

**Demand and Supply of
Primary and Secondary School Teachers in Australia**

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Chapter 1 Introduction

Background

In 1997 MCEETYA requested the Conference of Education Systems Chief Executive Officers (CESCEO) to establish arrangements for the regular monitoring of supply and demand in the teacher labour market. In response to this request, in September 1997 CESCEO established the Working Party on Supply and Demand for Teachers to prepare a report on supply and demand for teachers in association with the then Commonwealth Department of Employment, Education, Training and Youth Affairs (DEETYA).

The first report was prepared by DEETYA in conjunction with the Working Party and published in 1999. The second, by the then Department of Education, Training and Youth Affairs (DETYA) and the Working Party, was published in 2001. It has been usual practice for MCEETYA to report on this issue every second year.

The 2001 MCEETYA report noted that in recent years there has been concern that Australia is facing significant shortages of primary and secondary teachers. MCEETYA concluded that in 2000 (the 2001 MCEETYA report related to the year 2000) the teacher labour market was broadly in balance across Australia, in both the primary and secondary sectors, and that teacher graduations were expected to be sufficient to meet the demand for new teachers until 2005. However, there were recruitment difficulties in regard to a number of secondary teaching specialisations, including mathematics, science, information and communications technology (ICT), and to a lesser extent languages other than English (LOTE), as well as in rural and remote areas.

Further, MCEETYA pointed to the age profile of the teaching workforce, raising concerns about potential losses of older teachers from retirement. It noted that “retirements as a proportion of the teaching workforce will rise in the current decade and this will increase the pressure on the teacher labour market. This pressure is expected to be greater in the second half of the decade than the first”.¹ It also noted that “there is a general belief that the impact of retirements will be greater for secondary science and mathematics teachers” than possibly secondary teachers in other areas.²

The 2001 MCEETYA report concluded that a further review was needed to ensure timely and accurate information was available on teacher skill shortages and made a number of suggestions for data improvement. MCEETYA has stressed the need for more detailed information on future supply and demand, especially with regard to key specialisations already in shortage. This is an important input in regard to MCEETYA initiatives to develop better quality teachers.

Consideration of issues around the supply and demand for teachers now falls under the terms of reference of the Teacher Quality and Educational Leadership Taskforce (TQELT), established at the twelfth MCEETYA meeting in July 2001.

¹ *Demand and Supply of Primary and Secondary School Teachers in Australia*, July 2001, MCEETYA, p.74.

² *Demand and Supply of Primary and Secondary School Teachers in Australia*, July 2001, MCEETYA, p.78.

This report was prepared by the Department of Education, Science and Training (DEST) and the TQELT Teacher Supply and Demand Working Group.

Improved research methods

This report takes forward MCEETYA's concerns for more detailed reporting on a variety of issues. This has been done through analysis of publicly available information, augmented, as has been the case for past MCEETYA reports on this issue, by survey data to cover areas where publicly available data does not meet the information requirements of the project.

Better quantitative survey instruments

Following extensive consultation with stakeholders, improved survey instruments were developed to gain more informed quantitative data on teacher supply and demand issue from the States and Territories. Survey questionnaires were also redeveloped to minimise respondent burden on the States and Territories.

New non-government schools quantitative surveys

Past MCEETYA reports on this issue have also suffered from a lack of detailed data on the non-Government schools sector. This issue has been addressed for the current report. To assist preparation of this report, for the first time, the non-government schools sector agreed to participate in MCEETYA surveys. Against this background, quantitative survey instruments were developed for the non-government schools sector, along similar lines to those for the government schools sector, through consultation with stakeholders, especially the National Catholic Education Commission and the National Council of Independent Schools Associations.

Additional qualitative research

MCEETYA also endorsed further qualitative research to better inform the debate on teacher supply and demand. Against this background, the Department of Education, Science and Training undertook surveys on factors that are important in attracting people to a career in teaching, and factors that are important in retaining teachers in their profession. This research was funded by the Commonwealth Quality Teacher Programme.

The survey instrument was developed in consultation with a wide range of stakeholders, and took into account advice from the Australian Bureau of Statistics (ABS) on survey design issues and with respect to ensuring the survey has statistical validity. ABS advises that the survey of 2,500 randomly selected teachers is accurate to plus or minus 1 - 2 per cent at the national level. Teachers from both the government and non-government schools sector, for both primary and secondary schools, and for metropolitan and non-metropolitan Australia have been included in this aspect of the research. A similar survey of school principals also formed part of the project.

Complementary research topics

In addition, MCEETYA endorsed additional research to cover topics of special interest to MCEETYA stakeholders. Research topics included:

- Implications of ageing of the national teaching workforce for supply of teachers;
- The influence of gender trends in the teaching workforce for supply of teachers;

- Employment paths of persons with teaching qualifications;
- Trends in supply of mathematics, science and information communication technology teachers; and
- Earnings of teachers by comparison with other professions.

Research on these topics is discussed in the main body of the report.

The project has also involved a major literature review, of both international and domestic literature related to teacher supply and demand issues. Research discussed in the literature has been reviewed against the following themes:

- Factors influencing teaching quality
- Techniques used to assess demand and supply of teachers
- The nature and extent of teacher shortages in Australia and abroad
- Factors that are important in attracting and retaining teachers
- Policy options to improve the supply of teachers.

Period of Analysis

The report includes data published prior to 20 January 2003.

Structure of the Report

The remainder of this report is structured as follows

The report consists of eight parts (A – G).

Part A constitutes a point of reference for the subsequent parts of the report by providing an overview of the main characteristics of the Australian teaching workforce in the decade preceding 2000 or 2001 (depending on the availability of data). It consists of two chapters. Chapter 2 provides a distribution of teachers by State/Territory, sector and type of school. Chapter 3 deals with trends in the teacher labour market in the one or two decades preceding 2000 or 2001 again by State/Territory, sector and type of school. Specifically, it tries to identify teacher supply and demand imbalances in the decade leading to 2000 or 2001.

Part B overviews the state of the teacher labour market in Australia and in selected overseas countries. In Chapter 4, the report summarises the labour market for teachers in each State/Territory and specifies recruitment strategies for dealing with hard-to-fill teacher vacancies. Chapter 5 examines the state of the teacher labour market in the United States of America, United Kingdom, New Zealand and Canada.

Part C provides a future outlook of demand for and supply of teachers. The first two chapters in this Part analyse factors affecting the demand for and the supply of teachers. Chapter 6 identifies two sources of demand for teachers: “growth demand” and “replacement demand”. Chapter 7 identifies four sources of supply of teachers: new graduates, teachers returning from leave and former teachers returning to teaching, the pool of relief, casual and contract teachers and overseas migration. Chapter 8 provides projections of teacher demand and supply to 2007

both at the national and State/Territory levels as well as an assessment of internal and external flexibilities and scope of adjustment in the market for teachers. Chapter 9 is devoted to the analysis of longer term pressures on the teacher labour market coming, specifically, from the trends in the student enrolments, the ageing of the teacher workforce.

Part D provides a brief summary and conclusions, relating specifically, to the state of the teacher labour market in 2001, projections of demand for and supply of teachers to 2007. It also specifies possible longer term sources of pressure on the market for teachers as well as provides observations on ways to improve the collection of relevant data.

A list of bibliographical sources, a list of acronyms and abbreviations, a glossary of specific terms and 7 attachments complete the main body of report.

Part E reviews the qualitative research which forms part of this project. The aim was to provide better insights into factors that are important in attracting and retaining teachers through a survey questionnaire. A similar survey of primary and secondary school principals also forms part of the project and is reviewed in this part of the report.

Part F provides research papers on complementary topics, including:

- Implications of ageing of the national teaching workforce for supply of teachers;
- The influence of gender trends in the teaching workforce for supply of teachers;
- Employment paths of persons with teaching qualifications;
- Trends in supply of maths, science and ICT teachers; and
- Earnings of teachers by comparison with other professions.

Part G includes a literature survey, with respect to Australian and overseas literature relating to teacher supply and demand issues.

Key Conclusions

Key conclusions from the research include:

The national labour market for supply of *primary* school teachers was, broadly speaking, in balance at the time this report was prepared (December 2002), although primary teaching vacancies were difficult to fill in some locations, either in “hard to staff” schools or in the regions.

³

- There were significant recruiting difficulties in certain *secondary* teaching specialisations, most notably in respect to maths, science ICT and languages other than English (LOTE), although the extent to which vacancies are difficult to fill varies between States and metropolitan areas and the regions.
- The age structure of the national teaching workforce is an issue. A significant tranche of Australia’s teachers are aged over 50, and may retire in the next five to ten years. This is particularly the case for males, and males supply a significant proportion of teachers in certain teaching specialisations, notably maths, science and ICT. Further, census data

³ This report includes data published prior to 20 January 2003.

indicate the national teaching workforce has a bimodal age structure – there are large numbers of teachers aged under 35, and significant numbers aged over 45. However, there are limited numbers in the 35 - 45 age range, which will cause a major gap in the “experience” of the teaching workforce as older teachers retire.

- The potential for a significant level of retirement by significant numbers of older teachers highlights the need for better policies to attract people to work as teachers, and to retain older teachers in the teaching workforce, especially in those teaching specialisations where recruitment difficulties already exist.
- Gender trends are also something of an issue. Consistent with overseas trends, the proportion of female teachers, already significant at the primary school level, is also increasing in secondary schools. New female teachers tend to be concentrated in secondary teaching specialisations that are not difficult to staff, but not in those specialisations where there are recruiting difficulties. Conversely, new male secondary teaching graduates tend to be concentrated in those specialisations where vacancies are difficult to fill, but the numbers of males undertaking teaching qualifications has declined in recent years.

PART A
The Recent Past

Chapter 2

A profile of the Australian teaching workforce in 2001

School teachers can be divided broadly into two categories:

- teachers employed by the school authorities on a permanent or fixed term basis (i.e. 'regular' or core teachers) and;
- temporary relief or casual teachers, who are employed to fill in for regular teachers (who are away on sick leave or undertaking training or for some other reason) and who are located in the 'teacher pool'.

In 2001 (latest available data at the time of writing), there were 249,629 teachers employed on a permanent and fixed term contract basis in Australian primary and secondary schools (ABS 2001). The vast majority of these teachers are employed on a full-time and permanent basis. Data from the 2002 MCEETYA national survey of 2,358 teachers indicated that 91.8 per cent of survey respondents held permanent teaching positions, 6.7 per cent were on fixed-term contracts, and 1.5 per cent were casual relief teachers. By comparison, the earlier Australian College of Education (ACE) survey of teachers suggested that 78.3 per cent of teachers (excluding temporary relief and casual teachers) were employed on a permanent full-time basis, 9.9 per cent were employed as permanent part-time staff and 11.4 were on a fixed term contract (either full or part-time).⁴

The proportion of part-time teachers appears to have grown over time, especially in the primary sector. This reflects both an increase in the availability of permanent part-time teaching positions as well as the fact that often primary schools are not able to offer specialist teachers more than a part-time job. The proportion of part-time teachers and the number of hours they work is reflected in the number of teachers, measured in full-time equivalent (FTE) units, being 10.1 per cent less in 2001 than the actual number of teachers.

The number of relief teachers is difficult to estimate, although they are an essential part of the teaching workforce and the labour market's flexibility. While data from a number of sources suggested that in 2000 there were at least 30,000 relief teachers in Australia, much more is known about permanent and fixed term contract teachers.⁵ The following discussion relates to permanent and fixed-term contract teachers.

Distribution of regular teachers by State, sector and type of school

The distribution of teachers by sector (primary and secondary), State and Territory and whether the school is government or non-government, is shown in Table 2.1, on a full-time equivalent (FTE) basis. (FTE is lower than the actual number employed.)

The number of FTE teachers in both the primary and secondary sectors is almost equal, with the primary sector exceeding the secondary sector by just over 3,100 teachers (or just under 3 per cent). New South Wales and Victoria are the dominant employers of teachers in both the

⁴ N Dempster, C, Sim, D Beere and L Logan, *Teachers in Australian Schools – a report from the 1999 National Survey*, Centre for Leadership and Management in Education, Faculty of Education, Griffith University, September 2000. The study was funded by DETYA and the Australian College of Education

⁵ See Discussion in Chapter 7.

government and non-government sectors. This proportion has declined over time as the share of States such as Queensland and Western Australia has grown.

Table 2.1

Employment of Teachers (FTE) by State/Territory, sector and category of school, 2001

State/Territory	Primary		Secondary		Totals	
	Govt	Non-Govt	Govt	Non-Govt	Govt	Non Govt
NSW	25,796	9,774	24,274	13,543	50,070	23,316
VIC	18,934	8,069	17,371	11,302	36,304	19,371
QLD	17,549	5,216	12,241	6,700	29,790	11,916
SA	6,820	2,536	5,061	2,531	11,881	5,066
WA ¹	10,366	3,018	6,607	3,630	16,973	6,648
TAS	2,269	597	2,026	840	4,295	1,437
NT	1,489	293	731	301	2,220	594
ACT	1,298	555	1,370	887	2,668	1,442
Australia	84,521	30,058	69,681	39,732	154,201	69,790

Note: 1 The WA government primary figure differs from ABS data in that it includes 2,062 FTE Pre-Year 1 teachers, who are appointed to schools the same as other primary school teachers. ABS data notes their exclusion.

Source: *Schools Australia*, Cat No 4221.0, ABS, 2001

Table 2.2

Employment of teachers (FTE) in Australia by sector and category of school, 2000 and 2001

	Primary		Secondary		Total	
	Govt	Non-Govt	Govt	Non-Govt	Govt	Non-Govt
Australia 2000	81,137	28,941	69,474	38,499	150,610	67,440
Australia 2001	84,521	30,058	69,681	39,732	154,201	69,790

Note: 1 The 2001 government figures differ from ABS data in that they include the 2,062 FTE Pre-Year 1 teachers, regarded by the WA Government as primary school teachers. ABS data notes their exclusion.

Source: *Schools Australia*, Cat No 4221.0, ABS, 2001

In 2001 government schools employed 73.3 per cent of primary school teachers and 63.7 per cent of secondary school teachers. This proportion varies by State. In 2001 in Victoria the government primary sector employed 70.1 per cent of primary teachers, while in the Northern Territory this proportion was 83.6 per cent and in Queensland it was 77.1 per cent. A similar difference applied in the secondary sector, with the government proportion ranging between 61 per cent (Australian Capital Territory) to 71 per cent (Northern Territory).

Distribution of teachers by age and gender

Female teachers dominate the primary teaching workforce in every State with 75 per cent or more of the teaching workforce being female (Table 2.3). In the secondary sector, the balance between female teachers and male teachers is more even, although female teachers still outnumber male teachers (55 per cent to 45 per cent).

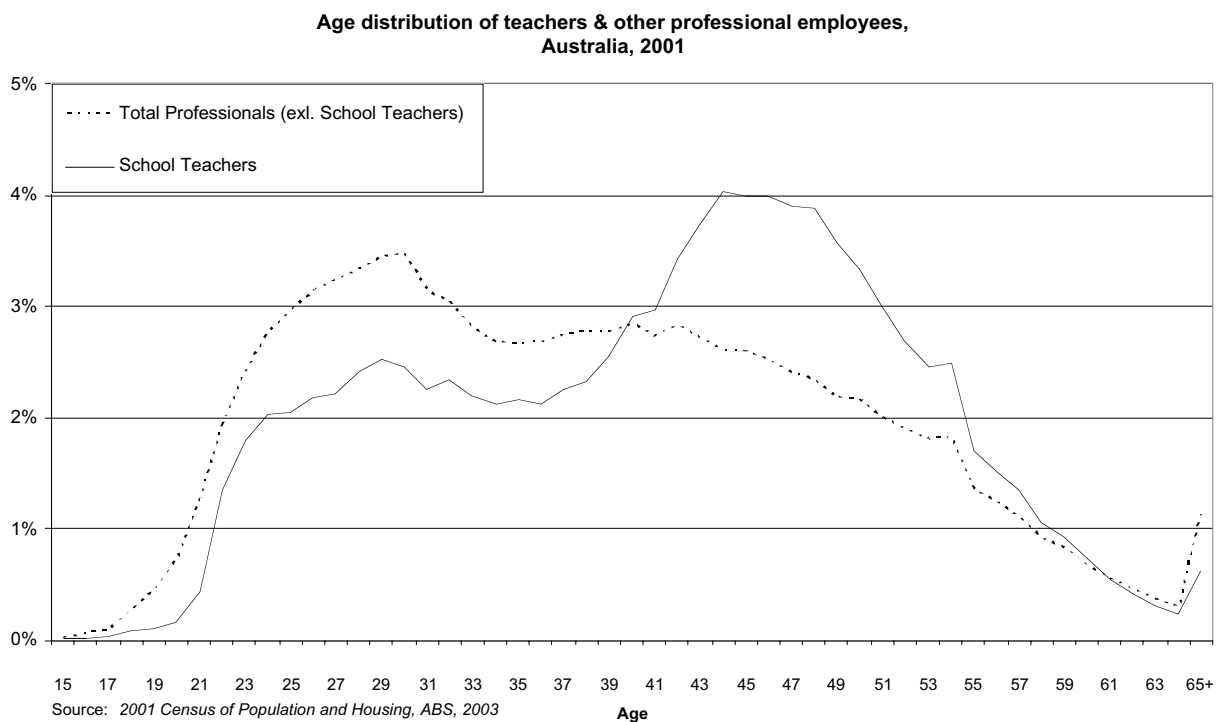
The female-male ratio in the secondary sector varies across States, with the female proportion being lowest in South Australia (49 per cent) and highest in the Northern Territory (61 per cent). Although part-time teaching represents a small proportion of teachers overall, it is female

teachers who form the bulk of part-timers. Gender trends in the teaching workforce are discussed in a later chapter in this report.

Data on the age structure of the national teaching workforce was not expected to be available in time for this report. Data was, therefore, collected on this issue in the quantitative surveys of government education authorities and non-government schools which underpin this analysis. Data was also provided through the national survey of teachers which forms part of the suite of qualitative research included in this project. However, data from the 2001 Census of Population and Housing became available earlier than expected. Hence data is available from a number of sources for this report, although census data was not available disaggregated by level of school or by government/non-government school.

Chart 2.1 uses ABS Census of Housing and Population data to depict the age distribution of the teacher workforce compared with the rest of the national professional workforce (i.e. all professionals other than teachers). It shows that the teacher workforce is generally older than the rest of the professional workforce, with the highest proportion of teachers aged in their middle to late 40s.

Chart 2.1



Other data from the MCEETYA national qualitative survey of teachers indicated the average age of teachers across Australia surveyed in 2002 was 43.1. The median age of teachers was estimated at 45, with some variation between States and Territories, while the most frequently encountered age among Australian teachers was 49. This is consistent with other sources of data used in this report. Later chapters provide more detailed analysis of the age structure of the national teaching workforce in government and non-government schools based on a variety of data sources, and provide a discussion of the implications of the ageing of the teaching workforce for future supply of teachers.

Table 2.3**Gender characteristics of the teaching workforce, 2001**

State/Territory	Primary % Female	Secondary % Female	Total % Female
NSW	80.0	55.0	67.1
VIC	79.5	56.2	67.5
QLD	77.3	56.1	67.7
SA	75.4	48.9	63.5
WA	76.9	51.3	64.8
TAS	78.4	53.9	66.2
NT	81.5	60.7	73.9
ACT	83.5	60.8	71.0
Australia	78.7	54.9	67.0

Source: *Schools Australia, (Cat No 4221.0), ABS, 2001*

Table 2.4**Age characteristics of the government and non-government teaching workforce, 2002**

State/Territory	Average age of all teachers (years)	Median age of all teachers (years)	Modal age of all teachers (years)
NSW	43.2	45.0	47.0
VIC	43.2	45.0	46.0
QLD	40.6	42.0	45.0
SA	48.2	50.0	49.0
WA	41.8	43.0	44.0
TAS	47.0	47.5	53.0
NT	41.5*	45.0*	37.0*
ACT	46.4	52.5	54.0
<i>Australia</i>	<i>43.1</i>	<i>45.0</i>	<i>49.0</i>

Source: *National survey of teachers, DEST 2002*

* sample for Northern Territory included 13 teachers only

Chapter 3

Trends in the teacher labour market in the period 1990 - 2001

National trends in students and (regular) teachers

Three important developments in student numbers and student to teacher ratios occurred during the ten year period to 2001:

- the fall in enrolments in *primary* schools came to a halt at the beginning of the period and by the end of the decade student *primary* numbers were back to the levels of the late 1970s;
- enrolments in *secondary* schools continued to rise but at a slower rate than during the preceding decade; and
- student to teacher ratios in *primary* schools continued to decline while they remained flat in the secondary sector.

The aggregate data by level of schooling mask significant changes on the composition of enrolments between the government and non-government sectors.

Over the period between 1990 and 2001, in the government schools sector (as shown in Table 3.1) *primary* school enrolments rose by 62,400 students or 4.7 per cent, compared to growth in enrolments of 86,500 students or 19.6 per cent in the non-government sector.

At the *secondary* level, there was a slight decline in enrolments in government schools (7,500 or 0.9 per cent) over this period, while enrolments in non-government schools increased by 85,000 or 20.9 per cent.

Table 3.1

Long term trends in numbers of students, FTE of teachers and student to teacher ratios

	1980	1990	2000	2001
Students ('000)				
Primary				
Government	1,508.1	1,322.5	1,386.1	1,384.9
Non-government	376.1	441.0	517.8	527.5
<i>Total</i>	1,884.2	1,763.5	1,903.9	1,912.4
Secondary				
Government	810.0	870.8	862.2	863.3
Non-government	290.4	407.4	481.3	492.4
<i>Total</i>	1,100.4	1,278.2	1,343.5	1,355.7
Teachers ('000)				
Primary				
Government	74.8*	73.8	81.1	82.5
Non-government	15.9*	22.1	28.9	30.1
<i>Total</i>	90.7*	95.9	110.1	112.5
Secondary				
Government	66.4*	72.6	69.5	69.7
Non-government	18.1*	30.7	39.5	39.7
<i>Total</i>	84.5*	103.3	108.3	109.4
Student to Teacher Ratio¹				
Primary				
Government	20.3*	17.9	17.1	16.8
Non-government	23.1*	20.0	17.9	17.6
<i>Total</i>	20.8*	18.4	17.3	17.0
Secondary				
Government	12.3*	12.0	12.4	12.4
Non-government	15.6*	13.3	12.5	12.4
<i>Total</i>	13.0*	12.4	12.4	12.4

* for 1979;

Note: 1 Student/teaching staff ratios are calculated by dividing the number of full-time students by the number of full-time equivalent (FTE) teaching staff.

Source: *Schools Australia, ABS, (Cat. No. 4221.0), 2000, 2001*

Over the period 1990 - 2001 employment of teachers (in FTE terms) in Australia rose by 11.4 per cent, or 1.0 per cent per annum. This far exceeded the growth of employment in the economy at large. A large part of this increase in teacher employment was concentrated in the *primary* school sector, where employment of teachers rose by 17.3 per cent (or 1.5 per cent per annum) compared to 5.9 per cent (or 0.5 per cent per annum) for *secondary* school teachers. Employment changes over this period were broadly similar to those in the previous ten year period (1980 to 1990), when employment of teachers rose by 1.2 per cent per annum, largely reflecting growth in secondary teacher employment.

The difference in growth in employment of teachers between the primary and secondary sectors in the period 1990 to 2001 was due to two factors. First, there was a slightly greater increase during that period in the number of students at primary school level than in the secondary sector (8.4 per cent compared to 6.1 per cent). Second, and more significantly, there was a fall in the overall student to teacher ratio in the primary school sector while the student to teacher ratio remained unchanged in the secondary sector.

State and Territory trends in (regular) teachers

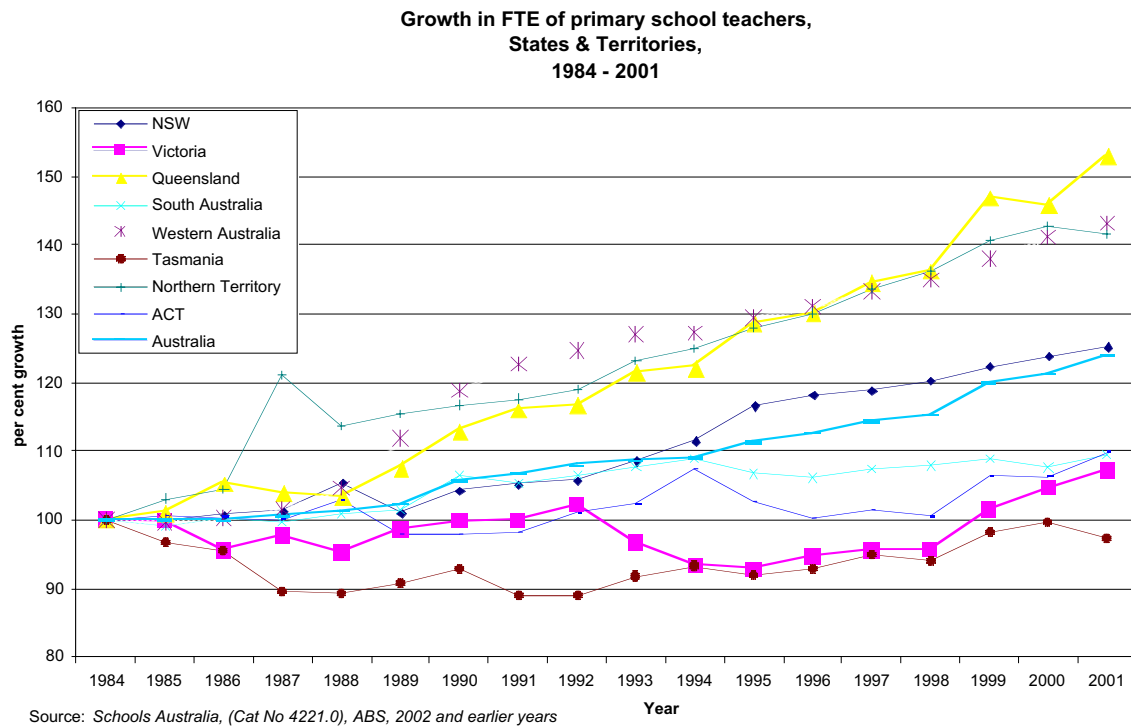
National figures mask significant differences in trends between the States and Territories as shown in Chart 3.1 for the primary and Chart 3.2 for the secondary sector (See Attachment 1 for detailed tables of teachers employed). These charts show that, essentially, States and Territories fell into two broad groups: the group including New South Wales, Queensland, Western Australia and the Northern Territory where employment of teachers increased relatively rapidly between 1990 and 2001, and the group represented by the remaining States and Territories where employment rose less rapidly.

Although in the period under analysis all State and Territory governments increased their primary teacher workforces, each of the States and Territories in the rapid growth group increased their teacher workforce by over 20 per cent while the States and Territories in the low growth group experienced growths of less than 10 per cent. In 2001, Tasmania and the Australian Capital Territory recorded negative growth in FTE of primary teachers.

In the secondary school sector, the high growth group increased their teaching workforces, but generally by less than in the primary sector, while in the case of the low growth group there was an actual decline in the (FTE) number of secondary teachers employed. In three of the four States in this group, this followed a fall in secondary school numbers. The largest decline in secondary teacher employment occurred in South Australia and Victoria (which also had the smallest increase in primary school teachers). By contrast, the number of primary school teachers rose by over 40 per cent in this period in both Queensland and Western Australia, reflecting population trends.

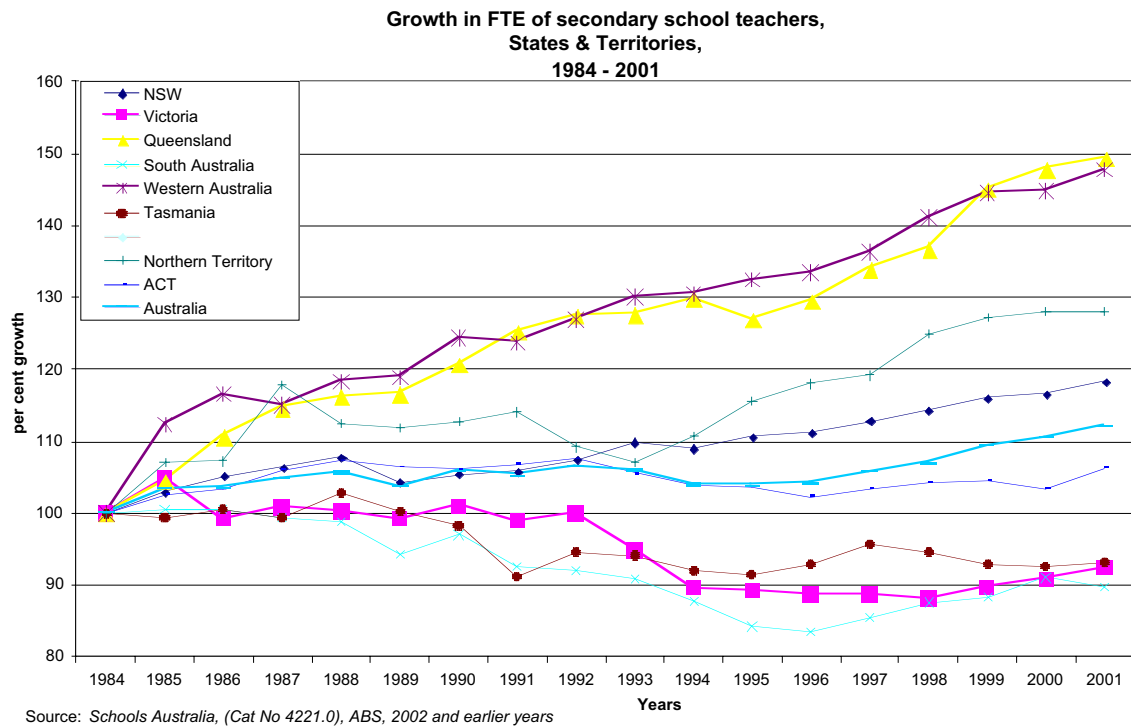
Growth in FTE of Primary Teachers

Chart 3.1



Growth in FTE of Secondary Teachers

Chart 3.2



Students and teachers in government and non-government schools

As noted earlier, a further significant development during the decade to 2001 was the continuation of the shift in the proportion of students towards non-government schools in both the primary and secondary sectors. The proportion of primary and secondary full time students in the non-government sector reached 31.2 per cent in 2001, up from 27.8 per cent ten years earlier (1991) and 23.0 per cent twenty years earlier. In the primary sector, non-government schools provided for 27.6 per cent of all students in 2001. In the secondary sector, non-government schools provided for 36.3 per cent of all students in 2001, increasing from 35.8 per cent in 2000.

These trends were replicated in the case of teachers. In 1991, 26.9 per cent of primary and secondary teachers were employed in non-government schools. In 2001 the proportion had increased to 31.4 per cent. In the primary sector, non-government schools employed 26.7 per cent of teachers in 2001, up from 23.4 per cent in 1991. In the secondary sector, non-government schools employed 30.3 per cent of teachers in 1991, increasing to 37.3 per cent in 2001.

Contract teachers

Results from the DEST 2002 quantitative surveys of education authorities and non-government schools suggest that 12.6 per cent of the Australian schools core workforce (11.8 per cent in the government sector and 16.6 per cent in the non-government sector) worked under contract. This is above the proportion of contract teachers identified by the survey conducted for the Australian College of Education (ACE) in 1999 which applied to teachers across the government and non-government sectors.⁶ The ACE results indicated at that time 11.3 per cent per cent of teachers surveyed were employed on a contract basis, although it should be noted that the ACE survey was self-selecting rather than being conducted on a random basis, as was the case for the 2002 MCEETYA surveys, which may bias the results somewhat.

The experience with contract teachers in the 1990s varied across the States. In Western Australia, for example, the proportion of teachers on contract decreased, while it increased in Victoria. These trends appear to have reflected State Government policy and objectives at the time and may accordingly change in the current decade. The education authorities in Victoria, for instance, have indicated that a greater proportion of vacancies are now being offered on a permanent rather than contract basis.

Teacher supply and demand imbalances during the 1990s

In the first half of the 1990s, demand for new teachers was met relatively evenly because there were limited alternative labour market opportunities available for teaching graduates following the recession of the early 1990s. Burke⁷ and Preston⁸ noted that, as a result, resignations from

⁶ N Dempster, C Sim, D Beere and L Logan, *Teachers in Australian Schools – a report from the 1999 National Survey*, Centre for Leadership and Management in Education, Faculty of Education, Griffith University, September 2000.

⁷ G Burke, 'Teachers: Employment in the 1980s and 1990s' in *The Workplace in Education – Australian perspectives*, First Yearbook of the Australian Council of Educational Administration, Edward Arnold publishers, 1994.

⁸ B Preston, *Teacher supply and demand to 2005*, paper commissioned by the Australian Council of Deans of Education, July 2000.

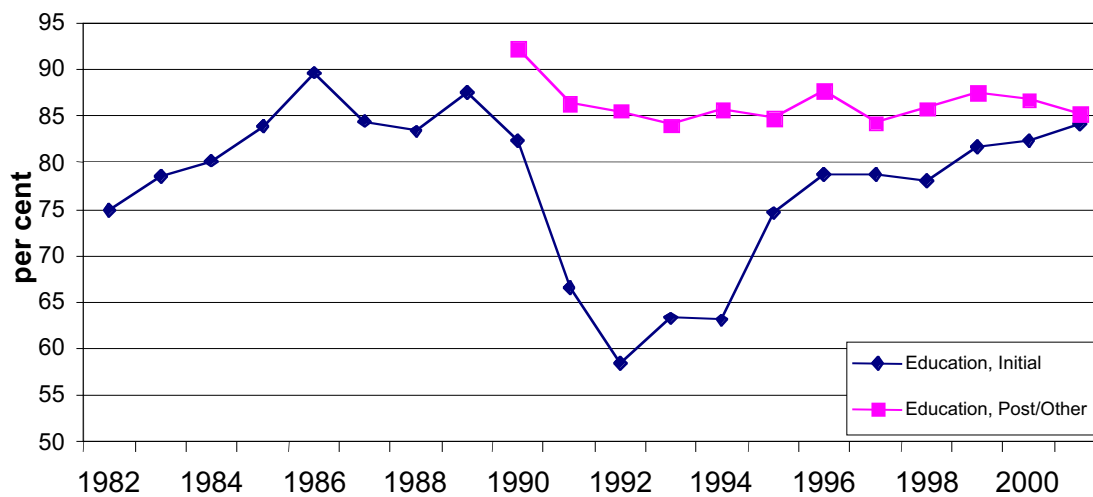
teaching fell. This led to a decline in the requirement for new teachers. A substantial surplus of new teacher graduates and others seeking teaching appointments resulted.

This is consistent with data from the Graduate Destination survey reported annually by the Graduate Careers Council of Australia (GCCA). The employment outcomes for the period 1989 to 2001 shown in Chart 3.3 indicate that slightly less than 60 per cent of all new 1991 initial teacher education graduates (Bachelor of Education graduates) available for full-time work had obtained a full-time job by April of the year after graduation. This was down from 88 per cent two years before. The proportion stayed relatively low until the mid 1990s, especially for graduates trained as primary school teachers. In part reflecting these trends, demand for places in university initial teacher education courses fell although Burke notes that university course restructuring at about this time also had an impact on initial teacher training course places on offer.

In the second half of the 1990s, as the economy improved, the factors which had led to low demand for new teachers began to diminish and the demand for new teachers increased. The employment outcomes for new initial teacher education graduates began to improve (Chart 3.3) and by the late 1990s approached the levels experienced in the 1980s.

Chart 3.3

Education graduates working in full time employment as a proportion of those available for full time employment



Source: Graduate Destination Survey, GCCA

Note: full-time employment refers to any type of full-time employment not just in teaching.

The other cohort supplying new teachers is the post-initial/other education graduates. This group did not experience a major deterioration in employment outcomes in the early 1990s recession as did their initial education graduate colleagues. Since 1991 about 85 per cent of those available have been employed as teachers.

Most recently, the competition for places from the stock of teachers without a teaching appointment built up in the early to mid 1990s appears to have been easing. Most indicators

point to the fact that up to the late 1990s the supply of new teachers (essentially new graduates and previous graduates in the surplus pool) was adequate to meet the rising demand.

Recently published research provides a basis for comparing in broad terms the requirements for new teachers and the number of new graduates during the 1990s. Shah estimated that in the period 1986 - 87 to 1997 - 98 the net replacement rate for teachers was around 2.9 per cent a year.⁹ This estimate in effect measures the net loss from the teaching profession.

Using overall teacher workforce data of Attachment 1 the replacement estimate by Shah corresponds to a net loss of approximately 6,210 full-time-equivalent teachers a year during the five year period to 2001. During the same period the average yearly growth in teacher (FTE) numbers was 2,080. The requirement for new teachers over that period, estimated as the sum of net loss of teachers and growth in employment of teachers, would therefore have been around 8,300 (FTE) or 9,200 teachers a year. By contrast, the average number of graduates and postgraduates from initial education courses during the period 1996 to 2000 was 9,870 (refer Attachment 6) or, assuming that only 75 - 85 per cent enter the market, around 7,400 – 8,400 a year. This would point to a degree of possible teacher shortage in the late 1990s.

The situation differed, however, across States and Territories. As a generalisation, States which experienced lower than average teacher growth rates (South Australia, Victoria, Tasmania and the Australian Capital Territory) had substantial surpluses of teachers throughout the 1990s. By contrast, in those States where employment of teachers grew faster than average (New South Wales, Queensland, Western Australia and the Northern Territory), the stronger demand for teachers led to some tightening of the labour market for teachers in the second half of the 1990s, notably in some secondary teaching specialisations.

Data generated for this report suggests, however, that replacement demand may be increasing. Between 1996 and 2001, the extent of losses due to retirement, resignation, death, retrenchment, dismissals and transfers in government schools rose from 2.9 per cent to 3.4 per cent in the primary teaching workforce, and from 4.0 to 4.8 per cent in the secondary teaching workforce. While time series data is not available for non-government schools, losses for 2001 in both primary and secondary schools were significant (10.2 per cent in the primary teaching workforce, 10.6 in the secondary teaching workforce).

This change becomes all the more significant when viewed against the age profile of the teaching workforce. Losses due to retirement have the potential to increase significantly in the next five to ten years.

⁹ C Shah, 'Teachers: older, wiser and needed' in *EQ Australia*, Autumn 1999, pp 10 – 12.

PART B
The National Teacher Labour Market in 2001

Chapter 4

The state of the teacher labour market in Australia in 2001

This chapter discusses the state of the teacher labour market at the national level in 2001 and by State and Territory. The last section of the chapter provides information on recruitment measures taken by the State and Territory education authorities to deal with difficult-to-fill vacancies.

Primary sector

In the *primary* sector, government education authorities generally reported an adequate supply of teachers, although recruitment difficulty was experienced in some geographic locations. The Northern Territory reported the highest level of recruitment difficulty for generalist primary teachers. Four jurisdictions were unable to satisfactorily satisfy demand in some locations, leading to some shortfalls in Special Education teachers. Three jurisdictions reported moderate levels of recruitment difficulty for LOTE teachers.

Table 4.1

Overall assessment of the government primary school teacher labour market, 2001

Teaching Area	NSW	VIC	QLD	SA	WA	NT	TAS	ACT
General	None	Minor	None	Minor	Minor	Moderate	Minor	None
LOTE	None	Minor	Minor	Moderate	Moderate	Minor	Minor	Moderate
Special Education	Moderate	Minor	Moderate	Moderate	Minor	Moderate	None	Minor
Visual, Performing Arts	--	Minor	None	Minor	None	Minor	Minor	None
Other	Minor	Minor	--	Moderate	None	Moderate	Minor	Minor

Source: *School Staffing Survey, Government Primary Education, DEST 2002*

Difficulty Level:

Acute: Broad recruitment deficit (widespread shortfalls)

Moderate: Unable to satisfactorily meet demand in some locations (some shortfalls)

Minor: Just able to satisfy the demand for teachers (significant shortfalls avoided)

None: Abundant teacher supplies (easily able to satisfy demand).

Non-government providers had similar experiences, as reflected in the data in the table below. The highest level of recruitment difficulty was recorded for teachers of LOTE where, Australia-wide, 53.3 per cent of recruiting schools reported moderate or acute difficulties.

Table 4.2

Percentage of responding non-government primary schools reporting moderate/acute* recruitment difficulties by subject area, 2002

Teaching Area	NSW	VIC	QLD	SA	WA	NT	TAS	ACT	AUST
General	23.0	48.0	18.4	21.9	31.3	16.7	33.3	0.0	37.2
LOTE	37.5	61.3	35.3	50.0	52.6	33.3	66.7	0.0	53.3
Special Education	16.7	37.8	16.7	28.6	9.1	0.0	0.0	0.0	27.0
Visual, Performing Arts	35.7	40.7	9.1	22.2	42.1	0.0	0.0	0.0	34.5
Other	33.3	38.5	20.0	16.7	26.7	0.0	0.0	0.0	31.7

Source: *Non-Government Schools Staffing Questionnaire, DEST 2002*

*** Difficulty Level**

Acute: Unable to fill a vacancy satisfactorily (i.e. did not find permanent solution to teaching need)

Moderate: Able to fill vacancies only after extensive effort (e.g. after re-advertising a position)

Secondary sector

In the *secondary* sector, most States and Territories reported difficulties in filling two types of vacancies: those located in rural and remote areas (and in some locations within metropolitan areas as well) and for certain specialisations.

More detailed information derived from the 2002 DEST Government and Non-Government Schools Staffing surveys (Tables 4.3 and 4.4) provides an enhanced picture of the degree of difficulty in filling vacancies in particular subject areas. It should be noted that assessments for the government secondary sector (Table 4.3) relate to 2001, while those for the non-government sector (Table 4.4) relate to 2002.¹⁰

The main points to note are:

- mathematics, science, technology or, more generally, business studies teaching vacancies have been hard to fill in all States and Territories;
- other subjects with difficult to fill vacancies in most but not all States and Territories are Languages Other Than English (LOTE) and industrial arts/technology.
- there appear to be differences in the intensity of shortages between the government and the non-government sectors, for example:
 - the South Australian government secondary schools appear to have experienced more acute difficulties in filling mathematics, science and technology teaching vacancies than the non-government South Australian schools;
 - by contrast, the Victorian, Western Australian and, (apart from Mathematics teaching), Queensland government schools appear to have encountered lesser difficulties in filling most teaching positions than their non-government counterparts;
 - non-government secondary schools appear to have more difficulties in finding qualified LOTE and technology teachers than their government counterparts;

Surveys conducted by the Australian Secondary Principals' Association in 2001 and 2002 further confirm difficulties in recruiting Mathematics, Science and Languages other than English (LOTE) teachers.

¹⁰ Government schools data were collected at jurisdiction level, while non-government schools data were collected from a combination of individual schools and System Offices (approximately 45 per cent response rate across non-government schools). The definitions of degree of recruitment difficulty differ between the two Staffing Questionnaires to allow for assessment at individual school level in the non-government sector.

Table 4.3**Overall assessment of the government secondary school teacher labour market by subject area, 2001**

Key Learning Area	State/Territory								Counts of 'acute' and 'moderate' assessments
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	
Health/ Physical Education	None	Minor	None	Minor	None	Minor	Minor	Minor	0
LOTE¹	Minor	Minor	Minor	Mod	Mod	Minor	Minor	Mod	3
Mathematics	Acute	Minor	Acute	Acute	Mod	Minor	Mod	Acute	6
English	Minor	Minor	None	Mod	Minor	Minor	Minor	Minor	1
Science	Mod	Minor	Mod	Acute	Minor	Minor	Mod	Minor	4
SOSE²	Minor	Minor	None	Mod	None	Minor	Minor	None	1
VPA³	None	Minor	Minor	Minor	None	Minor	None	None	0
Technology⁴	Mod	Minor	Minor	Acute	Mod	Minor	Minor	Mod	4
VET⁵	--	None	Mod	None	Minor	None	Mod	Minor	2
Special education	Mod	Minor	Minor	None	Minor	None	Mod	Minor	2
Other	None	Minor	None	Minor	Minor	None	Minor	Minor	0
Counts of 'acute' and 'moderate' assessments	4	0	3	6	3	0	4	3	

Source: *School Staffing Survey, Government Secondary Education, DEST 2002*

Notes:

1 Languages other than English

2 Studies of Society and the Environment

3 Visual and Performing Arts

4 Technology includes Technical/Industrial Arts, Home Economics, Information Technology

5 Vocational Education and Training

Difficulty Level:

Acute: Broad recruitment deficit (widespread shortfalls)

Moderate: ("Mod") - Unable to satisfactorily meet demand in some locations (some shortfalls)

Minor: Just able to satisfy the demand for teachers (significant shortfalls avoided)

None: Abundant teacher supplies (easily able to satisfy demand).

Table 4.4

Percentage of responding non-government secondary schools reporting moderate/acute recruitment difficulties by subject area*, 2002 (%)

Key Learning Areas	NSW	VIC	QLD	SA	WA	TAS	ACT	AUST
Health/Physical Education	17.6	14.8	24.3	14.3	8.3	n.a.	0.0	16.8
LOTE ¹	36.0	54.4	45.8	57.1	55.6	n.a.	28.6	47.7
Mathematics	41.0	44.1	39.0	33.3	33.3	66.7	50.0	41.5
English	35.0	18.3	16.1	36.4	45.5	n.a.	0.0	24.2
Science	55.9	42.2	41.9	22.2	42.9	n.a.	16.7	43.1
SOSE ²	27.5	11.5	17.2	30.0	28.6	n.a.	14.3	19.3
VPA ³	33.3	30.9	31.3	66.7	28.6	n.a.	33.3	32.4
Technology ⁴	66.7	46.3	50.0	40.0	11.1	n.a.	80.0	50.0
VET ⁵	30.8	17.6	66.7	33.3	0.0	n.a.	25.0	31.3
Special education	29.4	20.0	33.3	25.0	40.0	n.a.	0.0	25.0
Other	25.0	19.0	30.4	33.3	25.0	n.a.	25.0	25.9

Source: School Staffing Survey, Non-Government Secondary Education, DEST 2002

Notes:

* information for the Northern Territory was not available

1 Languages other than English

2 Studies of Society and the Environment

3 Visual and Performing Arts

4 Technology includes Technical/Industrial Arts, Home Economics, Information Technology,

5 Vocational Education and Training

Difficulty Level

Acute: Unable to fill a vacancy satisfactorily (i.e. did not find permanent solution to teaching need)

Moderate: Able to fill vacancies only after extensive effort (e.g. after re-advertising a position)

Minor: Managed to fill vacancies OK, but dissatisfied with the pool of candidates overall (with respect to size of pool, qualifications of candidates, etc.).

None: No problems with attracting a strong pool of candidates.

Strategies to promote teaching as a career and assist teacher recruitment

Government Schools

All States and Territory Government education authorities have strategies and initiatives in place to promote teaching as a career and to assist teacher recruitment. The data provided in the DEST 2002 survey suggest that the initiatives can be summarised under the following categories:

- Promotion of teaching as a career;
- Financial incentives;
- Initiatives for increasing the number of teachers in the particular subject areas;
- Measures for attracting teachers to remote and rural areas;
- Stakeholder Liaison; and
- Strategic Planning.

1. **Promotion of teaching as a career**

States and Territories have developed websites to promote teaching as a career, and providing a central reference point for materials on the teaching profession. These websites include:

- TeachWA – <http://www.eddept.wa.edu.au/centoff/HRrecruitment>
- Teaching@DE&T (Victoria) – <http://www.teaching.vic.gov.au>
- Teach.NSW – <http://www.teach.nsw.edu.au>
- Employing Quality Teachers (Queensland) - <http://www.education.qld.gov.au/teaching/> and Workforce Diversity and Equity website (part of which considers work-life balance strategies) <http://www.education.qld.gov.au/workforce/diversity/equity>.
- Teacher Recruitment (ACT) - <http://www.decs.act.gov.au/department/recruitment.htm>.

In some instances, these websites are one component of a multi-media promotion strategy. In Victoria, for example, the current major recruitment campaign has been designed to:

- attract teachers committed to innovation and excellence to work in Victorian government schools;
- raise the profile of teaching as a profession and encourage students (University and secondary) to consider it as a career;
- promote the value placed on teachers by the community; and
- showcase the excellence of Victorian government schools as a great place to work.

On 18 October 2002, the Queensland Education Minister launched a series of recruitment commercials for television and cinema promoting teaching as a career. The aim of the ten-week campaign was to encourage school leavers and mature-age people who are contemplating their career options to consider teaching. A special freecall number was established for inquiries, and information also provided on the website.

In November 2002, the NSW Minister for Education and Training launched the \$1.75 million teach.NSW media campaign to urge young people to choose teaching as a career that “makes a difference”. The campaign was targeted at HSC students, recent graduates and Year 10 and 11 students. Running over a five week period on television, radio and in newspapers, the campaign had a theme of TEACH – and Make a Difference.

The marketing programs of the State and Territory education departments also involve participation in university and career markets and visits and presentations at teacher training institutions.

On 17 October 2002, the Commonwealth Minister for Education, Science and Training, Dr Brendan Nelson, announced the funding of a \$77,000 project to develop national strategies for attracting people in careers other than teaching to join the profession. The study, to be conducted by the Australian College of Educators, will support the Commonwealth’s *Review of Teaching and Teacher Education*.¹¹

¹¹ B Nelson, Media Release: *Attracting More Teachers*, 17 October 2002, Ref Min 212/02,

2. Financial incentives

Initiatives providing financial incentives to potential and existing teachers vary from jurisdiction to jurisdiction. They are often targeted to areas of specific need.

Some examples include:

- In NSW a pilot program negotiated with the NSW Teachers Federation will enable the payment of a one-off \$10,000 gross cash payment to teachers who accept appointment to positions which the Department has been unable to fill after all conventional recruitment methods have been exhausted. Such positions will be advertised in the press. The recruitment benefit will be paid at the time of appointment.
- Offering scholarships to final year Education students is a common strategy employed by most States and Territories. The terms and conditions of these vary, but most provide for guaranteed employment for two years following graduation – often in areas of greatest need – e.g. particular subject areas or geographic areas.

3. Initiatives for increasing the number of teachers in the particular subject areas

At State and Territory level, a number of strategies and initiatives have been introduced to increase teacher numbers in particular subject areas. These include:

- WA is currently developing a scheme offering to pay the university fees of science graduates entering teaching.
- WA targets teaching scholarships of \$10,000 at final year education students to attract them to teaching within the WA government system, and assist in areas of need such as mathematics, technology and LOTE. In return, the students receive a guaranteed two year teaching appointment, with the prospect of permanency subject to two years satisfactory service.
- In the Northern Territory, Student Teacher Bursaries are offered to students studying in NT tertiary institutions in priority subject areas such as special education, ICT, mathematics and science.
- NSW is offering a programme to accredited teachers to enable them to retrain in the areas of (secondary) technological and applied studies (TAS), mathematics, and science (physics), and to support them in gaining accreditation in the specialist teaching areas of special education, school counselling, careers adviser, teacher-librarian, English as a second language and reading recovery. The retraining programs include university study with mentoring support from experienced teachers. Teachers who successfully complete the retraining program are appointed to schools in areas of need – often in western and south western Sydney, or country NSW.
- NSW also offers Accelerated Teacher Training where the Department of Education and Training sponsors people with appropriate industry backgrounds to become mathematics, science and TAS teachers. Recipients of the sponsorship undertake an 18-month university teacher education program, where their skills and industry experience are recognised. DET pays their course fees and administration costs. In

return, students sign a deed of agreement committing them to teach in difficult-to-staff areas of NSW.

