out in a single academic year (12 month period) by a student enrolled full-time, e.g. a bachelor's degree is normally completed in three years and has an EFTS value of 3.0'.

For practical purposes, full-time study is approximately defined as 1,200 learning hours a year or 35 hours for 34 weeks. Tertiary education organisations can define EFTS factors for a qualification using three methods – credits or points, learning hours, or full-time weeks.

In this study, the EFTS use of all qualifications enrolled in by a student at any provider over the course of the period 1998 to 2003 have been aggregated to provide a measure to total the EFTS years enrolled. It is important to note that many students discontinue study without formally withdrawing and so the EFTS used will reflect the same usage as someone who persisted until the end of that year's programme of study. This will tend to overstate the true level of EFTS usage for non-completers.

In 1.6% of cases, the EFTS value in historical data was missing. These cases were excluded from the starting cohort and a separate analysis of these showed negligible impact on the overall results. Some students showed very large EFTS values in a year, some of which represent reporting or collection errors, while others will be valid. For this study, a decision was made to limit the maximum EFTS value for a student over all their enrolments in a year to two. Less than 0.04% of students had a value over this and, overall, less than 9% of students had a combined EFTS value of more than 1.0 – 5% were 1.1, 2% were1.2, and less than 1% were 1.3 or more.

Qualification level is largely based on the *qualification award category* classification[20]. These categories have been grouped according to the levels 1-10 as coded on the New Zealand Register of Quality Assured Qualifications, and by the typical length of qualifications. Where there are noticeable differences in length at a level, the minority exceptions have been removed to avoid distortion of the resulting duration statistics. For example, one year bachelor level graduate certificates and diplomas, and certificates of proficiency have been removed from the bachelors group. While these 'other' qualifications are not shown separately, they are included in the 'All levels' total rows.

In addition, while each student is counted once for each qualification level they started at in 1998, they are only counted once in the 'All levels' total row. Both these rules mean that table columns will generally not add up to the stated total.

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[19] Section 4 of the 2005 Tertiary Funding Guide available online from the Tertiary Education Commission. at http://www.tec.govt.nz/funding_guide/student_component/4_4.htm

[20] See Appendix 9, *Single Data Return, A Manual for Tertiary Education Organisations*, available from the Ministry of Education at http://cms.steo.govt.nz/Downloads/showall.htm