- The Department of Education and Training in Victoria also runs teacher retraining programs in specific curriculum areas. Currently these are a Graduate Certificate Science Program and the LOTE Training Program.

Victoria currently subsidises primary teachers in government schools to complete a Graduate Certificate Science (Primary Teaching) program. The subsidies, covering the total cost of the course, are available for fifty selected primary teachers to commence the part-time course in 2002 at a tertiary institution. The aim of the course is to update primary teachers' knowledge and understanding of science.

The LOTE Training Program is designed to assist practising teachers in government schools to gain LOTE teaching qualifications, by enabling them to undertake credit-bearing language and LOTE Methodology courses. The program also enables teachers currently teaching LOTE to upgrade their qualifications, and assist teachers qualified in other curriculum areas to take up or continue LOTE studies, with the aim of increasing the number of qualified LOTE teachers available to Victorian Schools.

The ongoing DEST Quality Teacher Programme, which commenced in 2000, supports the updating and improvement of the knowledge and skills of teachers re-entering the workforce, and casual teachers in the subject areas of mathematics, science, information technology and VET in schools.

4. *Measures for attracting teachers to remote and rural areas*

Recruitment remains a severe problem in rural and remote areas. A number of initiatives are in place to attract teachers to remote and rural areas, including:

- The WA Student Teacher Rural Experience offers financial support to student teachers who wish to experience teaching in government rural schools in the district in which they hope to work the following year. Assistance with travel costs, and \$600 towards living expenses for the duration of the practicum.
- The WA Remote Teaching Service Package offers a range of benefits to teachers in remote schools, including free government employee housing, a Remote Service allowance of between \$8,500 and \$11,500, locality allowance, transportation to the location, additional leave entitlements, ongoing employment (subject to satisfactory performance) and the prospect of permanency after two years.
- The NSW Incentives Scheme provides for additional training and development days, a range of locality allowances, a 20 per cent rental subsidy in some locations, additional leave entitlements in some locations, and priority transfer arrangements.
- In NSW, Beyond the (Great Dividing) Line promotes rural teaching opportunities by enabling students in the second, third and fourth years of their teacher education program to visit rural districts to gain first-hand knowledge of what it is like to live and work as a teacher in rural NSW.
- The NSW Department of Education and Training is currently working on a large-scale ARC Linkages project (2002 - 2004) with a research team from Charles Sturt University

and the University of New England. *The Rural (Teacher) Education Project* is investigating how teacher education, broadly conceived and operating as a university-industry partnership, can better serve the needs of rural teaching and rural schools in inland NSW. A particular focus of the project is attracting, preparing and retaining teachers in rural locations. Among other things, the project will be mapping new teaching appointments in rural and remote schools.

- In Tasmania, the Professional Experience in Isolated and Remote Schools (PEIRS) program provides funds for pre-service teachers to undertake school experience in rural and isolated schools.
- A Country Student Teacher Scholarship Scheme has been introduced in South Australia to assist country students to train as teachers and then return to country areas as teachers. \$2,500 per year (up to a maximum of \$10,000) will be available to successful students studying full-time teacher education programs at South Australian tertiary institutions. On successful completion of their studies, they will be offered employment in a DECS country school, subject to their meeting the minimum employment criteria.
- In Queensland, the Remote Area Incentive Scheme (RAIS) provides a range of benefits, including compensation cash benefits, extended emergent leave provisions, induction programs, transfer priority scheme and departmental accommodation, to encourage experienced teachers to teach and remain in rural and remote locations.
- The Bid O'Sullivan Scholarship Scheme offers five scholarships to pre-service undergraduate teachers to teach in primary and secondary schools in rural and remote locations.
- In the Northern Territory, a range of incentives is available to remote teachers in the form of study leave, fares for employees and family members, business days and an allowance to compensate for professional isolation.

5. Stakeholder Liaison

States and Territories have established and maintain ongoing working relationships with a range of organisations, including universities, in response to teacher supply and demand issues. For example, Education Queensland meets with university representatives at various levels to facilitate the transition process for pre-service teachers into the profession; to resolve issues around practicum placements; to provide career counsellors with additional employment information for graduates; to negotiate upskilling/retraining opportunities for current and new employees; and to conduct joint research.

Similarly, the Tasmanian Department of Education has established a close relationship with the University of Tasmania to facilitate supply of appropriately skilled and qualified graduates.

6. Strategic Planning

As part of their various recruitment and retention strategies, States and Territories have:

- revised recruitment processes;
- revised or created induction programs; and
- reviewed the policy and procedures for probation assessment of teachers.

Non-Government Schools

The 2002 DEST staffing survey of non-government secondary schools sought responses on the strategies employed by schools to avoid and overcome recruitment difficulties, and cope with recruitment shortfalls.

A number of respondents commented that recruitment difficulties resulted in schools “settling for” teachers that they might otherwise have chosen to bypass. One principal commented “My real concern is not just the shortage of teachers applying for teaching positions, but the poor calibre of those applying and unfortunately being appointed because of the need to fill the position. In a different time these teachers would not have been appointed in my school, and even now place enormous pressure on resources for support and training – often with poor results.¹²” In some instances, schools are being forced to fill positions with more varied arrangements than they would otherwise have chosen – e.g. part-time instead of full-time, jobshare, etc.

One principal described the extensive effort involved in attempting to fill positions “I would not consider the readvertising, sifting through unsatisfactory resumes, conducting unsuccessful interview processes and readvertising as “Moderate” difficulty...Having to find a permanent full-time classroom teacher in the last week of holidays when resumes have been unsatisfactory is quite harrowing for staff and Principal!¹³”

“What strategies have been employed to overcome or avoid recruitment difficulties:

- advertising more broadly (e.g. move to national advertising);
- increasing salary offers;
- encouraging existing staff to undergo specialised training; or
- contacting teacher training institutions or subject associations to target recommended applicants.”

Table 4.5

Strategies employed by non-government secondary schools to avoid or overcome recruitment difficulties

Strategy	NSW	VIC	QLD	SA	WA	NT	TAS	ACT	National
	%	%	%	%	%	%	%	%	%
Advertising more broadly	47.2	35.1	42.1	38.5	31.9	66.7	30.0	53.3	39.2
Increasing salary offers	7.5	11.5	5.3	7.7	12.8	0.0	0.0	6.7	8.7
Encouraging existing staff to undergo specialised training	24.5	16.8	20.0	30.8	27.7	33.3	40.0	6.7	21.3
Contacting teacher organisations/subject associations to target recommended applicants	20.8	36.6	32.6	23.1	27.7	0.0	30.0	33.3	30.8

Source: *Non-government Schools Staffing Survey, DEST, 2002*

¹² Principal, Victorian Catholic Primary School, Regional Victoria

¹³ Principal, Victorian Catholic Primary School, Melbourne

Nationwide results showed that 39.2 per cent of respondents chose to advertise more broadly. Almost 31 per cent of respondents contacted teacher organisations or subject associations to target recommended applicants, and 21.3 per cent encouraged existing staff to undergo specialised training. Only a small percentage (8.7 per cent) reported using increased salary offers as a strategy. Being subject to enterprise agreement arrangements may have nullified this option for many schools. The national results generally reflect those at State/Territory level.

Where respondents had recorded recruitment activity during the year to August 2002, they were also asked to comment on the level of recruitment difficulty, and how they had coped with recruitment shortfalls:

“If there was a recruitment shortfall, how has the school coped?”

- Using qualified relief teachers
- Temporarily using teachers from other subject areas
- Teachers upgrading to new areas of specialisation
- Shortening courses
- Enlarging classes
- Cancelling classes.”

National data generally reflects responses at State/Territory level. The most popular mechanism for coping with recruitment shortfall or difficulties was utilising teachers from other subject areas (39.5 per cent) followed by using a qualified relief teacher (35.6 per cent). At the same time, a number of respondents made particular mention of the difficulty in engaging emergency or relief teachers, and finding staff to fill unexpected vacancies during the year. As one respondent acknowledged, “...finding staff to fill short-term contracts such as Long Service Leave and extended sick leave is an ongoing concern.”¹⁴

Table 4.6

Non-government secondary schools coping with recruitment shortfall or difficulties

Means of coping	NSW	VIC	QLD	SA	WA	NT	TAS	ACT	National
	%	%	%	%	%	%	%	%	%
Using a qualified relief teacher	36.1	41.2	32.4	38.5	20.8		33.3	46.2	35.6
Utilising teachers from other subject areas	39.3	39.7	41.2	30.8	41.7	No data available	50.0	30.8	39.5
Encouraging teachers to gain qualifications in other subject areas	18.0	16.2	13.2	30.8	20.8		16.7	15.4	17.0
Shortening courses	1.6	1.5	2.9	0.0	4.2		0.0	0.0	2.0
Enlarging classes	1.6	0.0	4.4	0.0	12.5		0.0	0.0	2.8
Cancelling classes	3.3	1.5	5.9	0.0	0.0		0.0	7.7	3.2

Source: *Non-government Schools Staffing Survey, DEST, 2002*

¹⁴ Principal, Catholic Primary School, Regional Victoria.

One respondent suggested that encouraging teachers to upgrade to new areas of specialisation could be a short-term solution. “Recruitment of teachers in the computing area in country regions is an ongoing acute difficulty. Upgrading of existing staff only goes so far, as teachers who develop these skills soon use them to gain employment elsewhere.”¹⁵

Other methods of coping with recruitment shortfall employed by non-government schools included:

- encouraging part-time teachers to “increase their fraction”;
- using job-sharing arrangements to encourage the return to work of experienced teachers on leave;
- seeking out and making use of external tutors to fulfil students’ needs;
- undertaking School of Distance Education courses;
- contracting with other schools so that students can utilise their specialist facilities and teachers;
- establishing relationships with former employers and principals in other states. “We have made a link with my former employer ... they have agreed to a scheme where they will give their teachers up to two years leave to teach in our school. The teacher would be guaranteed their position back ... at the end of their time here...I have made a number of Principal to Principal links with some schools in Western Australia.”¹⁶

Respondents in rural and remote schools acknowledged their difficulties in recruiting and retaining suitable staff. As one principal reported “Our remote area school (head count 10) struggles to attract well-qualified experienced teachers. I have hired 35 teachers since commencing as principal in the 2000 school year.”¹⁷

¹⁵ Principal, Catholic School, Mid-North Queensland

¹⁶ Principal, Catholic School, Far North Queensland

¹⁷ Principal, Remote Area School, Western Australia

Chapter 5

The state of the teacher labour market in selected English-speaking countries

This chapter provides a short review of the state of the teacher labour market in four English speaking countries – the United Kingdom (UK), the United States of America (USA), New Zealand and Canada – whose teacher labour market arrangements are similar to those in Australia. Comparisons with the Australian teacher labour market can then be put into a global context. Information from other countries, while useful, is more difficult to obtain.

United Kingdom

In England the annual school-based Survey of Teacher Vacancies provides information on vacancies by type of school, region and subject area. The survey results are published by the Department for Education and Skills (DfES).

An important measure derived from this survey is the “vacancy rate” which is the ratio of vacancies to the number of permanent full-time teachers employed. The survey results do not refer to shortages as such but recruitment difficulties can be expected to be greater when the vacancy rate is high. As the National Union of Teachers points out, however, the data gives no indication of the number of schools using teachers for subjects in which they are not qualified, instructors and unqualified people.¹⁸

Between 1995 and 2002 the overall vacancy rate has quadrupled from 0.3 per cent to 1.2 per cent. It peaked during this period at 1.4 per cent in 2001. The overall vacancy rates have fallen since 2001 in most subjects, except German, geography and music. The highest vacancy rates exist in the subject areas of information technology, mathematics, foreign languages (not French and German) and music.¹⁹

Vacancy rates continued to be higher in some geographical areas. London and the East/South East England areas have consistently experienced high vacancy rates over time.

The UK Government has taken a number of steps to address recruitment difficulties. Details are available on the Teacher Training Agency (TTA) website at <http://www.canteach.gov.uk>. The TTA, established in 1994, promotes teaching as a profession and sets out to raise the standard of teaching and the quality of teacher training courses. The website provides comprehensive information on the skills required to be a good teacher, routes into teaching, career prospects; support for trainees, etc.

A range of financial incentives are available to encourage the take-up of teacher training, especially in areas of high demand.²⁰ These incentives include:

- Training bursaries of £6,000 to most postgraduate trainee teachers;

¹⁸ *The Reality of School Staffing – a study for the NUT*, National Union of Teachers, <http://www.data.teachers.org.uk>, 14 November 2002

¹⁹ *Teachers in Service and Teacher Vacancies: January 2002 (Revised)*, National Statistics, Department for Education and Skills, 5 August 2002, <http://www.dfes.gov.uk/statistics/DB/FR/s0346/sfr18-2002.pdf>

²⁰ *Financial support during training*, <http://www.canteach.gov.uk/teaching/support.htm>

- Payment of tuition fees for eligible education students;
- Additional needs-assessed payments of up to £7,500 to eligible trainees in secondary subjects where there is a national shortage of teachers, such as: geography, technology, mathematics, modern languages, music, religious education and science;
- Offering mature individuals the opportunity to enter teacher training by employing them as “unqualified teachers” while they undertake an individualised training programme. (Graduate Teacher Programme) The employing school receives a £13,000 grant towards the trainee’s salary and up to £4,000 for their training costs.
- Repayment of Teachers Loans (RTL). Under the RTL scheme, announced on 7 August 2002, the Government will re-pay over time (up to ten years) the student loans of newly qualified teachers in priority subjects. To be eligible, teachers in shortage subjects such as maths, science, modern languages, English, Welsh, and technology must have attained Qualified Teacher Status since 1 February 2002; and gained a teaching post on permanent or fixed-term contract between 1 July 2002 and 30 June 2005.
- Availability of “Golden Hellos” of £4,000 to eligible postgraduates teaching mathematics, science, English, modern languages, technology or ICT, who complete induction in the year after they obtain their teaching qualification, and are working in eligible teaching positions.
- “Welcome Back Bonuses” of up to £4,000 to teachers who qualified before 30 April 2000, were not employed as teachers for more than 15 days between 30 April 2000 and 31 March 2001, and have now returned to teaching full- or part-time under a permanent or fixed-term contract of at least one term.²¹

The recruitment difficulties in the London region have led to the Government instituting a special recruitment strategy for that area, as described at www.teachers4london.com. One of the strategies for the area is the *Teaching in London Event 2003*, a career fair, specifically focussed on teaching in the London area.²² Exhibitors include London schools, universities, London Local Education Authorities (LEAs) and local councils.

On 22 October 2002 the Minister for School Standards, David Miliband, and the then Secretary of State, Estelle Morris, released a series of publications, *Time for Standards* outlining the future of the teaching profession and plans for remodelling the school workforce. Change was considered necessary because research had shown that teachers worked an average of 52 hours per week, of which 20 per cent was spent on non-teaching tasks (which could be undertaken by other adults). The situation could not be tackled simply by recruiting more teachers. “Teacher numbers are already at their highest point for 20 years. And yet we still need to recruit 10 per cent of new graduates to teaching, and in subjects like mathematics, the figure is 40 per cent.”²³

The remodelling programme will “give teachers more time, extra support and renewed leadership” by investing £12.8 billion annually by 2005 – 06 to allow more time for lesson planning, preparation and student assessment and relief from administrative burdens.

²¹ *Welcome Back Bonuses*,

<http://www.teachernet.gov.uk/Management/staffinganddevelopment/recruitment/welcome>

²² <http://www.canteach.gov.uk/teaching/findoutmore/events/tile2003/exhibitors.htm>

²³ *Remodelling*, <http://www.teachernet.gov.uk/Management/staffinganddevelopment/remodelling>

Additional support staff will include administrative staff, teaching assistants and ICT technicians. Employing business, personnel, lead-behaviour and facilities management experts will allow Head teachers to focus on leadership of teaching.

United States of America

The most authoritative data on teacher supply demand issues in respect to the USA are produced by the Schools and Staffing Survey (SASS) conducted on behalf of the National Centre for Education Statistics (NCES). The survey covers public and private schools and has components providing information about teacher demand and shortages, the views of school principals and of teachers, and data on the school and school district. The information is published by the NCES on their web site, www.nces.ed.gov.

Analysis of these data has not produced a general consensus in the USA about the extent of teacher recruitment difficulty. The most comprehensive and widely quoted study on this issue *What Matters Most: Teaching for America's Future* published by the National Commission on Teaching and America's Future (NCT&AF) in 1996, stated that recurring shortages of teachers have characterised the US labour market for most of the 20th century. According to that report, shortages as measured by the vacancy rate and more qualitative measures of recruitment difficulty, were most pronounced in 1996 in bilingual education, special education, physics, chemistry, mathematics and computer science. Black American teachers were also particularly highly sought after. Shortages were most severe in the poorest districts.

A media release from the US Secretary of Education, Mr Rod Paige, dated 15 October 2002, described the critical need for teachers in curriculum areas such as mathematics, science, foreign language, ESL, reading and special, with the prospect of the problem worsening with increased student enrolments and teacher retirements.²⁴

A list of federally designated teacher shortage areas, used in part to determine the allocation of a range of grants and scholarships, is available on the Department of Education website at <http://www.ed.gov/offices/OSFAP/Students/repayment/teachers/tsa.html>. The most commonly listed specialisations in designated teacher shortage areas for 2000 – 2002 were special education, mathematics, foreign languages (especially Spanish), technology and science.

The US Department of Education places great emphasis on alternative teacher programs, including Troops to Teachers, the New Teacher Project, and Teach for America. Troops to Teachers, which received \$18 million in the 2001 - 02 financial year, has placed some 4,000 former military personnel in teaching positions since 1994. Selection priority is given to those “who have educational or military experience in science, mathematics, special education, or vocational or technical subjects and agree to seek employment as science, mathematics, or special education teachers in elementary schools or secondary schools or in other schools under the jurisdiction of a local educational agency.”²⁵

Grants totalling \$35 million were approved during 2002 under the Transition to Teaching Program to help high-need school districts “tackle teacher shortages by recruiting talented and

²⁴ Media Release, *Secretary Paige Announces \$35 Million in Grants to recruit and train new teachers*, <http://www.ed.gov/PressReleases/10-2002/10152002.html>, 15 October 2002

²⁵ <http://www.ed.gov/legislation/ESEA02/pg27.html#sec2303>

capable individuals from other professions and academic fields, as well as recent college graduates with strong academic records and a bachelor's degree in a field other than teaching, to serve as teachers.

The National Teacher Recruitment Clearinghouse (www.recruitingteachers.org) provides a resource for prospective teachers seeking jobs, and for school districts and States seeking qualified teachers. It notes that there are several geographic (rural and urban) and subject areas that consistently report a high need for qualified teachers (e.g. special education, mathematics, science, bilingual education and English as a second language). The NTRC suggests that the focus is on expanding the pool of qualified teachers and describes incentives and marketing strategies employed by school districts.

New Zealand

New Zealand has a rich data source on teachers and teacher movements, including in and out of teaching and between schools. This is derived from their annual surveys of schools conducted by the Ministry of Education.

Enrolments in New Zealand schools have increased significantly in the past few years. An increase in births during the late 1980s and early 1990s, and an increase in net migration during the mid-1990s contributed to an increase in student numbers in primary schools from 1995 onwards. Policy changes which lowered the teacher-student ratio further increased demand for teachers within this sector.²⁶

Primary enrolments are expected to peak in 2002 (and are already beginning to decline in some areas) as students move into the secondary sector. The demand for primary teachers is therefore decreasing. In the secondary sector, teachers of mathematics, science, technology, information and communications technology continue to be in great demand and so are teachers from te reo Maori and Pacific Islander backgrounds. Vacancies are more likely to occur in rural and minor-urban areas.

New Zealand has been active in assisting the growth in the supply of teachers which as a result increased markedly in the 1990s. In 2001, the Minister of Education announced a \$5 million package to encourage people to take up teaching, particularly within the secondary sector.²⁷ Included in the package are:

- TeachNZ Secondary Subject Trainee Allowances of \$7,000 to \$10,000, available to all graduates and near-graduates committing to become secondary teachers in targeted subjects. Targeted subjects include English, Chemistry, Mathematics, Physics, Computing, Physical Education and te reo Maori.
- TeachNZ Scholarships worth \$10,000 are available to people from rural areas wanting to teach in rural areas, Maori or Pacific people wanting to teach in early childhood, primary or secondary settings, and people wanting to teach primary or secondary subjects using the Maori language.

²⁶ *Monitoring Teacher Supply: Survey of Staffing in New Zealand Schools at the beginning of the 2002 School Year*, Research Division, Ministry of Education, March 2002, p.3.

²⁷ NZ Teaching Environment, TeachNZ, http://www.teachnz.govt.nz/environment/p1_environ.html

- An international relocation allowance of \$5,000 is available to NZ-trained school teachers who return to New Zealand and are appointed to a full-time entitlement position of 20 weeks or more.
- Overseas-trained teachers recruited from outside New Zealand to a full-time entitlement position of 20 weeks or more may be eligible for a \$3,000 International Relocation Grant.

Details of these initiatives, and information on teaching careers are available on the TeachNZ website at www.teachnz.govt.nz.

Canada

The coverage and quality of information concerning teacher shortages in Canada is varied. As noted in the previous MCEETYA report, there appears to be a lack of official sources of information at the national level. This may be attributable to the fact that Canada does not have a national department of Education, although there is a Council of Ministers of Education, Canada (CMEC), comprised of provincial and territory ministers.²⁸

In January 2002 a report on a situational analysis of Canada's education sector human resources was released. *The ABC's of Educator Demographics* reported on a project undertaken by CS/RESORS Ltd on behalf of a steering group composed of representatives from Association of Canadian Community Colleges, Canadian School Boards Association, Canadian Teachers' Federation, Movement for Canadian Literacy, National Association of Career Colleges and Statistics Canada.

The situational analysis had three main purposes:

- To provide a snapshot of Canada's education sector;
- To review current discourse on the issue of potential human resource shortages in the sector; and
- To consider directions for future research on the sector that would be useful for long-term human resource planning²⁹.

The report noted the key findings on a range of reports on teacher shortages in Canada:

- The Canadian Teachers Federation Survey of Canadian School Boards on Supply/Demand Issues found that teacher shortages were the most prevalent in science subjects in the four years prior to the survey.³⁰ Recruitment had become more difficult, with shortages possibly exacerbated by the size or location of the school district. Retirement was seen as the major cause of recruitment difficulties.
- In November 2000, the British Columbia Teacher's Federation reported that there were teacher shortages in some geographic areas and in the subject areas of mathematics, science, technology, French, special education, home economics, ESL and counselling.³¹ Retirement was a major contributing factor to shortages. While province-

²⁸ Council of Ministers of Education Canada, <http://www.cmec.ca/indexe.stm>.

²⁹ *The ABCs of Educator Demographics*, The Steering Group for the Situational Analysis of Canada's Education Sector Human Resources, January 2002, p.iii.

³⁰ *CTF Survey of Canadian School Boards on Supply/Demand Issues*, Canadian Teachers Federation Economic Services Bulletin, October 2000.

³¹ *Teacher Supply and Demand in British Columbia – Enhancing the Quality of Education: Attracting, Recruiting*

wide enrolment patterns were expected to level out or slightly decline, some urban areas were experiencing high enrolment growth.

- A report prepared by the Ministry of Education for the British Columbia Teacher Supply and Demand Consortium advised that slightly more than half the reported shortages were at secondary level, with the most acute being in the subject areas of technology, mathematics, science and languages. Nearly one-quarter of the total teacher shortage was anticipated in elementary schools, with the three main subject areas affected being French immersion, special education and counselling.
- The Alberta Learning Teacher Supply and Demand Committee reported that Alberta benefited from in-migration of teachers from other Canadian provinces and other countries due to its “vibrant economy”.³² Aggregate teacher supply exceeded demand and was likely to continue to do so until sometime between 2003 and 2005 when supply and demand might equalise.
- The subject areas where teachers were in the most demand were senior high school level science, mathematics, technology, French and special education. Nearly 90 per cent of respondents reported no difficulty in recruiting elementary school “generalists”.
- The Ontario Teacher’s Federation reported in April 2001 that demand for qualified teachers had increased at a faster rate than supply over the previous three years. Shortages were being experienced in mathematics, physics, technology, French as a second language, special education and computer studies³³. It was estimated that 56,000 teachers would retire, meaning Ontario would require an additional 10,000 teachers for following years until enrolment growth was expected to level out in 2004.
- The Quebec Ministry of Education produces projections of teaching staff in Quebec school boards and recruitment requirements. The latest projections, extending to 2011 - 12 indicated that the teaching workforce was decreasing in numbers, but more slowly than the anticipated student enrolment (projected 15 cf 17 per cent between 2000 - 01 and 2011 - 12); numbers of teachers would decline in all fields, except for language of instruction; mathematics, science, pre-school education and vocational education would decline less than all other fields of education; there would be increased need for French and social studies teachers, due to policy and curriculum changes; and elementary school teaching would increase until 2002 - 03 and then decline rapidly.
- Work by the Memorial University of Newfoundland found no overall teacher shortage in 2000 – 01, although there was high demand for teachers in rural and remote areas, and shortages in subject areas of mathematics, chemistry, physics, special education and French. Mathematics, science and technology positions were particularly difficult to fill due to more appealing opportunities in private industry. Declining birth-rates were expected to soften the demand for teachers.
- The Federation of Independent Schools of Canada advised that the patterns for recruitment difficulties appeared similar to those in the public sector, including great difficulty in finding teachers for senior mathematics, French and music. There were no difficulties in recruiting teachers in English, social studies or physical education. Schools

and Retaining the Best Teachers, brief to the government of British Columbia, British Columbia Teachers’ Federation, November 2000.

³² *Promising Practices in Teacher Recruitment and Retention*, Teacher Supply and Demand Committee, April 2001, <http://www.cas.ab.ca>.

³³ *Teaching for Success: Will Ontario have the teachers it needs?*, Ontario Teachers Federation, April 2001

in small or rural communities also experienced a greater degree of recruitment difficulty than their urban counterparts.

- A December 2001 report by a Nova Scotia Education Consultative Forum subcommittee, made up of members of the Department of Education, School Boards, Teacher's Union, and local universities reported that enrolments were projected to decline by 16.1 per cent from 2000 - 01 to 2009 - 10, while the anticipated rate of decline in teacher numbers was 10 per cent. New supply was expected to exceed new demand from 2002 - 03 to 2004 - 05 and in 2009 - 10. New demand was expected to exceed new supply from 2005 - 06 to 2008 - 09.
- Projections also indicated there would be shortages in the subject areas of mathematics, general and other sciences, technology, family studies, and special education, and shortages could also occur in physics, chemistry, physical education, speech therapy and guidance.

In March 2002 an Interorganisational Committee presented their report, *Teacher Supply and Demand in Manitoba* to the Minister of Manitoba Education, Training and Youth.³⁴ Findings included: the Manitoba school age population was increasing, student-teacher ratios were stable, and the teaching workforce was ageing, with the number of annual teacher retirements increasing. While the demand for new teachers varied across divisions/districts, the greatest need was in the subjects of senior high mathematics, natural sciences, vocational/industrial, computer science and French immersion.

The degree and extent of teacher shortages across Canada varies, although the common areas of current or projected teacher shortages/recruitment difficulties tend to be in mathematics, science, technology, French and special education.

³⁴ *Teacher Supply and Demand in Manitoba – Report of the Interorganizational Committee*, March 2002, http://www.edu.gov.mb.ca/ks4/docs/reports/teacher_report.html

Summary of teacher supply and demand in selected English-speaking countries

Table 5.1

Summary¹ of recruitment difficulties/shortages in selected English-speaking countries				
Key learning area	UK	USA	NZ	CANADA
Health/Physical Education				
Languages other than English	•	•		•
Mathematics	•	•	•	•
English			•	
Science	•	•	•	•
Studies of society and the environment	•			
Visual and performing arts	•			•
Technology	•	•	•	•
Special education		•		•
Other	•		•	
Specific localities ²	•	•	•	•

Note: ¹ Recruitment difficulties/shortages identified from initiatives/reports specified in this chapter.

² Include rural/remote areas, difficult-to-staff metropolitan areas

Information on teacher recruitment difficulties is not of a consistent quality or currency from the four English speaking countries. It appears, however, that some degree of teacher recruitment difficulty is being experienced by them all. The difficulties are generally in subject areas such as mathematics, sciences, special education and technology. As in Australia, vacancies in rural and remote geographic locations tend to be more difficult to fill, and factors such as an ageing workforce, competition from other careers for maths, science and IT graduates, and variations in student numbers and class sizes are common underlying causes of recruitment difficulties.

PART C
Future Outlook

This part of the report examines the outlook for the demand and supply of teachers in Australia over the period to 2007. This is the last year for which estimates of graduations can be based on actual commencements. Chapters 6 and 7 discuss the factors that need to be taken into account in estimating demand and supply of teachers respectively. Chapter 8 uses the framework developed in the previous two chapters to calculate estimates of demand and supply up to 2007.

Chapter 9 explores a number of issues which are likely to have a significant impact on teacher supply and demand at least in the period immediately after 2007 and towards 2012.

A schema of stocks and flows in the teacher labour market

As an aid to the discussion in chapters 6 and 7, Chart C.1 provides a diagrammatic representation of stocks and flows in the teacher labour market. The key stocks and flows are:

Key stocks:

- numbers of classroom teachers (or employed teachers);
- those who are relief and casual teachers or awaiting placement; and
- people qualified as teachers but not working as such. This issue has been examined later in this report. Importantly, people qualified as teachers but not employed as teachers, especially those who qualified some years earlier, may not be readily available for employment as teachers – i.e. this is a potential rather than actual stock of teachers.

Key in-flows:

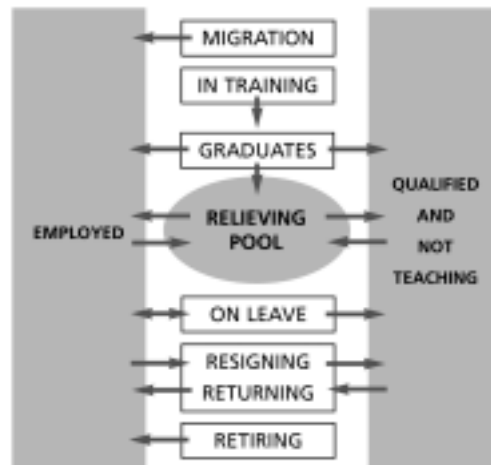
- graduates;
- teachers returning from leave;
- teachers (other than those returning from leave) who are returning into teaching; and
- inward migration.

Key out-flows:

- retirements;
- resignations and other exits (e.g. dismissals and deaths);
- teachers going on extended leave; and
- outward migration.

Chart C.1

Teacher labour markets—main stocks and flows



Chapter 6

Factors affecting the demand for teachers

Demand for teachers is largely met through continuing employment of permanent staff and re-engagement of existing contract or casual staff. Each year, however, new teachers have to be found because some teachers leave and also because the requirement for teachers varies due to a range of factors. Changes in requirements, generally upwards in the past because of population increases, are referred to as 'growth demand' for teachers. Teachers leaving and needing to be replaced generates 'replacement demand' for teachers. These two factors – new or growth demand and replacement demand - together make up the demand for new teachers.

Growth demand for teachers

During the 1990s growth in the teaching workforce was of the order of 1.1 per cent a year, compared to 1.0 per cent a year in the previous decade.

The total number of teachers required and whether or not additional teachers are required depends on a number of factors. These include: the size of the school age population; participation rates at various ages and especially the retention rate to Year 12; the level of government and private funding of schools, and teacher and ancillary costs; and policies regarding class sizes and curricula (which can affect class sizes). These factors can be encapsulated in two variables which together determine the number of teachers:

- enrolment levels; and
- student to teacher ratios (STRs).

Between 1989 and 2001, enrolments grew and STRs generally declined. This combination led to a relatively strong growth in teacher employment, with the two factors reinforcing each other. The enrolment growth effect was stronger, with two-thirds of the teacher employment growth being due to the growth in enrolments and one-third to the decline in the STRs (DEST estimates).

Recent Enrolment trends

Detailed enrolments changes in the last five years (1995 to 2001) are shown in Attachment 2. During this time, enrolments increased by 5.1 per cent, with secondary enrolments growing more strongly (7.8 per cent) than primary enrolments (4.3 per cent). Senior secondary school student enrolments grew faster (10.7 per cent) than junior secondary enrolments (6.5 per cent). The strongest growth was for senior secondary enrolments in the non-government sector (17.4 per cent or 2.7 per cent per annum). Projections of enrolment trends are presented in Chapter 8, which provides projections of demand and supply of teachers to 2007.

Student to teacher ratios

Education providers do not normally use STRs as targets to be achieved. Rather, the STRs are the outcome of decisions made by the education authorities and governments about curricula, learning outcomes and the allocation of resources. However, the STR is useful for projection purposes because it captures all of these factors in a single indicator.

Table 6.1

Student to teacher ratios by sector and category of school, 2001

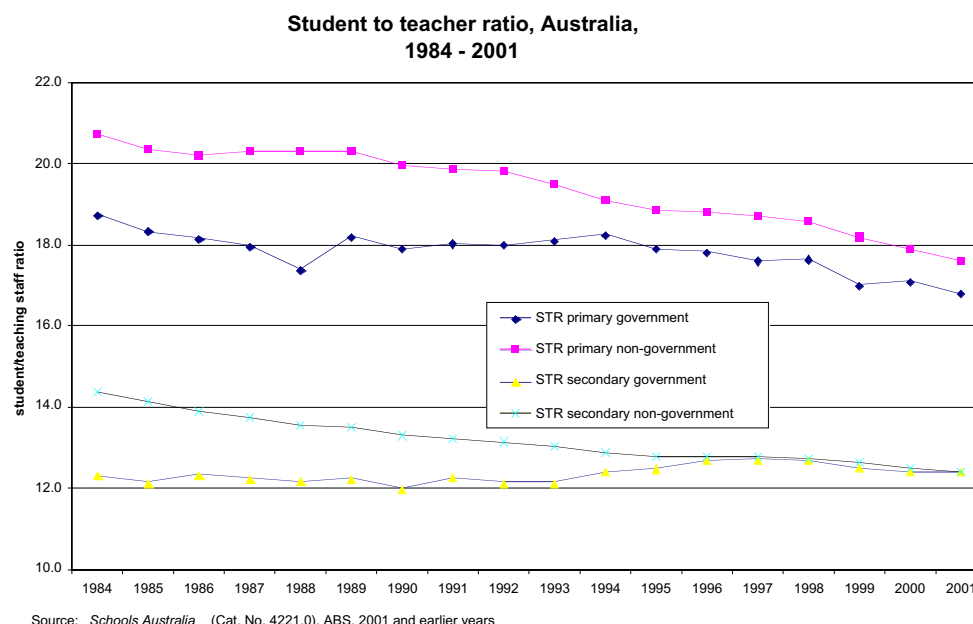
	Primary		Secondary	
	Government	Non-government	Government	Non-government
NSW	17.5	18.2	12.5	12.3
VIC	16.6	17.2	12.5	12.2
QLD	16.1	17.3	12.5	12.8
SA	16.8	17.8	11.6	12.5
WA	17.2	16.3	12.4	12.5
TAS	16.0	17.5	12.6	12.3
NT	13.8	17.3	10.8	11.2
ACT	16.5	19.9	12.1	13.1
Australia	16.8	17.6	12.4	12.4

Source: *Schools Australia*, Cat No 4221.0, ABS 2001

Note: Student to teacher ratios are derived by using FTE for students and FTE for teachers - i.e. part-time students were not included.

In this context, it is instructive to compare STRs by State and Territory, sector (primary/secondary) and category of school (government/non-government) as shown in Table 6.1. There is a significant difference in STRs between the States in the government and non-government sectors. In all States and Territories (except Western Australia), STRs are higher in non-government schools in the primary sector. The differences between government and non-government schools in the secondary sector, where they exist, are much smaller.

Chart 6.1



In the last 16 years, STRs in both sectors and category of school have, with one exception, progressively fallen at the national level (Chart 6.1) although the trends across sectors and type of school have been different. For instance:

- the primary school STR, in both the government and non-government sectors, has declined continuously so that the level in 2001 was respectively 1.9 and 3.0 percentage points lower than in 1984;
- the secondary school STR for government and non-government schools declined to 1994 but the government secondary STR then rose for a few years before falling again in 1999, 2000 and 2001. As a result in 2001 the government secondary STR was higher than at the beginning of the decade; and
- the non-government school STRs have declined at a faster rate than the government STR. Non-government school STRs are generally higher than those of government schools.

The fall in the STRs over time has had the effect of increasing the demand for teachers above what they would be with steady STRs. For example, if STRs were the same in 2001 as they were ten years earlier, there would be a need for nine per cent fewer teachers in the primary sector.

Replacement demand for teachers

Replacement demand arises because of losses to teaching from retirements, resignations, deaths and dismissals. The sum of these components is referred to technically as total separations.

Assessment of annual replacement demand relative to growth demand shows that replacement demand has generally been the major source of demand for teachers. In the government sector, (gross) annual separations have been in the range of 3 - 8 per cent of the teaching workforce per year. By contrast, growth demand has tended to average slightly more than 1 per cent a year. A separation rate of 3 - 8 per cent of the current teaching workforce (of 250,000) represents the need to replace between 7,500 and 20,000 teachers a year.

Separation rates vary by State, sector and type of school; by the demographic composition of the teaching workforce; and by conditions in the teaching workforce relative to the wider economy. These are discussed further below.

Teachers separating from teaching

In preparing this report States and Territories were asked to provide information on the following categories of (gross) separation:

- Age retirement;
- Resignations below the age of 55;
- Resignations of 55 years old or more;
- Redundancy;
- Contract expired (and not renewed);
- Going on extended leave of at least one term duration; and
- Dismissed or deceased;
- Other.

The data provided by the education authorities form the basis for estimating the extent of separations and the relative importance of the various categories.

Categories of separation and their importance

Redundancy has played a small part in teacher separations in recent years in some States.

Contract teachers are a significant part of the teaching workforce. In some States, contract teaching has been an established institutional arrangement, especially for new teachers. In these instances, contract teachers are used both to fill in for teachers going on leave and to occupy an on-going position. In other cases, teachers going on leave are backfilled from the casual teaching labour force. These casual teachers may be employed on contract for the period of the break or, most often, as a casual for the entire period. For these reasons, contract teacher separations can be quite numerous.

Resignations can occur for a number of reasons and not all are associated with moves out of teaching. Some resignations actually involve teachers moving from one education system to another or from one State to another.

Research indicates that resignations out of teaching are affected significantly by the state of the economy and the characteristics of the teaching labour force. During the early 1990s, resignations fell, reflecting reduced opportunities for other employment in the labour market.³⁵ When this happens, other teachers, who may have wished to take some time off teaching with the intention of re-entering at a later date, may be deterred from doing so, knowing that in the future opportunities for re-entering may be curtailed if fewer teachers resign. As a corollary, resignation rates tend to rise when the general labour market conditions, such as low unemployment rates, favour job seekers.

Age retirement depends on the age distribution of teachers, their retirement intentions and superannuation arrangements. Tables 6.2 to 6.7 provide rates of retirement, resignations and other forms of separations (other than leave of absence) for permanent teachers in government and non-government schools respectively. These data show that:

- although retirements have not been as important a reason for separations among the teaching profession as resignations, in the period 1996 to 2001, retirement rates rose sharply in the government sector. As discussed in greater detail later in this report, this relationship could change in the future because of the rapid ageing of the teaching workforce;
- while retirement rates are not too different in the primary and secondary government sectors, the resignation rates have been higher in the secondary sector. This is the major reason for the higher separation rates in the secondary compared to the primary government sector;
- in line with expectations, relatively strong economic performance of the Australian economy in the period of comparison (1996 to 2001) resulted in relatively high rates of resignations in the non-government sector (about 9 per cent of the teaching workforce);
- rising rates of resignation from teaching were also observed in the secondary government sector (from 2.5 per cent in 1996 to 2.7 per cent in 2001);

³⁵ G Burke, 'Teachers: Employment in the 1980s and 1990s' in *The Workplace in Education – Australian Perspectives*, First Yearbook of the Australian Council of Educational Administration, Edward Arnold Publishers, 1994.

- to some extent, resignation may reflect retirement intentions. In some jurisdictions, e.g. Victoria, significant benefits accrue to individuals resigning at age 54, rather than retiring at age 55.

Separation rates also vary across States and Territories, as shown in Tables 6.3 and 6.6, for a variety of factors. In 2001, the Australian Capital Territory and New South Wales had the highest separation rates in the government sector, while Western Australia and South Australia showed the lowest separation rates respectively in the government primary and secondary sectors. In non-government schools, the rate of separation in New South Wales appears to be well above the average.

Table 6.2

Government sector separations (other than through leave of absence) from the permanent teaching workforce, as a percentage of that workforce, 1996 and 2001¹

Reason for separation	Primary		Secondary	
	1996	2001	1996	2001
Retirement	0.9	1.6	0.8	1.7
Resignation	1.8	1.6	2.5	2.7
Other ²	0.2	0.2	0.7	0.4
Total	2.9	3.4	4.0	4.8

Source: *Government Staffing Questionnaires, Primary and Secondary, DEST, 2002 and Survey of State and Territory Education Authorities, DETYA, 2000*

Note 1: Data used in this table were headcounts of teachers (not FTE).

Note 2: The 'other' category includes deaths, retrenchments, dismissals and transfers to the Public Service within the State or Territory.

Table 6.3

Government sector separations (other than through leave of absence) from the permanent teaching workforce, as a percentage of that workforce, 1996 and 2001, by State/Territory¹

State/Territory	Primary		Secondary	
	1996	2001	1996	2001
NSW ²	3.1	4.0	3.6	5.2
VIC	2.5	3.2	4.6	4.2
QLD	2.3	3.7	3.3	5.8
SA	3.0	3.8	4.4	2.6
WA	2.2	2.5	3.6	3.9
TAS	3.7	3.6	5.5	4.7
NT	12.4	3.9	16.6	3.0
ACT	4.0	9.0	5.0	9.4

Source: *Government Staffing Questionnaires, Primary and Secondary, DEST, 2002 and Survey of State and Territory Education Authorities, DETYA, 2000*

Note 1: Data used in this table were headcounts of teachers (not FTE).

Note 2: NSW figures for 2001 include separations under the *Career Change Scheme*.

Table 6.4

Government sector separations (other than through leave of absence) from the permanent teaching workforce, as a percentage of that workforce, 1996 and 2001, ¹ Extended Leave

	Primary		Secondary	
	1996	2001	1996	2001
Extended leave, Australia	8.4	3.3	8.3	3.0

Source: *Government Staffing Questionnaires, Primary and Secondary, DEST, 2002 and Survey of State and Territory Education Authorities, DETYA, 2000*

Note 1: Data used in this table were headcounts of teachers (not FTE).

Table 6.5

Non-government sector¹ separations (other than through leave of absence) from the permanent teaching workforce, as a percentage of that workforce, 2001 ²

Reason for separation	Primary	Secondary
	2001	2001
Retirement	0.6	0.9
Resignation	9.6	9.7
Total	10.2	10.6

Source: *Non-Government Staffing Questionnaires, Primary and Secondary, DEST, 2002*

Note 1: Response rate for non-government schools was approximately 45 per cent.

Note 2: Data used in this table were headcounts of teachers (not FTE).

Table 6.6

Non-government sector¹ separations (other than through leave of absence) from the permanent teaching workforce, as a percentage of that workforce, 2001, ² by State/Territory

State and Territory	Primary	Secondary
	2001	2001
NSW	13.9	15.3
VIC	8.2	9.6
QLD	6.0	7.8
SA	6.7	9.4
WA	9.1	7.5
TAS	8.0	6.9
NT	2.3	n.a.
ACT	8.8	8.2

Source: *Non-Government Staffing Questionnaires, Primary and Secondary, DEST, 2002*

Note 1: Response rate for non-government schools was approximately 45 per cent. Small numbers of respondents, particularly in NT, may result in skewed data.

Note 2: Data used in this table were headcounts of teachers (not FTE).

Table 6.7

Non-government sector¹ separations (other than through leave of absence) from the permanent teaching workforce, as a percentage of that workforce, 2001 ²Extended Leave

	Primary	Secondary
	2001	2001
Extended leave, Australia	3.3	2.4

Source: *Non-Government Staffing Questionnaires, Primary and Secondary, DEST, 2002*

Note 1: Response rate for non-government schools was approximately 45 per cent.

Note 2: Data used in this table were headcounts of teachers (not FTE).

Leave is provided to teachers for a variety of purposes. The types of leave and their availability vary from system to system. One important reason for taking leave among the female teaching workforce is to look after children while they are still young and not at school. States may offer extended leave periods for such purposes, ranging from five to seven years. For the MCEETYA report published in 2001, Queensland provided data which show that maternity accounted for around 40 per cent of extended leave taking in recent years.

Government sector teachers are more likely to take extended leave lasting at least one term. In 2001 about 3.2 per cent of the permanent workforce in the government primary sector and secondary sectors took advantage of this type of temporary separation from teaching. This was considerably higher than the exit rate due to retirements, resignations and other non-leave related separations. Leave for a year or more has often represented the bulk (half or more) of total gross separations. The incidence of extended leave separations appears to be less

frequent for non-government school teachers. In 2001 only 3.3 per cent of non-government secondary and 2.4 per cent of non-government primary teachers availed themselves of this opportunity.

In part the extent to which extended leave is taken may reflect Australia's relatively old teaching workforce. The national survey of teachers indicated that, on average, survey respondents had worked as teachers for 17.3 years. Such long service provided the opportunity to build up significant long service leave entitlements. It should be noted, however, that while some teachers go on leave, others return. It can be expected that some teachers going on leave will resign while they are on leave, so that there will be a net loss of teachers through this process. Data from the States and Territories indicates that separations arising from (net) leave movements have been in the vicinity of 2 per cent a year.

The findings of the DEST 2002 survey of government education authorities and other studies suggest that typically in the government sector resignations fluctuate over the business cycle and across States, with the rate being somewhere between 2 and 5 per cent a year. A commonly accepted average resignation rate is 2 per cent a year and, as Table 6.2 shows, it is lower for the primary sector and higher for the secondary sector. In the 1990s retirements appear to have been just below 1 per cent a year but edged towards 2 per cent in 2001 (primary 1.6 per cent, secondary 1.7 per cent). Results from the DEST 2002 survey of government education authorities and other analyses suggest retirements are likely to rise in the future as "baby boomers" start to retire. The likely impact on teacher supply arising from ageing of the national teaching workforce is discussed in detail later in this report.

The data suggests that exits from teaching through leave, retirements and resignations can amount to typically between 10 and 13 per cent a year within the government school system and between 12 and 13 per cent in the non-government sector. When teachers returning from leave are taken into account, however, the estimate for net separations from the government school system typically falls to around 6 to 8 per cent a year.

Estimate of net separations from the teacher labour market as a whole

The estimate of replacement demand for the government sector added to the replacement demand from the non-government sector is likely to over-estimate replacement demand for the teacher labour market as a whole, as there is considerable movement of teachers between sectors. When a teacher resigns from a sector to move to another, the movement counts towards the replacement demand for the sector from which the resignation occurs, but it does not contribute to the replacement demand for the teacher labour market as a whole. Only resignations which lead to exits from the teaching profession contribute to replacement demand for the teacher labour market.

Because of this churning effect, replacement demand for the teacher labour market can be lower than the sum of replacement demand for the sectors within it.

Some indication of the past net separation from the teaching profession is provided by work undertaken by Monash University on 'net replacement demand' for various occupations, including teaching³⁶. That research suggested that 'net replacement demand' for school

³⁶ Centre of Policy Studies Briefing, The Economic Outlook for the Labour Market, Centre of Policy Studies/Impact

teachers in Australia averaged around 2.9 per cent a year over the ten year period to 1996. Net replacement demand in that study was estimated by analysis of labour force data by age and was calculated, effectively, as exits from the teaching profession (gross replacement demand estimated at around 11 per cent) net of entries (other than new graduates) and re-entries into the teaching workforce – hence the term ‘net replacement demand’. Because net replacement demand so calculated incorporates additional entry and re-entry categories such as the return of teachers from leave, the Monash University net replacement demand provides a lower bound for the rate of net separation of teachers as defined above.

It should be noted, however, that net replacement demand appears to have risen between 1996 and 2001, and may increase further due to ageing of the teaching workforce.

Chapter 7

Factors affecting the supply of teachers

The analysis in this chapter centres on the sources of supply of additional (or new) teachers to meet other new or growth demand and or replacement demand for teachers.

The principal sources of supply for additional teachers at an aggregate level are:

- New graduates;
- Teachers returning from leave;
- Former teachers returning to teaching;
- The pool of relief and casual teachers;
- Unemployed teachers and teachers marginally attached to the labour force;
- Overseas migration.

There are two main routes for gaining a teaching qualification: a four year undergraduate degree in initial teacher training, or a one or two year graduate diploma in teaching (generally called a Graduate Diploma of Education), following completion of an undergraduate degree in a non-teaching area, such as science or arts. Both streams provide a source of graduate teachers.³⁷

Applications for undergraduate teacher training (education) courses

In the ten years 1993 to 2002, the number of applications made to Admissions Centres for undergraduate education courses peaked in 1993 (25,816 applications) and then fluctuated to a low of 17,783 in 1997, before starting to climb in 1998.³⁸ The number of applicants of undergraduate education courses in 2001 was at the highest level since 1993 (22,575).

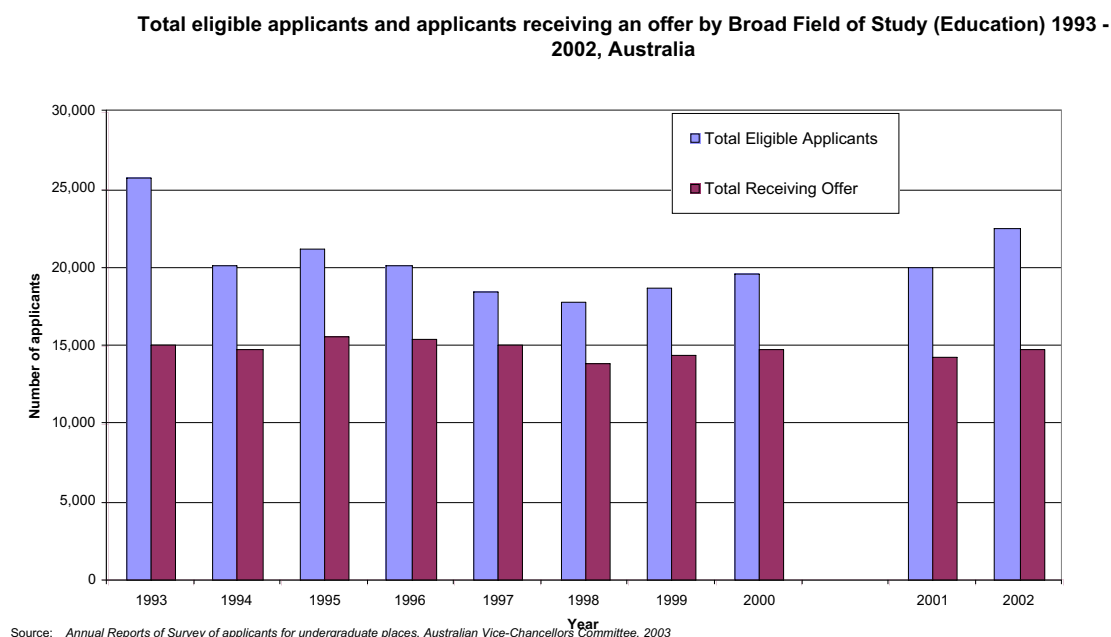
The number of offers to eligible applicants for undergraduate education courses, increased to 14,788, an increase of 464 over the 2001 figure. This was the highest level since 1997 (15,136).

The proportion of eligible applicants receiving offers peaked in 1997, when 82 per cent received offers. Since then, the proportion has steadily decreased to the 2002 level of 66 per cent.

³⁷ For a detailed discussion of Australian teacher education courses, see *Country Education Profiles, Australia*, Third Edition 2000, National Office of Overseas Skills Recognition, Department of Education, Training and Youth Affairs pp 56 – 61 inclusive.

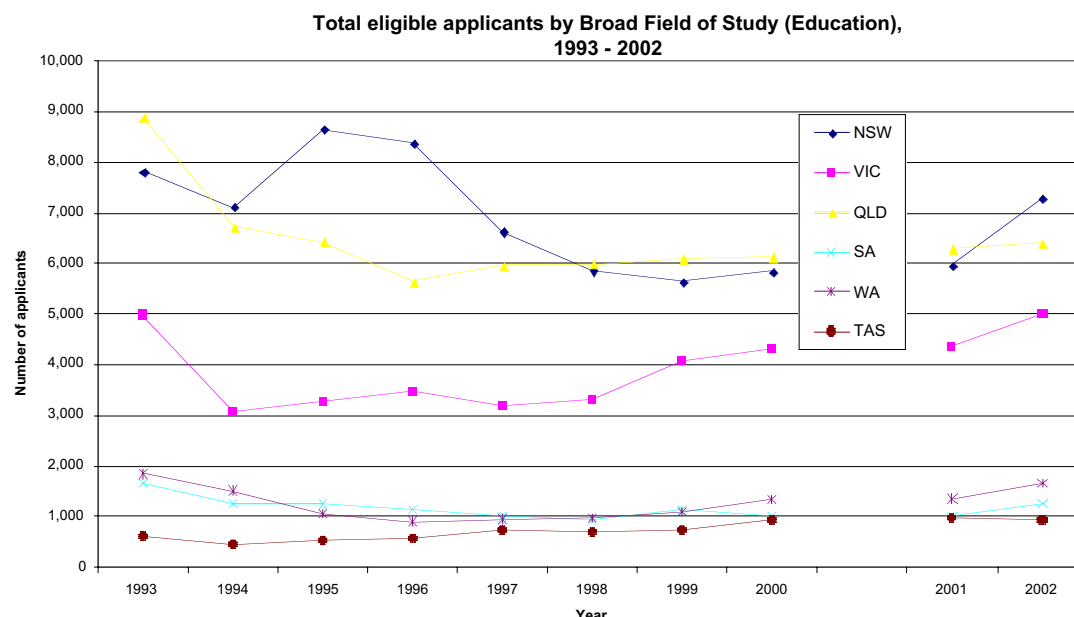
³⁸ *Annual Reports of Survey of applicants for undergraduate places*, Australian Vice-Chancellors' Committee, (AVCC), (unpublished consolidated data) 2003.

Chart 7.1



Note: Data for 2001 and 2002 was collected on a different basis to 1993 - 2000. The 2001 and 2002 data was coded in ASCED, and a new definition of "applicant" used - i.e. "those students who have applied via the Admission Centre and indicate a university undergraduate course either as their first or second preference on their application".

Chart 7.2

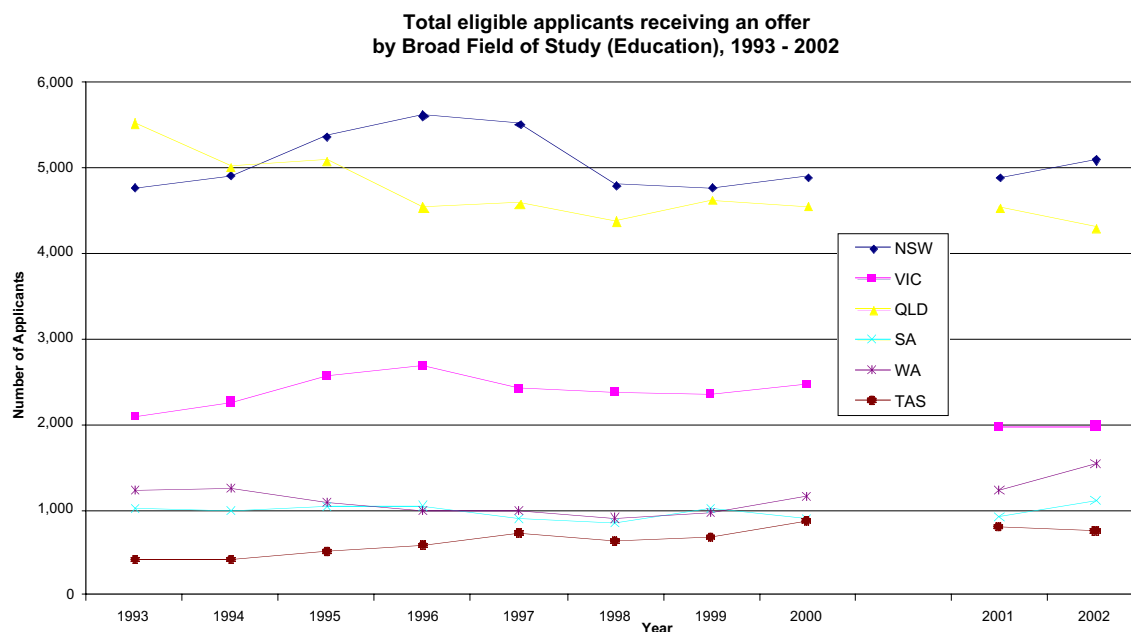


Note: Data for 2001 and 2002 was collected on a different basis to 1993 - 2000. The 2001 and 2002 data was coded in ASCED, and a new definition of "applicant" used - i.e. "those students who have applied via the Admission Centre and indicate a university undergraduate course either as their first or second preference on their application".

At State level, the number of applicants for undergraduate education courses in 2002 has also generally increased over 2001 numbers. In some States, the increase in the number of applicants between 2001 and 2002 has been quite marked, e.g.

- New South Wales – 22 per cent – (5,963 to 7,291)
- South Australia – 22 per cent – (1,033 to 1,262); and
- Western Australia – 22 per cent (1,360 to 1,658).

Chart 7.3



Source: Australian Vice-Chancellors Committee, Annual Reports of Survey of applicants for undergraduate places, 2003

Note: Data for 2001 and 2002 was collected on a different basis to 1993 - 2000. The 2001 and 2002 data was coded in ASCED, and a new definition of "applicant" used - i.e. "those students who have applied via the Admission Centre and indicate a university undergraduate course either as their first or second preference on their application".

States generally recorded slight increases in the number of eligible applicants receiving offers. In South Australia and Western Australia, however, the increase in the number of offers kept pace with the increase in applicants:

- South Australia – 22 per cent (913 to 1114); and
- Western Australia – 26 per cent (1222 to 1547).

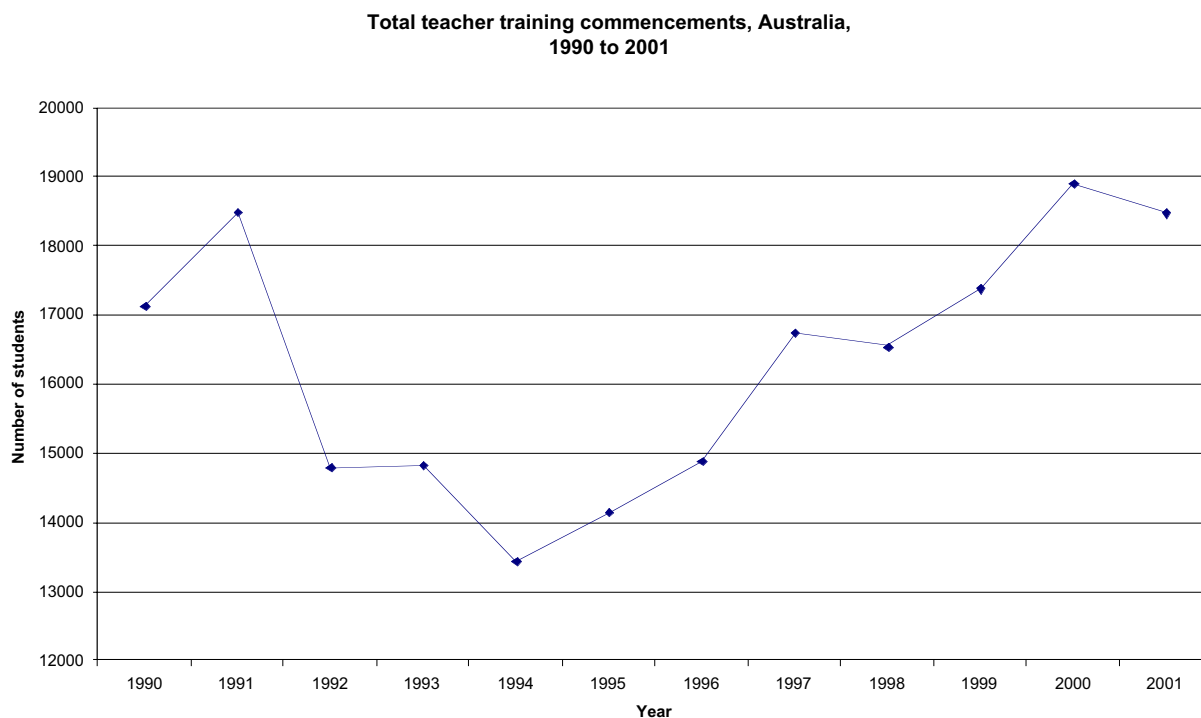
It should be pointed out that an offer does not necessarily correlate with a commencement. Even those students who accept an offer may choose not to commence their accepted course for various reasons, including making other choices about their career plans, deferring, deciding against undertaking the course, etc.

The number of applicants for undergraduate education courses is one indicator of the interest in teaching as a profession. The greater the number of applicants for a limited number of places, the more competitive these places become, meaning an increase in the entry scores demanded of applicants and a possible increase in the status of the course. A relatively high entrance score equally makes undergraduate teaching courses less obvious targets for potential university students seeking a "foot in the university door" when they've been unsuccessful in gaining entry to other courses.

Teacher training commencements

Total numbers of teacher training commencements and completions, covering undergraduate courses and graduate diploma courses (referred to postgraduate courses hereafter), for the last 12 years for which data are available are shown in Chart 7.4. Total commencements fell in the mid 1990s before recovering in the second half of the decade. Further details are in Attachment 5.

Chart 7.4



The breakdown of commencements into *undergraduate* courses and *post-graduate* diploma courses is shown in Chart 7.5 and Chart 7.6. Commencements fell sharply in 1992 and by smaller amounts in the next two years but recovered strongly until 2000. In 2001 commencements fell by 5.6 per cent and were above the levels prevailing at the beginning of the decade - roughly 18,500.

Chart 7.5

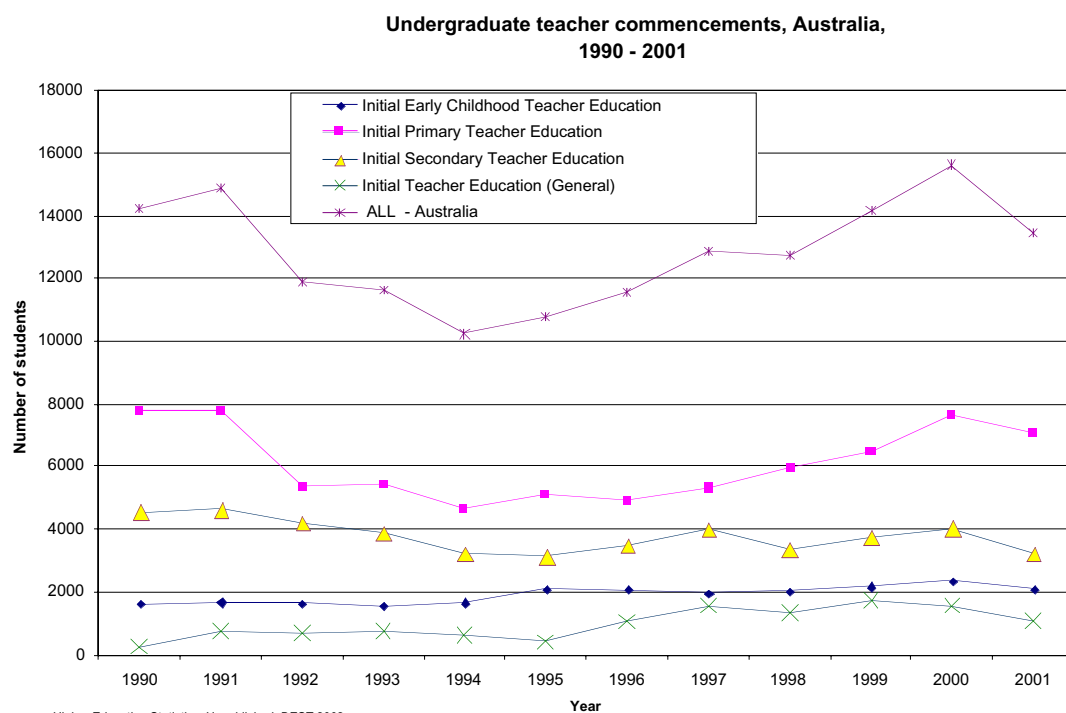
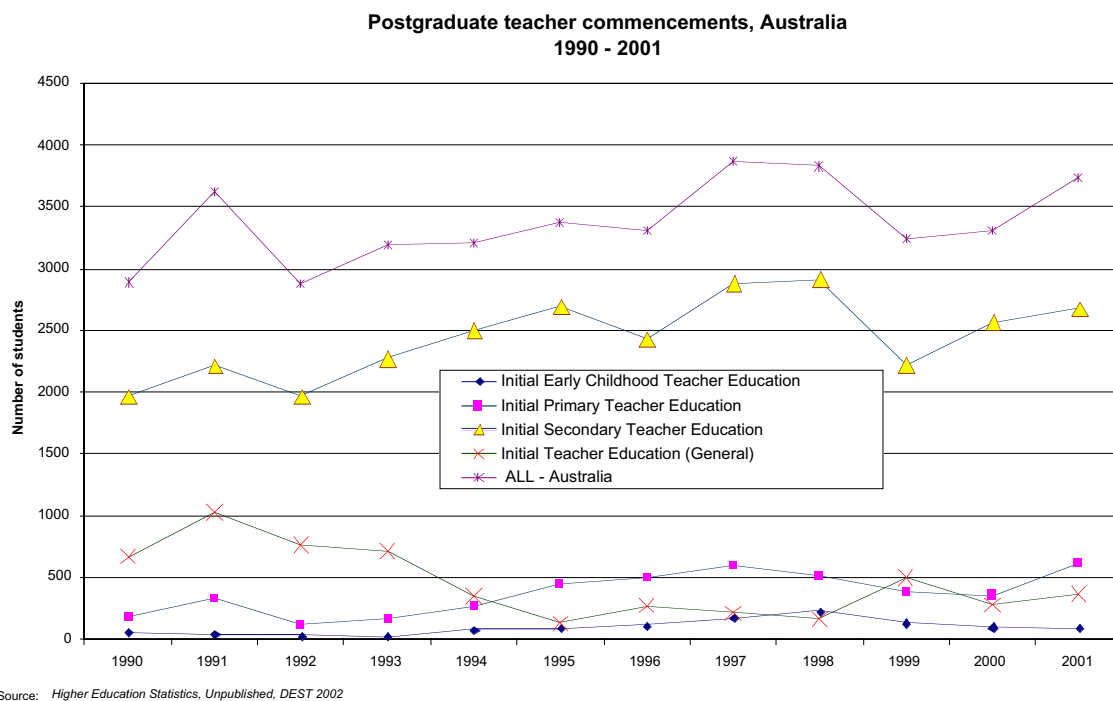


Chart 7.6



Numbers of commencements in primary and secondary teacher training courses have tended to be of similar magnitude over time. However, more recently more commencements were recorded in initial primary education. In 2001 commencements in initial primary teacher

education were about 7,650 and in initial secondary teacher education both were in the range of 5,900.

Commencements in *primary* initial teaching courses have been more variable than for courses in secondary teaching during the 1990s. After falling in the early 1990s, commencements in undergraduate primary courses rose until 2000 but fell by 4.6 per cent in 2001.

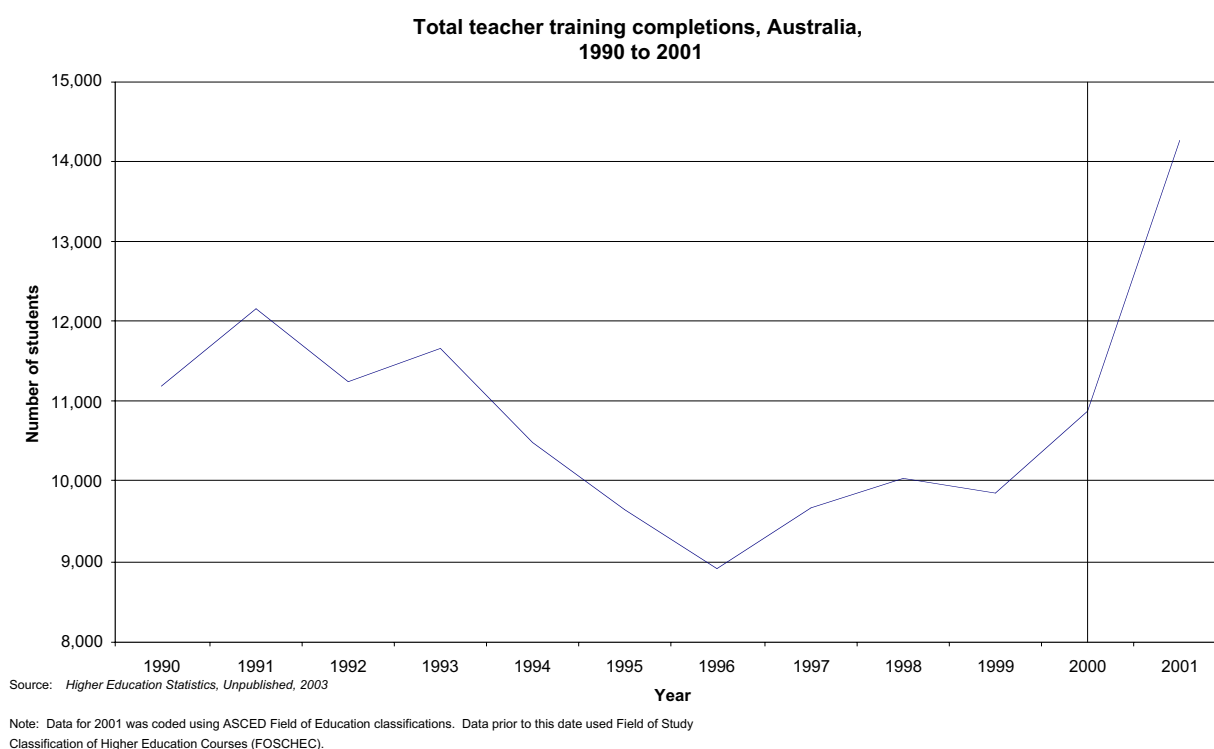
Commencements in *secondary* teaching courses were more stable during the 1990s. However, this masks a difference in trends in commencements between undergraduate and postgraduate courses. Undergraduate course commencements oscillated in the second part of the 1990s, while postgraduate course commencements rose reasonably steadily and partly made up for the fall in undergraduate commencements.

Postgraduate commencements are a significant component of *secondary* teaching commencements, representing about 45 per cent of total commencements in 2001 in this area. By contrast, postgraduate commencements represent a relatively minor component of commencements in *primary* teaching courses (8 per cent in 2001).

Teacher training completions

Chart 7.7 below shows trends in completions of teaching qualifications between 1990 and 2001. The majority of new teachers (62 per cent) completed undergraduate qualifications.³⁹ Completions fell from over 12,000 in 1991 to 9,000 in 1994, and have since recovered, reaching 11,000 in 2000, and 14,000 in 2001.

³⁹ Note that data prior to 2001 was coded using Field of Study Classification of Higher Education Courses (FOSCHEC). From 2001 data is coded using ASCED Field of Education. While these data were selected using the Australian Bureau of Statistics ASCED-FOSCHEC Correspondence table, there may be some variation.

Chart 7.7

Completions, shown in Charts 7.8 and 7.9, generally mirror commencements but with a four year lag, although as a substantial and growing proportion of commencements are one year postgraduate diplomas, this complicates this relationship. Teacher completions in 2001 (the last year for which data are available) reached a new peak of 14,200.

After peaking over the 9,000 mark in 1991, undergraduate teacher completions steadily declined until 1996 before reversing the trend. In 2001, the number of completions were above the previous 1991 peak.

The charts show the rising importance of postgraduate completions as a source of new graduates in the period 1990 to 1998. The data suggest that this type of qualification was used increasingly as an entry point to teaching especially for secondary teaching (Chart 7.9). The trend rise in postgraduate completions also assisted in stabilising the output of teacher trainees. However, in both 1999 and 2000 the number of postgraduate completions dropped, before increasing again in 2001.

Chart 7.8

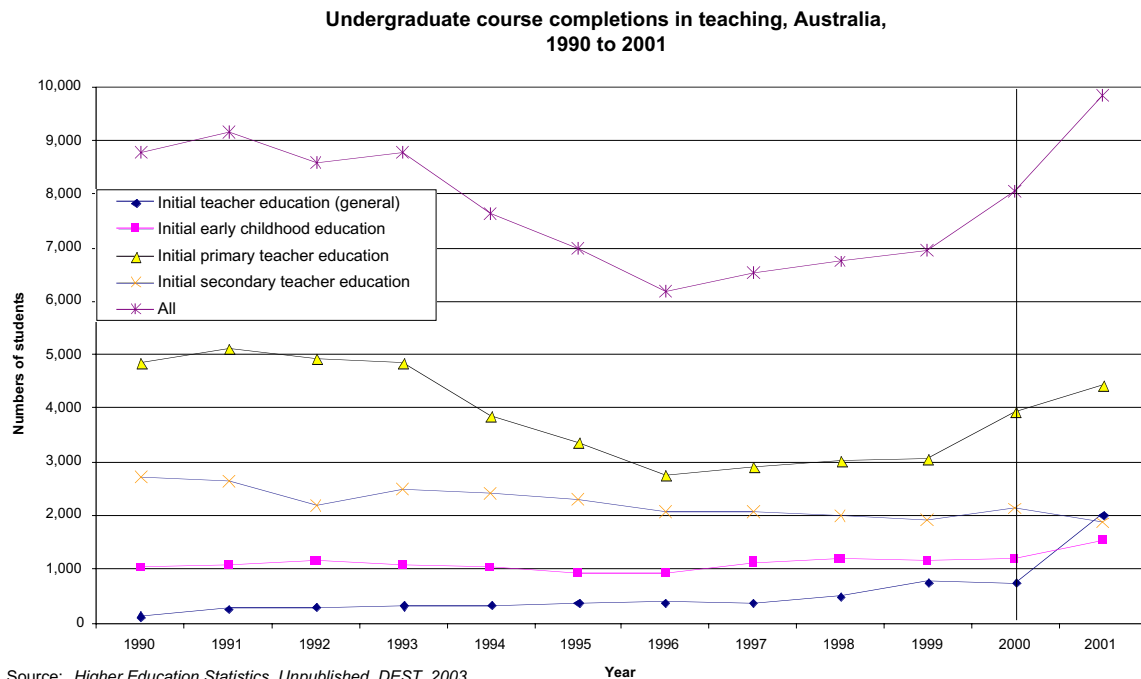
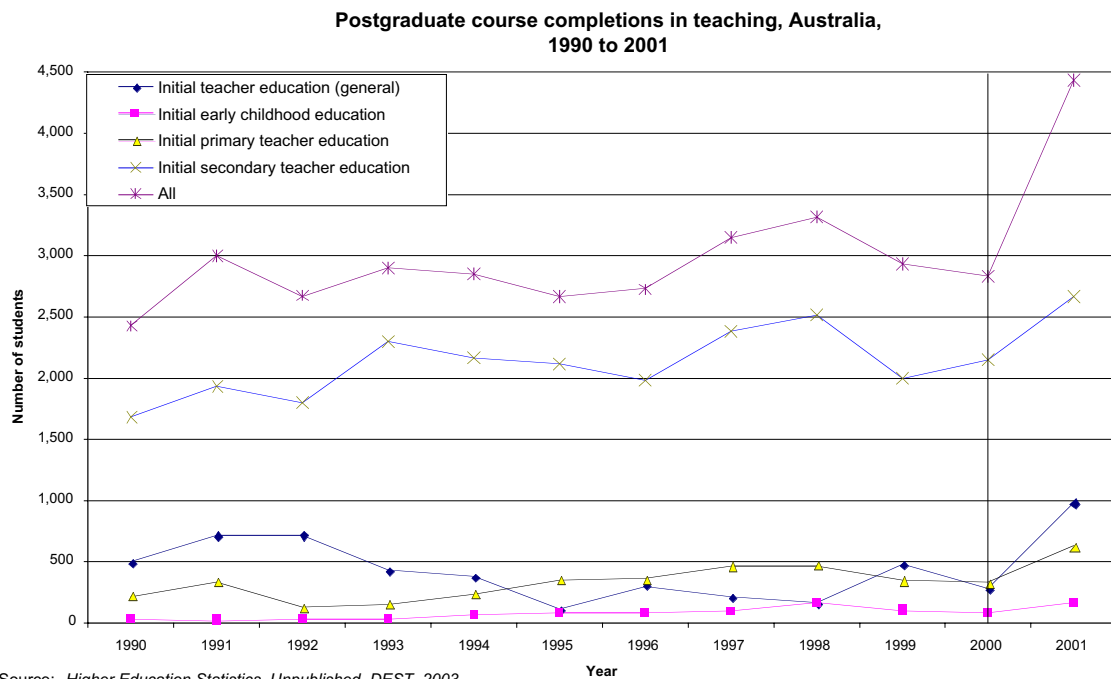


Chart 7.9



Destination of new graduates

Not all persons graduating from initial teacher education courses become employed as teachers.

Data from the Graduate Destination Survey conducted by the Graduate Careers Council of Australia (GCCA) indicate that most, but not all teaching graduates go into the labour market immediately after graduating. Some graduates do not enter or seek full-time employment.

As shown in the table below, for 1998 and 2000 bachelor degree graduates who responded to the GCCA survey from initial teaching qualifications, a significant minority were not in employment or seeking full-time employment at the time of the survey. Some students who go on to further study after graduating as teachers may later work as teachers, but data is not available on this group.

Table 7.1

Bachelor degree graduates from initial teacher training courses available for full-time employment

Employment Status	1998 %	2000 %
Employed full-time	54.5	63.8
Seeking full-time employment	15.3	13.6
Total available for full-time employment	69.8	77.4
Not available for full-time employment	30.2	22.6

Source: *Graduate Careers Council of Australia, 1999, 2001*

Second, not all graduates employed full-time work as teachers, as shown in the following table:

Table 7.2

Main occupation of bachelor degree graduates from initial teacher education courses employed full-time, 1998, 2000

Occupation	1998 %	2000 %
Primary teacher	37.1	50.4
Secondary teacher	22.2	21.6
Pre-primary teacher	20.6	13.4
Other	20.1	14.6
<i>Total</i>	<i>100.0</i>	<i>100.0</i>

Source: *Graduate Careers Council of Australia, 1999, 2001*

In 1998, 20.1 per cent of initial teacher education graduates who were employed full-time did not work as teachers (14.6 per cent in 2001). That is, only around 80 to 85 per cent of graduates were available for full-time work, not all of whom were employed, and of those employed, around 15 to 20 per cent were not working as teachers.

In combination, this suggests that around 30 to 35 per cent of teaching graduates are unlikely to work as teachers within a year of completing their qualifications. While some students go on to further study after completing their teaching qualifications, data are not available on the proportion of these students who subsequently become teachers.

No information is available from the Graduate Destination Survey about the nature of employment of recent graduates who are only seeking part-time work.

Teachers returning from leave and former teachers returning to teaching

The counterpart of teachers going on leave (discussed in Chapter 6) is teachers who return to the classroom as permanent, full- or part-time teachers after a period of extended leave. These teachers form a very large annual flow.

Teachers returning from leave are an important source of new teachers in the annual intake in all States. Data previously provided to MCEETYA indicate that around six per cent of government permanent workforce in 1999 was made up of teachers returning from leave. The percentages were more or less the same in both the primary and secondary sectors.

In any one year, the number of teachers returning from leave may exceed or be less than those going on leave. However, over a longer period, it can be expected that the number of teachers who return is less than the number of teachers who leave as some teachers resign while on leave. Data from 1999 previously supplied to MCEETYA by the States and Territories indicate that teachers going on leave exceeded those returning. The difference expressed as a percentage of the permanent teaching workforce was around two percentage points.

A second and related group is those teachers who resign and leave teaching altogether, only to return at a later stage. Information on this group is limited.

The teacher pool

The teacher pool refers to teachers not currently employed as on-going teachers who, nonetheless, are available for such positions. The pool consists broadly of three groups:

- teachers on waiting lists for on-going jobs;
- relief and casual teachers who may be available for on-going positions; and
- former teachers not currently actively involved in teaching who may be encouraged to return to teaching.

The role of the teaching pool in balancing supply and demand for teachers is somewhat uncertain. First, persons on such lists may attain employment elsewhere while waiting for teaching positions. Second, persons seeking employment may not have appropriate skills to meet vacancies, or may not be willing to work in locations where vacancies exist. Third, this source of labour is important in meeting day-to-day teaching needs and hence may be of less value in balancing the labour market in the longer term. The survey of school principals conducted by the Australian Secondary Principals Association in 2003 highlighted significant short term absences by teachers, especially due to sick leave.

Number of teachers on 'employment lists' and other recording mechanisms in government schools

States and Territories are increasingly employing database systems where people with teaching qualifications can indicate their interest in teaching and be placed on an employment list for positions in teaching. In the MCEETYA report published in 2001, such systems were employed by New South Wales, Queensland, Western Australia and South Australia.

In December 2002 there were approximately 15,000 persons seeking employment as teachers in New South Wales government schools, which represents approximately 30 per cent of the permanent teaching workforce. This is a substantial and significant reserve on which to draw, although it is recognised that not all seeking employment are immediately available or available to teach in all areas of the State, or qualified to teach in all subjects.

The New South Wales Department of Education and Training Casual *Connect* employment Service (<http://www.schools.nsw.edu.au/appse/staff/F5.0/casual/empserv.htm>) provides information on casual teaching and other work opportunities in New South Wales government schools. Teachers can use the service to find out where casual work is available, or let principals know directly of their interest in casual work and their availability. Principals of schools use the service to advertise casual teaching opportunities and to identify which casual teachers are available for work and when. The data submitted by prospective employees can only be read by the principals at the schools they have nominated.

The Northern Territory Department of Employment, Education and Training also maintains a central database of all teachers, teacher applicants and relief teachers. There are presently some 200 active applications to teach with the Department of Employment, Education and Training.

Queensland maintains a comprehensive list of applicants for employment with Education Queensland. In 2002 an extensive update occurred. Currently there are 8,500 applicants actively seeking employment with the department.

South Australia provides for all applicants for teaching positions to be placed on a list. The list also records up to two teaching areas. As at January 2003, there were 5,755 active applicants on file. Of these, 4,367 are seeking contract or permanent employment as a teacher.

In Western Australia the Department of Education and Training keeps a computerised, centralised system of qualified teachers who are seeking employment. Experience suggests that there are usually between 1,500 to 2,000 graduates and re-entrants seeking fixed term employment in the government sector.

A teacher recruitment database was developed as part of the Victorian Department of Education Teacher Recruitment campaign, launched on 13 September 2002. The database allows qualified teachers to register their interest in employment in Victorian government schools and offers principals a new recruitment tool providing an increased pool of candidates available for teaching vacancies.

Qualified teachers (including those currently teaching and those not currently teaching) interested in teaching in Victorian government schools can register their details for employment on a database through the teaching.vic.gov.au website. Principals can then do a search on the database of teachers interested in teaching in Victorian government schools by location, subjects, etc. They can then select candidates and invite them to apply for teaching vacancies in their school.

Tasmania maintains a database of applicants for fixed term and relief employment, Epool. Currently there are approximately 1,500 people on this register. Districts and principals can

search the database to find teachers who are interested in teaching for the Department of Education.

Relief and casual teachers in government schools

Some indication of the size of the stock of teachers who may be available for permanent positions in teaching can be obtained by looking at the pool of relief and casual teachers. Every State and Territory has a system of relief and casual teachers, some of whom are only available for relief work, but others are available for permanent and/or contract positions.

An indicative estimate of the national pool of relief and casual teachers can be obtained by comparing the ABS data from the Labour Force Survey and the ABS Schools Collections. In the previous MCEETYA report, it was estimated that in August 2000 there were at least 29,500 relief and casual teachers in Australia⁴⁰. As then, it must be emphasised that this figure was a snapshot. The figure is likely to be substantially larger, however, because not all relief teachers get work during the ABS survey period and therefore do not get picked up in the employed stock.

More direct evidence on the number of relief and casual teachers is available from the State and Territory education authorities. In South Australia, 1,388 teachers were on a list as seeking only casual relief teaching. In Queensland, education districts maintain registers of teachers who are available for relief (as opposed to contract) teaching. In Western Australia, there were approximately 6,000 teachers available for relief teaching in 2001, although the locations and type of teaching they were willing to undertake were often heavily restricted. In the Northern Territory there were approximately 350 approved relief teachers in 2002, the majority of whom were based in urban centres. The list of relief teachers can be accessed by Northern Territory government schools using a secure Internet site.

Other pool teachers

Three other groups can add usefully to the supply of teachers and teachers' time:

- those recorded as unemployed by the ABS ;
- teachers who are not actively seeking employment but would be available to take up teaching if a suitable job came up; and
- contract teachers on less than their desired annual hours of work.

The 2001 MCEETYA Report noted that in the August 2000 Labour Force Survey the number of *officially unemployed* teachers was just over 3,000. As a relatively small number, most of these would be picked up in the employment lists mentioned above.

Straker noted that in the United Kingdom it was estimated that 'the pool of qualified teachers under the age of 60 which is currently inactive exceeds the number of teachers who are

⁴⁰ The Labour Force Survey counts as employed teachers all those who were employed or had worked during the survey period, whether they were permanent, on contract or casual. The School Collection counts only permanent and contract teachers and those casual teachers who were relieving teachers on extended leave. The difference between the two estimates therefore equals the number of relief and casual workers who had been called in during the survey period.

currently in teaching posts'.⁴¹ Straker noted that in 1989 almost 60 per cent of new appointments were 'returners' to the profession and that this pool remained a valuable source of recruitment, provided that 'updating' of skills and knowledge of curricula could be achieved.

Pool teachers, including those outside the teaching workforce, have also been important in the New Zealand teacher labour market. It is interesting to note, for example, that the primary school teacher shortages in New Zealand in the 1990s were mostly resolved by supply from the pool.

There is no information in Australia about the extent of under-employment of contract and part-time teachers. The ABS collects information in labour force surveys on part-time workers wanting to work more hours. This source could be used to provide an indication of the extent of under-employment among part-time teachers, but not for contract teachers who may not get continuous work during the year.

Overseas migration

Data from Department of Immigration and Multicultural Affairs (DIMA) presented in Table 7.3 and Table 7.4 indicate that, at least in recent years, Australia has been a net gainer of teachers through the migration process.

Most of the migration inflow/outflow is associated with Australian residents leaving to go overseas or returning. This could be explained by a desire by teachers to combine work with travel. Working holidays are becoming a popular means by which young teachers in particular can live and work overseas.

The figures suggest that each year around 4,000 – 6,200 teachers go on an overseas 'stint' with this number increasing in the four years to 2000 - 01. Preston (2000), for example, has estimated that around 2,000 teachers have been recruited while still in Australia by recruitment agencies for the year 2000 - 01 northern hemisphere school year. As a result of this upward trend in residents leaving for periods overseas, the previous balance between resident teachers leaving and those returning has shifted to a net loss (a surplus of 24 teachers in 1996 - 97 but a deficit of 1,588 in 2000 - 01).

However, the net gains from permanent settler and long term visitor movements used to more than outweigh this loss. In net terms, therefore, Australia tended to gain around 800 – 1,300 teachers a year. However, rising numbers of long term residents departing and falling numbers of arriving settlers caused the net gain to shrink. In 2000 - 01 the recorded overall intake of teachers was 83, down from 824 a year before. At the same time not all of these teachers will take up a teaching job in Australia, although that is most unlikely for migrants with teaching qualifications who come into Australia as principal applicants.

⁴¹ N Straker 'Teacher supply in the 1990s: an analysis of current developments' in *Evaluation and Research in Education*, Vol 5, Nos 1 and 2, 1991.

Table 7.3

Arrival of teachers to Australia by migration category

ASCO Code	Year	Settler arrivals	Long term		Permanent and long term arrivals
			Residents returning	Visitors arriving	
240	1996 – 97	1,636	3,867	1,249	6,752
241	1997– 98	1,449	3,932	1,367	6,748
241	1998 – 99	1,566	3,078	1,543	6,187
241	1999 – 00	1,903	3,956	1,747	7,606
241	2000 – 01	1,811	4,579	2,519	8,909

Source: DIMIA unpublished data .

Note: Data exclude school principals. ASCO 2 is used for all years except 1996–97 when ASCO 1 was still in use.

Between 1997 – 98 and 1999 – 2000, the largest flow of teachers to and from Australia was to and from the United Kingdom and Northern Ireland. In the three year period, 3,262 permanent long term residents arrived in, or returned to, Australia, as well as 751 visitors and 536 settlers. In the same period, 4,008 permanent long term residents left Australia, as well as 389 visitors. These migration movements amounted to a net loss of 746 residents to the UK and Northern Ireland.⁴²

The most common arrangement under which Australian teachers are able to work in the United Kingdom is the Work Holiday visa, which entitles the recipient to enter the UK for up to two years and work full-time for short periods. The main Immigration requirements to gain a Working Holiday visa to the United Kingdom are:

- Commonwealth Citizen;
- aged between 17 and 27;
- intending to holiday in the UK, but taking employment that is incidental to the holiday;
- permitted to work up to half the time of the actual stay in the UK;
- providing evidence of sufficient funds for partial support and onward/return travel.

While one of the rules for a Working Holiday visa is that the applicant cannot take employment that represents a continuation of their career, a concession exists for some occupations, including Supply Teachers.⁴³

The Australian Government has reciprocal working holiday maker arrangements with the UK, Canada, the Netherlands, the Republic of Ireland, Japan, the Republic of Korea, Malta, Germany, Sweden, Denmark, Norway and Hong Kong.⁴⁴

⁴² B Birrell, IR Dobson, V Rapson and FT Smith, *Skilled Labour: Gains and Losses*, Centre for Population and Urban Research, Monash University, July 2001, p.56.

⁴³ Working Holidays in the United Kingdom, http://www.uk.emb.gov.au/CONSULAR/Entry_clearance/WORKING_HOLIDAY_ENTRANCE_CLEARANCE.htm

⁴⁴ Booklet 1181, *Australia's Working Holiday Visa*, Department of Immigration & Multicultural Affairs, 2002, p.7.

Table 7.4

Departure of teachers from Australia by migration category

ASCO Code	Year	Permanent departures	Long term		Permanent and long term departures	Overall net intake
			Residents departing	Visitors departing		
240	1996 – 97	641	3,843	927	5,411	1,341
241	1997 – 98	656	4,048	1,074	5,778	970
241	1998 – 99	950	4,546	807	6,303	–116
241	1999 – 00	1,151	4,668	963	6,782	824
241	2000 – 01	1,487	6,167	1,172	8,826	83

Source: DIMIA unpublished.

Note: Data exclude school principals. ASCO 2 is used for all years except 1996–97 when ASCO 1 was still in use.

It needs to be noted that Australia does not actively recruit overseas, unlike New Zealand, although the Northern Territory is currently investigating the feasibility of overseas recruitment. Furthermore, teachers are not currently on the Migration Occupations Demand List (MODL), which is reserved for skills in high demand in Australia. Applicants for migration with skills on MODL get extra points and streamlined migration procedures.

Relative importance of the various sources of teacher supply

The major sources of supply of additional teachers discussed above include new graduates, teachers returning from leave, former teachers returning to teaching, the pool of relief and casual teachers, unemployed teachers, teachers marginally attached to the labour force and qualified teachers from overseas migration. The teachers that are most easily quantified are new graduates, migrations and teachers returning from leave.

Data supplied by government and non-government education providers who could provide data on this issue indicate that graduate teachers represented around 70 per cent of new teachers recruited by education providers in 2002.

Migration flows have contributed about 0.2 per cent of the teaching workforce in net terms on average between 1996 – 97 and 2000 – 01, although supply has declined in recent years. Teachers returning from leave also represent about 6 per cent of the teaching workforce.

Other sources of supply are more difficult to quantify. Former teachers (not on leave) returning to teaching are recognised as being an important source, but the only evidence of this comes from overseas rather than Australia. On the other hand, there is more information on the pool of teachers on employment lists for jobs, and those who work as relief and casual teachers and who may therefore be available for ongoing positions. This evidence suggests that in three States alone (New South Wales, Queensland and Western Australia) there are around 31,000 teachers on employment lists for ongoing teaching jobs. The number of relief and casual teachers is around 30,000 – 40,000 Australia wide. Taken together, this suggests that the pool of teachers available for ongoing vacancies is relatively large, although there is some overlap between the two categories.

As discussed in the paper, *Career Paths of People with Teaching Qualifications* later in this report, there are a relatively high number of teacher qualified persons not working in the profession. The paper uses ABS Transition from Education to Work 2001 data, which identified those people whose highest education qualification was in teaching. Of the 367,036 with teaching qualifications, 116,881 (31.8 per cent) were working in industries outside education.

The (NSW) Review of Teacher Education ("Ramsey Review") gathered evidence about people with teaching qualifications who did not enter teaching at all, or only briefly. The general consensus of these people was that their background as teachers strengthened their employability by enhancing their communication skills and ability to deal with people. They also felt that a career other than teaching brought opportunities for greater flexibility and the prospect of a higher level of salary over time.⁴⁵

It is important to note that by its very nature the flow back into the teaching workforce from experienced teachers is dependent on a number of factors and can vary over time. The most important factors are likely to be the level of demand for teachers and the opportunities available in other areas of the economy. Strong demand is likely to attract more pool teachers while strong competition from new graduates and good job prospects outside teaching are likely to have the opposite effect.

The DEST 2002 School Staffing survey made it possible to collect data on teachers returning from extended leave in 2001. It is apparent from Table 7.5 that rates of return from extended leave were much higher in the government sector than in the non-government sector (27 and 11 per cent respectively). The difference appears to be the greatest between the government and non-government secondary schools teachers (42 and 8 per cent respectively).

Table 7.5

Teachers returning from extended leave as a proportion (%) of all new and returning teachers, 2001

State/Territory	Primary		Secondary		Total	
	Govt	Non-Govt	Govt	Non-Govt	Govt	Non-Govt
NSW	6	22	8	2	7	13
VIC	31	11	30	9	30	10
QLD	16	9	44	9	22	10
SA	17	14	43	15	23	15
WA	26	6	49	8	49	7
NT	n.a.	6	n.a.	n.a.	n.a.	n.a.
TAS	42	14	26	18	31	17
ACT	n.a.	15	n.a.	13	n.a.	14
<i>Australia</i>	<i>19</i>	<i>12</i>	<i>42</i>	<i>8</i>	<i>27</i>	<i>11</i>

Source: *Government and Non-Government Schools Staffing Surveys, DEST, 2002*

⁴⁵ Gregor Ramsey, *Quality matters- Revitalising teaching: Critical times, critical choices*, Report of the Review of Teacher Education, November 2000, p. 39.

Chapter 8

Some projections of teacher demand and supply to 2007

Building on the discussion and analysis of the previous chapters, this chapter presents projections for teacher requirements and the supply of teachers up to 2007, at the national level. The year 2007 is chosen as this was five years from the date of writing, although projections of graduations based on *actual* data for commencements in undergraduate courses are not possible for the final two years.

The analysis in this chapter starts by providing projections at the national level, including an assessment of whether projected graduations are likely to lead to a tightening or loosening of the labour market for teachers at the national level in the early 2000s, compared to that at the end of the 1990s. The analysis then goes on to examine projections at the State and Territory level and concludes by discussing sources of flexibility on the demand and the supply side which assist in the adjustment of the teacher labour market within a jurisdiction and across jurisdictions.

A note of explanation about the projections is warranted. Projections in this report are based on assumptions about key factors which influence demand and supply. As with all projections, some of these factors may not occur. Accordingly, these projections are not intended to be, nor should be interpreted as, forecasts of likely outcomes. The main purpose of the projections is to provide some indication of the possible direction of the labour market for teachers over five years as the basis for policy development.

Outlook for the teacher labour market at the national level

Likely growth or new demand

The number of school students, as well as student to teacher ratios, are key determinants of the number of school teachers required and the extent of growth or new demand for school teachers. The next table provides projections of numbers of school students in the primary and secondary school systems in Australia between 2002 and 2007.

Table 8.1

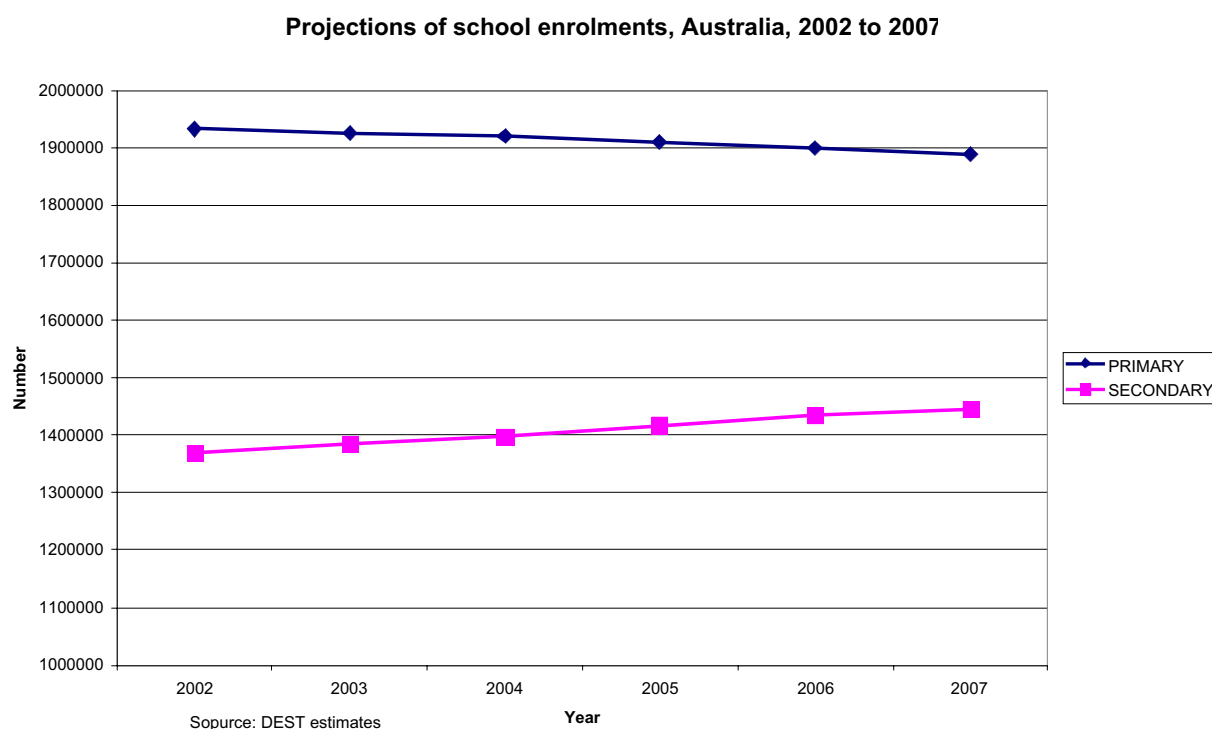
Projected number of school students, by sector, Australia, 2002 - 2007

Sector	2002	2003	2004	2005	2006	2007
Primary	1,932,428	1,924,963	1,920,194	1,910,104	1,900,121	1,889,207
Secondary	1,368,274	1,384,249	1,398,083	1,417,465	1,433,542	1,445,696
<i>Total</i>	<i>3,300,702</i>	<i>3,309,212</i>	<i>3,318,277</i>	<i>3,327,569</i>	<i>3,333,663</i>	<i>3,334,903</i>

Source: *DEST estimates, 2002*

The data indicate that there will be little growth in the total number of students over the period between 2002 and 2007, although the data indicate that there will be a change in the composition of the distribution of students between the primary and secondary sectors. The change in the composition of the school population is shown in the figure below.

Chart 8.1



The number of teachers required is critically dependent on three factors:-

- The extent of growth in the system through demographic factors – which as noted above, will be limited;
- School retention patterns – which we have assumed remain stable; and
- Student to teacher ratios, which as noted above, vary between the primary and secondary systems.

We have provided two scenarios for projected teacher numbers, the first based on 2001 student to teacher ratios, the second based on improving student to teacher ratios, as has been the case in the past decade, extrapolated forward based on recent trends.

Scenario 1 - Static student teacher ratios

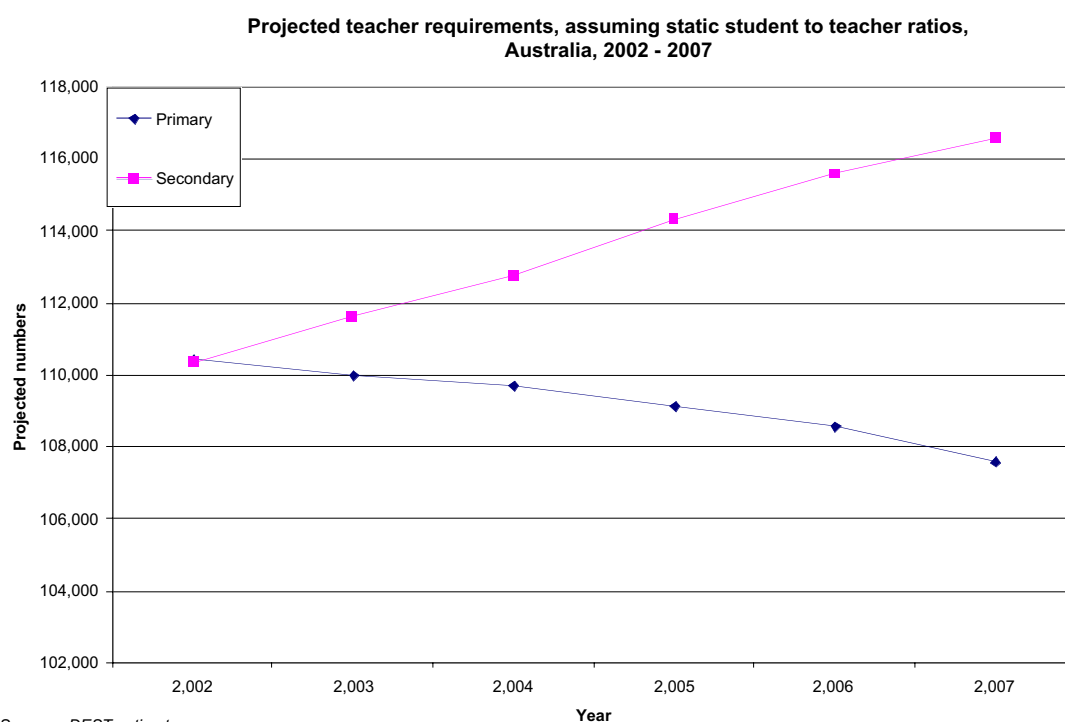
The following table provides projections of required teacher numbers, in terms of full time equivalent staff, assuming current student to teacher ratios remain constant in the primary and secondary schools sectors. (17.5 students per teacher for primary schools and 12.4 students per teacher in secondary schools). To the extent that student to teacher ratios either rise or fall this will impact on required teacher numbers.

Table 8.2**Projected teacher requirements assuming static student to teacher ratios, Australia, 2002 - 2007**

Sector	2,002	2,003	2,004	2,005	2,006	2,007
Primary	110,425	109,998	109,725	109,149	108,578	107,595
Secondary	110,345	111,633	112,749	114,312	115,608	116,588
<i>Total</i>	<i>220,769</i>	<i>221,631</i>	<i>222,474</i>	<i>223,461</i>	<i>224,187</i>	<i>224,183</i>

Source: DEST estimates, 2002

This scenario suggests little overall growth at the national level in terms of teacher requirements (approximately 4,000 over the projection period), although the nature of requirements will vary by state depending on school and broader population trends. The following chart shows changes in the composition of teacher requirements by sector.

Chart 8.2

Source: DEST estimates

Scenario 2 - Lower student to teacher ratios.

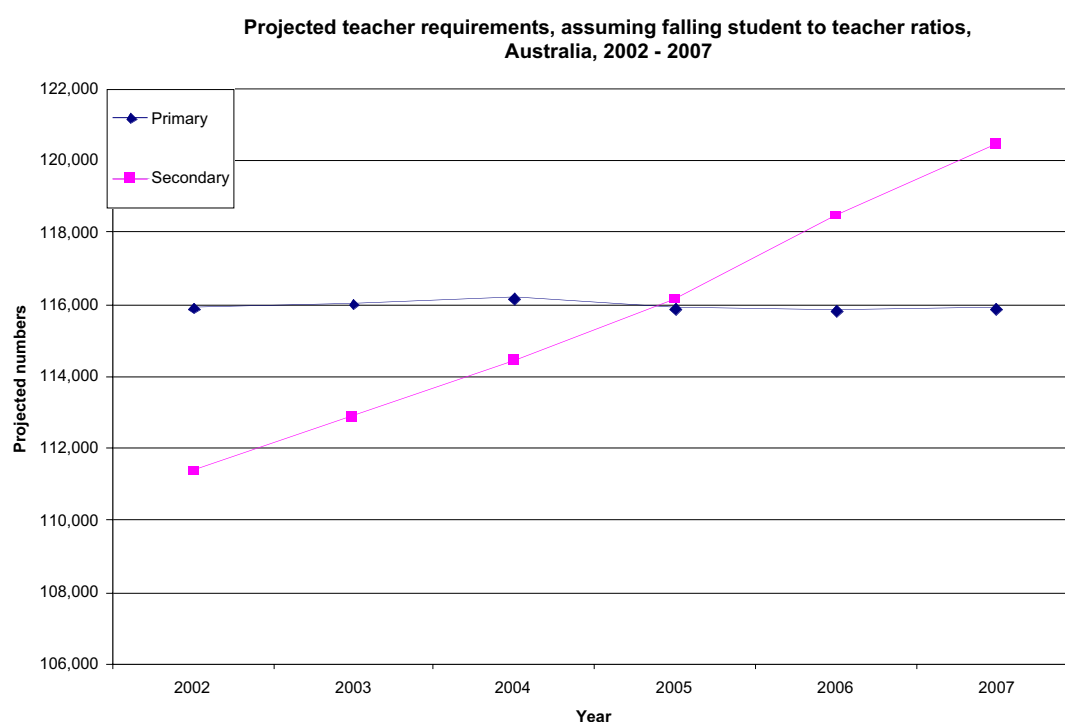
In this scenario we have extrapolated the trend evident in the past ten years for student to teacher ratios to fall for the projection period. Under this scenario more teachers would be required.

Under this scenario, as shown in the table below, the number of teachers required would rise slightly over that put forward in Scenario 1 above, with an additional 10,000 teachers being required, the majority being secondary teachers.

Table 8.3**Projected teacher requirements assuming falling student to teacher ratios, Australia, 2002 - 2007**

Sector	2002	2003	2004	2005	2006	2007
Primary	115,922	116,037	116,187	115,896	115,861	115,902
STR	16.7	16.6	16.5	16.5	16.4	16.3
Secondary	111,380	112,906	114,455	116,146	118,475	120,475
STR	12.3	12.3	12.2	12.2	12.1	12.0
<i>Total</i>	<i>227,302</i>	<i>228,943</i>	<i>230,642</i>	<i>232,042</i>	<i>234,336</i>	<i>236,377</i>

Source: DEST estimates, 2002

Chart 8.3

Source: DEST estimates

Nonetheless, under either scenario, pressures for teacher recruitment from new or growth demand will be relatively small over the projection period – 4,000 to 14,000 teachers. The main change is that the number of secondary teachers required will grow, whereas the number of primary school teachers required will decline or remain static.

Replacement demand for teachers

In Chapter 6 we provided estimates of teacher separations arising from retirement, resignation death, dismissal or redundancy for the government and non-government sectors for 1996 and 2001. In the government sector, losses rose from 2.9 per cent of the workforce in 1996 to 5.0 per cent of the workforce in 2001 in primary schools, and from 4.0 per cent to 7.7 per cent for secondary schools over the same period. We note that as discussed earlier, losses recorded by one school system may be gains in another system – i.e. total losses may be lower than the data suggest.

However, looking ahead, replacement demand is likely to increase from higher retirement levels, other things being equal. The level of resignations could, however, either enhance or reduce the impact of increased retirements.

Potential for losses from age retirement

Several State Governments have acknowledged the potential for greater losses from retirement in the period ahead.

In its report on teacher supply and demand in Victoria published in 2001, the Victorian Auditor General's Department noted that 45 per cent of the state teaching workforce was likely to progressively retire over the next ten years.

The Tasmanian Government submissions to the Review of Teaching and Teacher Education also noted that meeting overall demand in the secondary sector may become more difficult in 2006 and 2007 as a significant segment of this workforce begins to retire.

South Australia similarly expressed concern that ageing and retirement may lead to shortages of mathematics and science teachers. The average age of South Australia's maths teachers is 44, while 53 per cent of primary teachers are aged over 45.⁴⁶

New South Wales Premier, Mr Carr, also recently noted that "serious issues of teacher supply will need to be tackled by 2007."⁴⁷

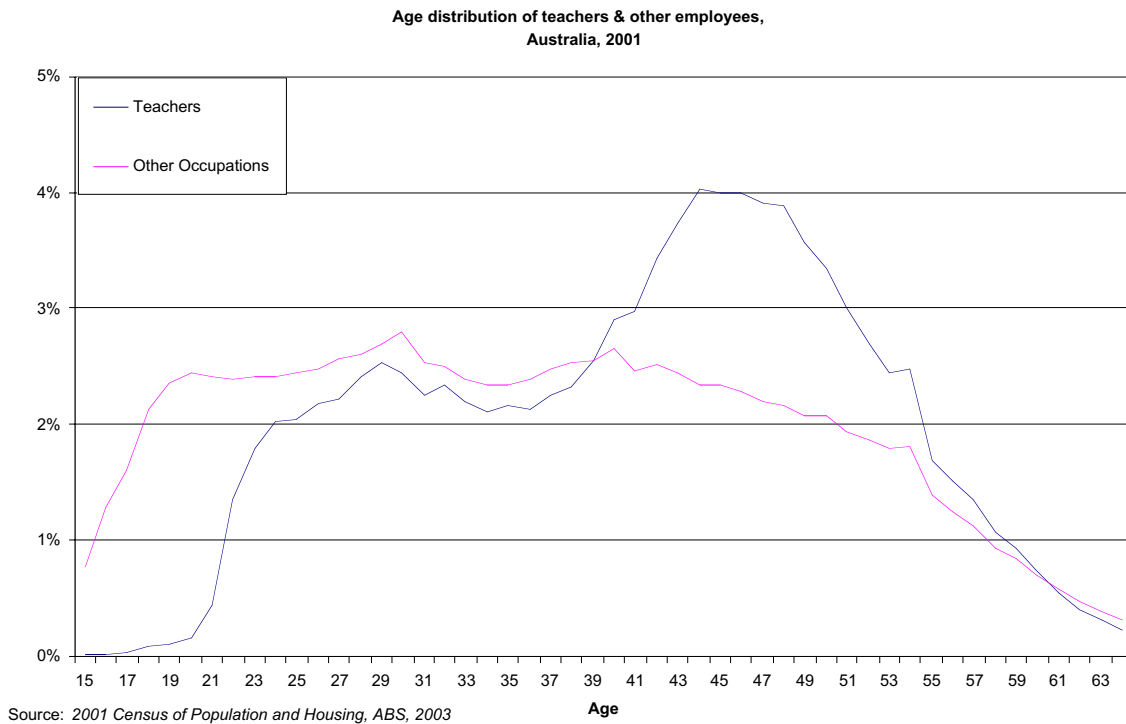
At the time when this project was commissioned, ABS advised that data from the 2001 Census of Population and Housing would not be available in time for this project. Subsequently, data became available from the Census earlier than expected. We therefore have three sources of data available on the age structure of the teaching workforce – the Census, surveys of government and non-government education providers, and the national survey of teachers conducted in 2002 for this report. All three sources indicate that a substantial tranche of Australia's teaching workforce will be eligible for retirement in the next decade.

For example, turning first to data from the 2001 Census of Population and Housing, as shown in the graph below, a substantial proportion of teachers are aged 50 and over. Moreover, Australia's teaching workforce is relatively "old" compared to the broader national workforce.

⁴⁶ Nhada Goodfellow, 2003, 'So, You do the maths' in *Adelaide Advertiser*, 21 February 2003, p.15.

⁴⁷ R Carr, Premier of New South Wales, quoted in Doherty, Linda 2003, "Rent discounts to lure teachers", *Sydney Morning Herald*, 18 February 2003, p. 6

Chart 8.4



The 2002 national survey of teachers similarly revealed that a significant proportion of teachers are aged over 50. Data from the survey for the proportion of teachers aged over 50 as at September 2002 is shown in the table below.

Table 8.4

Age distribution of teachers, 2002

Age Range	Proportion (%)
50 - 54 years	17.7
55 - 59 years	8.6
60 - 64 years	2.7
65 - 69 years	0.7
Total	29.7

Source: MCEETYA National Survey of Teachers, 2002

Other age-group data collected for this report from the national quantitative surveys of government and non-government schools confirm the high proportion of the national teaching workforce aged 50 and over as at 2001 for the government sector, and 2002 for the non-government sector. These data show that, for both the government and non-government sectors, higher proportions of secondary teachers than primary teachers are aged 50 and over.

Table 8.5

Age distribution of Government primary teachers, 2001

Age Range	Proportion (%)
50 - 54 years	15.81
55 - 59 years	6.73
60 years and over	1.97
Total	24.51

Source: *Government Schools Staffing Survey, DEST, 2002*

Table 8.6

Age distribution of Government secondary teachers, 2001

Age Range	Proportion (%)
50 - 54 years	18.33
55 - 59 years	7.66
60 years and over	2.03
Total	28.02

Source: *Government Schools Staffing Survey, DEST, 2002*

Table 8.7

Age distribution of Non-government primary teachers, 2002

Age Range	Proportion (%)
50 - 54 years	11.39
55 - 59 years	6.08
60 years and over	2.57
Total	20.04

Source: *Non-Government Schools Staffing Survey, DEST 2002*

Table 8.8

Age distribution of Non-government secondary teachers, 2002

Age Range	Proportion (%)
50 - 54 years	13.27
55 - 59 years	7.72
60 years and over	3.10
Total	24.09

Source: *Non-Government Schools Staffing Survey, DEST 2002*

Hence, all of these data sources provide information on possible losses due to retirement consistent with concerns expressed by State education authorities.

The following table provides data from the 2001 census on the number of persons employed as teachers aged over 55 as at 2001 and those who will be turning 55 in the period up to 2007. The data indicate that 23,827 teachers were aged over 55 in 2001, representing 9.4 per cent of persons employed as teachers, and that a further 44,352 teachers will be aged 55 and over by

2007. Between 2001 and 2007 an average of 7,392 teachers per year will turn 55, representing an average of 2.9 per cent per year of those persons employed as teachers in 2001.

Table 8.9

Percentage of teachers eligible to retire, 2001

Year	No. of Teachers	Age	Cumulative %	Annual Change	% of Teacher Workforce, 2001
2001	23,827	55+	9.43	N/A	N/A
2002	30,101	54	11.91	6,274	2.48
2003	36,297	53	14.36	6,196	2.45
2004	43,108	52	17.06	6,811	2.70
2005	50,719	51	20.07	7,611	3.01
2006	59,144	50	23.40	8,425	3.33
2007	68,179	49	26.98	9,035	3.58

Source: 2001 Census of Population and Housing, ABS, 2003

Other data indicate that most teachers retire between the ages of 55 and 59. Data from the 2001 census also indicate that only 2.2 per cent of persons employed as teachers were aged over 60. Assuming this pattern is repeated in the period between 2002 and 2007, there is therefore potential for significant losses of teachers to retirement over this period. Obviously the extent of retirement will depend on a range of factors including individual superannuation arrangements and preferences, but the high number of teachers aged 50 and over suggests losses to retirement and other factors could be significant between 2002 and 2007 (implications of ageing of the teaching workforce are examined in more detail in a later chapter in this report).

The following table provides a range of scenarios for potential losses, from both resignation retirement and other factors. Actual losses will depend on the extent of retirements and resignations.

Table 8.10

Likely losses to teaching workforce over 5 years

Wastage rate (%)	Workforce (persons)	Losses (persons)
1	250,000	12,500
2	250,000	25,000
3	250,000	37,500
4	250,000	50,000
5	250,000	62,500
6	250,000	75,000
7	250,000	87,500

Some resignations reflect 'churning' in the teaching labour market, with teachers moving between states, between the government and non-government schools system and between schools in the non-government schools sector. Resignations also reflect teachers moving from their profession, and may also reflect factors like teachers resigning to maximise retirement benefits in some jurisdictions. The extent of resignations will also be influenced by the job

opportunities available to teachers outside the teacher labour market, which will in turn be influenced by the extent of overall growth in the national and State economies.

Nonetheless, the data indicate that, depending on the success of strategies to retain older teachers adopted by government and non-government education providers, losses may be substantial.

(It is also noteworthy that around 35 per cent of respondents from the national survey of teachers were aged 40 – 49. The data from the quantitative surveys reveals that 40.5 per cent of government primary teachers, 38.4 per cent of government secondary teachers, 32.7 per cent of non-government primary teachers, and 31.6 per cent of non-government secondary teachers were aged 40 – 49. These data indicate that the problem of aged-based retirement losses will continue to be significant post 2007.)

Comparing supply with demand

Projected completions from initial teacher training courses

Projections of completions from initial teacher training courses can be derived from information on commencements in these courses (discussed in Chapter 7 and shown in Charts 7.5 and 7.6) and applying a completion rate. To project completions in the period to 2005, the following assumptions have been made for the different streams:

- undergraduate completions;
 - for the period to 2005, completions equal commencements four years earlier multiplied by an average completion rate of 60 per cent;
- post-graduate completions;
 - for the period to 2005, completions equal commencements one year earlier multiplied by an average completion rate of 90 per cent;
 - for 2002, commencements in postgraduate teaching courses have been assumed to run at a level equal to the average during the previous five years; for 2003 – at a level equal to the average of the previous 4 years and for 2004 – at the level equal to the average of the previous 3 years. During that time postgraduate commencements were on a slightly upward trend.

The ‘completion rates’ have been calculated by comparing commencements and completions, suitably lagged, over the 1990s and averaging. While completion rates so derived can vary from one year to another, for a variety of reasons, it has been assumed that these historical average or trend completion rates will apply into the next few years.

As shown in Chart 8.5, completions are projected to rise gradually in the period to 2004, to levels which exceed those at the start of the 1990s. The main reason for this projected recovery is the projected increase in completions from Initial Primary Teaching courses, arising from recent increases in commencements in these courses. The rise in completions from secondary teacher training courses is projected to be more subdued, based on the assumptions described above. Further details are provided in Attachment 7.

Chart 8.5

Teacher course completions by course type, actual and projected, 1988 to 2005, Australia

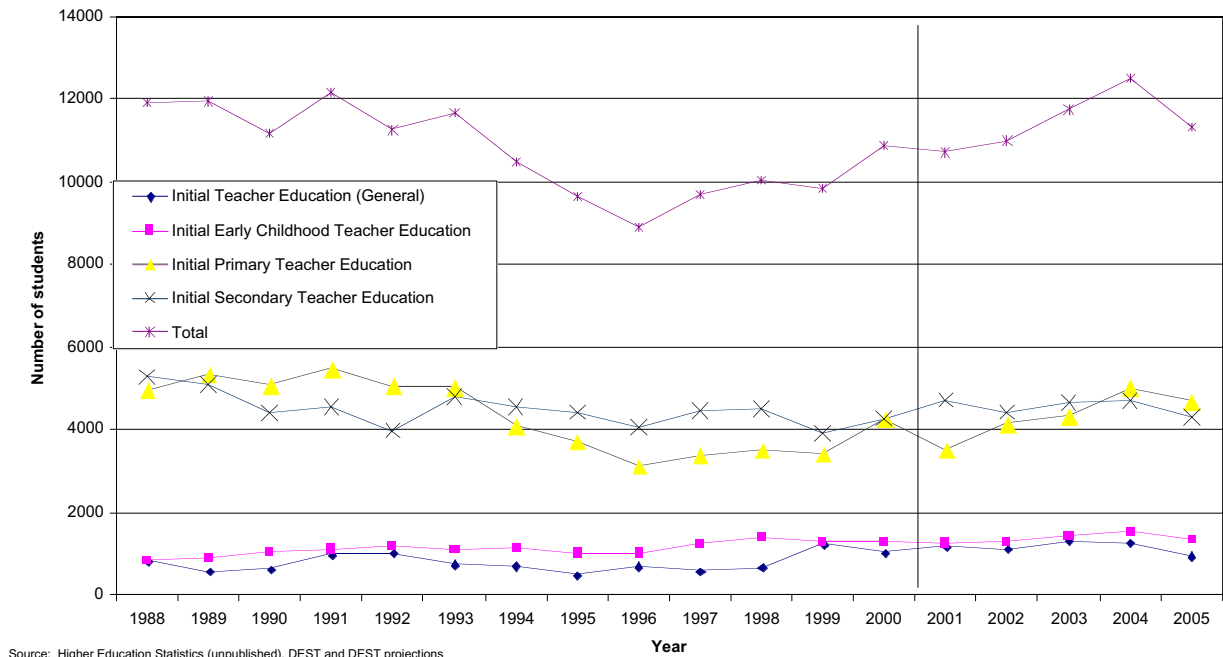


Chart 8.6

Undergraduate teacher course completions by course type, actual and projected, Australia, 1988 to 2005

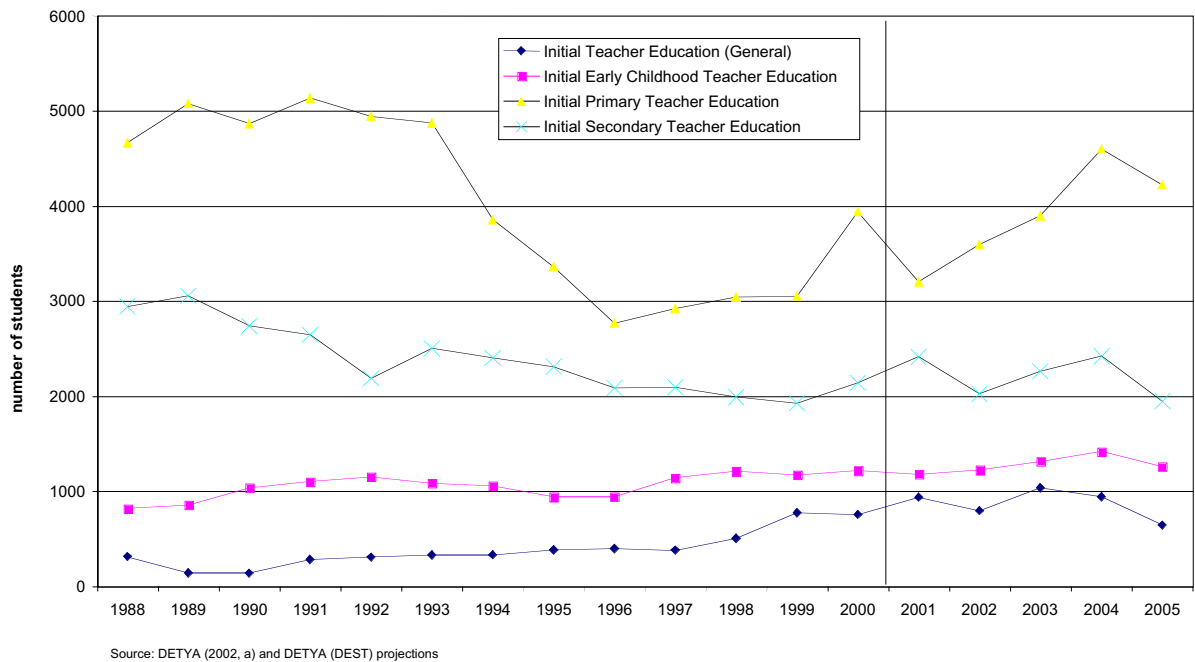
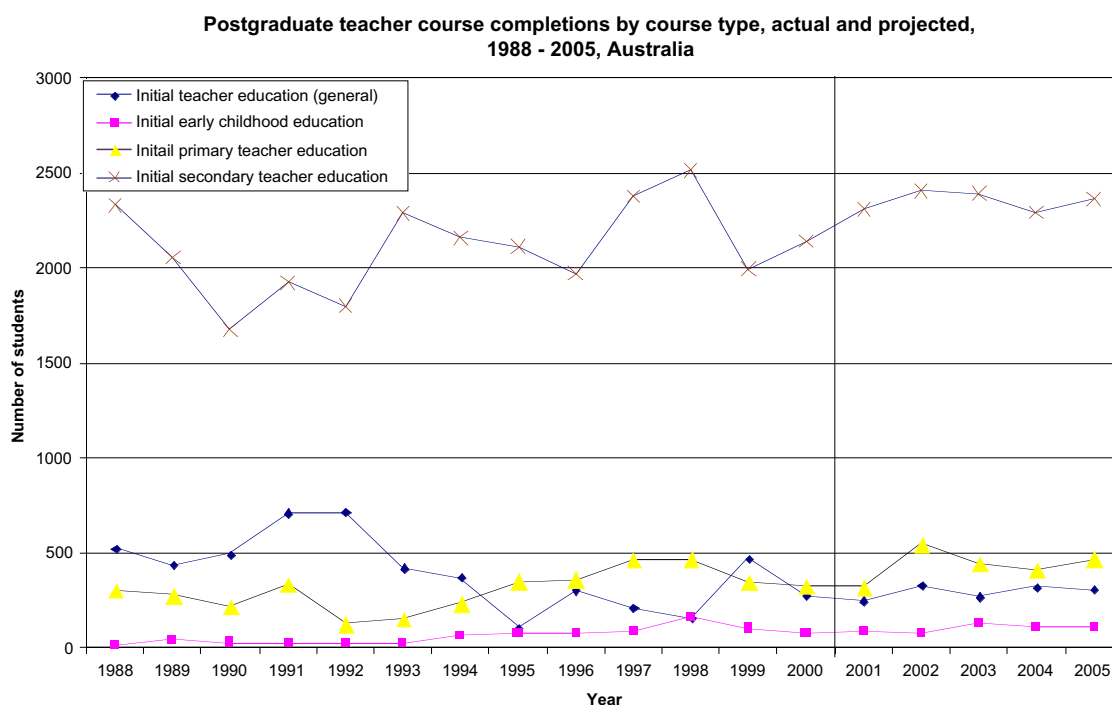


Chart 8.7



The rise in projected completions from Initial Primary Teaching can be mostly attributed to strong projected rises in undergraduate primary teacher course completions (Chart 8.6). Projections of postgraduate secondary teacher course completions (Chart 8.7) are subdued after the fall in commencements in 1999.

As discussed in Chapter 7, around 70 to 75 per cent of all initial teaching course graduates make themselves available for teaching, some after undertaking further study. On this basis, the number of new graduates available to the teacher labour market in the next three years is projected to rise from 7,610 in 2000 to 7,923 in 2005, as shown in the table below:

Table 8.11

Projected graduates from initial teacher education courses and those available for teaching positions, 2000 - 2005

Graduates completing initial teaching courses	2000	2001	2002	2003	2004	2005
Initial primary	4,268	3,527	4,143	4,337	5,012	4,693
Initial secondary	4,281	4,723	4,432	4,653	4,713	4,312
Early childhood	1,296	1,271	1,302	1,445	1,523	1,364
Initial general	1,027	1,187	1,026	1,307	1,265	950
Total	10,872	10,708	10,903	11,742	12,513	11,319
Graduates available for teaching jobs (70%)	7,610	7,496	7,632	8,219	8,759	7,923

Source: Higher Education Statistics, DEST, 2002 and DEST projections, 2002

The composition of the pool of graduates is an issue. Most growth in demand will be for secondary teachers, but supply trends are not aligned with these needs. A further issue is supply of secondary teaching specialisations in areas of need.

Adequacy of projected graduate numbers to meet teacher requirements

We now turn to drawing together estimates of demand and supply for teachers at the national level for the period from 2002 to 2007.

Demand

New demand

We estimate that new demand or growth demand over the period from 2002 to 2007 for teachers will be limited if student to teacher ratios remain constant (+4,000). If student to teacher ratios continue to fall in line with recent trends, demand for teachers would rise by a further 10,000. However, the composition of demand for teachers appears likely to change, with more secondary teachers needed and fewer primary teachers needed. This reflects changes in the number of students attending primary and secondary schools from demographic changes.

Replacement demand

Replacement demand is likely to be significant in the next five years, reflecting ageing of the teaching workforce. Actual losses will vary between employers, depending on the composition of particular teaching workforces.

Supply

Data from government and non-government providers suggests that around 70 per cent of new teachers have been recent graduates. This compares with projected supply of 7,500 – 8,500 persons per year who graduate and commence working as teachers relatively soon after graduation over the projection period, as discussed earlier, or 45,000 – 50,000 graduates.

Supply/demand imbalances

The preceding analysis suggests that it may not be possible to meet recruitment needs for new teachers from new graduates for high wastage rates in the period ahead. This imbalance would decline, however, possibly markedly, if a higher proportion of teacher education graduates made themselves available for full time employment. In addition, as noted elsewhere in this report, there is a substantial 'pool' of teachers to draw on, and a substantial group within the community with teaching qualifications either not currently working as teachers or currently not seeking work as teachers, who may be attracted back into the profession. Limited supply appears likely from migration, especially given strong demand for teachers by other English-speaking countries.

Projected trends in teacher requirements and graduations by State and Territory

The trends in teacher requirements and in graduations reported for Australia are discussed at the State and Territory level in this section. The data on government teacher requirements were provided by the State and Territory education authorities while DEST estimated teacher requirements for the non-government sector.

Graduations data by State and Territory have been obtained by classifying the university at which the initial teacher training course was conducted to the State or Territory in which the

university is located, or where the university has campuses in more than one State, to that State or Territory where the campus offering initial teacher training courses is located.

As the Australian Catholic University (ACU) is a multi-state institution, offering initial teacher training courses at multiple locations, has not been possible to include its graduate numbers in the State by State projections. This does not, however, downplay the role of the Australian Catholic University campuses as a significant source of teacher supply, particularly for the Catholic school sector in the Eastern states. Over the last five years, award course completions in the broad field of Education have averaged close to 1500 per year from the ACU. Currently 78 courses in education are available from campuses in Victoria (Ballarat and Melbourne), Sydney (North Sydney and Strathfield), Brisbane and Canberra.

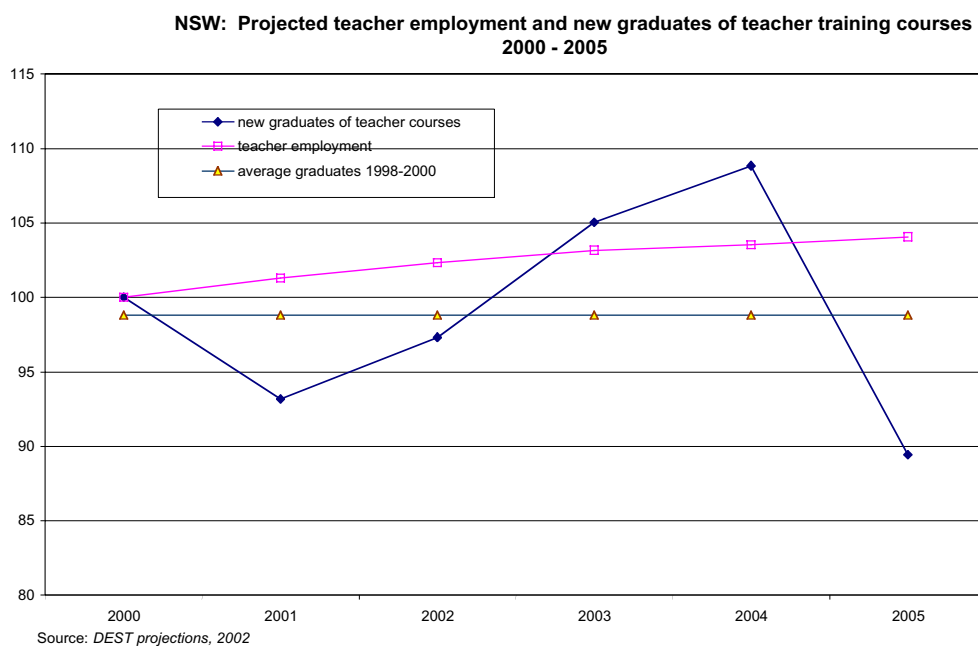
New South Wales

Student enrolment growth in New South Wales in the period to 2005 is expected to average one percentage point a year. This is half the national average. The main student enrolment growth is expected to be at the secondary school level, and especially in the non-government sector.

On the other hand, teacher employment in New South Wales is projected to increase by 4.1 per cent in total in the period to 2005 (refer to Chart 8.8).

Projections of completions from initial teacher training courses (derived as 60 per cent of the commencing undergraduate numbers four years earlier and 90 per cent of commencing postgraduate students in the preceding year) suggest that by 2004 the number of graduates is expected to rise by 8 per cent to fall back in 2005 to below 90 per cent of the 2000 level. Because of this, and the small increase in teacher workforce numbers, the New South Wales average training rate (i.e. the ratio of completions to employment) for the projection period is estimated to rise from 4.7 in 2000 to 5.0 in 2004, to fall back to 4.1 in 2005.

Chart 8.8

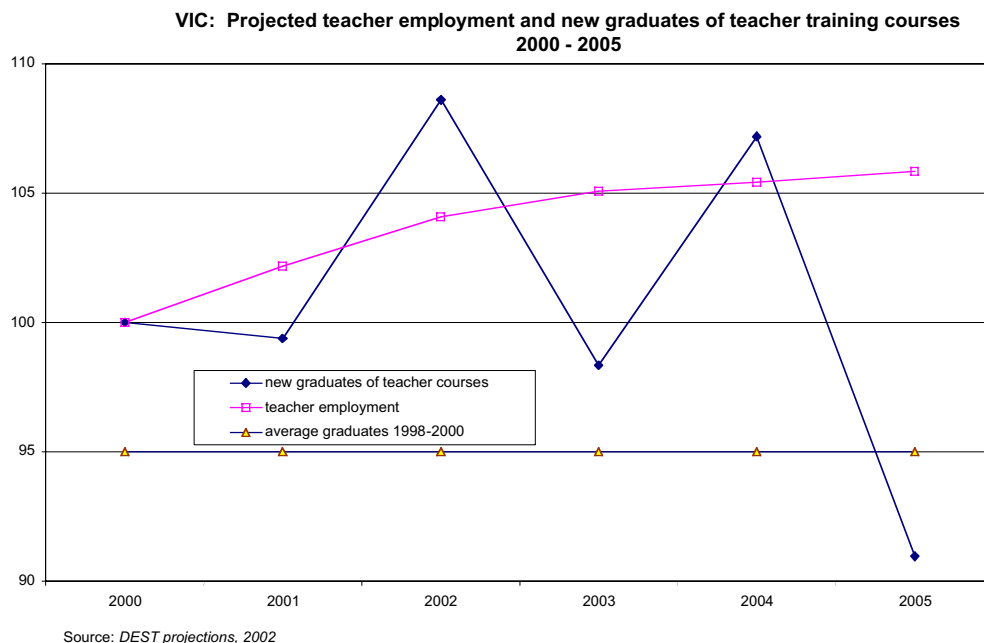


Victoria

Student enrolments in Victoria are expected to increase by less than the national average, with an actual fall expected in the primary level. As in New South Wales, the increase in the secondary level will be greater in the non-government sector. Despite these low student enrolment growths, teacher employment is projected to be 5.8 per cent higher in 2005 than in 2000, due primarily to changes in the government policy on teachers in government schools (see Chart 8.9).

The projected number of graduates (derived as 60 per cent of the commencing undergraduate numbers four years earlier and 90 per cent of commencing postgraduate students in the preceding year) is on a rather volatile downward trend but until 2004 well above the average 1998 – 2000 level. In the context of an increasing workforce, though, this means that the training rate would fall (from 4.4 per cent in 2000 to 3.8 per cent in 2005).

Chart 8.9



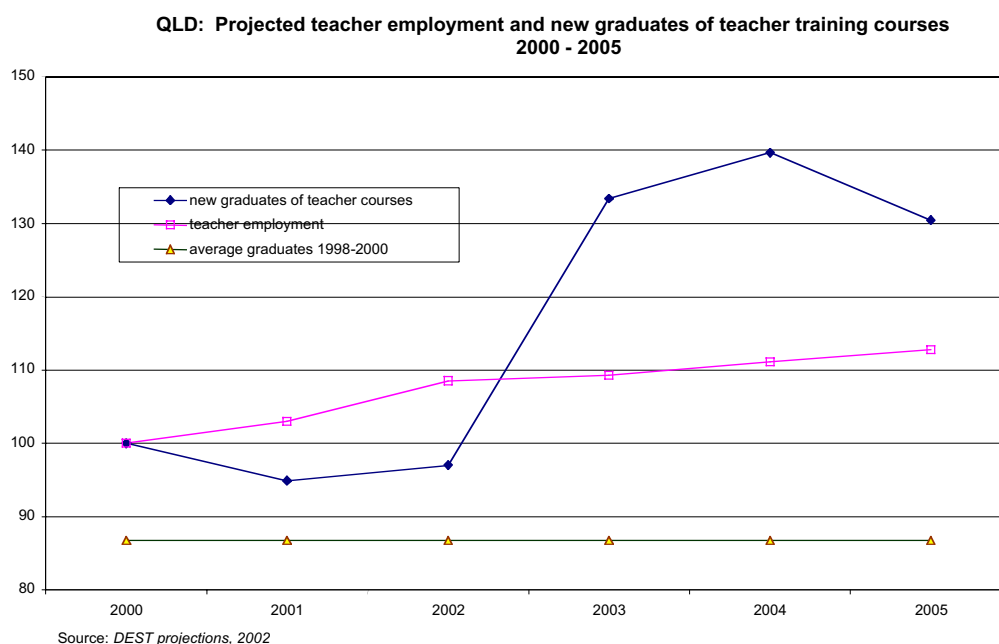
Queensland

In the 2000 to 2005 period, Queensland is projected to have the highest growth in student enrolments among the States and Territories (5.1 per cent), 2.8 times the national average. As for the other States, the growth will be greater for the secondary level but, unlike other States where primary enrolments are static or declining, primary enrolments in Queensland are projected to also increase by a relatively significant amount (3.0 per cent).

In line with these enrolment projections, teacher employment in Queensland should grow by 12.8 per cent from 2000 to 2005 (Chart 8.10). While higher than for other States and Territories, a growth of this magnitude is slightly less than half the growth that was achieved in Queensland in the decade to 2000 (25.9 per cent).

Projections of graduates from initial teacher courses (derived as 60 per cent of the commencing undergraduate numbers four years earlier and 90 per cent of commencing postgraduate students in the preceding year) are to be substantially above the numbers of the recent past. In 2004 graduate levels should be over 60 per cent higher and in 2005 almost 49 per cent higher than in the 1998 to 2000 period. On this basis, the training rate is projected to jump from 4.9 per cent in 2000 to 5.7 per cent in 2005.

Chart 8.10

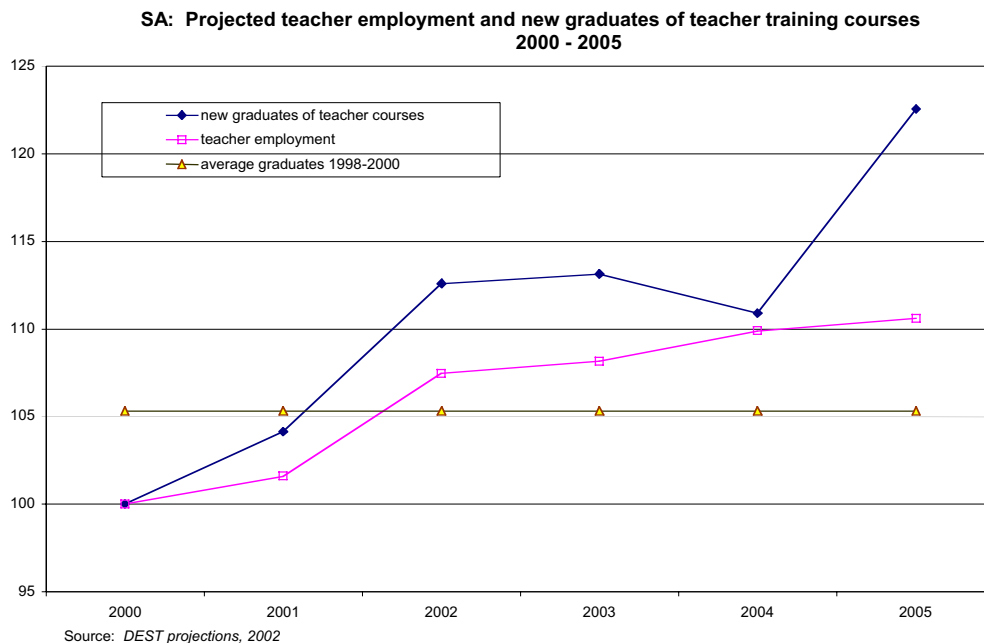


South Australia

Student enrolments in South Australia have been falling since 1999. In the period to 2005, falls are projected for both the primary and secondary levels, but this will be felt exclusively in the government sector. The non-government sector is projected to grow by 5.9 per cent, particularly at the secondary level. However, owing to the assumed reduction in the students to teachers ratio, the number of teachers is projected to rise by 1.6 per cent in 2005 (Chart 8.11).

Teacher graduations in South Australia are expected⁴⁸ to rise faster than demand for teachers which implies that some South Australian graduates may seek interstate employment. The training rate is also estimated to remain around 2.6 per cent, the lowest of all the States and Territories, reflecting the more static teacher labour market in South Australia.

Chart 8.11



⁴⁸ derived as 60 per cent of the commencing undergraduate numbers four years earlier, and 90 per cent of the commencing postgraduate students in the preceding year

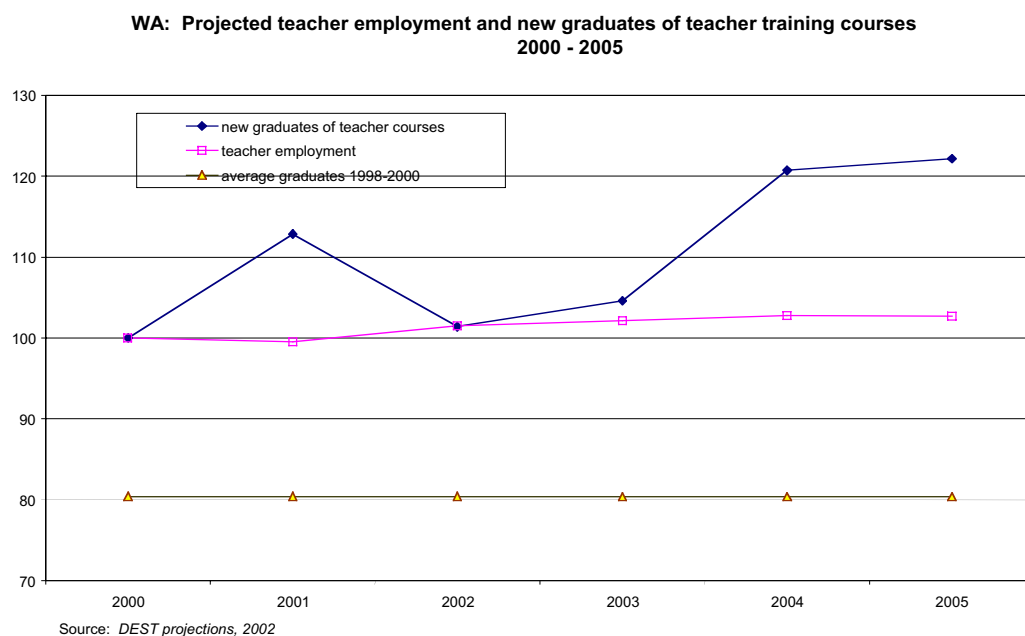
Western Australia

Student enrolments in Western Australia are projected to continue growing at above the national average (4.7 and 1.8 per cent respectively). Most of this growth will be confined to the non-government sector. The government sector is projected to remain roughly stable, with gains in the primary level and falls in the secondary.

Teacher numbers are projected to increase only marginally (by 2.7 per cent by 2005) in Western Australia (see Chart 8.12). In the projection period, most of the increase in teacher numbers is projected to occur in the primary level.

Projected graduate numbers⁴⁹ are estimated to be, on average, well above the level of recent years. This is estimated to push the already high training rate in Western Australia from 7.2 per cent in 2000 to 8.6 per cent in 2005.

Chart 8.12



⁴⁹ derived as 60 per cent of the commencing undergraduate numbers four years earlier and 90 per cent of commencing postgraduate students in the preceding year

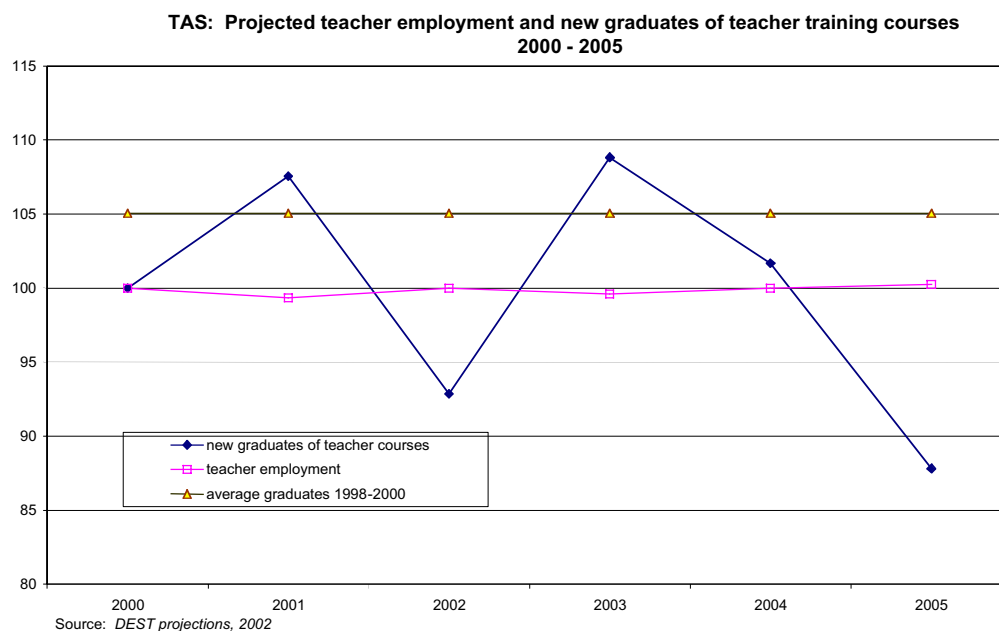
Tasmania

Student numbers in Tasmanian primary schools have been declining steadily through most of the 1990s, while remaining roughly stable in the secondary level. The decline in the primary and senior secondary levels is expected to continue for at least the next few years, but junior secondary numbers are projected to rise by 5.9 per cent.

Overall teacher numbers are projected to remain flat (Chart 8.13).

Graduate numbers are projected to be on a falling, but volatile, trend, increasingly below the 1998 to 2000 level. The training rate is therefore estimated to fall from 4.1 per cent in 2000 to 3.6 per cent in 2005.

Chart 8.13

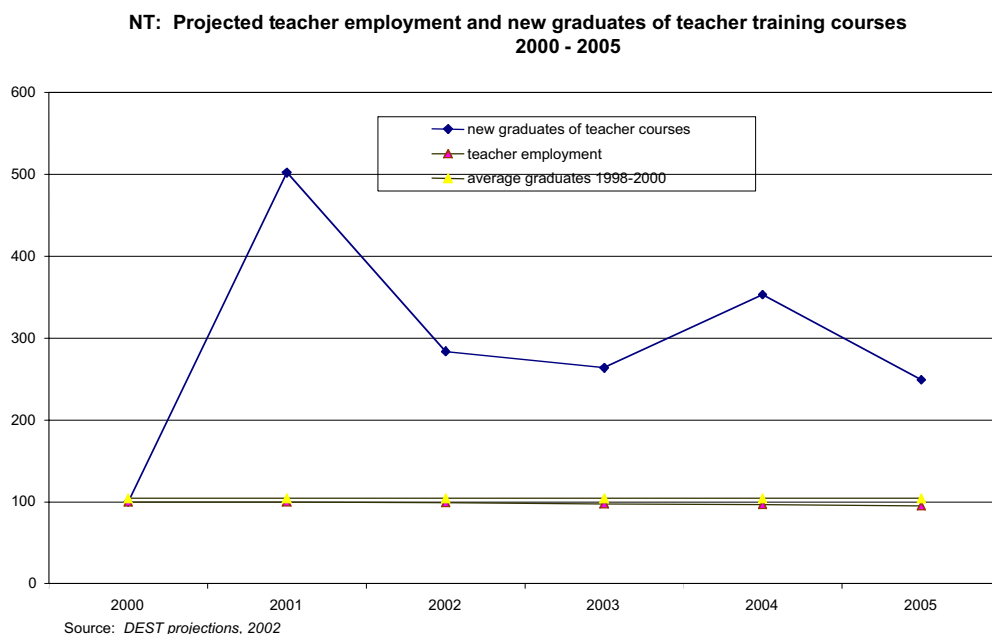


Northern Territory

Until 2000 student numbers in the Northern Territory have been rising, to fall by 1.1 per cent in 2001. However, in the period to 2005, with the exception of the junior secondary level, major falls in student numbers are projected in all levels (by 7.9 per cent in 2005).

Teacher numbers are projected to stay flat (Chart 8.14). However, projections of graduates from initial teacher education courses (derived as 60 per cent of the commencing undergraduate numbers four years earlier and 90 per cent of commencing postgraduate students in the preceding year) show very high and irregular numbers. The training rate, accordingly, is expected to rise from 1.7 per cent in 2000 to 4.6 per cent in 2005. It needs to be noted that the relatively small numbers involved make projections less reliable.

Chart 8.14



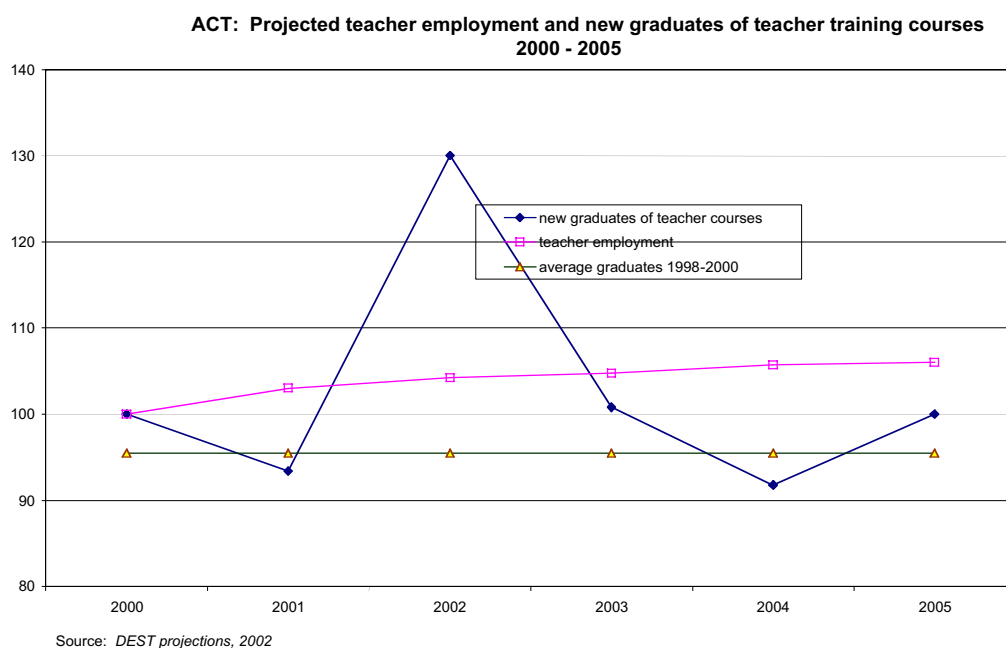
Australian Capital Territory

Student numbers in the Australian Capital Territory have declined marginally since the 1990s, in both the primary and secondary levels. There was a slight rally in the mid-1990s, but since then there has been a downward trend. This trend is expected to continue into the projection period, with student numbers falling in the government sector being partially offset by a rising number in the secondary level.

Despite the projected downward trend in the student enrolments, a moderate rise in teacher employment is projected (by 6 per cent in 2005, Chart 8.15). This follows a period of relative stability in teacher numbers in the Australian Capital Territory.

Graduate numbers in the Australian Capital Territory have been broadly on an upward trend in the 1990s, but the projected graduate numbers after 2003 do not exceed the 2000 level. As a result, the training rate is estimated to fall from 6.1 per cent in 2000 to 5.7 per cent in 2005.

Chart 8.15



In summary, the main trends projected for the States and Territories are:

- Student numbers in total to decline in four States and Territories, namely Northern Territory, South Australia, Tasmania and the Australian Capital Territory, and increase in the others. The strongest increase is projected for Queensland and the strongest decline for Northern Territory. All States and Territories, except for Western Australia and Queensland, are projected to experience a decline in primary students, with the situation for secondary students being more mixed;
- Partly reflecting these enrolment trends, total teacher requirements in the period 2001 to 2005 across the primary and secondary levels are projected to increase in all States and

Territories, with employment in Northern Territory remaining unchanged. Most of the rise in requirements will be in the secondary school level.

- The level of graduations, averaged over the five projection years, is projected to be higher than in the period 1998 to 2000 in South Australia, Western Australia, Northern Territory and Queensland. The highest training rates are projected to be in Western Australia, the Australian Capital Territory and Queensland.

Flexibilities and scope for adjustment in the teacher labour market

While it has been possible using the available information to make an assessment of the extent to which projected graduations in the next few years may be adequate to meet the need for new teachers in the Australian teacher labour market as a whole, appropriate data to make a similar assessment at the State and Territory level are not available. In particular, there is no information at the State/Territory level on net replacement rates, which are essential for making an informed assessment of the loss of teachers to the teaching profession within a State. These rates can be expected to vary significantly across the various jurisdictions, reflecting differences in operation of the teacher labour markets across the States and Territories and differences in opportunities available for people with teacher qualifications in the broader local and State labour markets.

However, even if it were found that in one State or Territory the training rate is insufficient by itself to provide enough new graduates to ensure that the State teacher labour market remains in balance, this does not mean that the State or Territory will automatically experience shortages of teachers. There are a number of sources of flexibility in the system which enable the State and Territory teacher labour market to adjust to some extent to potential imbalances between supply and demand. These sources are essentially of two kinds:

- options available to management within a single jurisdiction, such as the State education system. These can be classed as essentially 'internal flexibilities'.
- some adjustments are possible by way of movements across jurisdictions and sectors. For instance, teachers can move from the government education system to the non-government system in the same State, and vice versa; or they can move from one State or Territory to another. These adjustments provide options for 'external flexibility'.

This section discusses briefly some of these sources of flexibility.

Adjustments within a jurisdiction (internal flexibilities)

If there is an unexpected surge in demand for teachers within the jurisdiction, or a shortfall develops, which cannot be met through additional recruitment of staff because of a general shortage of teachers in the labour market, managers within the education authorities have a number of options at their disposal for dealing with the problem. These could include:

- allowing the STRs to rise by a small amount. A rise in the STR by one half of a percentage point in the secondary sector in any one jurisdiction is equivalent to reducing demand for teachers by about four per cent, which is slightly less than the annual output of teaching graduates in that jurisdiction;

- delaying the granting of long service leave and other leave arrangements to retain existing teachers longer;
- providing more hours of work to those currently working part-time (on a permanent or casual basis) and extending the term of appointment to fixed term contract teachers;
- making greater use of the pool of relief teachers and those registered for vacancies in teaching; and
- re-allocating teaching tasks to make the best use of available teachers, especially if the demand/shortage is for particular types of skills (e.g. mathematics or languages other than English).

A number of these measures have been used successfully in Australia in the past in the context of overcoming recruitment difficulties. Some of these have already been reported by the States and Territories in Chapter 4.

Adjustments through teacher movements between jurisdictions (external flexibilities)

Education jurisdictions and State labour markets do not operate in isolation. Significant movement of teachers occurs between jurisdictions within a State and, importantly, between States. This provides an important source of flexibility in the labour market. The extent of these movements is discussed below.

Interstate movements of teachers

Interstate movements can be an important source of flexibility in the teacher labour markets, with surplus teachers from one State or Territory helping to overcome shortages in other jurisdictions. Table 8.12 provides an indication of the flow of new teacher graduates across State borders to gain employment. The data is based on the Graduate Destination survey undertaken by the Graduate Careers Council of Australia of 2001 graduates. These data relate to new teaching graduates who obtained a job in teaching by the time of the survey (April 2002).

Table 8.12

Employed graduate teachers - State/Territory of graduation and employment, 2002

State/Territory	% Employed	% Not Employed
	in State in which studied	
NSW	91.5	8.5
VIC	96.2	3.8
QLD	92.6	7.4
WA	82.9	17.1
SA	96.0	4.0
TAS	84.8	15.2
NT	89.7	10.3
ACT	72.4	27.6
<i>Australia</i>	<i>92.7</i>	<i>7.3</i>

Source: *Graduate Destination Survey 2002, unpublished data, GCCA*

The first point to note is that around 7.3 per cent of respondent teaching graduates in Australia who found employment soon after graduation moved from the State where they obtained their qualification. The data indicate that almost 28 per cent of respondent graduates from the Australian Capital Territory gained employment outside the ACT. The next highest proportion was Western Australia (17.1 per cent). At the other end of the scale, of respondent Victorian teacher graduates, only 3.8 per cent reported employment outside Victoria.

Chapter 9

Longer term pressures on the teacher labour market

The period post 2007 has not been examined in detail earlier in this report. However, a number of pressures will influence the teacher labour market in the period post 2007. Hence this chapter looks at key influences over the period from 2008 to 2012. We note that analysis for this extended time frame is necessarily more speculative and will depend on actual as opposed to assumed developments. For example, the number of children born in the next few years and the number of migrants arriving with school age children will influence enrolment trends in the outyears.

Future student enrolment trends

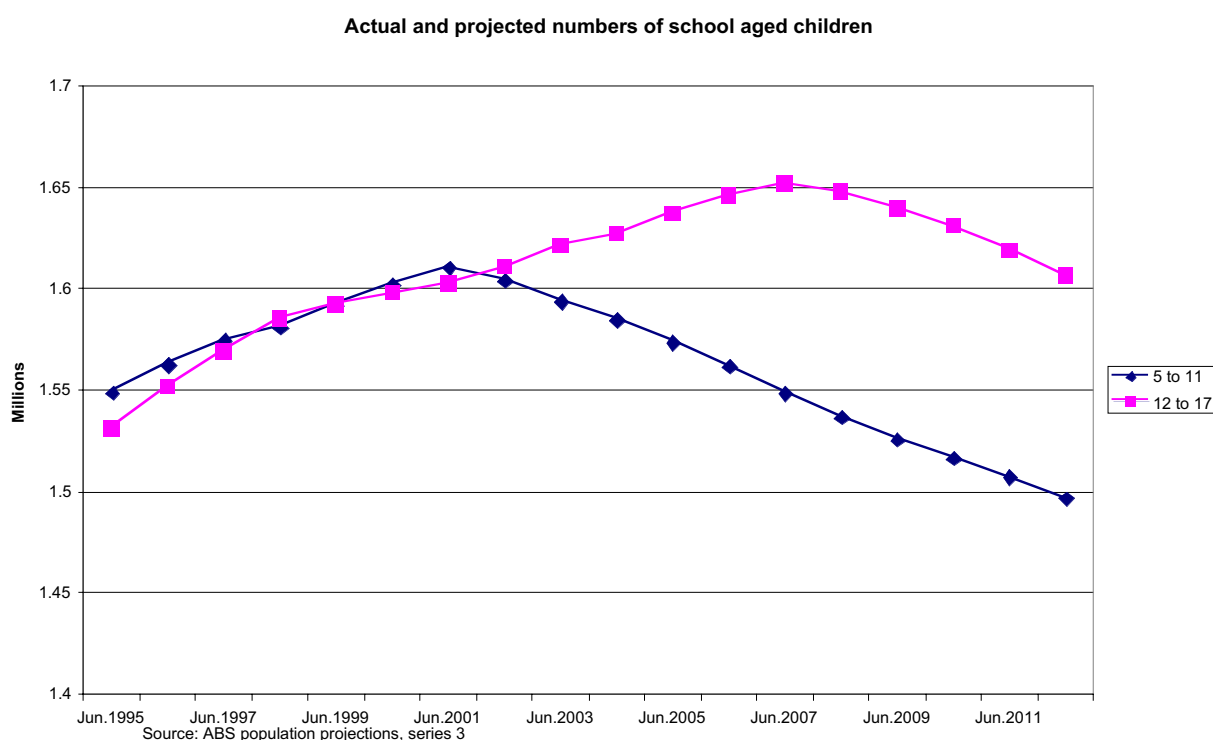
A key influence on future demand and supply scenarios for teachers is the number of students in the school system. DEST prepares student enrolment projections regularly. The projections are based on two sources of information:

- projections of population by age prepared by the ABS and reported in *Projections of the population of Australia, States and Territories* (Cat. No. 3222.0). ABS projections take into account a variety of factors in making their projections, including trends in fertility and migration patterns; and
- projections of the grade progression ratio (GPR) developed by DEST using data on school enrolments by age and grade in the ABS publication *Schools, Australia* (Cat. No. 4221.0).

GPR's at the later years of schooling, beyond the compulsory school age, are of course subject to some degree of uncertainty as they are affected by a number of social and economic factors, including the state of the labour market. In preparing the enrolment projections to 2012, DEST has assumed that the GPR's will remain constant at the 2001 level (latest estimate available).

We start by looking at broad population trends using the ABS Series 3 population projections. We then go on to examine projected enrolment trends. The following chart provides data on actual and projected numbers of school-aged children for the period from 1995 to 2012.

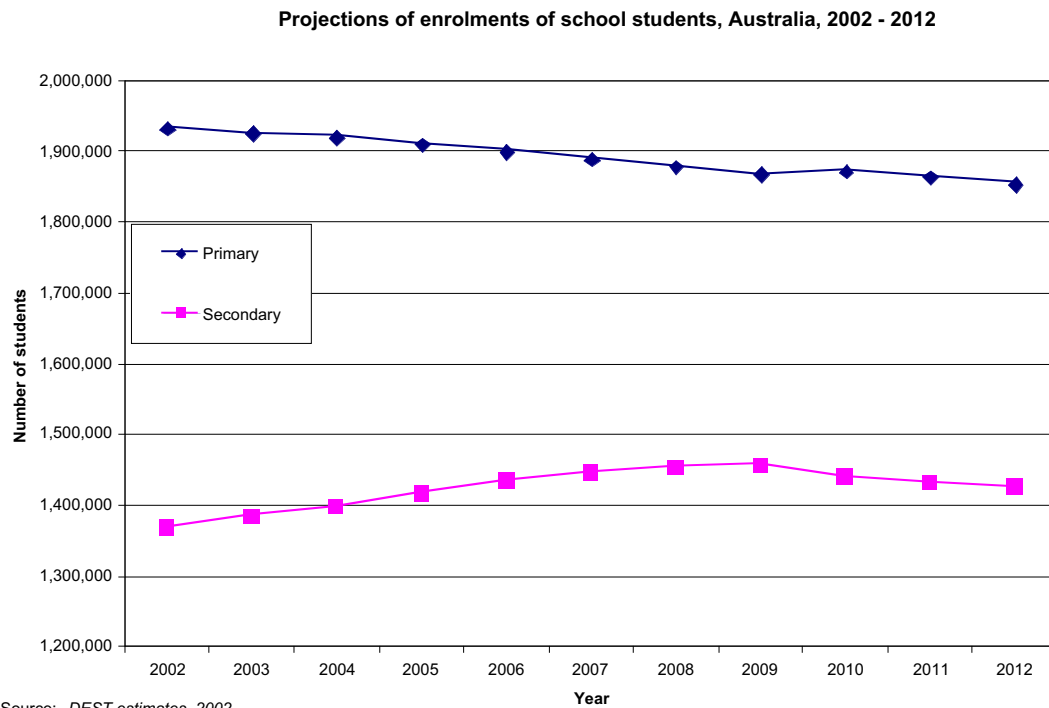
Chart 9.1



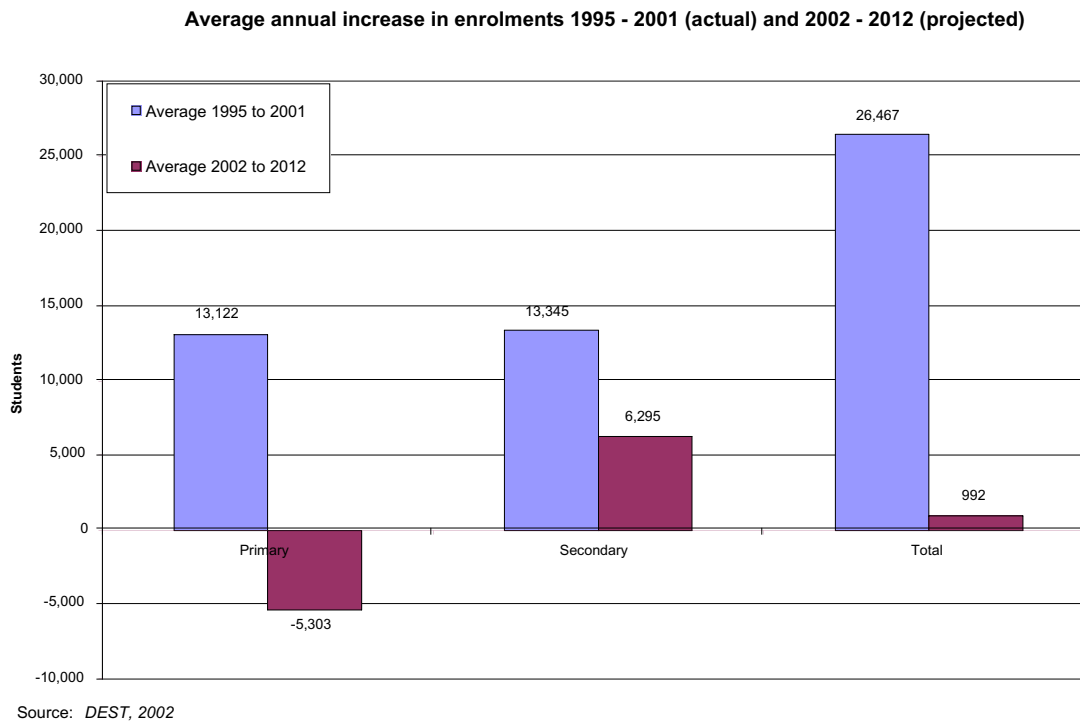
The data highlight growth in the school age population until 2003, with numbers declining in both the 5 -11 and 12 -17 age groups post 2007. These demographic changes are in turn reflected in the extent and composition of school enrolment projections.

According to DEST enrolment projections, student enrolments are expected to decline at the national level in the period from 2008 to 2012, reflecting trends in the number of children of school age in the population. The following chart, based on the ABS Schools Collection, extends the projections of school enrolments for primary and secondary students in Chapter 8 to 2012.⁵⁰ The key point here is that post 2007 total school enrolments are expected to decline somewhat, in both the primary and secondary schools system.

⁵⁰ ABS population projections are based on extrapolating census and other population data, while schools data comes from the ABS *Schools Collection*, so there are variations between the two data sources.

Chart 9.2

This is an important change when viewed in a historical context. As shown in the chart below, over the longer term school enrolment numbers have risen. However post 2007 growth in school enrolments will abate.

Chart 9.3

These figures suggest that enrolment movements of themselves will be creating less demand for additional teachers in the period post 2007 than in the period 2002 to 2007 and in the decade of the 1990s.

The data also highlight a significant shift in the composition of the additional teacher requirements, away from primary and towards secondary school teachers. For instance, in the past decade 70 per cent of additional enrolments (and 89 per cent in 2000) were in the primary sector, but starting with 2003 the numbers of primary students are projected to fall until 2010. These trends will need to be reflected in future commencements and graduations from initial teacher training courses.

Demand for teachers, 2008 to 2012

Growth demand or new demand

The following table provides projections of teacher requirement, based on the projections of school enrolments presented above, for Australia for the period 2002 to 2012, assuming student to teacher ratios remain at 2001 levels. The data suggest there will be no “growth demand” for teachers from 2008 to 2012.

Table 9.1

**Projected teacher requirements assuming static student to teacher ratios,
Australia, 2007 - 2012**

Year	2008	2009	2010	2011	2012
Primary	106,741	106,094	106,356	105,919	105,345
Secondary	117,197	117,411	116,129	115,496	114,917
Total	223,938	223,505	222,485	221,415	220,262

Source: *DEST Projections, 2002*

Indeed, the data indicate that over this period total requirements for teachers will decline, for both primary and secondary teachers, in the absence of any marked change in demographic trends from those projected by the Australian Bureau of Statistics.

Total teachers required will return to 2002 levels, and the number of primary teachers required would decline by 4.5 per cent between 2002 and 2012. While the number of secondary teachers required rises until 2007, between 2008 and 2012 requirements for secondary teachers declines by 1.9 per cent.

It should be noted, however, that the number of teachers required is influenced by student-teacher ratios. Any marked changes in student-teacher ratios would influence demand for teachers, either adding to or reducing demand.

Replacement demand

As noted in Chapter 8, there will be substantial replacement demand for teachers in the period from 2002 to 2007, with the level of demand depending on the extent to which persons employed as teachers and eligible to retire do so. This problem persists into the latter part of the projection period.

The next table provides estimates of the likely losses to the teaching workforce depending on the wastage rate, assuming a workforce as per 2002 of 250,000 employees.

Table 9.2

Likely losses to teaching workforce over 5 years

Wastage rate (%)	Workforce (persons)	Losses (persons)
1	250,000	12,500
2	250,000	25,000
3	250,000	37,500
4	250,000	50,000
5	250,000	62,500
6	250,000	75,000
7	250,000	87,500

Obviously the extent of wastage will depend on the extent of losses to resignation and retirement, and estimates of either are necessarily speculative. However, census and other data indicate there are substantial numbers of teachers who were aged 44 - 48 at the time of the 2001 census, who will be aged over 55 in the period from 2008 to 2012, and therefore likely to be eligible to retire, as shown in the table below.

Table 9.3

Teachers eligible to retire (aged over 55), 2008 - 2012

Age at 2001	Year aged 55	Number	% of 2001 teacher workforce
48	2008	9,805	3.9
47	2009	9,886	3.9
46	2010	10,085	4.0
45	2011	10,091	4.0
44	2012	10,175	4.0

Source: 2001 Census of Population and Housing, ABS, 2003

Over this period an average of 10,000 teachers per year, or 4.0 per cent per annum of the number of persons employed as teachers in 2001 will turn 55. Paradoxically, success in retention strategies to reduce demand supply imbalances between 2002 and 2007 may also lead to a greater level of replacement demand in the latter period due to bunching of retirements.

Losses arising from resignation then need to be factored in. If losses to resignations persist at 2001 levels, noting that some resignations will reflect churning in the system, overall losses are likely to continue to be significant.

Supply issues

Projections of supply of teachers post 2008 are dependent on numbers undertaking teacher training courses. It is difficult to project numbers with any certainty in the outyears. If similar

levels of course completions are assumed between 2008 and 2012 as for the earlier part of the projection period, this suggests supply of 7,500 to 8,800 graduates entering the labour market as teachers each year, or 37,000 to 42,500 graduates between 2008 and 2012.

Comparing demand with supply

We commenced this chapter by noting that this more extended analysis is necessarily more speculative than that for the earlier period (2002 to 2007) where better data is available. In particular, the extent of replacement demand in the outyears is a matter for conjecture, and the supply of new teachers could change, possibly markedly, within the period. Further, policy initiatives in the intervening period have the potential to significantly alter key factors underpinning the projections.

Nonetheless, on the basis of the data available, new growth demand for teachers is unlikely between 2008 and 2012. Indeed the overall number of teachers required is likely to decline somewhat in the outyears as a result of declining enrolments. However, substantial replacement demand is likely to persist as a result of ageing of the teaching workforce.

If policies aimed at attracting and retaining teachers have limited success, there is potential for continued imbalance between supply and demand for teachers. This will be exacerbated because the composition of demand for teachers is changing, with greater demand for secondary teachers and less demand for primary teachers. To date supply trends are not reflecting enrolment trends. Moreover, it is open to question to what extent retraining will facilitate redeployment of excess primary school teachers into secondary teaching positions, assuming these teachers are willing to be redeployed.

Both in the short term and the longer term, a key issue in maintaining balance in the teaching labour market will be the effectiveness of policies intended to attract and retain teachers. In the following chapters we have presented the outcomes of the national survey of teachers on factors that are important in attracting and retaining teachers.

Part D
Summary and Conclusions

Chapter 10

Summary and conclusions

In the preceding chapters we have reviewed the findings of the previous MCEETYA report (2000) on teacher supply and demand, discussed recent trends in the national labour market for teachers and developed scenarios concerning supply and demand of teachers in the period to 2012, ten years from writing of this report.⁵¹

The current state of the labour market for teachers

The previous MCEETYA report found the national teaching labour market was broadly in balance. As at 2001-02, the national labour market for teachers remained broadly in balance. However, both the government and non-government sectors continued to report recruiting difficulties in some locations, and in a number of teaching specialisations. The specialties where recruitment difficulties were experienced included mathematics and science (especially physics and chemistry), and languages other than English (LOTE) and the industrial arts.

The period ahead

The data⁵² available suggest that in the period ahead (post-2004) Australia is likely to face increasing shortages of teachers due to age-based retirement. The extent of the shortfall will depend on the success of policy initiatives to attract and retain teachers. Workforce planning to target potential sources of teachers and training those people to become teachers will also be important. Retraining those teachers qualified to teach in areas of greater supply so that they can teach in areas of greater demand is another issue that workforce planners may need to consider. Depending on the success of such initiatives shortages of possibly up to 20,000 to 30,000 teachers are estimated later in the decade. The shortages seem likely to be most pronounced in certain secondary teaching specialisations as well as in remote and rural locations and difficult-to-staff metropolitan schools.

Demand for teachers

Demographic trends

Given demographic trends in the school-aged population and trends in school enrolments it seems unlikely that there will be *growth* in demand for teachers if student teacher ratios remain at current levels between 2002 and 2012. ABS population data indicate that there will be a decline in the number of school age children post 2007 and that there will be a change in the composition of demand for schooling between primary and secondary schools, with a larger proportion of students in secondary schools than hitherto.

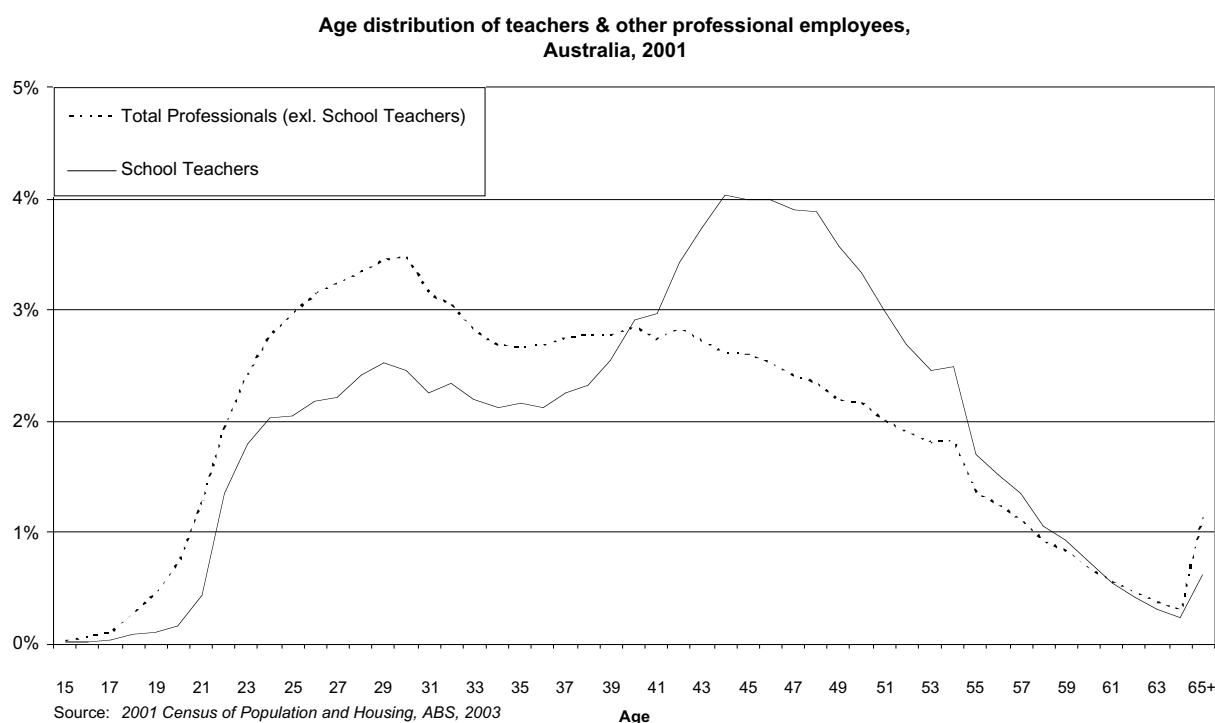
There seems likely to be limited or nil growth in new demand for teachers, either in the shorter period between 2002 and 2007 or for the longer projection period between 2008 and 2012.

⁵¹ Data discussed in this report include data published up to 20th February 2003. Analysis has been informed by use of published data from a range of sources, as well as through quantitative and qualitative research. Research undertaken for this project included quantitative surveys of government and non-government education providers. Qualitative research included national surveys of teachers and principals concerning factors that are important in attracting and retaining teachers.

⁵² Chapters 8 and 9 discuss possible trends in demand and supply of teachers over the period 2002 to 2012. The projections should not be regarded as forecasts, as outcomes will be influenced by a wide variety of factors over the projection period.

However, the scale of *replacement demand* seems likely to rise. This reflects ageing of the national teaching workforce and hence greater numbers of teachers being lost to retirement than in earlier periods. We note that Australia's teachers are on average older than the rest of the national professional workforce.

Chart 10.1



Ageing of the teaching workforce

Data from the ABS census of population and housing suggests that by 2007 close to 70,000 teachers, or nearly 27 per cent of the national teaching workforce, will be aged over 55. Another 50,000 teachers will reach this age between 2008 and 2012 (see table below for more details). The age structure of the teaching workforce was also reflected in the national survey of teachers and the surveys of State and Territory education agencies and the non government schools sector undertaken as part of this project.

Table 10.1
Teachers eligible to retire (aged over 55), 2008 - 2012

Age at 2001	Year aged 55	Number	% of 2001 teacher workforce
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45	2011	10,091	4.0
44	2012	10,175	4.0

Source: 2001 Census of Population and Housing, ABS, 2003

The rate at which teachers retire will depend on a number of factors, including individual preferences, the nature and value of individual superannuation arrangements, the availability of options such as a move to part-time work, and the age eligibility criteria for access to

superannuation arrangements. While little information is available on these issues, it is noteworthy that 2001 census data indicate that as at 2001 only 2.2 per cent of persons employed as teachers were aged between 60 and 64. Also, data collected for the national survey of teachers indicate that on average, teachers had worked in their occupation for 17 years, suggesting the accrual of reasonably high levels of superannuation entitlements.

The data also suggest that the number of teachers aged 55 and over, and thus likely to be eligible to retire, will accelerate from 2005 onwards. Thus, depending on trends in other reasons for exiting from working as teachers, (including resignation, death and health related withdrawals), replacement demand for teachers is likely to rise sharply in the period ahead.

Resignations

The major source of loss to the teaching profession outside of retirement is resignations. Projections of trends here are necessarily speculative, as they will depend on a number of factors, including the job satisfaction levels of teachers – especially beginning teachers in their first five years of teaching, the opportunities for promotion, the extent and nature of job opportunities in the broader national labour market as well as overseas job opportunities. A number of English-speaking countries are seeking to attract overseas teachers, including Australian teachers. A stronger national labour market would offer more alternative job opportunities, while a weaker overall job market would give less job opportunities, and based on 1990s experiences, would tend to result in lower levels of resignations from teaching (noting that in the past, losses due to resignations have been higher than losses to retirement).

Given the long time period over which projections have been made, and the many factors which bear on this issue, any projections of trends in resignations are necessarily speculative and for this reason we have assumed that resignations continue at 2001 levels. Overall this leads to a conclusion that the level of replacement demand for teachers is likely to rise between 2002 and 2012, with greater losses post 2005.

This will pose a significant challenge in terms of the quantity, composition and quality of the supply of teachers available to meet losses of teachers from their profession. Supply of teachers potentially arises from a number of sources, including new graduates from undergraduate and graduate initial teacher education courses, the teaching pool, net migration, and persons with teaching qualifications electing to return to teaching.

Supply of Teachers

Recent trends in participation in teacher preparation courses are positive, with commencements in initial teacher training courses in 2000 (18,910) and 2001 (18,483) at their highest levels since 1990 (18,497)⁵³. It should be noted, however, that in 2002⁵⁴, 34.5 per cent of applicants for initial teacher training courses missed out on places, suggesting that the existing supply of teacher education places is not keeping up with demand. Also, a significant number of graduates, (around 15 per cent⁵⁵ in 2000) either work in other professions or go on to further

⁵³ See Chart 7.4 – *Total teacher training commencements, Australia, 1990 to 2001*, Higher Education Statistics, DEST

⁵⁴ *Annual Reports of Survey of applicants for undergraduate places*, Australian Vice-Chancellors' Committee, (AVCC) unpublished consolidated data, 2003

⁵⁵ See Table 7.2 - *Graduate Destinations Survey*, Graduate Careers Council of Australia, 1999, 2001

study (and data is not available on the extent to which teaching graduates who then complete other qualifications then elect to work as teachers).

The teaching pool

The teaching pool offers another source of supply⁵⁶, but the major role of the pool has been to offset short term supply difficulties arising from sick leave and extended leave. There were approximately 30,000 people on employment lists for government schools at the end of 2002. Another issue is whether the skill sets available from those teachers who register for pool teaching positions are appropriate to meet areas where teaching skills are in shortage. In addition, many persons who registered on the pool may then attain alternative employment, and thus may not be readily available to take teaching positions. Further, this group may not be available to take positions in geographic areas where additional teaching resources are required, especially in remote and rural locations or in difficult to staff metropolitan schools.

Migration

Net migration (immigration less emigration) has slowed to a trickle in recent years, and many English-speaking countries who are also facing teacher supply problems are recruiting aggressively in overseas markets, including Australia, suggesting limited options for additional supply from this source.

People with teaching qualifications working in other fields

One of the complementary research papers in Part F of this report examines career paths of persons with teaching qualifications in Australia. The data reveal that Australia has large numbers of people with teaching qualifications who are not employed as teachers. This group offers the potential for a large additional supply of teachers, although the extent to which persons in this group with established career paths can be enticed to either re-enter teaching or commence teaching is open to question. Their potential need for retraining or upskilling could, however, delay their availability to the teaching workforce. The recent New South Wales State Government “Teach and make a difference” campaign in part targets this group, and the results of this campaign will be of strong interest in this regard.

New entrants to teaching

The composition of new entrants to teaching is also of interest. Data presented earlier in this report suggests that a large proportion of new teaching graduates enter primary sector teaching, while the composition of demand is shifting more towards secondary teaching. Moreover, recent trends in the composition of new supply of secondary teachers considered by specialisation is not encouraging. The paper in Part F of this project on trends in the supply of mathematics, science and information communication technology teachers suggests that supply of new teachers in these specialisations has not grown in recent years.

The gender mix of new teachers also raises issues. For the secondary sector, in the recent past most trainee teachers have been female, while the share of male teachers in secondary teaching has declined. Overall, female teachers have tended not to specialise in mathematics

⁵⁶ The teaching pool refers to persons registering with state education agencies for employment as teachers, usually for contract or casual positions

and science (areas of shortage), whereas male teachers historically have tended to concentrate in these areas.

Quality teaching

Teaching quality may also be affected by likely retirement patterns. As well as revealing that a substantial proportion of Australia's teachers will reach age 55 in the next decade, census data indicate that Australia's teaching workforce has a bimodal age structure, with relatively large numbers of "older" and "younger" teachers, but relatively few in the mid range ages. Losses of older teachers will hence reduce the pool of more experienced teachers far more than would have been the case if there was a more even distribution of employed teachers across age ranges. To the extent that experience is associated with teaching quality this has the potential to impact adversely on overall teaching quality.

Educational leadership

Future educational leadership also looms as an issue, in part reflecting the lack of mid range age teachers. This situation is exacerbated by the relatively high ages of existing principals. Data from the survey of principals indicates principals tend to be older than teachers, and substantial losses from this group are also likely in the period ahead.

Policy challenges

A major challenge for education providers in the next decade will be the need to attract teachers, either new graduates or older persons with teaching qualifications and retain teachers. Beyond raw numbers of teachers, however, workforce planners will be faced with the challenge to attract and retain the right "types" of teachers – e.g. those with particular specialisations or abilities.

Not all graduates of teaching courses go into teaching. This suggests a need for greater liaison between university education faculties and teacher employers, to ensure that the supply of teachers reflects employment needs. Another option would be investigate the selection mechanisms used in offering university places to potential teachers. Employers also need to find ways to attract people with teaching qualifications back to teaching. To do so will require detailed consideration of the currency of their qualifications and the degree of retraining and upskilling required.

Part E of this project provides the findings of the national survey of teachers and a survey of school principals.

The survey results suggest that, for all respondents, the main factors suggested as important in retaining teachers are:

1. Improved remuneration (24.6 per cent);
2. Increased resources/reduced workload (23.3 per cent);
3. Improved employment conditions other than remuneration (19.1 per cent);
4. Improved professional standing in the community (12.7 per cent);
5. Reduced class sizes (9.4 per cent)
6. Improved student behaviour (5.6 per cent);

7. Increased autonomy (1.4 per cent).

Key factors that were considered important in *attracting* new teachers included:

1. Improved or higher remuneration;
2. Promoting the image or status of teaching;
3. Improved teacher training (including access and in-service training quality issues); and
4. Improved teaching conditions other than pay.

The key issues creating *job dissatisfaction* for teachers included:

1. Lack of resources or time (874 or 37.1 per cent);
2. Student welfare issues (479 or 20.3 per cent);
3. Attitude problems of parents and the community (397 or 16.9 per cent);
4. Employment conditions other than remuneration (227 or 9.6 per cent);
5. Lack of autonomy or creativity (174 or 7.4 per cent);
6. Class sizes (79 or 3.4 per cent); and
7. Remuneration (53 or 2.3 per cent).

The survey of principals also broadly confirms these findings.

Future research and data improvements

This study has involved a number of improvements to past data collection methods, following extensive negotiations with stakeholders. One major innovation has been conducting a survey of non-government schools. This initiative has contributed to a far more informed view of the national teaching labour market. However, the data relate only to one year, 2001, and analysis of trends in this market requires the availability of time series non-government schools data. We recommend that this survey be repeated on an annual basis, including 2003, for some years to come to develop a more comprehensive, reliable data base which will allow time series analysis of trends.

In addition, we suggest that further research be conducted in 2003 on the issues of teachers of indigenous students, inexperienced teachers leaving the profession in the first five years, and teachers working out of their field of expertise. In the time available, it has not been possible to consider these issues in detail in the current report.

Looking ahead to 2004, when the next biennial report on teacher supply and demand is to be prepared for MCEETYA, we suggest that the framework for quantitative data developed for this report be maintained, subject to further discussions with stakeholders on possible refinements.

We do not suggest that the suite of qualitative research on factors that are important in attracting and retaining teachers be repeated in 2004, given that this information will still be topical at that time. However, we suggest that possible additional research topics be canvassed with stakeholders at that time.

Appendix 1: State and Territory data⁵⁷

Note: Attachments 2 – 7 have been included in a separate document.

⁵⁷ In the following tables in this attachment, teacher numbers for 1984, 1986 and 1988 do not include special education teachers. (Prior to 1990, special education teachers were separately identified.) From 1990 onwards, special education teachers have been included in overall primary/secondary figures.

New South Wales

The current labour market for teachers

In 2001 there were 35,569 FTE primary teachers and 37,816 FTE secondary teachers in government and non-government schools in New South Wales.⁵⁸ From 1984 to 2001 teacher numbers increased substantially. In the primary sector the FTE of teachers grew by 25.3 per cent over the period and in the secondary sector it grew by 18.4 per cent.

Primary teacher numbers showed a strong growth over the period in both government and non-government schools. Secondary teacher numbers fell slightly in the early 1990s and then began to increase.

Student to teacher ratios (STRs) in primary schools has been declining since 1984 (20.9), with some fluctuations, to 17.7 in 2001. In secondary schools the STR declined progressively from 13.4 in 1984 to 12.4 in 2001.

In general new graduates numbers have been sustained over 1990 to 2000. Primary teachers completions, which fell markedly during the latter part of the 1990s, oscillated around the 1,000 level. Numbers of teacher completions have basically been sustained above the 3,100 mark from 1991 to 2001 and were 4,355 in 2001.

Recruitment experience in the government school sector

Primary

The New South Wales Department of Education and Training indicated in their response to the DEST Government Schools – Primary Staffing survey that they had not experienced any recruitment difficulty in filling General or LOTE teaching positions during the 2001 calendar year. Moderate difficulties (meaning that they were unable to satisfactorily satisfy demand in some locations) were experienced in the teaching area of Special Education.

There were also minor shortages in specific geographic locations with primary teacher-librarians and teachers of ESL. There were also shortages in school counsellors.

Secondary

NSW recorded an adequate overall supply of secondary teachers, except for teachers of technological and applied studies (TAS), mathematics and science, and some positions in particular geographic locations.

Acute recruitment difficulties were recorded in filling positions for which the first competency of the position was Mathematics, meaning that there was a broad recruitment deficit (widespread shortfalls). Moderate recruitment difficulties (meaning some shortfalls in some locations), were recorded for the competencies of Science, Technology and Special Education. Minor recruitment difficulties were recorded for LOTE, English and SOSE (called Human Society and Its Environment in NSW). These minor shortages refer to specific staffing difficulties in specific

⁵⁸ *Schools Australia*, Cat No 4221.0, ABS, 2002

geographic locations (for example, English teachers in isolated areas of NSW) and do not infer a general shortage in these KLAs.

Initiatives taken by the Education Department to address shortages

A range of strategies has been implemented to ensure an adequate supply of high quality teachers in the secondary curriculum areas of shortage of mathematics, science, Technological and Applied Studies (TAS). These include:

- **Preservice Teacher Education Scholarships in Mathematics, Science and TAS**
These scholarships are offered to encourage students to undertake and complete teacher training in areas of teacher shortage. The NSW Government allocated \$3 million for scholarships to be offered from the beginning of 2002. Scholarships pay each student's HECS liability plus a \$1,500 per annum training allowance for students to complete one, two, three or four years of a preservice teacher education qualification in mathematics, science and TAS;
- **Graduate Certificate in Science (Physics) Sponsorship Program** aims to increase the supply of science teachers with a specialisation in physics by sponsoring current science teachers to undertake a Graduate Certificate in Science (Physics);'
- **Accelerated Teacher Training** pays the course fees and administration costs for people with appropriate industry backgrounds to undertake an 18 month university teacher education program which recognises skills and industry experience;
- **Retraining Programs** build on the competencies of existing graduate teachers to retrain them in the secondary teaching areas of TAS, mathematics and science (physics). In 2002 retraining programs were also provided to support teachers in gaining accreditation in the teaching areas of special education, school counselling, careers adviser, teacher-librarian, ESL, and reading recovery;
- **TAS Sponsorship for the final year(s) of university study** – pays course fees and administration costs at two universities to encourage students to undertake TAS teacher training

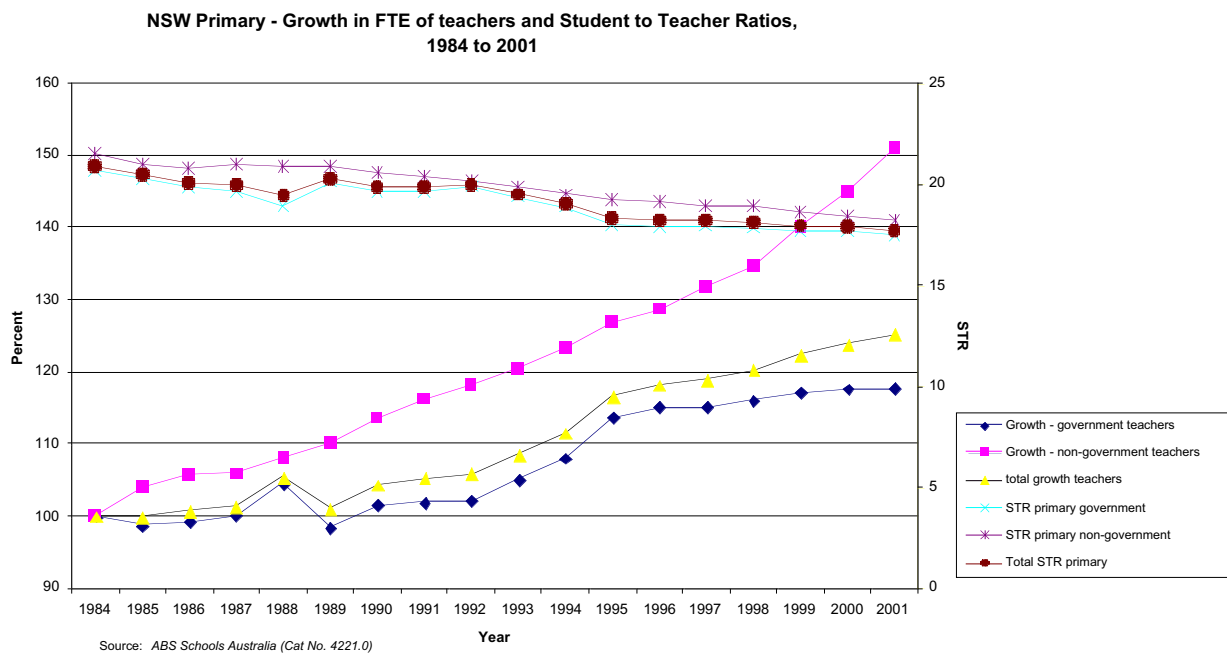
Shortages of school counsellors are being addressed through: school counsellor training courses conducted by Charles Sturt University and the University of Western Sydney for teachers with the prerequisite level of psychology; prerequisite psychology courses followed by school counsellor training courses for teachers lacking the prerequisite level of psychology training; liaison with universities to establish new combined degree school counsellor courses; and provision of teacher training to registered psychologists to become school counsellors.

New South Wales primary

Table 1.11: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	453 840	21 924	20.7	139 241	6 474	21.5	593 081	28 398	20.9
1986	431 503	21 770	19.8	142 566	6 854	20.8	574 069	28 624	20.1
1988	434 811	22 933	19.0	146 356	6 994	20.9	581 167	29 927	19.4
1990	436 692	22 267	19.6	151 416	7 361	20.6	588 108	29 628	19.8
1991	439 928	22 363	19.7	153 449	7 529	20.4	593 377	29 892	19.9
1992	445 772	22 402	19.9	154 661	7 656	20.2	600 433	30 058	20.0
1993	446 911	23 051	19.4	154 633	7 801	19.8	601 544	30 852	19.5
1994	447 238	23 698	18.9	155 621	7 982	19.5	602 859	31 680	19.0
1995	448 325	24 912	18.0	157 734	8 216	19.2	606 059	33 128	18.3
1996	452 117	25 236	17.9	159 546	8 330	19.2	611 663	33 566	18.2
1997	453 142	25 248	17.9	161 777	8 531	19.0	614 919	33 779	18.2
1998	454 104	25 458	17.8	164 785	8 719	18.9	618 889	34 177	18.1
1999	455 008	25 689	17.7	168 618	9 073	18.6	623 626	34 762	17.9
2000	455 914	25 787	17.7	173 046	9 382	18.4	628 960	35 169	17.9
2001	452 626	25 796	17.5	177 635	9 774	18.2	630 261	35 569	17.7

Source: *Schools Australia*, (Cat No 4221.0), ABS, 2001

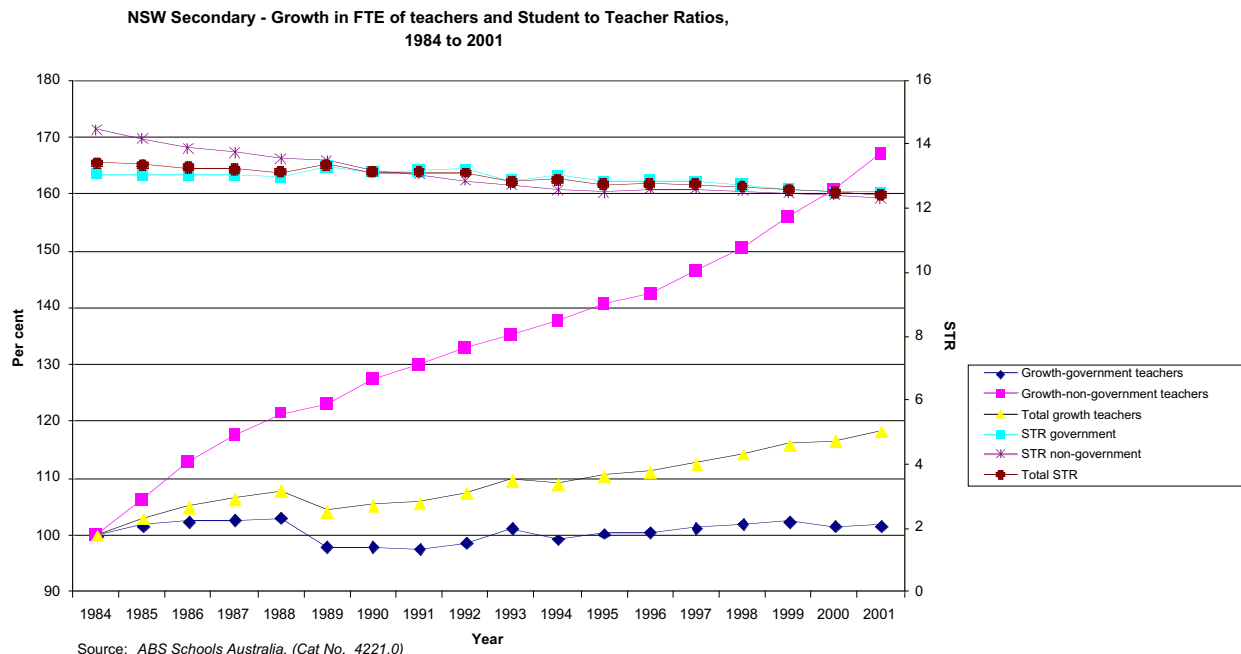


New South Wales secondary

Table 1.12: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	311 533	23 844	13.1	117 146	8 108	14.4	428 679	31 952	13.4
1986	318 353	24 429	13.0	127 173	9 154	13.9	445 526	33 583	13.3
1988	318 484	24 590	13.0	133 387	9 845	13.5	451 871	34 435	13.1
1990	306 494	23 352	13.1	136 021	10 330	13.2	442 515	33 682	13.1
1991	306 489	23 268	13.2	137 447	10 533	13.0	443 936	33 801	13.1
1992	311 080	23 540	13.2	138 715	10 771	12.9	449 795	34 311	13.1
1993	311 064	24 146	12.9	139 488	10 960	12.7	450 552	35 106	12.8
1994	308 533	23 674	13.0	140 457	11 160	12.6	448 990	34 834	12.9
1995	306 927	23 927	12.8	142 880	11 412	12.5	449 807	35 339	12.7
1996	307 961	23 966	12.8	145 723	11 562	12.6	453 684	35 528	12.8
1997	309 775	24 155	12.8	149 526	11 874	12.6	459 301	36 029	12.7
1998	309 295	24 310	12.7	153 372	12 215	12.6	462 667	36 525	12.7
1999	308 161	24 419	12.6	157 805	12 660	12.5	465 966	37 079	12.6
2000	307 709	24 215	12.5	162 647	13 054	12.4	465 356	37 269	12.5
2001	302 620	24 274	12.5	166 288	13 543	12.3	468 908	37 816	12.4

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*



Victoria

The current labour market for teachers

In 2001 there were 27,003 FTE primary teachers and 28,673 FTE secondary teachers in Victoria.⁵⁹ Over the period 1984 to 2001, teacher numbers have fluctuated quite substantially. However, the overall trend for total teachers in the period has been downward due to falling teacher numbers in secondary schools. Growth in teacher FTE in the primary sector was 7.2 per cent and the secondary sector showed a fall of 7.6 per cent.

Primary teacher numbers have been steadily increasing since reaching a low point of 23,375 in 1995. In 2001 they reached their highest level in the period (27,003). Both the DEST School Staffing survey and ABS data show a substantial lift in primary school employment. Secondary numbers levelled out at 27,500 between 1994 and 1999 before showing a recovery to 28,673 in 2001.

Recently, numbers of teachers in the government sector have revived significantly after a progressive reduction. Consistent with the national trend, non-government schools are the major area of long term growth.

Primary STRs have fluctuated across the period, peaking at 18.5 in 1995 before a steady decline from 1999 to the 2001 level of 16.8. The secondary STR has produced similar fluctuations, peaking at 15.3 in 1998 before gradually declining to the 2001 level of 12.4.

Teacher completions numbers fell over the period 1990 to 2000. Peak training levels of over 3,500 have dropped to 2,409 in 2000, before increasing to 3,277 in 2001. Primary teacher completions, which fell markedly during the latter 1990s, increased to 1,174 in 2001. Secondary teachers have followed a similar trend, to be 1,485 in 2001.

Recruitment experience in the government school sector

Primary

In February 2001, every Victorian government school was asked to complete the Teacher Recruitment Difficulties Survey covering fixed term and ongoing vacancies greater than six weeks. All vacancies identified during this survey were filled during term one.

The survey category of “difficult to fill vacancies unfilled at survey date” most closely resembles the “minor” category on the difficulty scale defined by the DEST Government Schools Staffing Survey. There were no unfilled vacancies that could be categorised as either “moderate” (unable to satisfactorily satisfy demand in some locations – some shortfalls) or “acute” (broad recruitment deficit – widespread shortfalls).

The teaching area of LOTE had the highest FTE of difficult to fill vacancies (30.6 FTE), principally Japanese, Indonesian and Italian. Special schools reported having 8.5 FTE difficult to fill vacancies.

Some geographical locations experienced greater recruitment difficulties. Local Government areas (LGAs) where there was a higher rate of difficult to fill vacancies included West Wimmera,

⁵⁹ *Schools Australia*, Cat No 4221.0, ABS, 2002

Horsham, Swan Hill and Campaspe. Hobsons Bay and Casey were the only metropolitan LGAs where there were more than 5 FTE unfilled difficult vacancies at survey date.

Secondary

The Victorian Teacher Recruitment Difficulties survey conducted in February 2001 revealed that mathematics accounted for 10 per cent of difficult to fill vacancies. General Science accounted for 6 per cent of difficult to fill vacancies, with specific science subjects accounting for a further 3 per cent. While supply of Physics teachers has been of growing concern, Physics accounted for only 1 per cent of difficult to fill vacancies in 2001.

Languages Other than English accounted for a total of 21 per cent of difficult to fill vacancies in 2001, made up of Italian (6 per cent), Indonesian (5 per cent), French (4 per cent), German (3 per cent) and Japanese (3 per cent).

Information Technology accounted for 12 per cent of difficult to fill vacancies. Technology subjects such as electronics, metalwork, woodwork and hospitality accounted for 15 per cent of difficult to fill vacancies in 2002.

A continual demand for Physical Education teachers is presently being met, but a high turnover (with many teachers switching to other subjects after the age of 40) means that there will be a continuing replacement demand.

Rural secondary schools generally had greater difficulty in filling vacancies than their metropolitan equivalents. Difficult-to-fill vacancies were proportionately higher in rural schools in the subject areas of Italian, SOSE, Instrumental Music, English, Health (except Physical Education), Physics, Other Science and Other Technology.

The Local Government Areas which experienced a higher rate of difficult to fill vacancies were Delatite, Murrindindi, Moira, Hepburn and West Wimmera. Hume and Case were the only metropolitan LGAs where there were more than 5 FTE unfilled difficult to fill vacancies.

Initiatives taken by the Education Department to address shortages

Strategies employed by the Victorian Department of Education and Training to address shortages include:

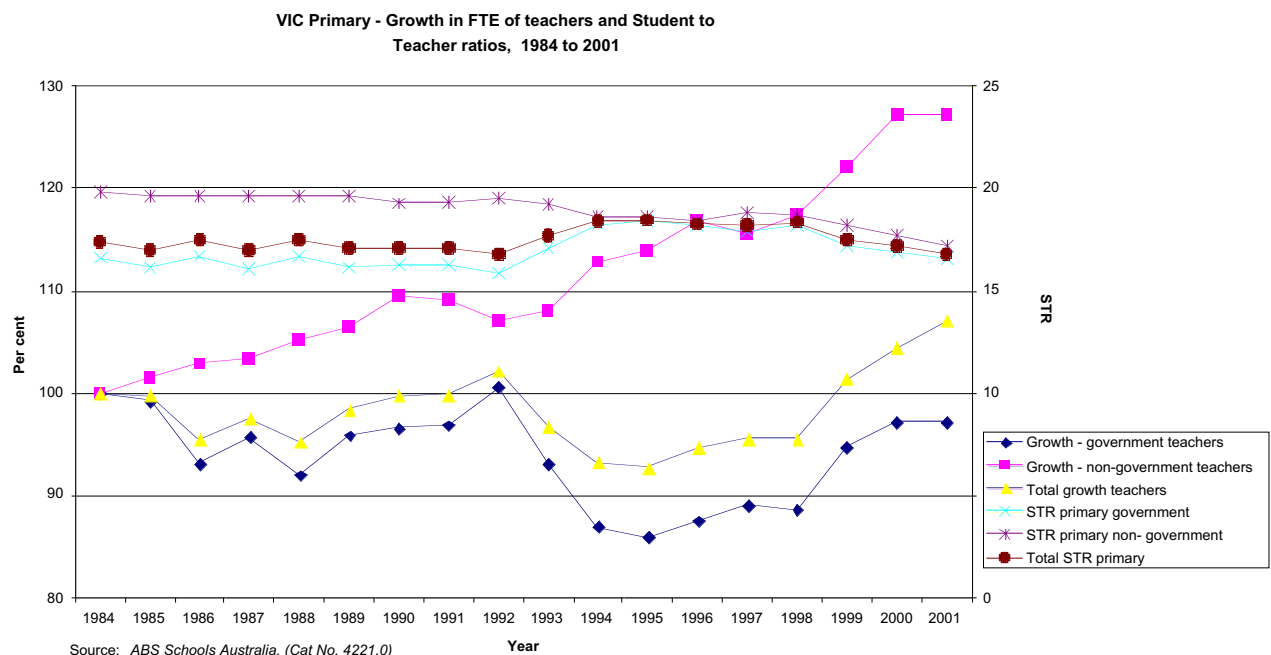
- Offering Scholarships, including a \$3,500 cash payment and a guarantee of ongoing employment areas of subject shortage. In 2003 the curriculum areas targeted include LOTE – German, Italian or Indonesian, Technology Studies – General, Metalcraft or Woodcraft, Food; Home Economics, Special Education and Music;
- Targeting vacancies specifically at recent graduates not already employed by the Department, through its Graduate Recruitment Program;
- Introduction of the Recruitment Online website (<http://www.teaching.vic.gov.au/db/default.htm>), a database tool where teachers can advertise their personal profile and work preferences to be viewed by principals of Victorian government schools searching for suitable applicants to fill advertised vacancies.

Victorian primary

Table 1.11: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	317 022	19 059	16.6	121 757	6 139	19.8	438 779	25 198	17.4
1986	297 161	17 752	16.7	124 304	6 317	19.7	421 465	24 069	17.5
1988	292 686	17 538	16.6	126 685	6 461	19.6	419 371	23 999	17.5
1990	299 276	18 420	16.2	129 606	6 720	19.3	428 882	25 140	17.1
1991	301 140	18 468	16.3	129 413	6 699	19.3	430 553	25 167	17.1
1992	303 752	19 178	15.8	128 556	6 572	19.6	432 308	25 750	16.8
1993	303 985	17 742	17.1	127 529	6 637	19.2	431 514	24 379	17.7
1994	302 897	16 583	18.2	129 229	6 928	18.7	432 126	23 511	18.4
1995	301 515	16 376	18.4	130 096	6 999	18.6	431 611	23 375	18.5
1996	303 769	16 684	18.2	132 053	7 172	18.4	435 822	23 856	18.3
1997	304 773	16 985	17.9	133 365	7 099	18.8	438 138	24 084	18.2
1998	307 147	16 882	18.1	135 094	7 212	18.7	442 241	24 094	18.4
1999	310 218	18 060	17.1	136 787	7 495	18.3	447 005	25 555	17.5
2000	313 369	18 526	16.9	138 351	7 810	17.7	451 720	26 336	17.2
2001	314 859	18 934	16.6	138 907	8 069	17.2	453 766	27 003	16.8

Source: *Schools Australia*, (Cat No 4221.0), *ABS*, 2002 and earlier years

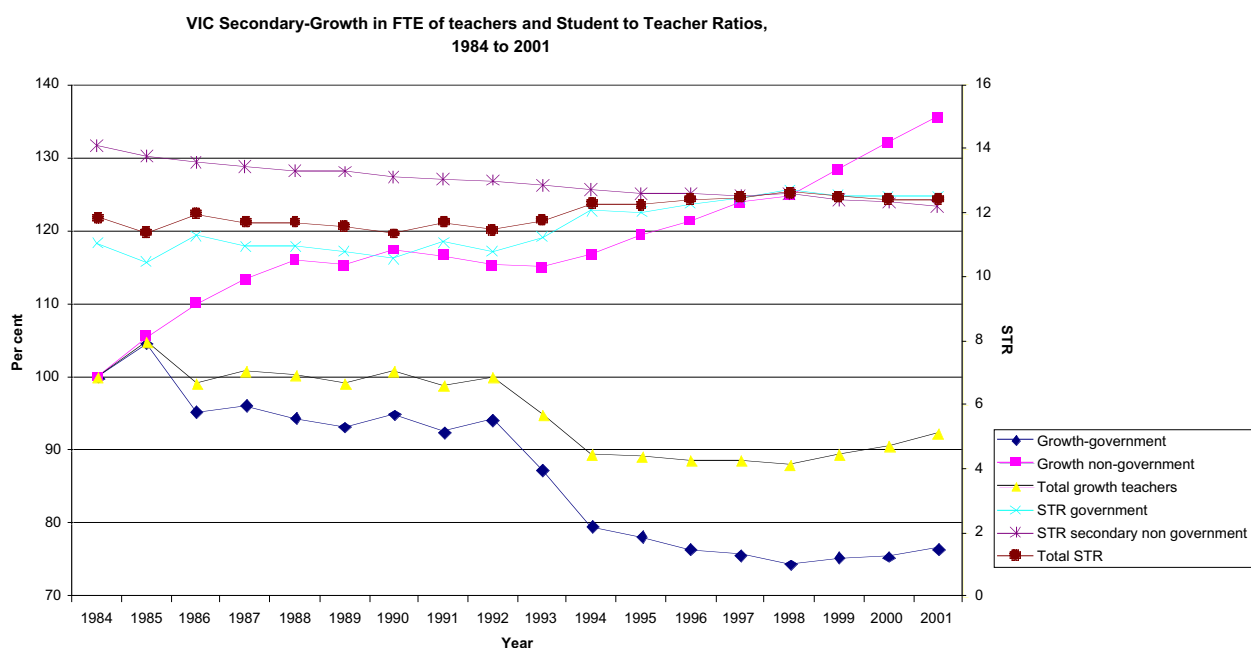


Victorian secondary

Table 1.12: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	250 277	22 686	11.0	117 549	8 341	14.1	367 862	31 027	14.5
1986	243 732	21 609	11.3	124 384	9 178	13.6	368 116	30 787	14.5
1988	234 615	21 424	11.0	128 558	9 674	13.3	363 173	31 098	14.3
1990	227 300	21 530	10.6	128 180	9 789	13.1	355 480	31 319	13.9
1991	232 246	20 979	11.1	126 714	9 722	13.0	358 960	30 701	14.1
1992	230 157	21 372	10.8	125 157	9 620	13.0	355 314	30 992	13.9
1993	222 651	19 809	11.2	123 432	9 590	12.9	346 086	29 399	14.5
1994	217 431	18 051	12.0	123 637	9 732	12.7	341 068	27 783	15.1
1995	213 290	17 730	12.0	125 376	9 960	12.6	338 666	27 690	15.1
1996	213 293	17 360	12.3	127 340	10 123	12.6	340 633	27 483	15.1
1997	213 703	17 170	12.4	129 583	10 330	12.5	343 286	27 500	15.1
1998	214 266	16 881	12.7	130 893	10 419	12.6	345 159	27 300	15.3
1999	214 631	17 097	12.6	132 918	10 708	12.4	347 549	27 805	14.9
2000	214 820	17 134	12.5	135 155	11 020	12.3	349 975	28 154	12.4
2001	217 399	17 371	12.5	138 200	11 302	12.2	355 599	28 673	12.4

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*



Queensland

The current labour market for teachers

In 2001 there were 22,765 FTE primary teachers and 18,941 FTE secondary teachers in Queensland.⁶⁰ From 1984 to 2001 teacher numbers grew very rapidly in both the primary and the secondary sectors. In the primary sector the FTE of teachers grew by 53.0 per cent over the period and in the secondary sector it grew by 49.3 per cent.

The overall trend in Queensland teacher numbers over the period 1984 to 2001 showed the most rapid growth in teacher numbers more than any other State. Student teacher ratios in primary schools also fell during this period from 20.0 in 1984 to 16.4 in 2001. Secondary schools STRs decreased from 1984 to 1994, rose in 1995 and 1996, then gradually declined to 12.6 in 2001.

In 1999 teacher completion numbers in Queensland fell to below 70 per cent of the 1990 level, but recovered to 2,788 in 2001. The main contribution to the falling numbers was in primary teacher training. In 2001, there were 1,128 completions in primary teacher training, and 697 in secondary teacher training.

Recruitment experience in the government school sector

Primary

Education Queensland indicated in their response to the DEST Government Schools – Primary Staffing survey that as their education system continued to experience growth, it would require additional teacher numbers beyond the traditional replacement levels. Some recruitment difficulties were experienced during 2001 – to a moderate level in LOTE and to a minor level in Special Education. These difficulties were compounded by the location of the vacancy (rural and remote locations have increased difficulty) and the time of year (finding teacher replacements is more difficult during the second half of the year due to leave taking).

Secondary

Recruitment difficulties were experienced during 2001 in a number of secondary subject disciplines – to an acute level in Senior Mathematics (B and C), to a moderate level in Science and VET, and to a minor level in LOTE, Visual Performing Arts, Technology and Special Education. These difficulties are also compounded by the location of the vacancy and the time of the year.

Initiatives taken by Education Queensland to address shortages

During 2001 – 02 a number of strategies were initiated to address shortages, including:

- a joint project between Education Queensland and the Queensland Secondary Principals Association to develop a “Framework for Action” surrounding teacher supply and demand issues. The report recommended a number of strategies based on three inter-related categories: strategic marketing, tracking the employee, and operational procedures;

⁶⁰ *Schools Australia*, Cat No 4221.0, ABS, 2002

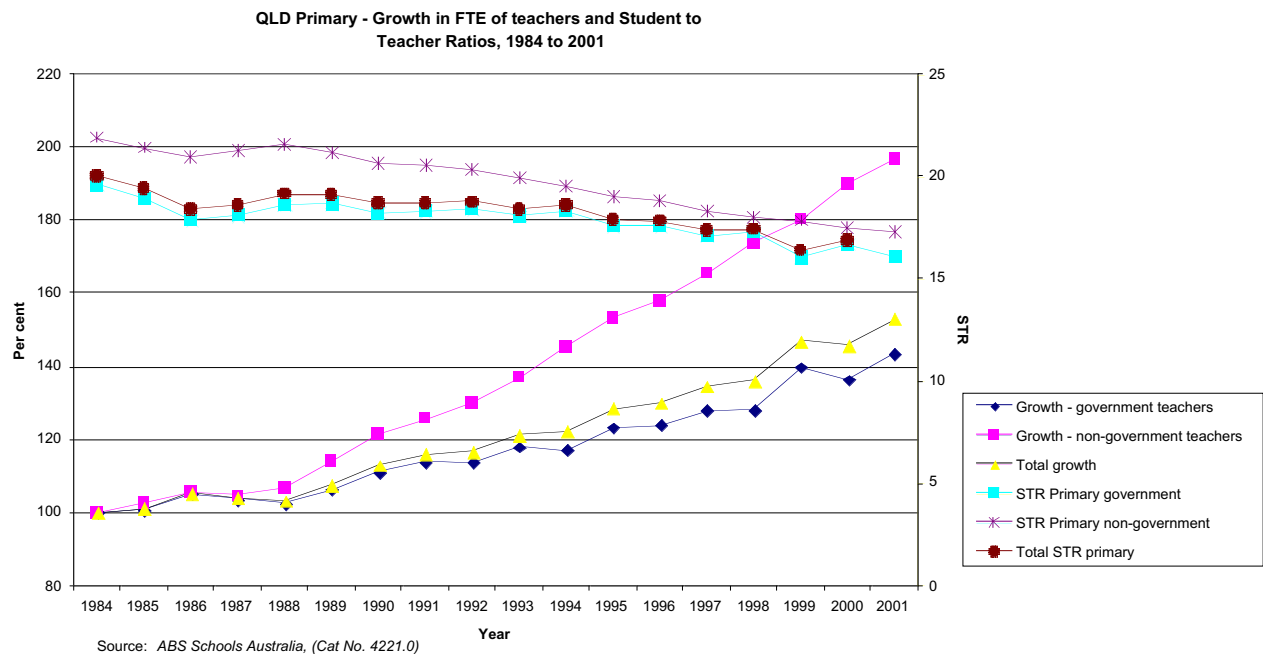
- establishment of the Employing Quality Teacher website (<http://education/qld.gov.au/hr/recruitment/teaching>) to assist the Department with the recruitment of teachers;
- liaison with the universities to discuss various aspects of teacher employing, including transition process for pre-service teacher into the profession, practicum, career counsellor information;
- holding a “mini-summit” in September 2001 to develop and implement short term strategies to address areas of high teacher demand – i.e. mathematics in rural and remote locations; and
- extension of the current Scholarship program to include the Westfield Premier’s Educational Scholarship (5 annual awards – Science).

Queensland primary

Table 1.11: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	239 349	12 227	19.6	58 082	2 652	21.9	297 431	14 879	20.0
1986	229 877	12 875	17.9	58 522	2 798	20.9	288 399	15 673	18.4
1988	233 312	12 542	18.6	60 989	2 835	21.5	294 301	15 377	19.1
1990	24 7554	13 597	18.2	66 481	3 218	20.7	314 035	16 815	18.7
1991	254 397	13 927	18.3	68 322	3 334	20.5	322 719	17 261	18.7
1992	255 645	13 919	18.4	70 187	3 454	20.3	325 832	17 373	18.8
1993	260 493	14 436	18.0	72 343	3 636	19.9	332 836	18 072	18.4
1994	262 499	14 327	18.3	75 223	3 857	19.5	337 722	18 184	18.6
1995	264 567	15 070	17.6	77 377	4 065	19.0	341 944	19 135	17.9
1996	266 298	15 164	17.6	78 797	4 191	18.8	345 095	19 355	17.8
1997	267 147	15 633	17.1	80 537	4 393	18.3	347 684	20 026	17.4
1998	270 434	15 663	17.3	82 748	4 609	18.0	353 182	20 272	17.4
1999	273 710	17 091	16.0	85 278	4 783	17.8	358 988	21 874	16.4
2000	278 190	16 671	16.7	87 970	5 030	17.5	366 160	21 701	16.9
2001	282 143	17 549	16.1	90 173	5 216	17.3	372 316	22 765	16.4

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*

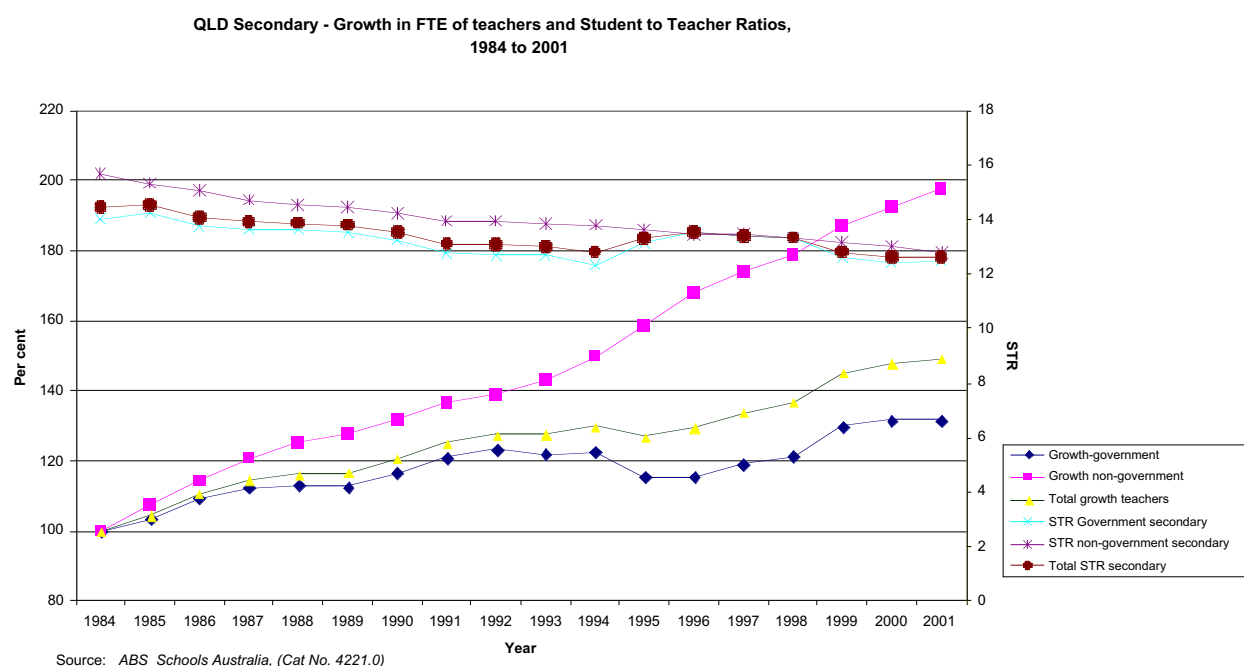


Queensland secondary

Table 1.12: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	130 531	9 298	14.0	52 981	3 385	15.7	183 512	12 683	14.5
1986	139 553	10 160	13.7	58 241	3 871	15.0	197 794	14 031	14.1
1988	143 011	10 499	13.6	61 702	4 247	14.5	204 713	14 746	13.9
1990	143 695	10 842	13.3	63 576	4 460	14.3	207 271	15 302	13.5
1991	143 628	11 259	12.8	64 469	4 618	14.0	208 097	15 877	13.1
1992	145 477	11 463	12.7	65 650	4 702	14.0	211 127	16 165	13.1
1993	143 770	11 346	12.7	67 125	4 841	13.9	210 895	16 187	13.0
1994	140 735	11 391	12.4	70 074	5 076	13.8	210 809	16 467	12.8
1995	140 983	10 735	13.1	73 185	5 363	13.6	214 168	16 098	13.3
1996	145 388	10 734	13.5	76 651	5 685	13.5	222 039	16 419	13.5
1997	148 116	11 087	13.4	79 306	5 897	13.4	227 422	16 984	13.4
1998	150 603	11 289	13.3	80 841	6 057	13.3	231 444	17 346	13.3
1999	152 166	12 073	12.6	83 430	6 326	13.2	235 596	18 399	12.8
2000	152 212	12 246	12.4	84 540	6 507	13.0	236 752	18 753	12.6
2001	152 952	12 241	12.5	85 542	6 700	12.8	238 494	18 941	12.6

Source: *Schools Australia*, (Cat No 4221.0), ABS, 2002 and earlier years



South Australia

The current labour market for teachers

In 2001 there were 9,356 FTE primary teachers and 7,592 FTE secondary teachers in South Australia.⁶¹ Overall, from 1984 to 2001, teacher numbers in the primary sector grew despite fluctuations, whilst the secondary sector experienced falling teacher numbers to the mid 1990s but have since increased. In the primary sector the FTE of teachers grew by 9.6 per cent over the period and in the secondary sector there was negative growth of 10.2 per cent.

Student to teacher ratios in the primary sector have fluctuated across the 1984 to 2001 period, with peaks of 17.8 in 1995 and 1996, and a low of 16.5 in 1988. The 2001 level of 17.0 is the lowest primary STR since 1990. STRs for the secondary sector have fluctuated across the period, with peaks of 12.1 in 1997 and 1999, and a low of 11.1 in 1990. The 2001 level is 11.9.

Overall numbers completing teaching courses fell from the levels of the early 1990s. The reduction was most marked in secondary teaching (where enrolments declined sharply in the 1997 to 2000 period). However, in 2001 the number of commencements in secondary teaching courses jumped threefold to 182 enrolments. In 2001, there were 721 completions in teaching courses, of which 150 were in secondary teaching.

Recruitment experience in the government school sector

Primary

The South Australian Department of Education and Training indicated in their response to the DEST Government Schools – Primary Staffing survey that there were moderate levels of recruitment difficulty (meaning that they were unable to satisfactorily satisfy demand in some locations, with some shortfalls) in the teaching areas of LOTE and Special Education.

Most permanent and one-year positions were able to be filled. Main difficulties occurred with vacancies of less than one year, particularly in rural locations.

Secondary

South Australia recorded acute levels of recruitment difficulty for the Key Learning Areas of Mathematics, Science and Technology. Moderate levels of difficulty were recorded for LOTE, English, and SOSE. In the KLAs of Health, Physical Education and Visual and Performing Arts, there were moderate difficulties.

Most permanent and one year vacancies, however, were able to be filled, except for Technical Studies and Home Economics. Some recruitment difficulties were experienced in the more specialist areas of Information Technology/Computer Studies. In both Mathematics and Science recruitment difficulties existed mainly for short-term vacancies in remote locations. Mathematics, Science and Asian Languages were regarded as “pressure points”.

Initiatives taken by the Education Department to address shortages

Strategies used by the South Australian Department of Education to solve recruitment problems include:

⁶¹ *Schools Australia*, Cat No 4221.0, ABS, 2002

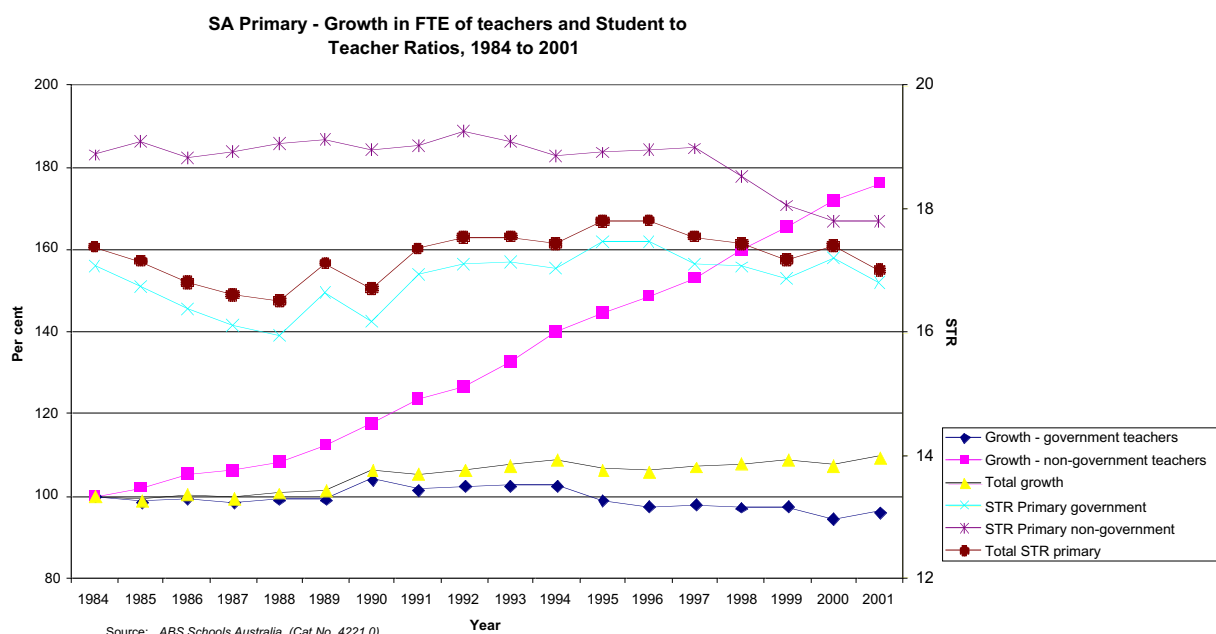
- school choice placement;
- Early Country Graduate Recruitment scheme; and
- Country Student Scholarship.

South Australian primary

Table 1.11: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	121 101	7 095	17.1	27 191	1 441	18.9	148 292	8 536	17.4
1986	115 388	7 050	16.4	28 586	1 519	18.8	143 974	8 569	16.8
1988	112 349	7 048	15.9	29 770	1 562	19.1	142 119	8 610	16.5
1990	119 490	7 389	16.2	32 179	1 698	19.0	151 669	9 087	16.7
1991	122 139	7 213	16.9	33 925	1 784	19.0	156 064	8 997	17.3
1992	124 254	7 265	17.1	35 123	1 825	19.2	159 377	9 090	17.5
1993	124 802	7 284	17.1	36 481	1 911	19.1	161 283	9 195	17.5
1994	124 043	7 284	17.0	38 037	2 018	18.8	162 080	9 302	17.4
1995	122 582	7 026	17.4	39 355	2 082	18.9	161 937	9 108	17.8
1996	120 654	6 915	17.4	40 627	2 143	19.0	161 281	9 058	17.8
1997	118 812	6 954	17.1	41 863	2 207	19.0	160 675	9 161	17.5
1998	117 708	6 905	17.0	42 675	2 303	18.5	160 383	9 208	17.4
1999	116 647	6 919	16.9	42 991	2 383	18.0	159 638	9 302	17.2
2000	115 387	6 709	17.2	43 959	2 475	17.8	159 346	9 183	17.4
2001	114 264	6 820	16.8	45 136	2 536	17.8	159 400	9 356	17.0

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*

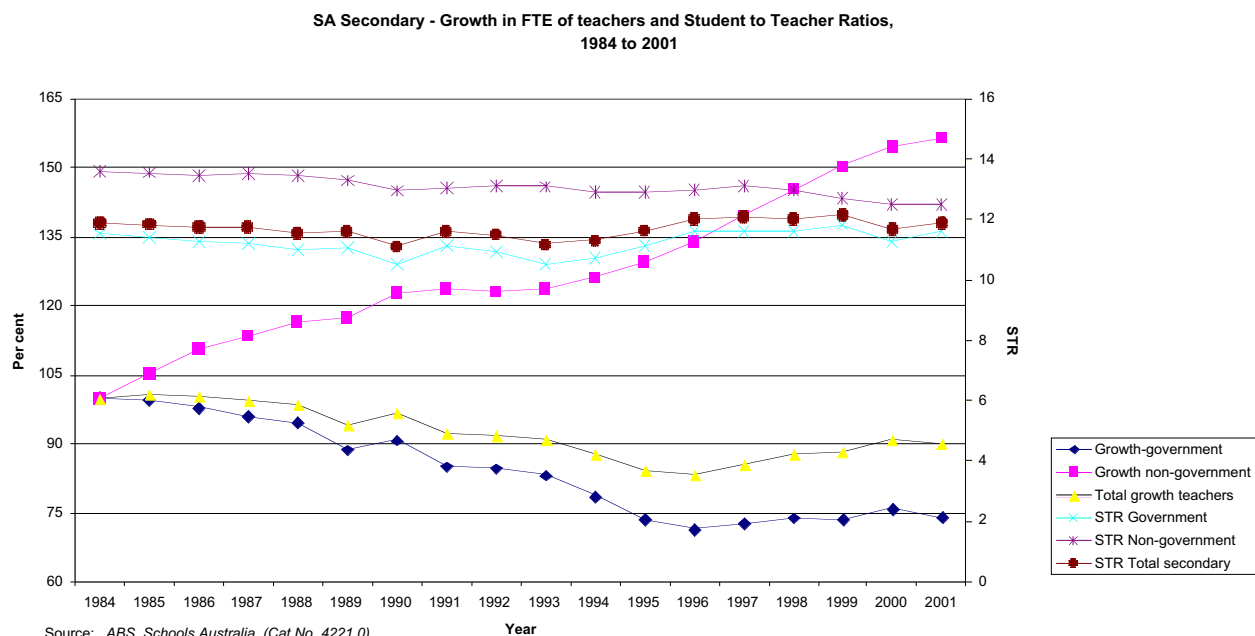


South Australian secondary

Table 1.12: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	78 717	6 837	11.5	21 938	1 616	13.6	100 655	8 453	11.9
1986	75 686	6 698	11.3	24 059	1 789	13.4	99 745	8 487	11.8
1988	71 108	6 465	11.0	25 333	1 883	13.5	96 441	8 348	11.6
1990	65 378	6 214	10.5	25 688	1 983	13.0	91 066	8 197	11.1
1991	64 675	5 818	11.1	26 094	1 998	13.1	90 769	7 816	11.6
1992	63 302	5 788	10.9	26 123	1 988	13.1	89 425	7 776	11.5
1993	59 818	5 693	10.5	26 126	1 996	13.1	85 944	7 689	11.2
1994	57 597	5 381	10.7	26 334	2 039	12.9	83 931	7 420	11.3
1995	55 889	5 027	11.1	26 966	2 090	12.9	82 855	7 117	11.6
1996	56 850	4 888	11.6	28 074	2 164	13.0	84 924	7 052	12.0
1997	57 699	4 974	11.6	29 566	2 256	13.1	87 265	7 230	12.1
1998	58 624	5 053	11.6	30 453	2 350	13.0	89 077	7 403	12.0
1999	59 656	5 033	11.9	30 929	2 430	12.7	90 585	7 463	12.1
2000	58 656	5 197	11.3	31 223	2 497	12.5	90 013	7 694	11.7
2001	58 576	5 061	11.6	31 520	2 531	12.5	90 096	7 592	11.9

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*



Western Australia

The current labour market for teachers

In 2001 there were 11,322 FTE primary teachers and 10,237 FTE secondary teachers in Western Australia.⁶² From 1984 to 2001 teacher numbers steadily increased. From 1984 to 2001, in the primary sector the FTE of teachers grew by 43.2 per cent, whereas the secondary sector showed a growth rate of 35.7 per cent.

Student to teacher ratios in the primary sector fell from 1984 to 2001 (20.4 to 16.9). A fall in STRs was also evident in the secondary sector with a decrease from a peak of 13.5 in 1984 to a low of 12.4 in 2001.

Overall teacher completions numbers in Western Australia have been sustained with the exception of 1998 when there was a significant drop. Numbers completing primary teaching were more sustained with the exception of 1998. Secondary completions staged a notable recovery in 1999 and 2000. In 2001, there were 1,605 completions for teacher training courses, of which 516 were in primary teaching and 593 were in secondary teaching.

Recruitment experience in the government school sector

Primary

The Western Australian Department of Education and Training indicated in their response to the DEST Government Schools – Primary Staffing survey that there were moderate levels of recruitment difficulty (meaning that they were unable to satisfactorily satisfy demand in some locations, with some shortfalls) in the teaching area of LOTE. Minor difficulties existed for General and Special Education teachers. The most significant problem was finding teachers willing to work in rural locations.

Secondary

Western Australia experienced moderate levels of recruitment difficulty (meaning some shortfalls) in the key learning areas of LOTE, Mathematics and Technology. Minor difficulties were recorded for the KLAs of English, Science, VET and Special Education.

Recruitment difficulties are almost entirely due to location, with the main areas of difficulty being inland rural and North West. There seems to be a general unwillingness among teaching staff to move to isolated country areas.

Although the overall demand and supply for Science teachers is in balance, there is a shortage of Physics and Science teachers.

Initiatives taken by the Education Department to address shortages

Strategies employed by the Western Australian Department of Education to address shortages include:

- Monetary and professional incentives for staff working at schools classified as “difficult to staff”;

⁶² *Schools Australia*, Cat No 4221.0, ABS, 2002

- Monetary and leave benefits for staff working at schools classified as “Remote”;
- Offering scholarships to attract people to the profession and to areas of shortage;
- Employment of Teaching Recruitment Officers who circulate through the schools encouraging Year 10, 11 and 12 students to consider teaching as a career option;
- Offering retraining opportunities for existing teachers who are interested in teaching LOTE.

Western Australia primary

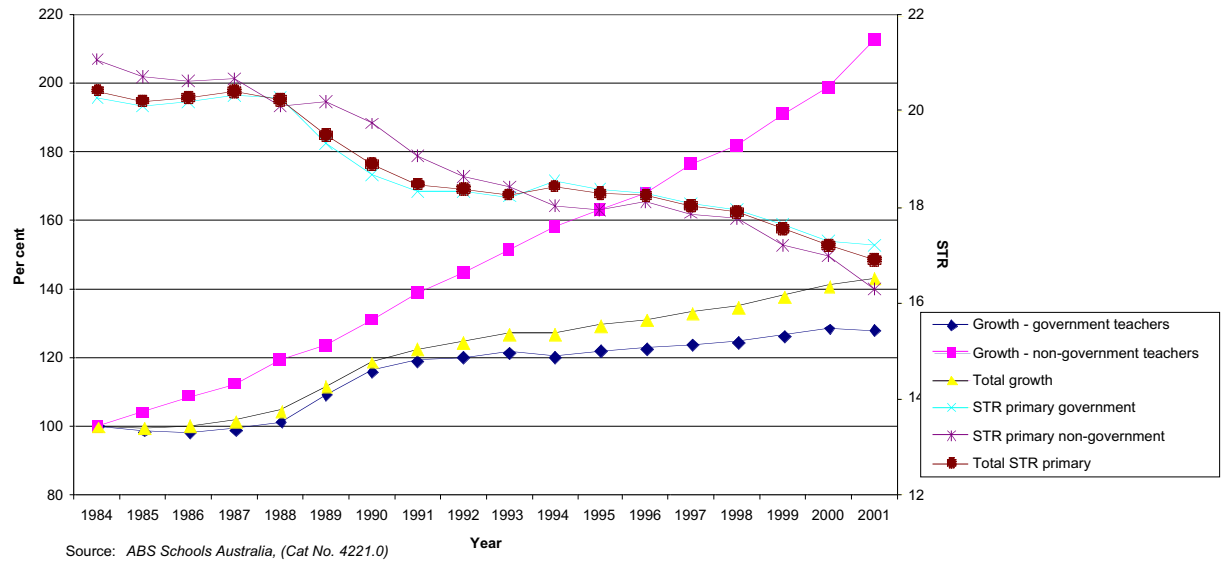
Table 1.9: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

Year	Government			Non-government			Total		
	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	131 561	6 488	20.3	29 905	1 419	21.1	161 466	7 907	20.4
1986	128 875	6 381	20.2	31 828	1 543	20.6	160 703	7 924	20.3
1988	133 366	6 579	20.3	34 012	1 692	20.1	167 378	8 271	20.2
1990	140 629	7 535	18.7	36 735	1 861	19.7	177 364	9 396	18.9
1991	141 702	7 736	18.3	37 531	1 968	19.1	179 233	9 704	18.5
1992	142 897	7 803	18.3	38 362	2 058	18.6	181 259	9 861	18.4
1993	143 871	7 899	18.2	39 653	2 153	18.4	183 524	10 052	18.3
1994	144 885	7 813	18.5	40 509	2 247	18.0	185 394	10 060	18.4
1995	145 561	7 919	18.4	41 560	2 317	17.9	187 121	10 236	18.3
1996	145 837	7 979	18.3	43 222	2 387	18.1	189 059	10 366	18.2
1997	145 088	8 035	18.1	44 760	2 505	17.9	189 848	10 540	18.0
1998	144 942	8 086	17.9	45 894	2 583	17.8	190 836	10 669	17.9
1999	144 746	8 202	17.6	46 677	2 713	17.2	191 423	10 915	17.5
2000	144 087	8 339	17.3	47 960	2 825	17.0	192 047	11 164	17.2
2001 ¹	142 527	10 366	17.2	49 106	3 018	16.3	191 633	13 384	16.9

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*

Note: ¹ ABS data excludes 2,062 FTE Pre-Year 1 teachers, who are included in Western Australian government counts of the primary teacher workforce. The 2001 Government Teacher figure (above) includes these teachers.

WA Primary - Growth in FTE of teachers and Student to Teacher Ratios, 1984 to 2001



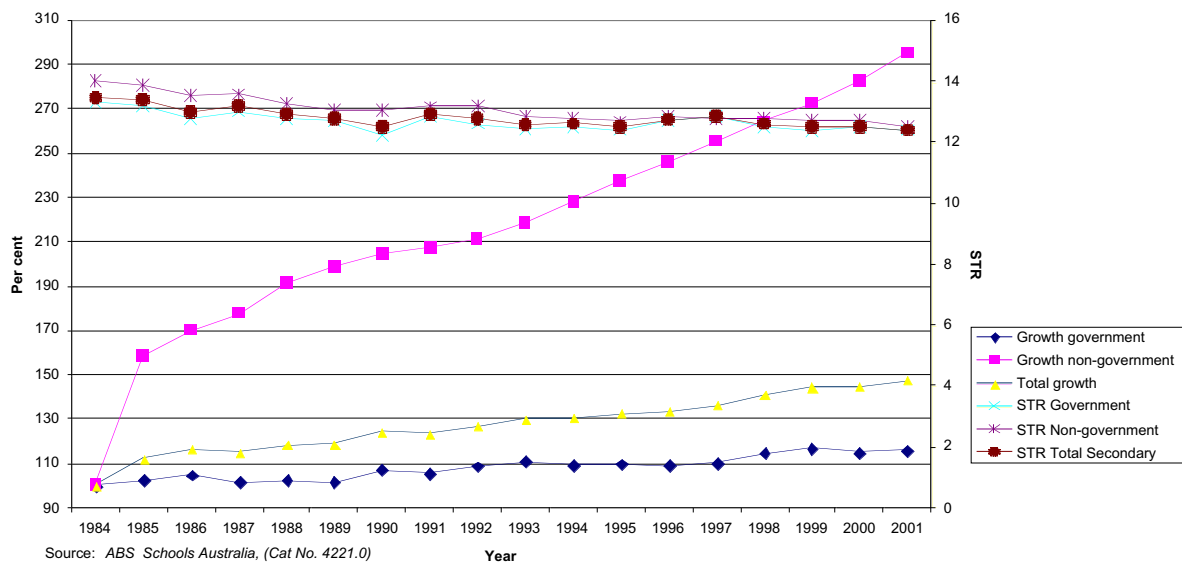
Western Australia secondary

Table 1.10: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

Year	Government			Non-government			Total		
	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	75 769	5 700	13.3	25 823	1 846	14.0	101 592	7 546	13.5
1986	76 537	5 983	12.8	28 344	2 091	13.6	104 881	8 074	13.0
1988	74 604	5 844	12.8	31 242	2 352	13.3	105 846	8 196	12.9
1990	74 682	6 101	12.2	32 840	2 515	13.1	107 522	8 616	12.5
1991	77 169	6 019	12.8	33 454	2 549	13.2	110 623	8 568	12.9
1992	78 137	6 200	12.6	34 190	2 595	13.2	112 327	8 795	12.8
1993	78 580	6 316	12.4	34 635	2 691	12.9	113 215	9 007	12.6
1994	78 220	6 242	12.5	35 798	2 801	12.8	114 018	9 043	12.6
1995	77 530	6 254	12.4	37 030	2 921	12.7	114 560	9 175	12.5
1996	78 877	6 219	12.7	38 870	3 025	12.8	117 747	9 244	12.7
1997	80 987	6 300	12.9	40 242	3 143	12.8	121 229	9 443	12.8
1998	81 641	6 528	12.5	41 550	3 249	12.8	123 191	9 777	12.6
1999	82 486	6 664	12.4	42 700	3 351	12.7	125 186	10 015	12.5
2000	81 680	6 559	12.5	44 034	3 472	12.7	125 714	10 031	12.5
2001	81 769	6 607	12.4	45 493	3 630	12.5	127 262	10 237	12.4

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*

WA Secondary - Growth in FTE of teachers and Student to Teacher Ratios, 1984 to 2001



Tasmania

The current labour market for teachers

There were 2,866 FTE primary teachers and 2,866 FTE secondary teachers in Tasmania in 2001.⁶³ Over the period 1984 to 2001 teacher numbers have been declining in both the primary (-2.8 per cent) and secondary sectors (-6.8 per cent). This decline in teacher numbers was confined to the government sector only.

In the primary sector, student to teacher ratios have been declining since reaching a high of 18.6 in 1992. In 2001 the primary STR was 16.4. After fluctuations through the 1990s, with a peak of 13.3 in 1991, secondary STRs have declined to 12.5 in 2001.

Overall numbers of completions have been sustained above the level of 220, with 245 completions recorded for teacher education courses in 2001.

Recruitment experience in the government school sector

Primary

The Tasmanian Department of Education indicated in their response to the DEST Government Schools – Primary Staffing survey that while there were minor recruitment difficulties for generalist, LOTE, Visual and Performing Arts and Physical Education teachers, solutions were usually able to be effected within a relatively short time. Problems were localised and/or accentuated with increasing distance from major urban areas for finding teachers qualified for or specialising in upper primary (grades 3 to 6), and fractional FTE specialties such as music and LOTE.

Secondary

Tasmania reported minor levels of recruitment difficulty in the Key learning areas of Health, Physical Education, LOTE, Mathematics, English, Science, SOSE, Visual, Performing Arts and Technology.

In Tasmania teacher supply and demand is very much an issue of specific skill, geographical location and time of year, rather than a broad problem. While interim recruitment problems are experienced, solutions are usually able to be effected within a relatively short space of time. Remedial action to alleviate “tight” situations has been effective.

Initiatives taken by the Education Department to address shortages

The initiatives undertaken by the Tasmanian Department of Education to address shortages include:

- Increasing levels of vacant permanent positions being advertised;
- Offering incentives to teachers in the most isolated schools;
- Improving teacher housing facilities in remote areas;
- Offering graduate scholarships in areas of specific geographical and/or skill need.

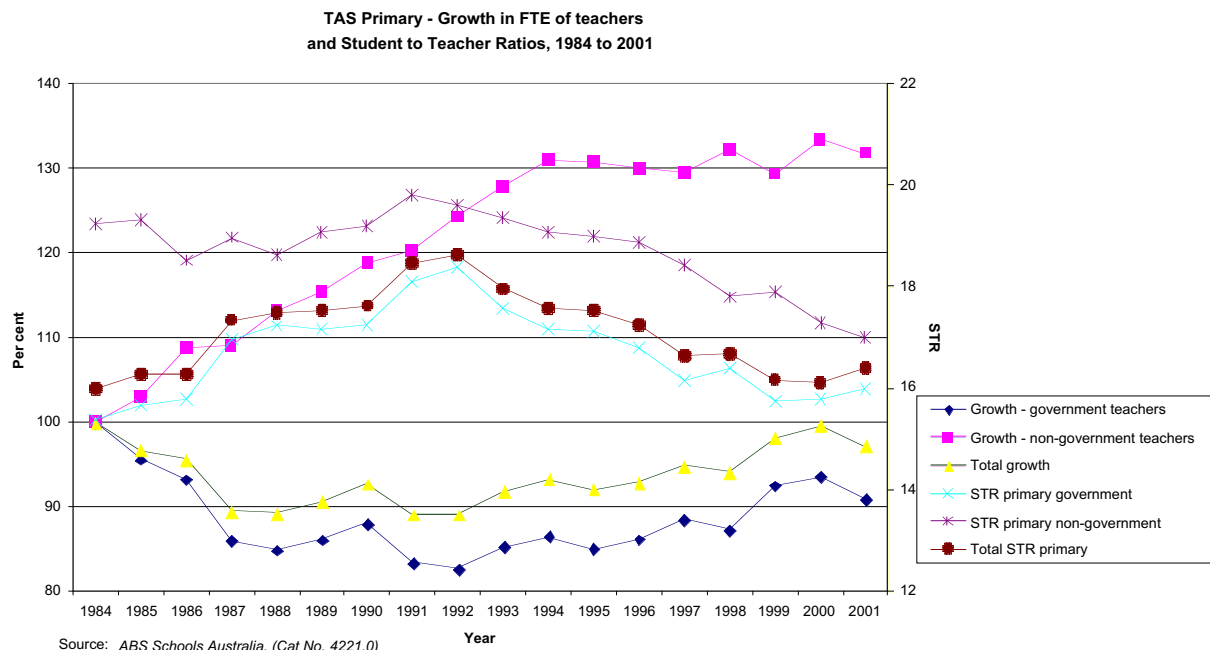
⁶³ *Schools Australia*, Cat No 4221.0, ABS, 2002

Tasmania primary

Table 1.11: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

Year	Government			Non-government			Total		
	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	38 384	2 495	15.4	8 719	453	19.2	47 103	2 948	16.0
1986	36 755	2 326	15.8	9 132	493	18.5	45 887	2 819	16.3
1988	36 509	2 119	17.2	9 553	513	18.6	46 062	2 632	17.5
1990	37 881	2 196	17.3	10 321	523	19.2	48 202	2 734	17.6
1991	37 674	2 081	18.1	10 789	545	19.8	48 463	2 626	18.5
1992	37 918	2 063	18.4	11 029	563	19.6	48 947	2 626	18.6
1993	37 380	2 127	17.6	11 218	579	19.4	48 598	2 706	18.0
1994	37 033	2 157	17.2	11 314	593	19.1	48 347	2 750	17.6
1995	36 341	2 122	17.1	11 245	592	19.0	47 586	2 714	17.5
1996	36 097	2 150	16.8	11 110	589	18.9	47 207	2 739	17.2
1997	35 663	2 208	16.2	10 808	587	18.4	46 471	2 795	16.6
1998	35 661	2 177	16.4	10 660	599	17.8	46 321	2 776	16.7
1999	36 318	2 308	15.7	10 479	586	17.9	46 797	2 894	16.2
2000	36 770	2 334	15.8	10 284	604	17.3	47 220	2 939	16.1
2001	36 405	2 269	16.0	10 467	597	17.5	46 872	2 866	16.4

Source: *Schools Australia*, (Cat No 4221.0), ABS, 2002 and earlier years

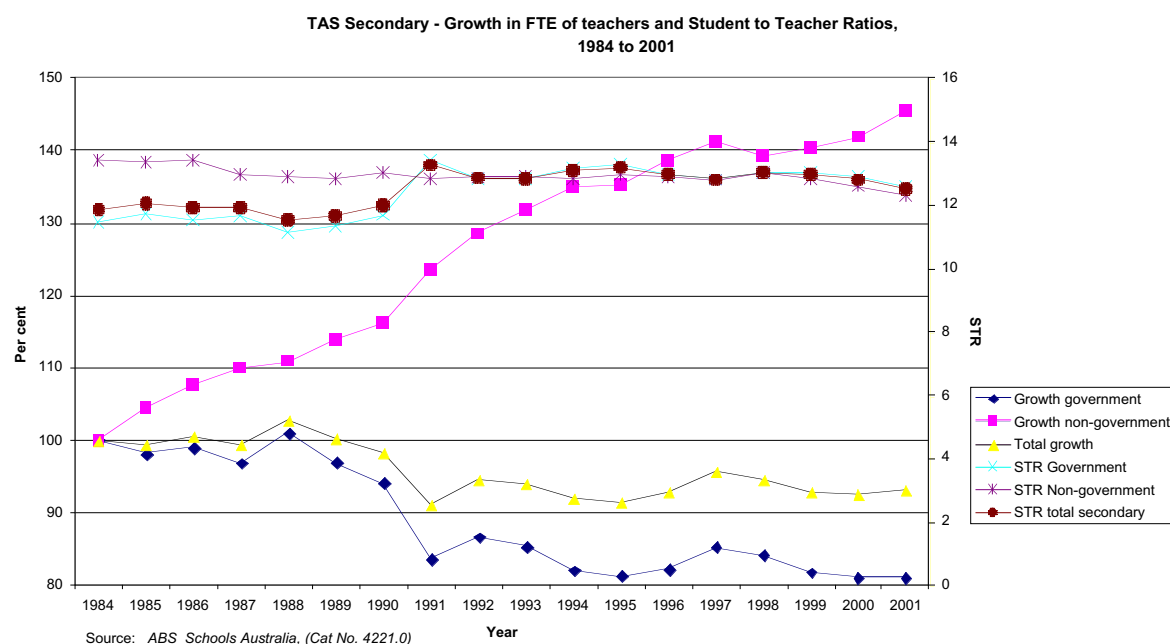


Tasmania secondary

Table 1.12: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	28 636	2 498	11.5	7 749	577	13.4	36 385	3 075	11.8
1986	28 473	2 473	11.5	8 327	621	13.4	36 800	3 094	11.9
1988	28 148	2 523	11.2	8 242	640	12.9	36 390	3 163	11.5
1990	27 468	2 350	11.7	8 709	670	13.0	36 177	3 020	12.0
1991	27 988	2 090	13.4	9 163	713	12.9	37 151	2 803	13.3
1992	27 795	2 164	12.8	9 547	742	12.9	37 342	2 906	12.8
1993	27 347	2 133	12.8	9 816	761	12.9	37 163	2 894	12.8
1994	27 028	2 050	13.2	9 984	779	12.8	37 012	2 829	13.1
1995	26 943	2 032	13.3	10 130	781	13.0	37 073	2 813	13.2
1996	26 679	2 056	13.0	10 296	800	12.9	36 975	2 856	12.9
1997	27 258	2 129	12.8	10 428	815	12.8	37 686	2 944	12.8
1998	27 317	2 102	13.0	10 478	803	13.0	37 795	2 905	13.0
1999	26 636	2 043	13.0	10 380	810	12.8	37 016	2 853	13.0
2000	26 033	2 026	12.9	10 284	819	12.6	36 317	2 845	12.8
2001	25 571	2 026	12.6	10 354	840	12.3	35 925	2 866	12.5

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*



Northern Territory

Current labour market for teachers

In 2001 there were 1,781 FTE primary teachers and 1,032 FTE secondary teachers in the Northern Territory.⁶⁴ From 1984 to 2000, teacher numbers grew steadily, especially in the primary sector, having fallen slightly in 2001. FTE of primary teachers grew by 42 per cent over the period whilst the growth in secondary teachers was comparatively slower at 28 per cent.

Student teacher ratios in primary schools also fell during this period from 16.7 in 1984 to 14.4 in 2001. Secondary school STRs rose in the early 1990s then dropped and have remained relatively constant at 10.9 since 1999.

Overall teacher completions numbers in Northern Territory have remained fairly consistent, with approximately 40 undergraduate completions and 20 postgraduate completions each year. In 2001, 82 completions were recorded for teacher training courses.

Recruitment experience in the government schools sector

Primary

The Northern Territory Department of Employment, Education and Training reported that they had moderate levels of difficulty in filling positions for general classroom and Special education teachers in some locations. Minor difficulties were experienced in filling positions in LOTE and Visual, Performing Arts.

Secondary

The Northern Territory reported moderate levels of difficulty in filling positions in the KLAs of Mathematics, Science, VET and Special Education, and minor levels of difficulty in Health, Physical Education, LOTE, English, SOSE and Technology.

The Department of Employment, Education and Training's recruitment difficulties are compounded by the proportion of schools in remote communities, to which it is often difficult to recruit, and by the limited number of tertiary institutions which offer teacher education programs.

As an "importer" of teachers, the Northern Territory is vulnerable to teacher shortages, particularly in areas of mathematics, science, information technology and special education. Finding teachers willing to work in the remote schools is also difficult. Vacancies in the areas of Business Studies and Technical Studies (Metals) proved difficult to fill during the year, but only one vacancy arose in each area.

Initiatives taken by the Education Department to address shortages

The Northern Territory Department of Employment, Education and Training used a number of different strategies in 2001 – 02 to alleviate teacher shortages, including:

- Reviewing and modifying advertising strategies;

⁶⁴ *Schools Australia*, Cat No 4221.0, ABS, 2002

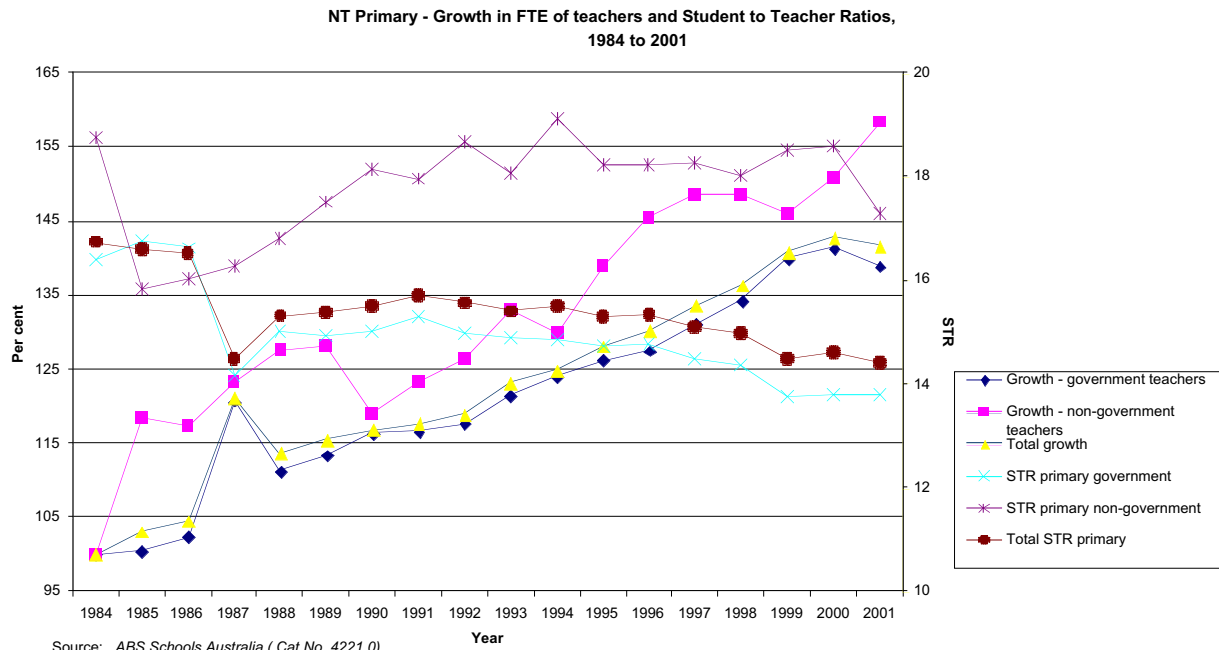
- Making early offers of employment to teacher education students at the NT University and Batchelor Institute of Indigenous Tertiary Education;
- Introduction of a Student Teacher Bursary Scheme, in the priority subject areas of special Education, ESL, ICT, Mathematics and Science;
- Introduction of the Sydney University Internship program, with 20 students participating in internships in remote communities during Term 4;
- Development of a Recruitment and retention strategy, which covers recruitment marketing campaigns, revised selection procedures; refined induction programs; development of incentives packages and better remote conditions;

Northern Territory primary

Table 1.13: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

Year	Government			Non-government			Total		
	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	17 571	1 072	16.4	3 471	185	18.8	21 042	1 257	16.7
1986	18 233	1 097	16.6	3 476	217	16.0	21 709	1 314	16.5
1988	17 916	1 193	15.0	3 964	236	16.8	21 880	1 429	15.3
1990	18 746	1 248	15.0	3 992	220	18.1	22 738	1 468	15.5
1991	19 135	1 251	15.3	4 094	228	18.0	23 229	1 479	15.7
1992	18 900	1 261	15.0	4 372	234	18.7	23 272	1 495	15.6
1993	19 400	1 302	14.9	4 445	246	18.1	23 845	1 548	15.4
1994	19 764	1 330	14.9	4 587	240	19.1	24 351	1 570	15.5
1995	19 930	1 353	14.7	4 686	257	18.2	24 616	1 610	15.3
1996	20 203	1 367	14.8	4 899	269	18.2	25 102	1 636	15.3
1997	20 350	1 405	14.5	5 020	275	18.3	25 370	1 680	15.1
1998	20 692	1 439	14.4	4 957	275	18.0	25 649	1 714	15.0
1999	20 626	1 500	13.8	4 998	270	18.5	25 624	1 770	14.5
2000	20 947	1 516	13.8	5 195	279	18.6	26 142	1 794	14.6
2001	20 603	1 489	13.8	5 072	293	17.3	25 675	1 781	14.4

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*

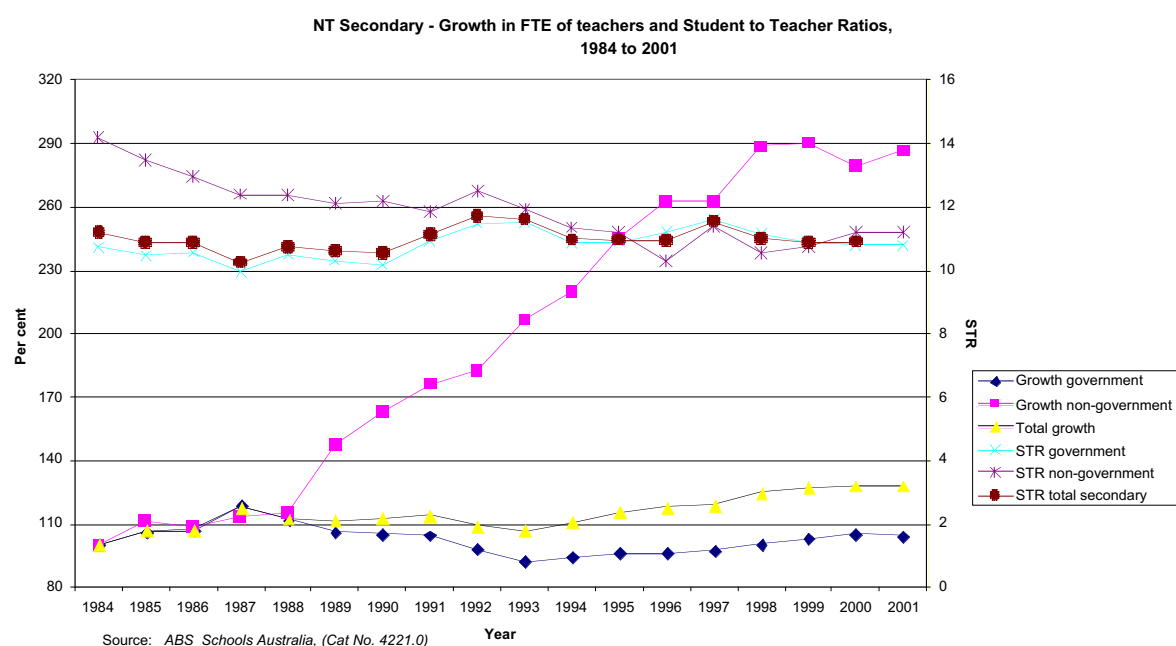


Northern Territory secondary

Table 1.14: Number of full-time students, fte of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	7 523	701	10.7	1 490	105	14.2	9 013	806	11.2
1986	7 922	750	10.6	1 476	114	12.9	9 398	864	10.9
1988	8 233	785	10.5	1 499	121	12.4	9 732	906	10.7
1990	7 510	738	10.2	2 079	171	12.2	9 589	909	10.5
1991	8 026	734	10.9	2 190	185	11.8	10 216	919	11.1
1992	7 903	688	11.5	2 396	192	12.5	10 299	880	11.7
1993	7 437	646	11.5	2 590	217	11.9	10 027	863	11.6
1994	7 170	661	10.8	2 625	231	11.4	9 795	892	11.0
1995	7 350	675	10.9	2 876	257	11.2	10 226	932	11.0
1996	7 563	675	11.2	2 842	276	10.3	10 405	951	10.9
1997	7 944	684	11.6	3 152	276	11.4	11 096	960	11.6
1998	7 852	703	11.2	3 204	303	10.6	11 056	1 006	11.0
1999	7 861	721	10.9	3 282	305	10.8	11 143	1 026	10.9
2000	7 978	739	10.8	3 273	293	11.2	11 251	1 033	10.9
2001	7 935	731	10.8	3 356	301	11.2	11 291	1 032	10.9

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*



Australian Capital Territory

Labour market background

There were 1,852 FTE primary teachers and 2,257 FTE secondary teachers in the ACT in 2001.⁶⁵ Over the period 1984 to 2001 there has been a net increase in the number of teachers in both the primary and secondary sectors. This increase in teacher numbers was confined to the non government sector with teacher numbers in the government sector falling since 1994. Over the period 1984 to 2001 the growth in the number of primary teachers was 10 percent (2 percent in the government sector) and in the secondary sector growth rate was 6 percent (negative 11 percent in the government sector).

Student to teacher ratios in the primary sector have fluctuated over the period 1984 to 2001, with a peak of 19.8 in 1991. Since 1996, the primary STR has declined to the 2001 level of 17.5. The secondary STR steadily increased between 1984 (12.1) and 1996 (13.1) before a gradual decline to 12.5 in 2001.

Teacher training completions in 2001 reached 268, of which 107 were in primary teaching and 128 were in secondary teaching.

Recruitment experience in the government school sector

Primary

The ACT Department of Education and recorded moderate levels of recruitment difficulty in the teaching area of LOTE, and minor levels of recruitment difficulty in Special Education, Teacher-Librarians and Counsellors. The availability of casual staff was of increasing concern in 2001.

Secondary

The ACT recorded acute levels of recruitment difficulty in the KLA of mathematics, and moderate difficulties in LOTE and Technology (particularly specialist IT). Minor levels of recruitment difficulty were recorded for the KLAs of Health & Physical Education, English, Science, VET, Special Education, Teacher- Librarians and Counsellors.

Well qualified staff in most areas are increasingly difficult to find. As with primary teachers, casual teachers are becoming increasingly more difficult to find. The ACT also experienced difficulty in recruiting teachers who are willing to teach across the full secondary range. Mature age teaching graduates are more interested in working in Secondary Colleges (Years 11 and 12) in preference to High School (Years 7 to 10).

Initiatives taken by the Education Department to address shortages

The ACT is using a number of initiatives to address teacher shortages, including:

- Offering sign-on bonuses;
- Offering opportunities to train from areas of surplus (e.g. primary or SOSE) to teach in mathematics or ICT;

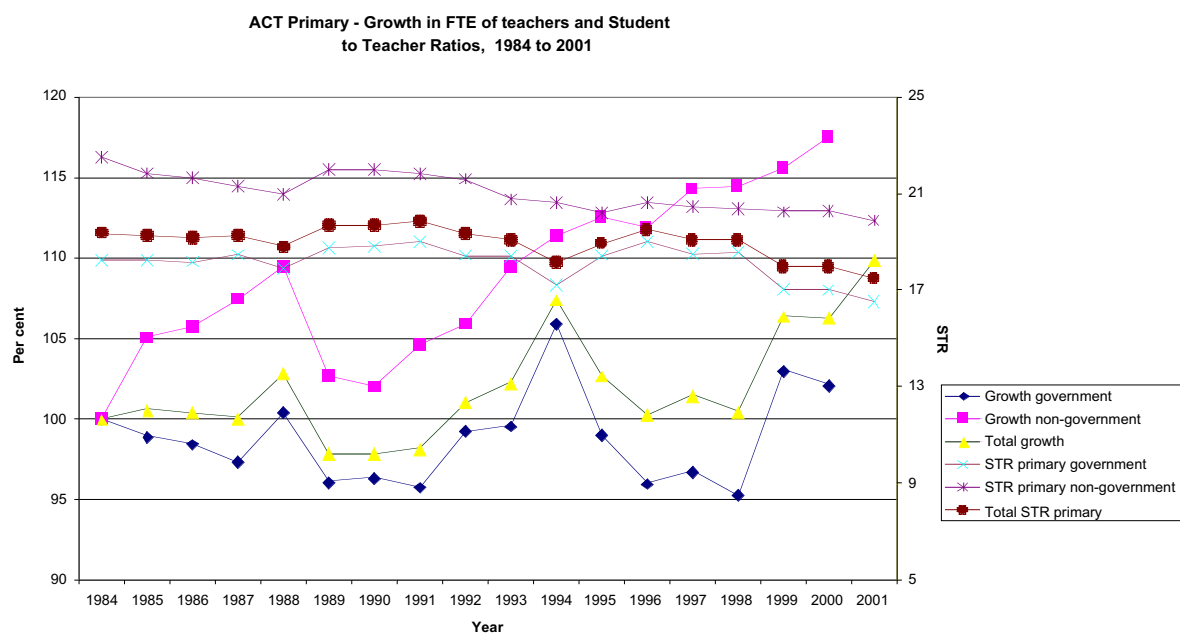
⁶⁵ *Schools Australia*, Cat No 4221.0, ABS, 2002

Australian Capital Territory primary

Table 1.15: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	22 420	1 230	18.2	10 252	455	22.5	32 672	1 685	19.4
1986	22 025	1 211	18.2	10 427	481	21.7	32 452	1 692	19.2
1988	22 142	1 235	17.9	10 440	498	21.0	32 582	1 733	18.8
1990	22 275	1 185	18.8	10 221	464	22.0	32 496	1 649	19.7
1991	22 418	1 178	19.0	10 390	476	21.8	32 808	1 654	19.8
1992	22 527	1 221	18.4	10 415	482	21.6	32 942	1 703	19.3
1993	22 583	1 225	18.4	10 339	498	20.8	32 922	1 723	19.1
1994	22 412	1 303	17.2	10 449	507	20.6	32 861	1 810	18.2
1995	22 466	1 218	18.4	10 341	512	20.2	32 807	1 730	19.0
1996	22 431	1 181	19.0	10 509	509	20.6	32 940	1 690	19.5
1997	22 032	1 190	18.5	10 652	520	20.5	32 684	1 710	19.1
1998	21 742	1 172	18.6	10 609	521	20.4	32 351	1 693	19.1
1999	21 606	1 267	17.1	10 651	526	20.2	32 257	1 793	18.0
2000	21 409	1 256	17.0	10 877	535	20.3	32 286	1 791	18.0
2001	21 439	1 298	16.5	11 051	555	19.9	32 490	1 852	17.5

Source: *Schools Australia, (Cat No 4221.0), ABS, 2002 and earlier years*



Source: *ABS Schools Australia, (Cat No. 4221.0)*

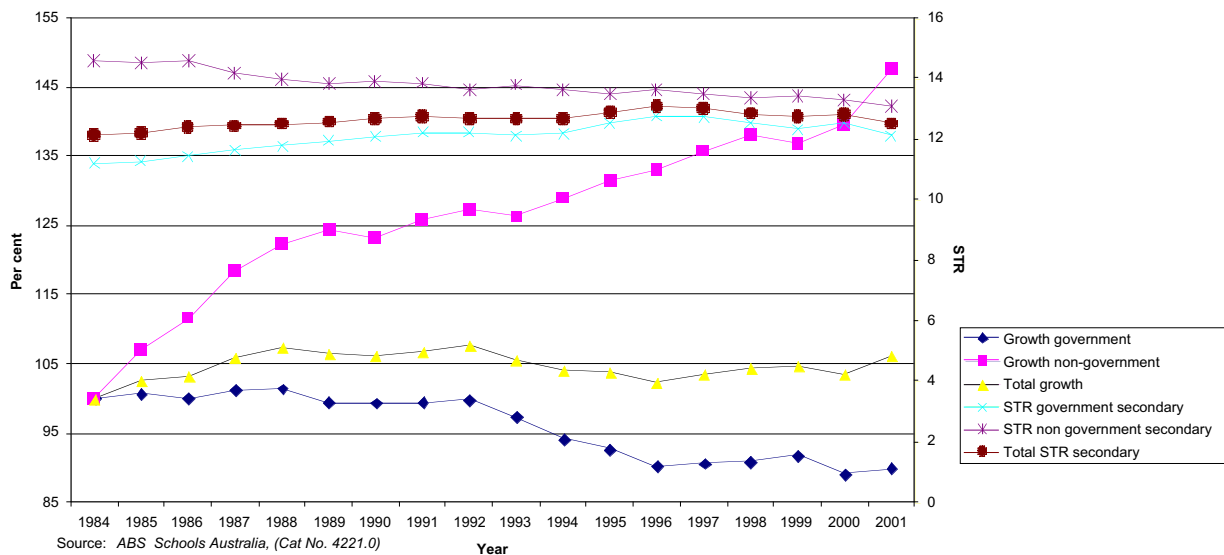
Australian Capital Territory secondary

Table 1.16: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

	Government			Non-government			Total		
Year	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	17 016	1 523	11.2	8 760	601	14.6	25 776	2 124	12.1
1986	17 435	1 524	11.4	9 762	671	14.5	27 197	2 195	12.4
1988	18 203	1 545	11.8	10 272	735	14.0	28 475	2 280	12.5
1990	18 277	1 513	12.1	10 266	740	13.9	28 543	2 253	12.7
1991	18 472	1 514	12.2	10 467	756	13.9	28 939	2 270	12.7
1992	18 567	1 520	12.2	10 400	765	13.6	28 967	2 285	12.7
1993	17 964	1 482	12.1	10 466	759	13.8	28 430	2 241	12.7
1994	17 453	1 435	12.2	10 564	775	13.6	28 017	2 210	12.7
1995	17 654	1 412	12.5	10 647	790	13.5	28 301	2 202	12.9
1996	17 540	1 374	12.8	10 899	799	13.6	28 439	2 173	13.1
1997	17 563	1 381	12.7	10 987	816	13.5	28 550	2 197	13.0
1998	17 347	1 385	12.5	11 067	830	13.3	28 414	2 215	12.8
1999	17 198	1 398	12.3	11 053	823	13.4	28 251	2 221	12.7
2000	16 992	1 358	12.5	11 174	838	13.3	28 166	2 195	12.8
2001	16 531	1 370	12.1	11 622	887	13.1	28 153	2 257	12.5

Source: *Schools Australia*, (Cat No 4221.0), ABS, 2002 and earlier years

ACT Secondary - Growth in FTE of teachers and Student to Teacher Ratios, 1984 to 2001



Source: ABS *Schools Australia*, (Cat No. 4221.0)

Australia

Labour market background

There were 112,514 FTE primary teachers and 109,413 FTE secondary teachers in Australia in 2001.⁶⁶ Over the period 1984 to 2001 there was a net increase in the number of teachers in both the primary and secondary sectors. In the primary sector the number of teachers rose by 24 per cent and in the secondary sector by 12 per cent.

This increase in secondary teachers numbers was confined to the non government sector with teacher numbers in the government sector falling by 4.7 per cent since 1994. Over the period 1984 to 2001 the growth in the number of non-government primary teachers (56 per cent) was exceeded by the growth in the number of secondary teachers (62 per cent).

While student to teacher ratios (STRs) in the secondary sector declined over the period 1984 to 2001 only marginally from 12.8 in 1984 to 12.4 in 2001, STRs in the primary sector declined considerably from 19.2 in 1984 to 17.0 in 2001.

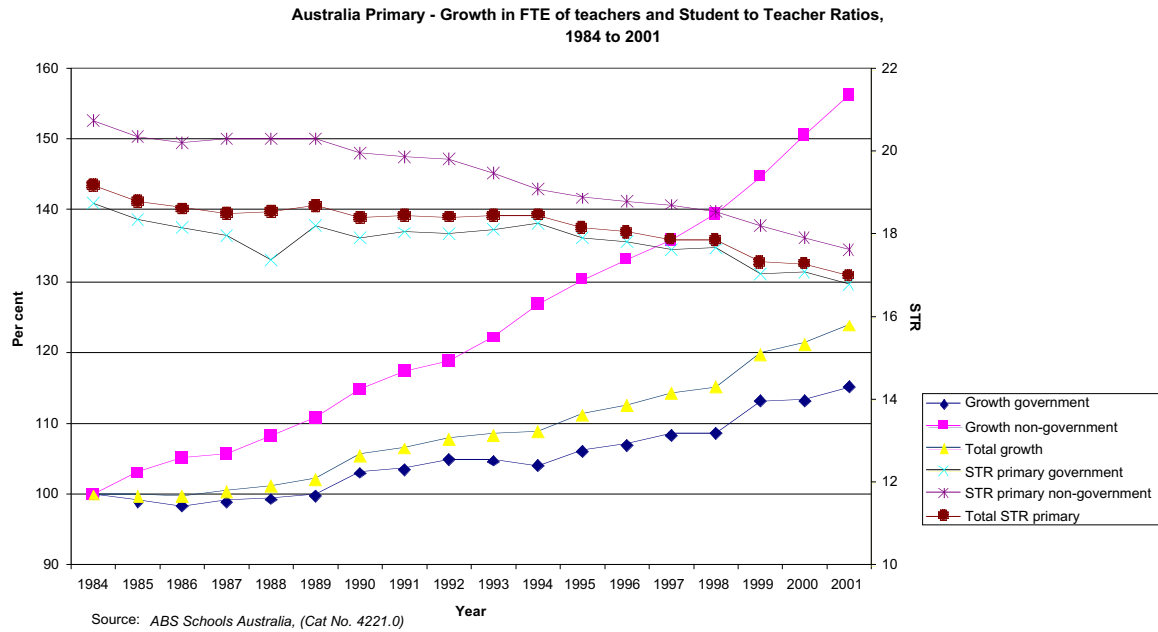
Australia primary

Table 1.17: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

Year	Government			Non-government			Total		
	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	1 341 248	71 590	18.7	398 618	19 218	20.7	1 739 866	90 808	19.2
1986	1 279 817	70 463	18.2	408 841	20 222	20.2	1 688 658	90 685	18.6
1988	1 283 091	71 186	17.4	421 769	20 792	20.3	1 704 860	91 978	18.5
1990	1 322 543	73 837	17.9	440 951	22 079	20.0	1 763 494	95 916	18.4
1991	1 338 533	74 216	18.0	447 913	22 564	19.9	1 786 446	96 780	18.5
1992	1 351 665	75 111	18.0	452 705	22 845	19.8	1 804 370	97 956	18.4
1993	1 359 425	75 066	18.1	456 641	23 460	19.5	1 816 066	98 526	18.4
1994	1 360 771	74 494	18.3	464 969	24 373	19.1	1 825 740	98 867	18.5
1995	1 361 287	75 996	17.9	472 394	25 040	18.9	1 833 681	101 036	18.1
1996	1 367 406	76 677	17.8	480 763	25 590	18.8	1 848 169	102 267	18.1
1997	1 367 007	77 657	17.6	488 782	26 117	18.7	1 855 789	103 774	17.9
1998	1 372 430	77 781	17.6	497 422	26 822	18.5	1 869 852	104 603	17.9
1999	1 378 879	81 036	17.0	506 479	27 829	18.2	1 885 358	108 865	17.3
2000	1 386 073	81 137	17.1	517 808	28 941	17.9	1 903 881	110 077	17.3
2001	1 384 866	82 457	16.8	527 547	30 057	17.6	1 912 413	112 514	17.0

Source: *Schools Australia*, (Cat No 4221.0), ABS, 2002 and earlier years

⁶⁶ *Schools Australia*, Cat No 4221.0, ABS, 2002

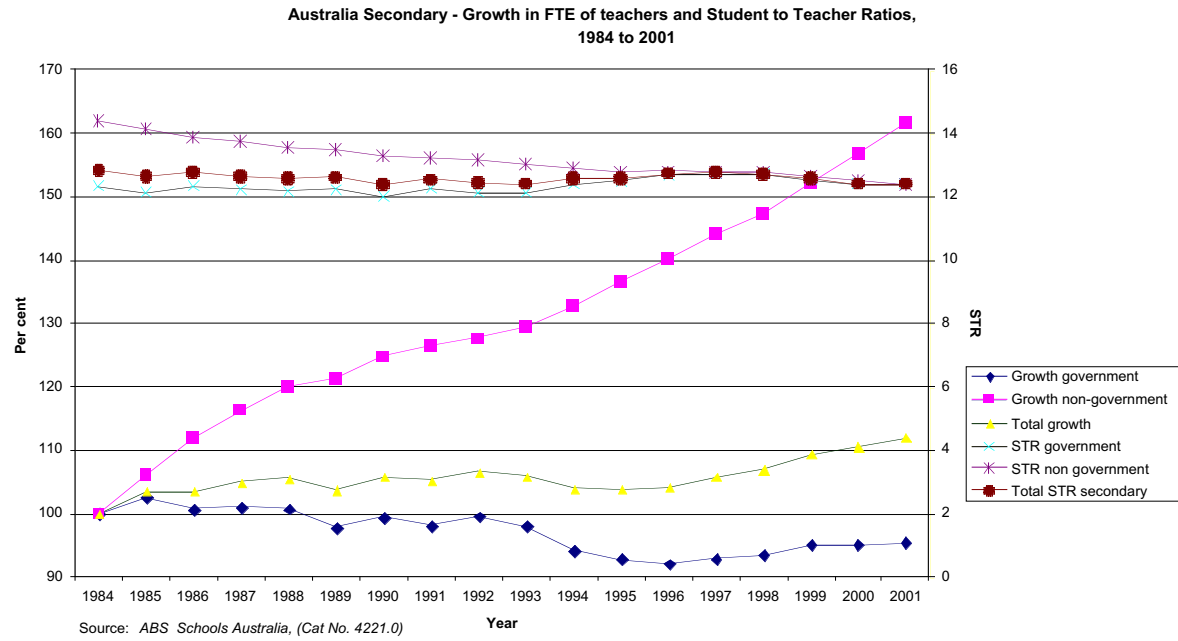


Australia secondary

Table 1.18: Number of full-time students, FTE of teachers and student to teacher ratios for government and non-government sectors

Year	Government			Non-government			Total		
	Students	Teachers	STR	Students	Teachers	STR	Students	Teachers	STR
1984	900 002	73 087	12.3	353 436	24 579	14.4	1 253 438	97 666	12.8
1986	907 691	73 626	12.3	381 766	27 489	13.9	1 289 457	101 115	12.8
1988	896 406	73 674	12.2	400 235	29 497	13.6	1 296 641	103 171	12.6
1990	870 804	72 640	12.0	407 359	30 658	13.3	1 278 163	103 298	12.4
1991	878 693	71 679	12.3	409 998	31 074	13.2	1 288 691	102 753	12.5
1992	882 418	72 734	12.1	412 178	31 376	13.1	1 294 596	104 110	12.4
1993	868 631	71 571	12.1	413 678	31 814	13.0	1 282 309	103 385	12.4
1994	854 167	68 886	12.4	419 473	32 592	12.9	1 273 640	101 478	12.6
1995	846 566	67 791	12.5	429 090	33 574	12.8	1 275 656	101 365	12.6
1996	854 151	67 272	12.7	440 695	34 433	12.8	1 294 846	101 705	12.7
1997	863 045	67 879	12.7	452 790	35 406	12.8	1 315 835	103 285	12.7
1998	866 945	68 251	12.7	461 858	36 226	12.7	1 328 803	104 477	12.7
1999	868 795	69 447	12.5	472 497	37 413	12.6	1 341 292	106 860	12.6
2000	862 214	69 474	12.4	481 330	38 499	12.5	1 343 544	107 973	12.4
2001	863 353	69 681	12.4	492 375	39 732	12.4	1 355 728	109 413	12.4

Source: Schools Australia, (Cat No 4221.0), ABS, 2001 and earlier years



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Acronyms and abbreviations

ABS, Australian Bureau of Statistics

ACE, Australian Council of Education

AESOC, Australian Education Systems Officials Committee

AIS, Association of Independent Schools

ASCO, Australian Standard Classification of Occupations

ASCED, Australian Standard Classification of Education

AVCC, Australian Vice-Chancellors Committee

DEST, Department of Education, Science and Training

DEWR, Department of Employment and Work Place Relations

DfES, Department for Education and Skills (UK)

DIMIA, Department of Immigration and Multicultural and Indigenous Affairs

ESL, English as a second language

FOSCHEC, Field of Study Classification of Higher Education Courses

FTE, Full-time equivalent

GCCA, Graduate Careers Council of Australia

GDS, Graduate Destinations Survey

GPR, Grade progression ratio

HECS, Higher Education contribution scheme

ICT, Information and communications technology

KLA, Key learning area

LOTE, Languages other than English

MCEETYA, Ministerial Council on Employment, Education, Training and Youth Affairs

NCEC, National Catholic Education Commission

NCES, National Center for Education Statistics (USA)

NCISA, National Council of Independent Schools Associations

SOSE, Studies of society and the environment

STR, Student to teacher ratio

TTA, Teacher Training Agency (UK)

VET, Vocational education and training

VPA, Visual and performing arts

Glossary of Terms

Australian Standard Classification of Education (ASCED), refers to the classification system developed by the Australian Bureau of Statistics for use in the collection, storage and dissemination of statistical and administrative data related to educational activity in Australia. ASCED is comprised of two component classifications, Level of Education and Field of Education. It replaced the Australian Bureau of Statics Classification of Qualifications (ABSCQ).

Applicants (for undergraduate teaching courses), refers to those students who applied via the Universities Admission Centre and indicated a university undergraduate course either as their first or second preference on their application.

Commencements (of teacher trainees), refers to the number of students commencing an initial teacher training course as defined in the DETYA Higher Education statistics. Courses coming within scope include undergraduate degree and Graduate Diploma (Diploma of Education) courses.

Completions (of teacher trainees), refers to the number of students completing an initial teacher training course.

Field of education, refers to the ASCED classification of the subject matter of educational activities. "Education" is one of 12 broad fields of education under this classification. ASCED defines the broad field of Education as "the study of the process of learning, including theories, methods and techniques of imparting knowledge and skills to others". The Broad Field of Education comprises the narrow fields of Teacher Education, Curriculum and Education Studies, and Other Education. This classification replaces FOSCHEC – Field of Study Classification of Higher Education Courses.

Employed teachers, are full or part time teachers engaged on a permanent or fixed term basis i.e. regular teachers. It excludes relief and casual teachers who are engaged to fill in for permanent and contract teachers when these are not available. This group of ongoing teachers constitute the core workforce, i.e. the majority of class room teachers. All statistics and references to teachers in this report relate to employed teachers, unless otherwise stated. Employed teachers can be expressed as head counts or in FTE terms. This definition of employed teachers is the same as that used in the ABS Schools, Australia publication. There it is used synonymously with teaching staff.

Full time equivalent (FTE), is a measure of all full and part time teachers expressed in terms of a full time work load. Thus two 0.5 teachers would count as 1 full time equivalent.

Growth Demand for teachers, is that portion of teacher demand related to the increase in total teacher requirements. It stems from factors like increases in enrolments or additions to the curriculum which require additional teachers to be hired. Growth demand in any one year is the difference between that year's requirement for teachers and the previous year's actual teacher employment level. It can be expressed either as FTE or as headcounts.

(New) Graduates is the same as completions.

Head count of teachers refers to the number of Teachers Employed, irrespective of whether they were employed full or part-time.

Net replacement demand refers to (gross) replacement demand less those teachers (other than new graduates) who enter the teaching workforce during the year. These entrants could be returning teachers or migrants. The net replacement rate is broadly a measure of the training rate required to satisfy the demand for teachers.

Pool of teachers (or pool teachers), refer to qualified teachers who are not currently part of employed teachers (as defined above) but are available for permanent or contract positions or would be under certain circumstances. These qualified teachers may currently be unemployed, be working in another occupation or in teaching as casual or relief teachers.

Recruitment difficulties, is used to refer to the situation where teaching vacancies are hard-to-fill and would normally require more concerted recruitment action, such as head hunting, to fill.

Replacement demand, is demand for teachers which stems from the need to recruit new teachers to replace those lost via separation (see definition for more details) from the teaching workforce. It affects both permanent and contract teachers.

Separation, also referred to as attrition or wastage, is a measure of the reduction in the teacher workforce as a result of teachers leaving the workforce (either permanently or for shorter periods). The measure has been defined to include retirements, teacher resignations, teachers going on leave, contract expiration and other categories such as deaths and dismissals.

Separation rate is the number of teachers who separate as a percentage of the teaching workforce. Separation rate can be defined only for permanent teachers or for permanent and contract teachers combined. In this report, separation rate refers to permanent teachers, unless otherwise indicated.

Shortages or shortfalls, refers to the inability to find sufficient numbers of suitably qualified teachers to satisfy the desired or target level of teachers. This difference is commonly referred to as “teacher shortages”. Unlike recruitment difficulties shortages may persist and not be resolved by normal recruitment practices such as advertising.

Student teaching staff ratio (STR), is the number of students enrolled divided by numbers of teachers employed. In this report, both students and teachers are expressed as full-time equivalents to derive this ratio.

Studies of society and the environment (SOSE), is one of eight key learning areas listed under MCEETYA's National Goals for Schooling in the Twenty-first Century. SOSE includes the subjects of history, geography, economics, politics, sociology, anthropology, law, psychology and ethics.

Technology, is one of the eight key learning areas listed under MCEETYA's National Goals for Schooling in the Twenty-first Century. Technology includes subjects such as computer studies, agricultural science, business studies, home economics, manual arts, industrial technology and design.

Training rate is the ratio of teacher completions (or graduates) to the teaching workforce.

**Demand and Supply of
Primary and Secondary School Teachers in Australia**

Part E (i)

Qualitative research – National Survey of Teachers

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The Survey of Teachers

Executive summary

The paper outlines the results of a national survey of teachers on factors that are important in attracting and retaining teachers. The survey was conducted by the Department of Education, Science and Training on behalf of MCEETYA in the third and fourth school terms in 2002.

The aim was to survey around 2,500 randomly selected teachers from *government* and *non-government* schools, in *metropolitan* and *non-metropolitan* Australia, and from *primary* and *secondary* schools. Survey responses indicate that teachers surveyed are broadly representative of the wider teaching workforce. In total, 2,335 teachers responded to the survey of which around 56 per cent worked in *metropolitan* schools (1,317) and about 44 per cent in *non-metropolitan* schools (1,038).

The majority of survey respondents were Australian born or were long term Australian residents. Just over 70 per cent of respondents were *female*, and just over half the respondents were *primary* school teachers. Over 70 per cent of the respondents worked in *government* schools. Nearly 56 per cent of teachers worked in *metropolitan* schools.

Notably, more than half of the teachers surveyed were aged over 45, highlighting the potential for a high level of retirement from this occupation in the next decade and beyond. Given that teachers had on average been employed for over 17 years at the time of the survey, the data suggest that Australia stands to lose not only substantial numbers of teachers, but also a significant proportion of teaching experience.

The data also reinforces the widespread perception that the majority of Mathematics and Science teachers are older males, while most English and Languages Other Than English teachers are female. Most secondary teachers taught in their first or second teaching specialisation although a surprisingly high proportion did not.

The majority of survey respondents were permanent employees and just over 85 per cent of respondents worked full-time.

The survey results suggest that, for all respondents, the main factors suggested as important in retaining teachers are:

1. Improved remuneration (24.6 per cent);
2. Increased resources/reduced workload (23.3 per cent);
3. Improved employment conditions other than remuneration (19.1 per cent);
4. Improved professional standing in the community (12.7 per cent);
5. Reduced class sizes (9.4 per cent)
6. Improved student behaviour (5.6 per cent);
7. Increased autonomy (1.4 per cent).

The results were similar for *female* and *male* respondents except that proportionally more *male* teachers made the suggestion for ‘improved remuneration’.

Table 1

Suggestions for retaining teachers by female and male teachers			
Female	Per cent	Male	Per cent
Increased resources/reduced workload	24.1	Increased resources/reduced workload	27.6
Improved remuneration	23.3	Improved remuneration	21.5
Improved employment conditions other than pay	18.4	Improved employment conditions other than pay	20.6
Improved professional standing	13.6	Improved professional standing	10.6
Reduced class sizes	10.0	Reduced class sizes	7.9
Improved student behaviour	5.5	Improved student behaviour	6.0
Increase autonomy	1.1	Increase autonomy	1.9

Teachers were also asked to rate the importance to them of aspects of teaching conditions and the school environment. The most important factors, for all survey respondents, in making career decisions with respect to working conditions and the school environment in this survey (with a rating of 5) included:

1. Effective measures for handling student behaviour (77.3 per cent);
2. Good leadership (75 per cent);
3. Familiarity with subjects taught (69 per cent);
4. Job security (62 per cent); and
5. Administrators and managers are supportive and recognise achievement (61.3 per cent).

Turning to factors that may **deduct** from teachers’ enjoyment of their work, the main factors included:

1. Lack of resources or time (874 or 37.1 per cent);
2. Student welfare issues (479 or 20.3 per cent);
3. Attitude problems of parents and the community (397 or 16.9 per cent);
4. Employment conditions other than remuneration (227 or 9.6 per cent);
5. Lack of autonomy or creativity (174 or 7.4 per cent);
6. Class sizes (79 or 3.4 per cent); and
7. Remuneration (53 or 2.3 per cent).

Key factors that were considered important in **attracting** new teachers included:

1. Improved or higher remuneration;
2. Promoting the image or status of teaching;
3. Improved teacher training (including access and in-service training quality issues); and
4. Improved teaching conditions other than pay.

Higher remuneration emerged as the leading factor suggested by survey respondents for

attracting new teachers. Of the survey participants aged over 55, 35.8 per cent suggested improving remuneration as the main recruitment incentive. Over 30 per cent in the 35 - 44 and 45 - 54 cohorts also suggested higher pay as an incentive. Just over 25 per cent of those aged 21 -24 and 26.7 per cent of respondents aged 25 - 34 had made this suggestion.

Promoting the image of teaching was the second most common suggestion in recruiting more people to the profession with 36 per cent of those respondents aged 21 -24 and 32.8 per cent of the 25 - 34 cohort making the suggestion. Almost 30 per cent in each of the 35 - 44 and 45 - 54 age groups, and 28.0 per cent of respondents aged over 55 also made this suggestion.

The third most common suggestion was to improve teacher training (including access and in-service training quality issues). Suggestions for improved teacher training covered 'greater support for new teachers', especially mentoring to new teachers', 'linking training at university to more practical classroom work to gain experience' and 'offer more scholarships to promote teaching'. The survey respondents aged 25 - 34, 35 - 44 and 45 – 54 had similar responses with 18.6, 19.0 and 18.0 per cent for each cohort respectively.

The fourth-ranked suggestion was for 'improved teaching conditions' which included suggestions for 'more permanent positions rather than fixed term contract' and 'increased opportunities for promotions'. Percentages ranging from 3.8 to 7.1 were reported for the different age groups. 'Personal decision' – that is, entering teaching should be an individual's decision – was ranked fifth with responses ranking from 4.2 per cent for the 45 - 54 age group to 6.3 per cent for the 21 -24 age group.

The Survey of Teachers

Introduction

This chapter reviews the outcomes of the survey of teachers which formed part of the project. The survey was complemented by a survey of school principals, which is discussed separately.

Background

The aim of the survey was to provide a sound understanding of factors that are important in attracting and retaining teachers at the national level. The survey instrument was developed in consultation with a wide range of stakeholders, and other interested parties. Advice was sought from the Australian Bureau of Statistics (ABS) on survey design issues and with respect to ensuring the survey has statistical authority.

The sample represented approximately 1 per cent of Australia's national teaching workforce.

ABS advised that a survey of 2,500 teachers drawn randomly from a panel of 4,000 teachers again selected at random by *government* and *non-government* education providers would be accurate to plus or minus 1 to 2 per cent at the national level. Teachers from both the *government* and *non-government* schools sector, for both *primary* and *secondary* schools, and for *metropolitan* and *non metropolitan* Australia were included in the survey. The survey was conducted in the third and fourth school terms 2002. Teachers were interviewed by telephone.

A copy of the survey instrument is at Attachment A to this Chapter.

Broad characteristics of survey participants

As noted earlier, the aim was to survey 2,500 teachers. The sample of 2,355 teachers will provide results of similar statistical accuracy at the national level. Of the 2,355 respondents, 1,656 or 70.3 per cent were *female*, and 699 or 29.7 per cent were *male*. This is broadly speaking, similar to the overall distribution of national teaching employment.

The majority of survey respondents were born in Australia (84.6 per cent). Of those born overseas, the main countries of birth were the United Kingdom (39.4 per cent), New Zealand (7.2 per cent), followed by Germany (4.8 per cent), United States (4.1 per cent) and South Africa (3.9 per cent). Teachers born overseas had been Australian residents for an average of 30.3 years.

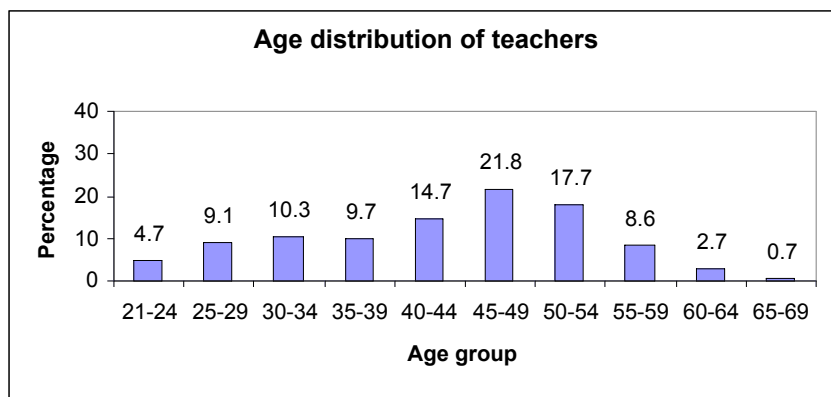
Some 1,250 teachers who responded to the survey (53.1 per cent) were *primary* school teachers or taught predominantly at *primary* level, and 1,105 survey respondents (46.9 per cent) were *secondary* school teachers. Considered by sector, 1,709 teachers or 72.6 per cent of respondents were employed in *government* schools, and 646 teachers or 27.4 per cent were employed in *non-government* schools. In total, 1,317 *metropolitan* and 1,038 *non-metropolitan* teachers responded to the survey.

Age distribution

The average age of all the survey respondents was 43.1 years, 42.9 years for *female* teachers and 43.4 years for *male* teachers. The mode age of 49 was the same for all survey respondents, and for both *female* teachers and *male* teachers. Over half the teachers surveyed were aged 45 and over, with a slightly higher proportion of *male* teachers in this age range. This is consistent with other data, and highlights the potential for high levels of retirement from teaching in the coming years.

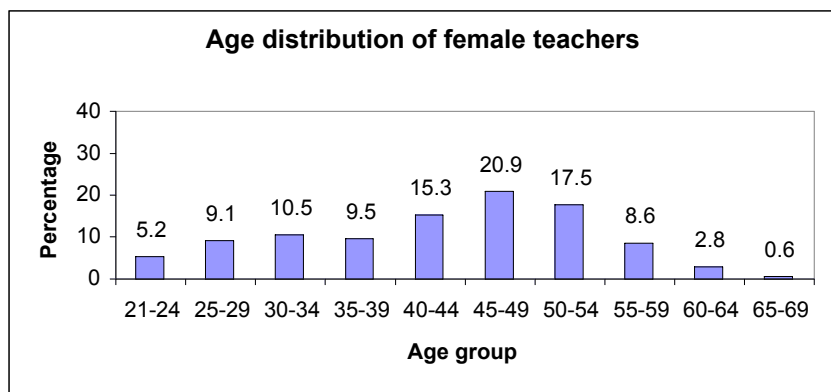
The distribution of teachers who participated in the survey by age groups is shown in the Chart below. Notably, teachers aged under 45 comprised less than half of the survey respondents, with teachers aged 45 and over making up 51.5 per cent of respondents.

Chart 1



The age distribution for *female* teachers who participated in the survey was similar to the overall composition. Women aged under 45 comprised 49.6 per cent of *female* teachers and those aged 45 and over accounted for 50.4 per cent of *female* survey respondents, as shown below.

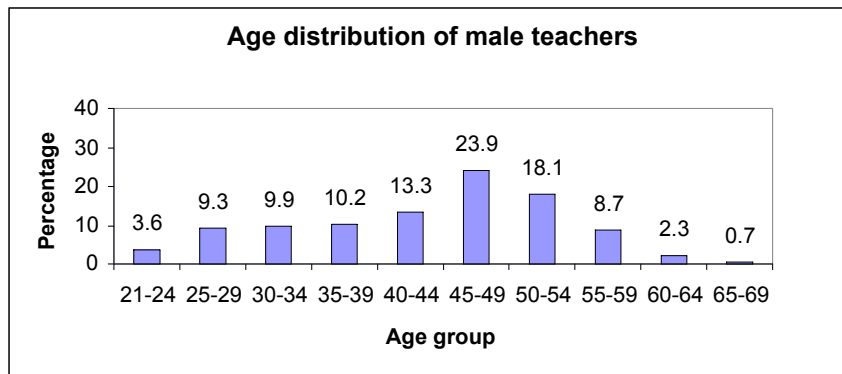
Chart 2



Male teachers aged under 45 comprised 46.3 per cent of *male* survey respondents, with those aged over 45 making up 53.7 per cent as shown in the Chart below. The proportion of *male* teachers aged 21 -24 was 3.6 per cent compared to 5.2 per cent for *females*. *Male* respondents

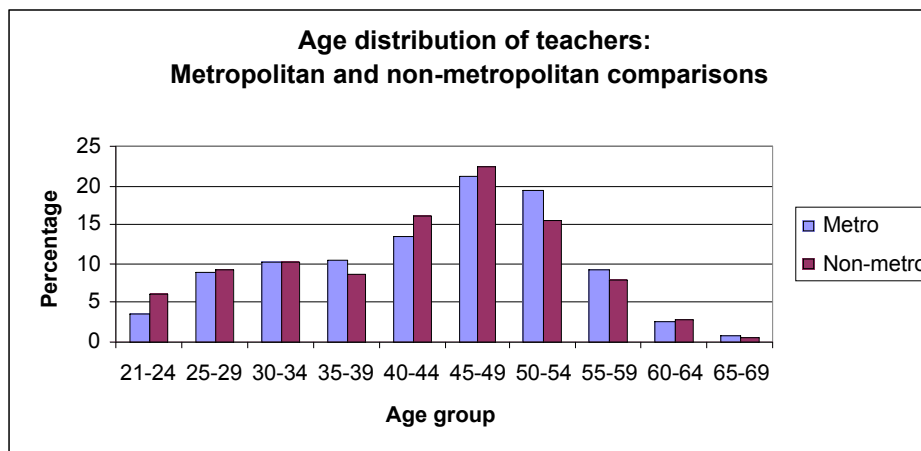
aged 45-49 years accounted for 23.9 per cent which was 3 percentage points higher than for *female* teachers in that age range.

Chart 3



Some 616 or 46.8 per cent of the *metropolitan* teachers were aged under 45 compared to 527 or 50.7 per cent of *non-metropolitan* teachers. There were more *non-metropolitan* teachers in the 25-29, 40-44, 45-49 and 60-64 age groups, whilst more *metropolitan* teachers were aged 35-39, 50-54 and 55-59.

Chart 4



Years worked by teachers

The period that teachers had worked in their profession varied with the age of the teacher. As shown in the table below, as would be expected, older teachers had generally worked as teachers for longer periods than their younger colleagues. The data highlight the general career path of teachers, initial training at university after school, followed by work as a teacher. The data suggest limited entry by older workers transferring into teaching. We also note that four out of five respondents had not reported any other career other than teaching.

It is notable that the periods worked for *female* and *male* survey respondents cross over in the mid to late 30s, suggesting female teachers have breaks in service at this age, possibly for family formation reasons.

Table 2

Average years worked by age groups for female and male teachers										
Age range	21-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
Female	1.4	4.4	8.7	12.4	16.3	20.3	24.3	27.9	31.9	34.5
Male	1.3	3.8	7.2	12.5	16.6	22.3	27.0	30.5	0.0	39.4

On average, respondents had been employed for 17.5 years as teachers. At the time of the survey, *male* respondents had been employed for an average of 18.5 years, while *female* respondents had worked an average of 17.1 years in the teaching profession.

Teachers who responded to the survey had been employed for an average of 7.0 years at their *current school*. *Male* teachers had been employed an average of 7.6 years, while *female* teachers had been employed for an average of 6.7 years.

The data by gender and by level (*primary* and *secondary* teaching) paint a somewhat different picture. Average years taught at their current school for *female* survey respondents was 6.4 years for *primary* teaching and 7.2 years for *secondary*. For *male* teachers, 5.5 years was the average for *primary* teaching compared to a much longer tenure of 8.7 years for *secondary* teaching.

Table 3

Average number of years at current school for female, male and all teachers			
	Level		
	Primary	Secondary	Average for all teachers
Female	6.4	7.2	6.7
Male	5.5	8.7	7.6
Total average	6.3	7.8	7.0

Employment status of teachers

Survey participants were asked if their employment status was permanent, fixed term contract or relief /casual/temporary. A permanent teaching position was the predominant form of employment. Some 91.8 per cent of survey respondents held permanent teaching positions, followed by fixed term contracts (6.7 per cent) and relief teaching (1.5 per cent) as shown in the table below.

Table 4

Employment status of teachers (per cent)

	Employment Status			Total Number
	Fixed term contract	Permanent	Relief	
Female	7.7	90.4	1.9	1656
Male	4.4	95.0	0.6	699
Total	6.7	91.8	1.5	2355

Employment status by gender and preferred employment status was examined in the next table. Broadly, most teachers on fixed term contracts preferred to be placed in permanent full-time positions (92 or 71.9 per cent of *females* and 22 or 71.0 per cent of *males*). Of *female* relief

teachers, 16 of the 31 survey respondents would have preferred a permanent job. Of the 4 *male* relief teachers, 3 or 75 per cent expressed a preference to be permanent. The majority of those who had permanent teaching positions preferred that arrangement.

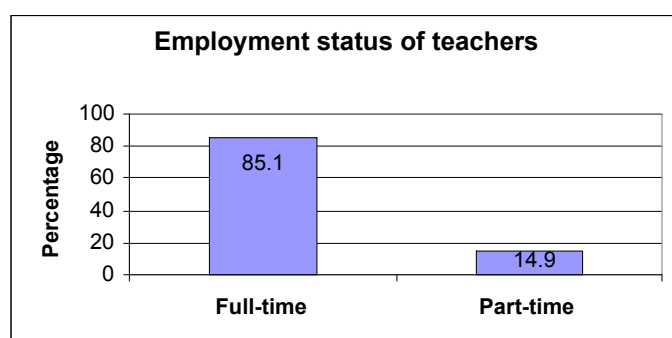
Table 5

Employment status by gender and preferred employment status								
	Females				Males			
Preferred status	Contract	Permanent	Relief	Total	Contract	Permanent	Relief	Total
Contract	35	1	0	36	9	0	0	9
Permanent	92	1,495	16	1,603	22	664	3	689
Relief	1	1	15	17	0	0	1	1
Total	128	1,497	31	1,656	31	664	4	699

Respondents who were employed on fixed term contracts were more likely to have been working as teachers for a relatively short time with 35.2 per cent of those on contracts having taught for 3 years or less, compared with 9.1 per cent of permanent teachers, and 14.3 per cent of relief teachers.

Teachers were also asked whether they worked on a full-time or part time basis and the results are outlined in the Chart below. Out of the 2,355 survey respondents, the majority of teachers – 2,003 or 85.1 per cent - worked full-time.

Chart 5



Of the 1,327 full-time *female* teachers who participated in the survey, 1,285 or 96.8 per cent preferred to *continue* to work full-time and 42 or 3.2 per cent showed a preference for part-time work. Of *female* teachers, 24 out of 329 working part-time would have preferred to work full-time.

Out of the 676 full-time *male* teachers, 664 or 98.2 per cent preferred working full-time with only 12 or 1.8 per cent wanting to work part-time. Only 2 out of the 23 part-time *male* teachers who participated in the survey preferred to work full-time.

Table 6

Employment status of teachers and preferred teaching intensity				
Gender		Full-time	Part-time	Total
Female sub-total		1,327	329	1,656
	Preferred intensity			
Female	Full-time	1,285	24	1,309
	Part-time	42	305	347
Male sub-total		676	23	699
Male	Full-time	664	2	666
	Part-time	12	21	33
Total number of teachers		2,003	352	2,355

Teachers' qualifications

Teachers who participated in the survey were asked about their highest level of teaching qualification and future study plans. Their reported highest levels of qualifications are outlined in the table below. It should be noted, however, that the minimum teaching qualification is generally a 4-year degree or equivalent. The survey did not distinguish between 3 and 4-year degrees, meaning that those teachers reporting a postgraduate Diploma of Education as their highest qualification could well include a high proportion of teachers for whom the Diploma provides them with the equivalent of a 4-year degree.

Of teachers who participated in the survey, 1,387 or 58.9 per cent of teachers held a post graduate Diploma of Education, 817 or 34.7 per cent held a Bachelor degree, 144 or 6.1 per cent held a Masters degree and 7 or 0.3 per cent had completed a Doctorate.

For *female* teachers, 989 or 59.7 per cent had completed a post graduate Diploma of Education, 575 or 34.7 per cent held a Bachelor degree, 88 or 5.3 per cent had completed a Master degree and 4 or 0.2 per cent held a Doctorate.

Among the *male* teachers who participated in the survey, 398 or 57.0 per cent had completed a post graduate Diploma of Education, 242 or 34.6 per cent held a Bachelor degree, 56 or 8.0 per cent held a Masters degree and 3 or 0.4 per cent had completed a Doctorate.

Table 7

Qualifications of teachers by gender					
	Bachelor degree	Diploma of education	Masters degree	Doctorate	Total
Female	575	989	88	4	1,656
Male	242	398	56	3	699
Total	817	1,387	144	7	2,355

Qualifications by teaching level

The following table outlines the qualifications attained by *primary* and *secondary* teachers. A total of 719 (57.5 per cent) of *primary* teachers who participated in the survey had completed a post graduate Diploma of Education, 479 or 38.3 per cent held a Bachelor degree and 52 or 4.2 per cent held a Masters degree.

For *secondary* teachers, 668 or 60.5 per cent had attained a post graduate Diploma of Education, 338 or 30.6 per cent held a Bachelor degree, 92 or 8.3 per cent had completed a Masters degree and 7 or 0.6 per cent had completed a Doctorate.

Table 8

Qualifications of teachers by teaching level					
	Bachelor degree	Diploma of education	Masters degree	Doctorate	Total
Primary	479	719	52	0	1,250
Secondary	338	668	92	7	1,105

Teachers' current study or future study plans

A total of 494 or 30 per cent of survey respondents were currently studying or planned to study in the future. Of these, 346 or 70 per cent were *female*, and 148 or 30 per cent were *male*.

Table 9

Teachers undertaking study by gender						
	Bachelor degree	Doctorate	Masters	Retraining/ upgrade of teaching cert	Specialist/ graduate diploma	Total
Female	49	19	125	58	95	346
Male	18	11	58	22	39	148
Sub-Total	67	30	183	80	134	494

The proportion of *primary* teachers (254 or 51.4 per cent) currently studying or planning to study was slightly higher than that for *secondary* teachers (240 or 48.6 per cent).

Table 10

Teachers undertaking further study by school level						
	Bachelor degree	Doctorate	Masters	Retraining/ upgrade of teaching cert	Specialist/ graduate diploma	Total
Primary	44	12	87	32	79	254
Secondary	23	18	96	48	55	240
Sub-Total	67	30	183	80	134	494

Age was an important factor influencing current or future study. Some 299 or 60.5 per cent of respondents who were currently studying were aged under 45, compared to only 195 or 39.5 per cent of respondents aged over 45.

The main fields in which teachers were currently studying or planning to undertake further study included:

1. Education (106 or 21.5 per cent);
2. Information Technology (55 or 11.1 per cent);
3. Specialist or graduate diploma (50 or 10.1 per cent); and
4. Counselling/Student Welfare/Psychology Studies (38 or 7.7 per cent) and

5. Religious Education (38 or 7.7 per cent).

Less significant fields of studies undertaken which accounted for 2 to 3.4 per cent share each included Visual and performing arts, English, Leadership, Language, Mathematics, Vocational education, Health and physical education and Study of society and the environment.

The main fields where *male* teachers were currently studying or planning to undertake further study included:

1. Education (39 or 26.4 per cent);
2. Information technology (21 or 14.2 per cent);
3. Religious education (12 or 8.1 per cent);
4. Leadership (9 or 6.1 per cent);
5. Specialist or graduate diploma (8 or 5.4 per cent)
6. Health and physical education, Mathematics and Vocational education (5 or a 3.4 per cent share was recorded for each of these three fields of studies).

By comparison the main fields where *female* teachers who participated in the survey were currently studying or planning to undertake further study included:

1. Education (67 or 19.4 per cent);
2. Specialist or graduate diploma (42 or 12.1 per cent);
3. Counselling/Student Welfare/Psychology Studies (35 or 10.1 per cent);
4. Information technology (34 or 9.8 per cent);
5. Religious education (26 or 7.5 per cent); and
6. Visual and performing arts (15 or 4.3 per cent).

Less significant fields of studies that *female* respondents undertook or are undertaking included English (13 or 3.8 per cent) and Language (11 or 3.2 per cent).

Reason for further study

Survey respondents who had undertaken further study or planning to undertake further study were asked for their main reason for studying. The table below outlines reasons given by all teachers by gender.

Table 11

Reasons for further study for all teachers and by gender			
Reasons for studying	Female	Male	Total
Personal development or change	185	72	257
Personal interest	80	29	109
To shift to another role within the education industry	45	21	66
Secure permanent position or promotion	22	16	38
To get out of teaching profession	6	6	12
To obtain work in private system eg Catholic or independent schools	7	2	9
To gain employment overseas	0	2	2
Availability of scholarship	1	0	1
Sub-total	346	148	494

The predominant reasons why teachers who participated in the survey were undertaking further study or planned to undertake further study included:

1. Personal development or change (257 or 52.0 per cent);
2. Personal interest (109 or 22.1 per cent);
3. To shift into another role within the education profession (66 or 13.4 per cent); and
4. Secure permanent position or promotion (38 or 7.7 per cent).

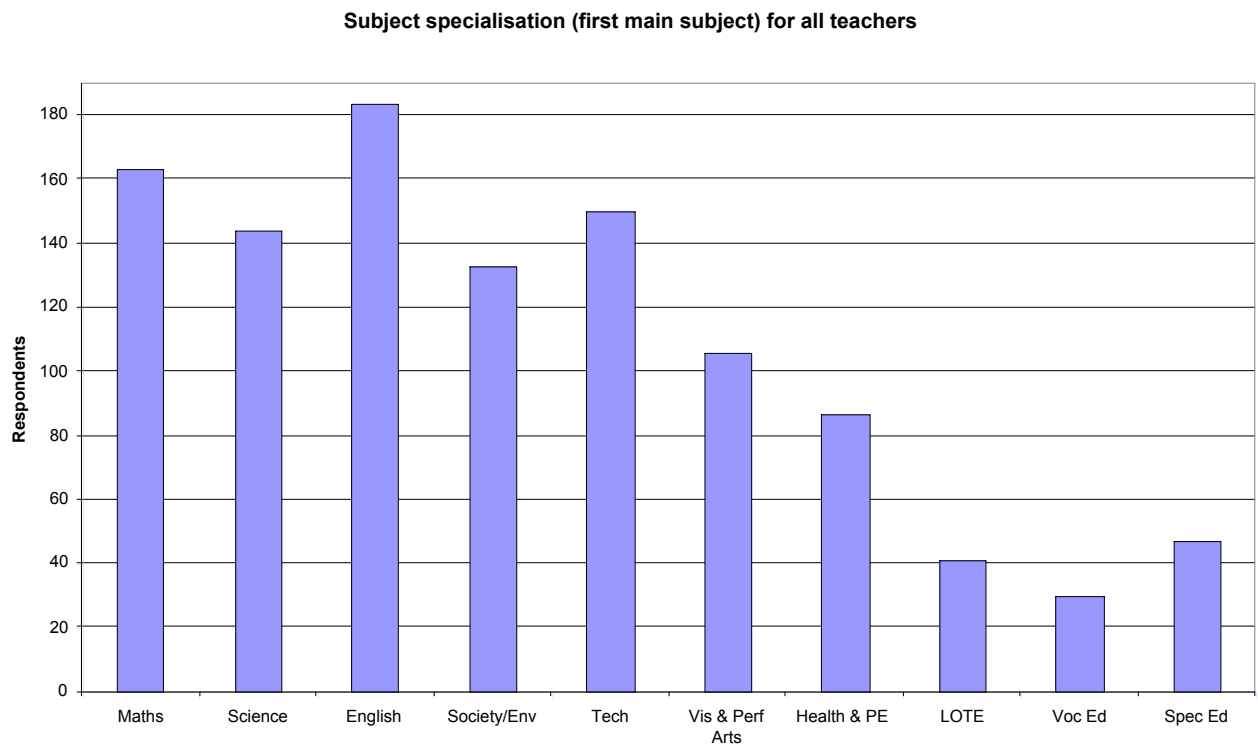
The top four rankings for both *female* and *male* teachers are the same with studying for personal development or change being the leading reason. Looking by age, teachers as young as 21 and as old as 68 cited “personal development or change” and “personal interest” for studying. The top two reasons comprised 74.1 per cent out of all responses

As 67 or 15.5 per cent of those engaged in further studies were either re-training or upgrading their Certificate of Teaching, it could be interpreted that their motive was to improve their knowledge or practice relating to teaching or to improve their teaching careers.

Secondary teaching specialisations

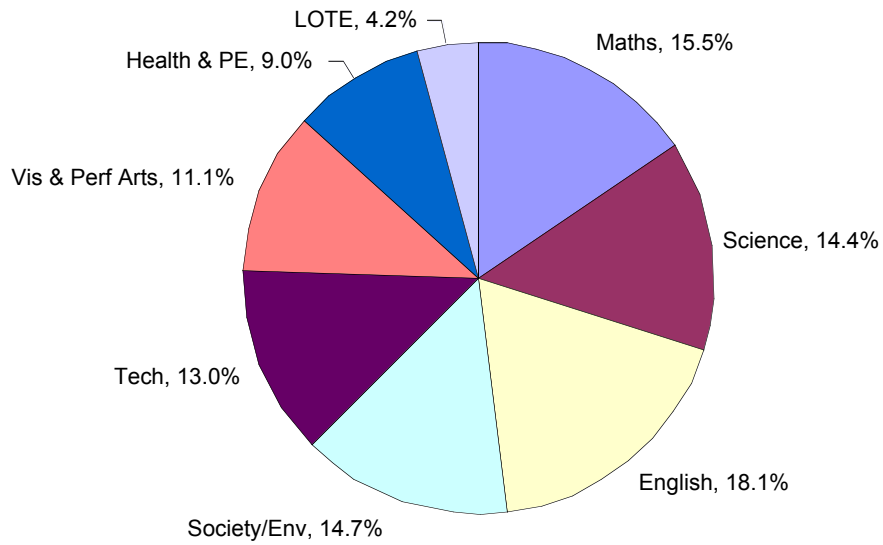
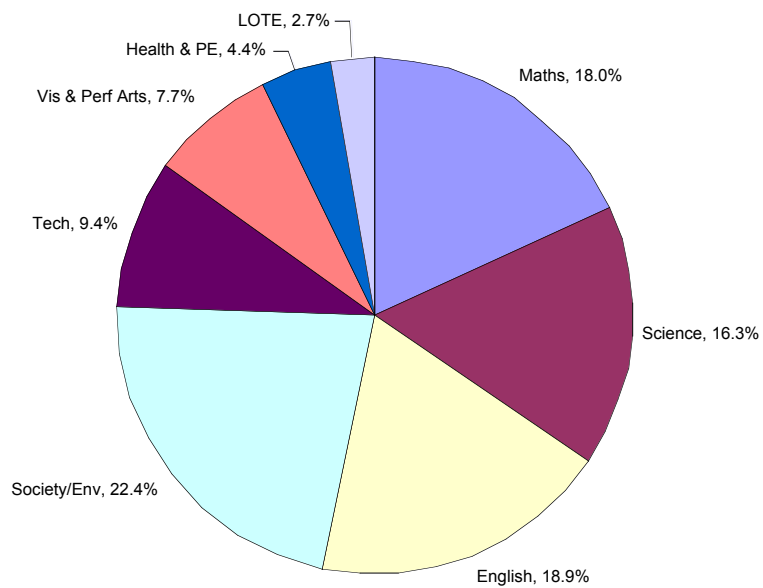
For *secondary* teachers who participated in the survey, the distribution of teaching specialisations was as follows:

Chart 6



The following Charts show a comparison between the proportion of teacher specialisations (in *first* main subject) to the proportion of Year 12 students enrolled in the corresponding subjects.

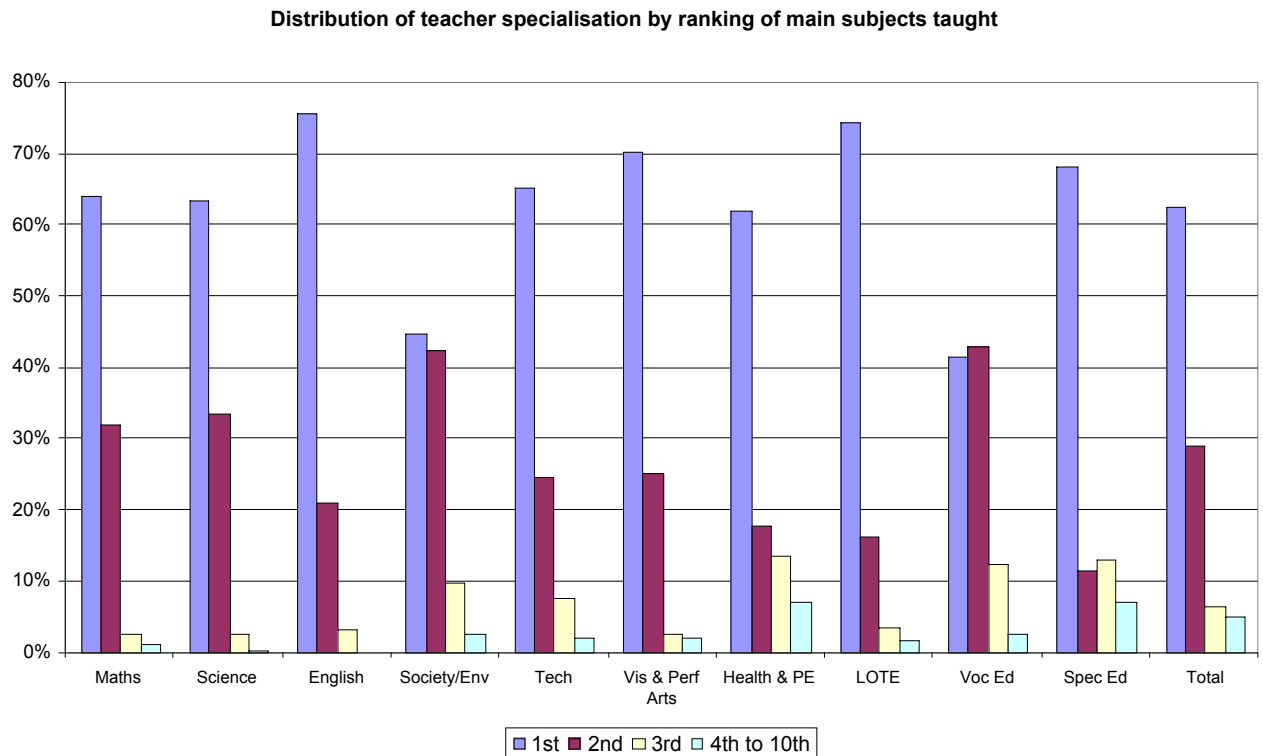
As can be seen, the proportion of students enrolled slightly exceeds the proportion of teacher first main qualifications in Mathematics, Science and Society/Environment. The proportion of teacher qualifications exceeded the proportion of student enrolments in Technology, Visual and Performing Arts, Health and PE and LOTE. This may reflect the fact that these subjects tend to require lower student/teacher ratios than other subjects, particularly in Year 12. As such, these results may necessarily indicate a mismatch between supply and demand for specialisations. The differences in proportions of teacher qualifications and Year 12 enrolments in Mathematics and Science are probably just a residual of the low student/teacher ratios in other subjects.

Chart 7**Distribution of teachers' first main subject studied****Chart 8****Distribution of Year 12 enrolments 2000 (Source: Schools Group, DEST)**

However the discrepancy between the proportion of teachers qualified in Society/Environment and Year 12 enrolments in this subject is quite substantial (14.7 per cent compared to 22.4 per

cent). The discrepancy is even wider when teacher specialisations (13.2 per cent) are compared with enrolments. However, on closer inspection, there were almost as many teachers listing Society/Environment as their second main subject taught as their first, which probably goes some way to explaining this. As the Chart below shows, only 44.9 per cent of teachers who taught Society/Environment taught it as their first main subject, while 42.6 per cent taught it as their second main subject. In contrast, on average, 62.5 per cent of teachers who had specialised in a subject taught it as their first main subject.

Chart 9

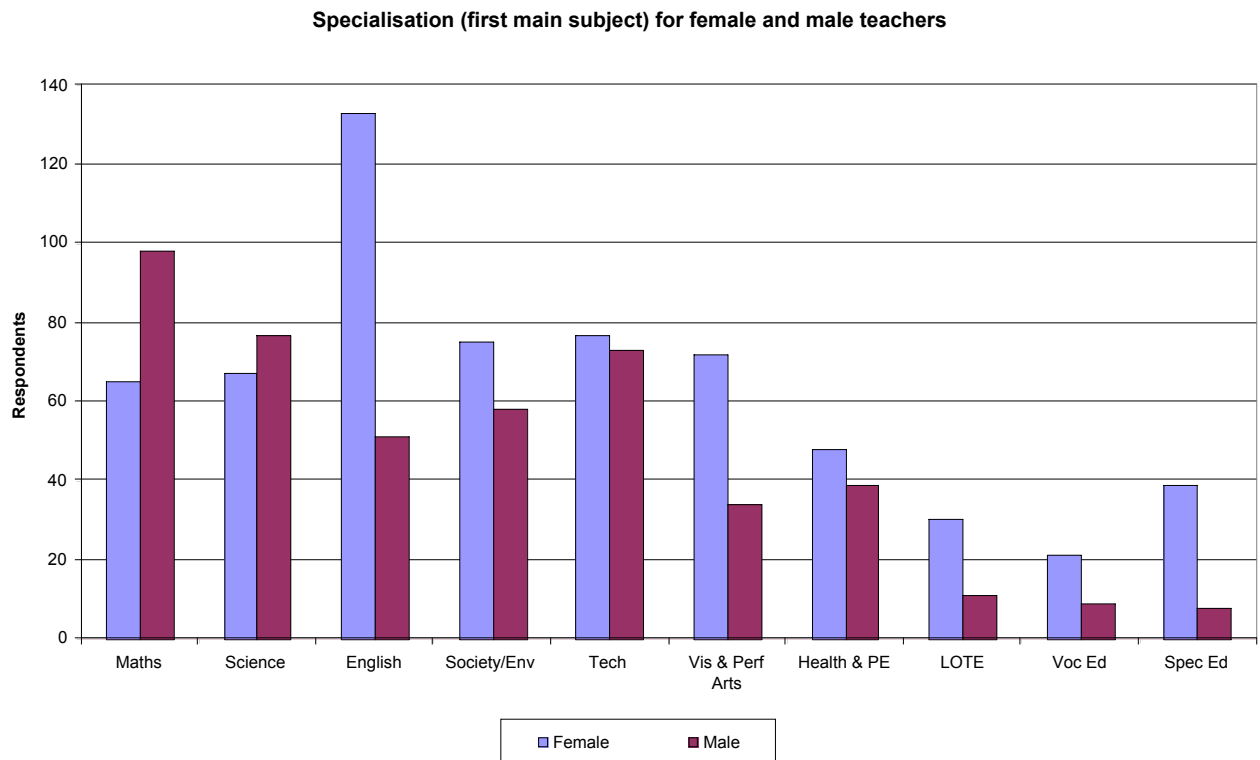


Perhaps surprisingly, teachers who specialised in English were more likely to teach that subject as their first main specialisation (75.7 per cent), than any other subject, closely followed by LOTE (74.5 per cent), visual and performing arts (70.2 per cent) and special education (68.1 per cent). Vocational Education teachers were slightly more likely to teach it as their *second* main subject, than as their *first* subject, which is unsurprising as it is generally taught for a relatively small number of hours per week and often by teachers with other specialisations.

Gender of teachers by specialisation (first main subject)

The Chart below shows the number of *male* and *female* teachers by their *first* main specialisation. It clearly shows that *males* were more likely to teach Mathematics and Science than other subjects, and outnumber *females* in both actual and relative terms. *Female* teachers outnumbered males most dramatically in English, Visual and Performing Arts, Languages other than English (LOTE) and Special Education.

Chart 10

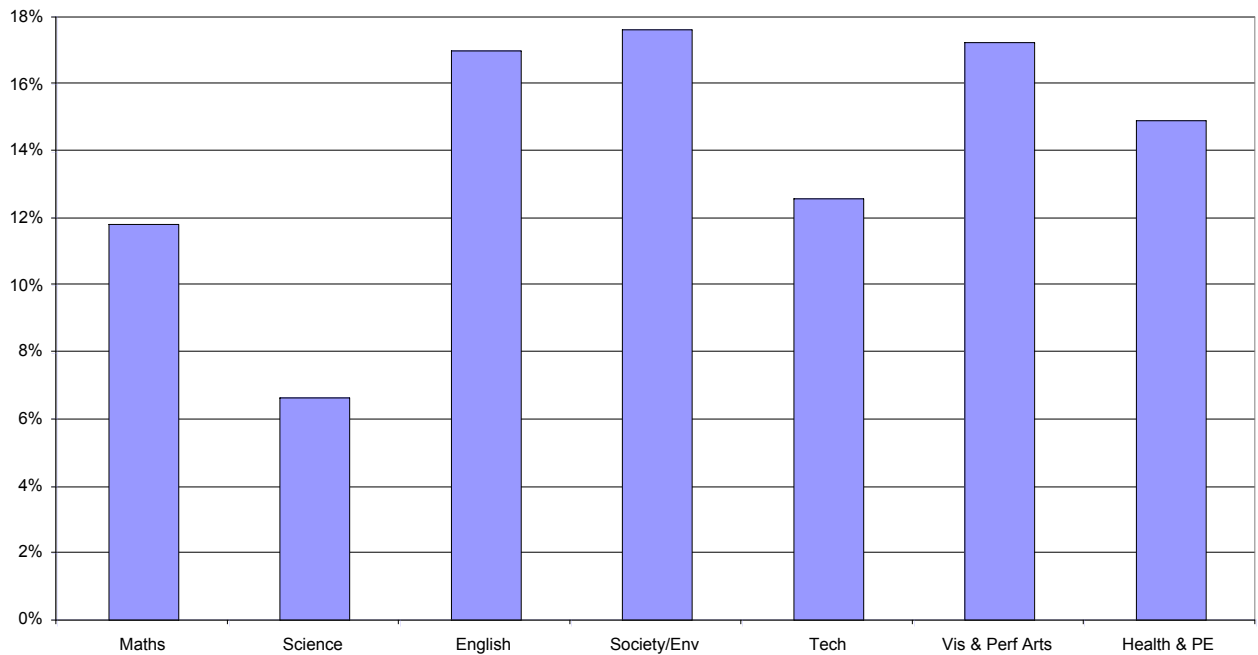


Teaching subjects outside of their first or second subject qualification

The following chart displays the proportion of teachers who were not teaching as their *first* or *second* main subject the subject they were *first* highest qualified in. Teachers whose *first* main qualification were in the Studies of Society or the Environment had the highest incidence of teaching outside their qualification (17.6 per cent), closely followed by teachers mainly qualified in Visual and Performing Arts (17.2 per cent) and English (17.2 per cent). Some 11.8 per cent of respondents whose *first* highest qualification was Mathematics were not teaching the subject as their *first* or *second* main subject. This is a somewhat surprising result given the perceived shortage of Mathematics teachers in some areas. Teachers whose first main qualification was in Science had a relatively low rate of teaching outside their qualification, with 6.7 per cent not teaching Science as their first or second main subject, second only to teachers qualified in Special Education (5.7 per cent).

Chart 11

Proportion of all teachers who are not teaching as first or second main subject the subject they are first most qualified in



Note: Teachers whose first main qualification was a Language Other Than English, Vocational Education or Special Education were not included in this chart, as the numbers involved were too small to draw meaningful conclusions.

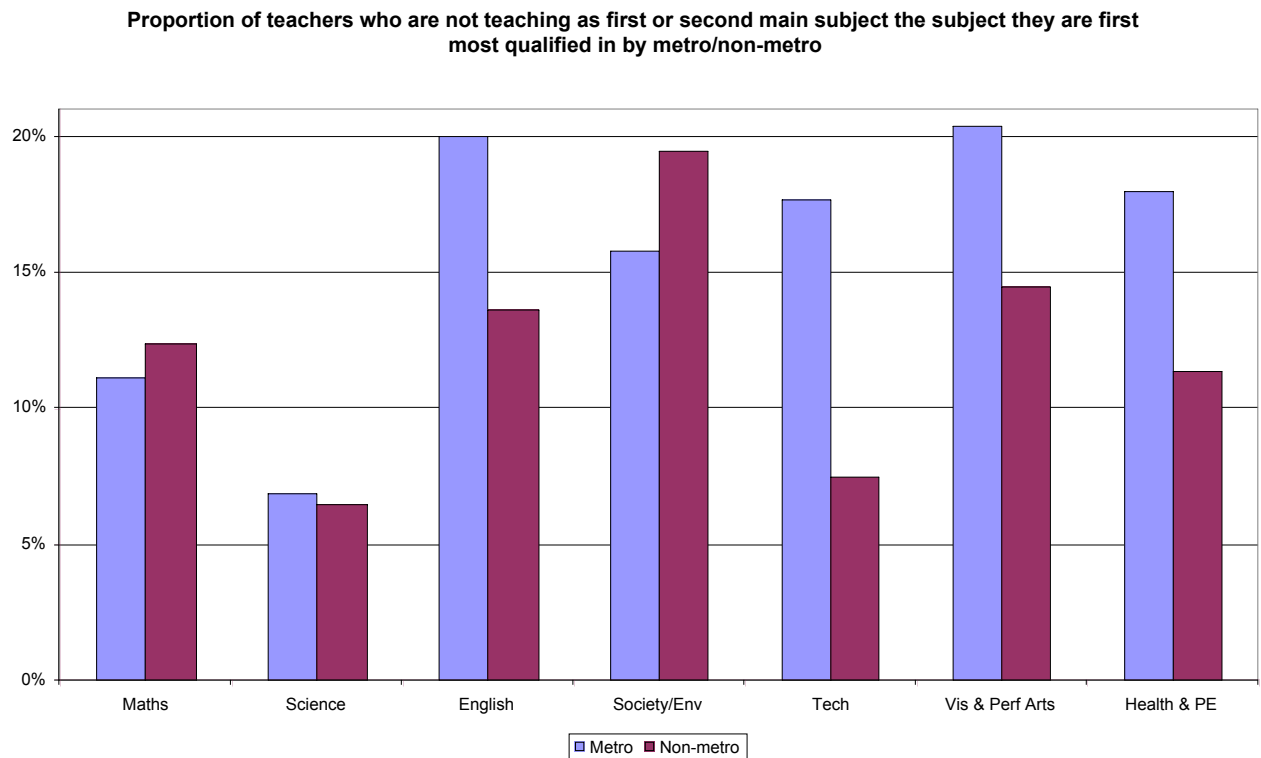
Teachers teaching outside their first main field of qualification in metropolitan and non-metropolitan schools

It is possible that competition for teaching in certain subjects may exist in certain schools or regions and that this is what is causing this mismatch of qualifications. Analysis of the results by whether the respondent's school is in a *metropolitan*¹ or *non-metropolitan* area indicate that this may indeed be the case, with the proportion of teachers teaching outside their qualifications being greater in *metropolitan* areas for all major specialisations except for Society and Environment. Overall², 15.5 per cent of teachers in *non-metropolitan* schools were not teaching as their first or second subject the subject of their first main qualification. This compares to 12.2 per cent for teachers in *metropolitan* schools.

¹ Include: All State/Territory capital cities and some larger satellite cities in New South Wales (Gosford, Newcastle and Wollongong, Victoria (Geelong) and Queensland (Ipswich and the Gold Coast).

² Including teachers with first main qualification in LOTE, Vocational Education and Special Education

Chart 12

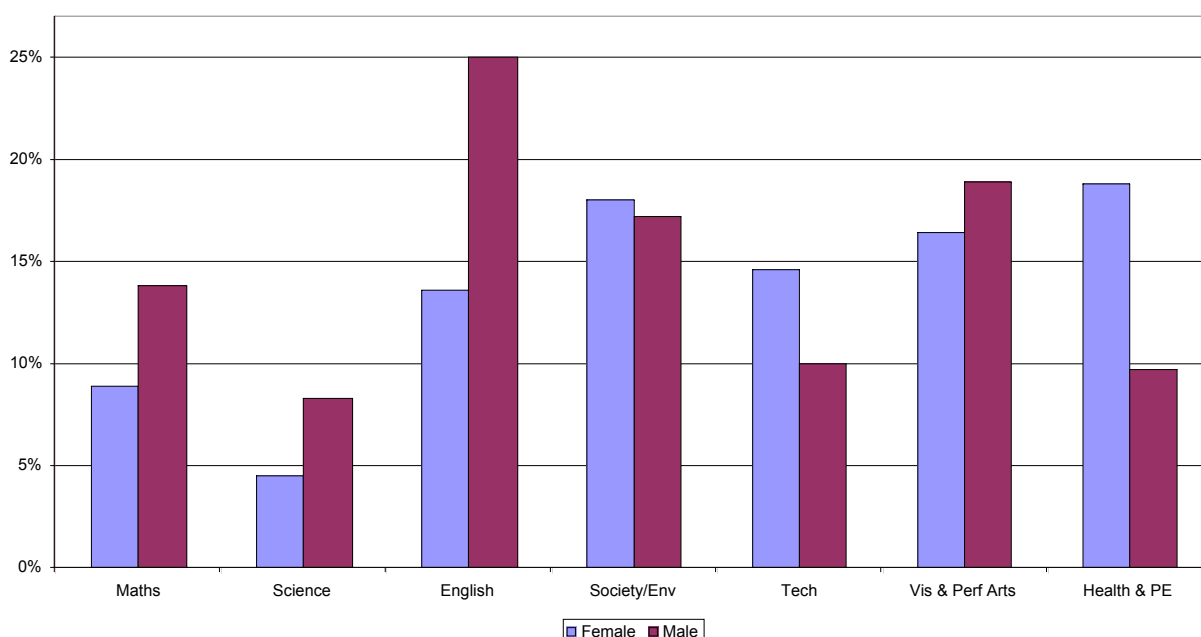


Note: Teachers whose first main qualification was a Language Other Than English, Vocational Education or Special Education were not included in this chart, as the numbers involved were too small to draw meaningful conclusions.

As the chart below shows, the survey results indicated that there was not much difference between genders, overall, with *male* respondents being only slightly more likely to be teaching outside their *first* or *second* main qualifications (14.3 per cent) than *female* respondents (13.2 per cent). The exceptions were in English, Visual and Performing Arts, and Special Education. The greatest discrepancy between genders was in teachers whose *first* main qualification was English where 25.0 per cent of *males* were not teaching the subject as *first* or *second* main subject, compared to just 13.6 per cent of *females*. There also appeared to be a major discrepancy between the genders for Health and PE qualified teachers working outside their specialisation (18.9 per cent of *females* compared to 9.8 per cent of *males*).

Chart 13

Proportion of teachers who are not teaching as first or second main subject the subject they are first most qualified in by gender



Note: Teachers whose first main qualification was a Language Other Than English, Vocational Education or Special Education were not included in this chart, as the numbers involved were too small to draw meaningful conclusions.

Overall, underutilisation of teacher specialisation was only slightly relatively greater in government schools (14.0 per cent) than in non-government schools (12.8 per cent). We will not report the analysis by individual subject here as the numbers involved for *non-government* schools were too small to draw meaningful conclusions.

As teachers are expected to be more multi-skilled and flexible in their teaching outlook, it appears to be that teachers are showing greater adaptability in meeting challenges in teaching outside their field of specialisation, augmented by further studies.

Teacher gender by teaching specialisation by age

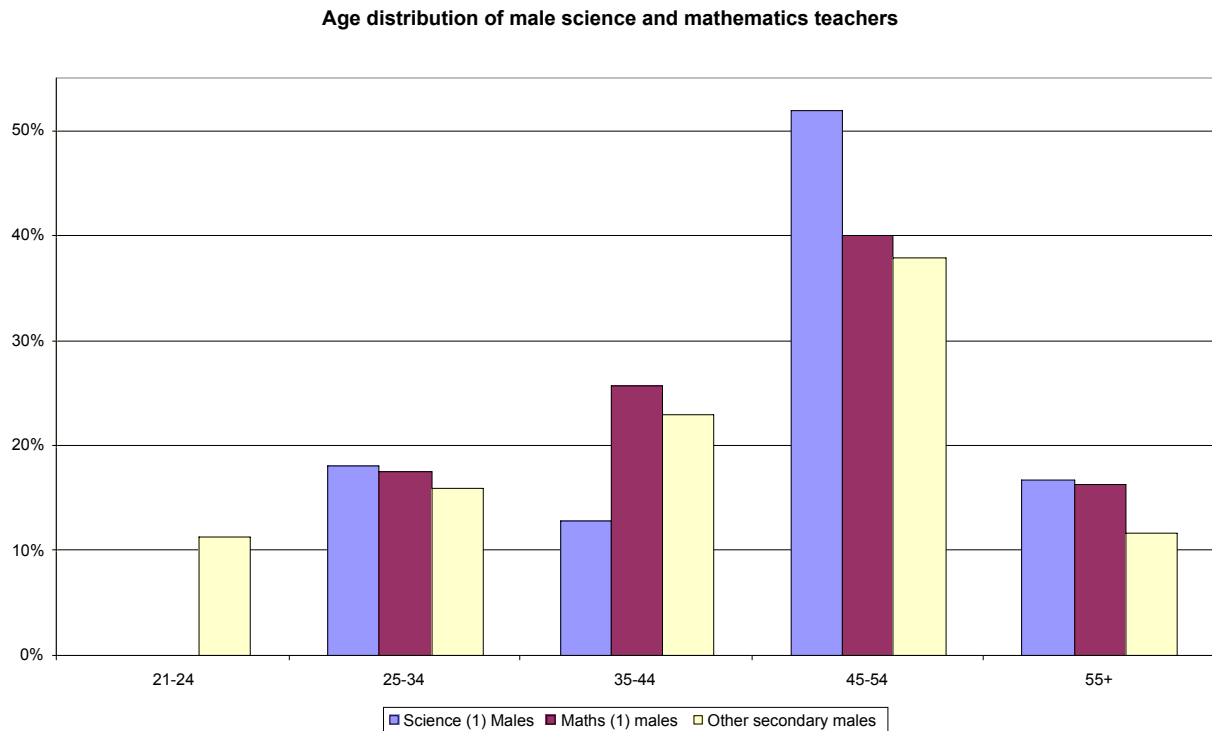
Anecdotal evidence tends to suggest that there is a significant concentration of older male teachers in the Mathematics, Science and Information Communication Technology Key Learning Areas. In this section of the report we have drawn out data from the survey on this issue.

Mathematics and Science Teachers

The age distribution of Mathematics and Science teachers varies somewhat from that of other secondary school teachers. This was especially true for *males* where Mathematics and Science teachers were likely to be significantly older than non-Mathematics or Science teachers. *Male* Science teachers were much more highly represented in the 45-54 years cohort than non-Mathematics or Science teachers, and much more poorly represented in the 35-44 years

cohort. *Male* Mathematics teachers were represented more strongly in all cohorts 25 years and higher than non-Mathematics or science teachers, with the biggest difference occurring in the 55+ years cohort. There were no survey respondents who were *males* aged 21-24 teaching Mathematics or Science as their *first* main subject.

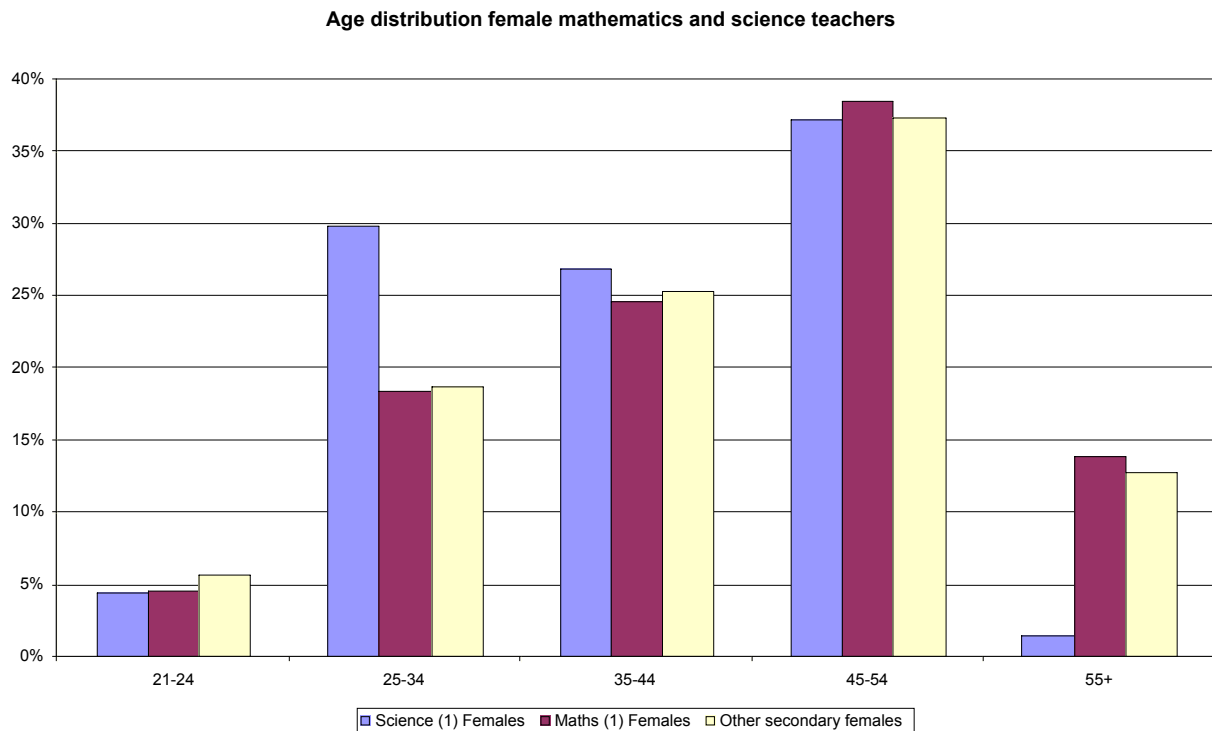
Chart 14



Note: These teachers nominated teaching Mathematics and/or Science as their first main subject.

The story for *females* was slightly more complicated. *Female* Mathematics teachers seem only slightly more prevalent in older cohorts than female non-Mathematics or Science teachers. However, *female* Science teachers seem to be much more highly represented in the 25-35 years cohort and under-represented in the 55+ years cohort.

Chart 15

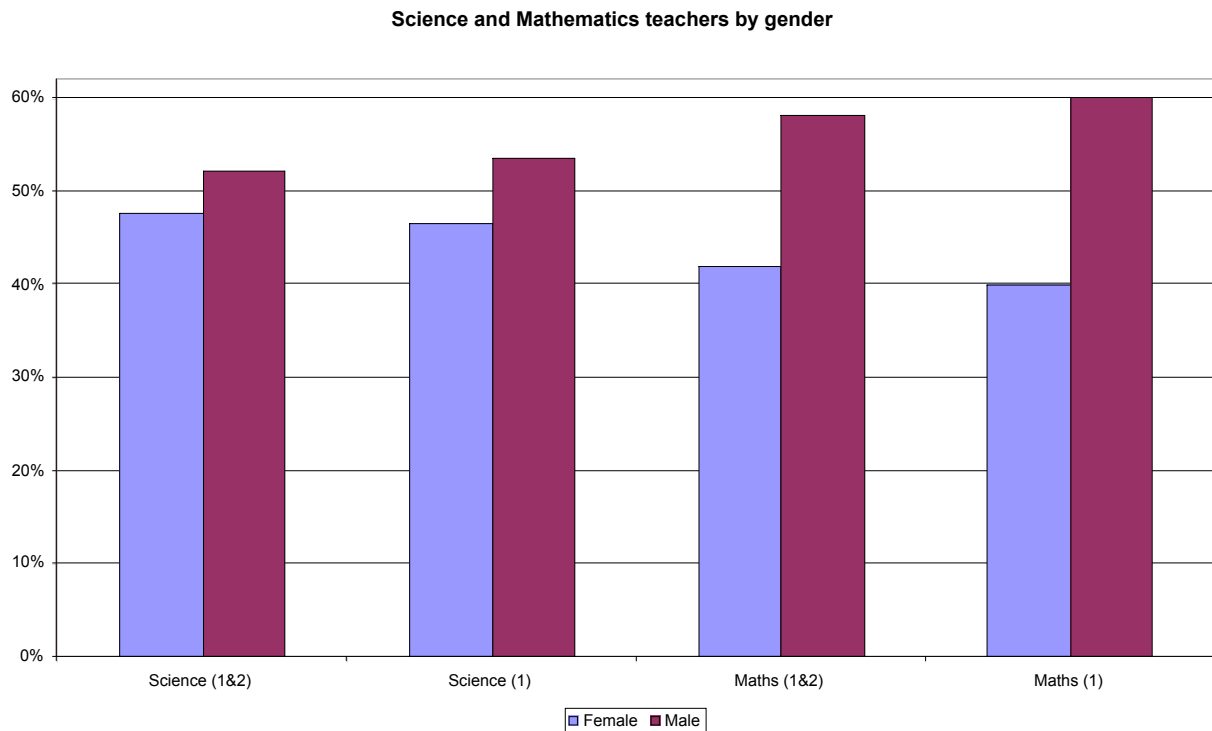


Note: These teachers nominated teaching Mathematics and/or Science as their first main subject.

There was a larger proportion of science teachers (*first* or *second* main subject) who were *male* than *female* (53.2 per cent compared to 46.8 per cent). Respondents who taught science as their *first* main subject were even more likely to be *male* (53.5 per cent).

Mathematics teachers (*first* or *second* main subject) were composed of a higher proportion of *males* (58.1 per cent) than *females* (41.9 per cent). Once again, the gap was larger when *male* and *female* respondents who nominated maths or science as their *first* main subject were compared, (60.1 per cent and 39.9 per cent) as the chart below shows.

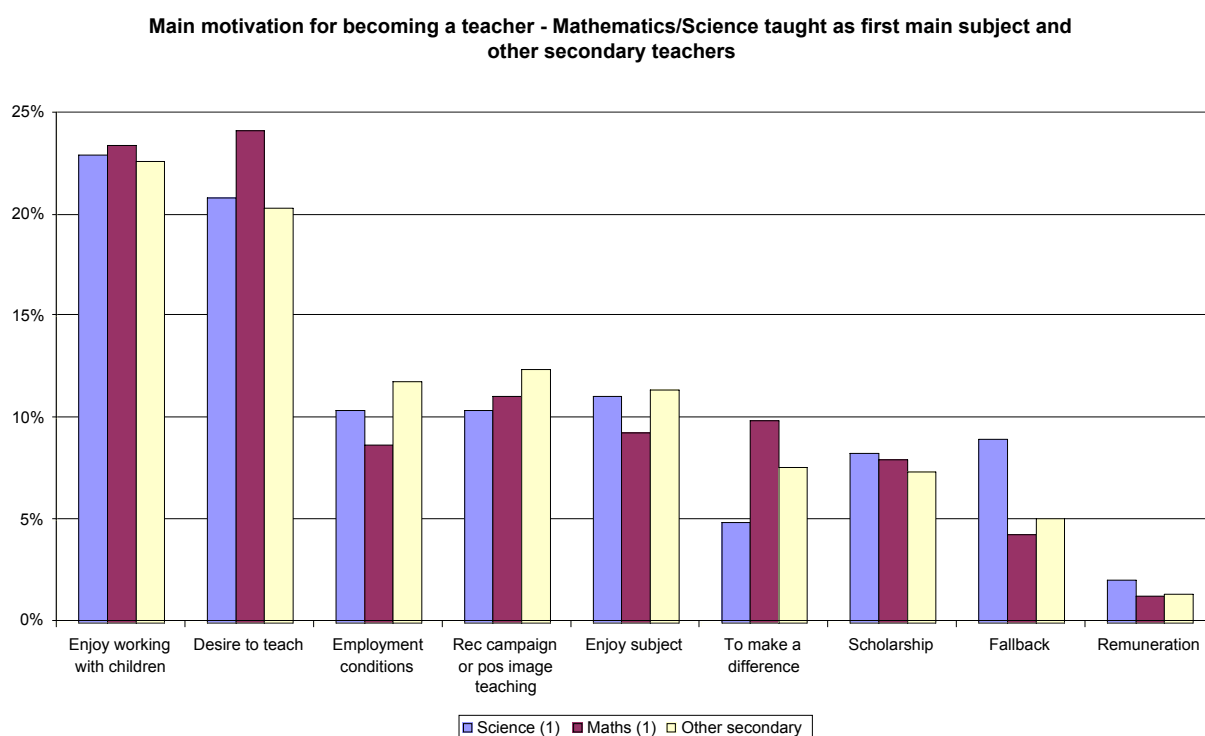
Chart 16



As can be seen in the chart below, Mathematics and Science teachers were about as likely as non-Science or Mathematics *secondary* teachers to become teachers because they enjoyed working with children. Mathematics teachers were slightly more likely than Science teachers or other secondary teachers to be motivated by a desire to teach or to make a difference. Science teachers were almost twice as likely to list fallback options as their motivations than Mathematics or other secondary teachers.

However, Mathematics and Science teachers were slightly less likely than the other *secondary* teachers to be motivated by employment conditions, a recruitment campaign or role model.

Chart 17



Allocation of work time

Teachers' work is not restricted to face-to-face classroom teaching. Teachers also spend time preparing lessons, grading students' work, undertaking non-teaching activities and other assigned roles. The tables below provide the average proportion of time allocated by teachers who participated in the survey to activities in and out of the classroom by full-time or part-time employment.

Table 12

Average proportion of time spent by type of activity and employment status				
	Face-to-face teaching	Preparing and grading	Assigned roles	Other non-teaching activities
Full-time	51.0	26.5	11.4	11.0
Part-time	54.8	26.5	6.9	11.8

The following outlines how the average weekly hours were utilised by type of activity and for *female* and *male* participants of the survey. Around half of the respondents devoted between 40 and 60 per cent of their time to face-to-face teaching. *Male* teachers appear to spend less time in direct teaching than their *female* colleagues, as only 28 per cent of *male* respondents spent more than 60 per cent of their time in direct teaching, while the analogous proportion for the *female* teachers was 36 per cent.

Table 13

Proportion of time spent on face-to-face teaching by gender (per cent)		
Proportion of time spent (%)	Female	Male
0	1.2	1.1
1 to 19	3.1	5.7
20 to 39	12.8	16.7
40 to 49	18.3	21.3
50 to 59	28.3	27.3
60 to 79	34.3	26
80 to 97	1.9	1.7

The difference in the proportion of time spent face-to-face teaching by females and males is probably partly due to the fact that females are more highly represented in *primary* schools where more time is allocated for face-to-face teaching. The following table shows the breakdown of time spent by teachers according to education level. Almost 40 per cent of *primary* school teachers spent 60 per cent or more of their time on face-to-face teaching, compared to around 27 per cent of *secondary* school teachers.

Table 14

Proportion of time spent on face-to-face teaching by teaching level (per cent)		
Proportion of time spent (%)	Primary	Secondary
0	1.0	1.4
1 to 19	2.6	5.4
20 to 39	8.9	19.7
40 to 49	16.8	21.9
50 to 59	31.0	24.6
60 to 79	37.6	25.3
80 to 97	2.2	1.5

Over one third of both *female* and *male* teachers spent 20 to 30 per cent of their time on preparation of lessons and grading of assignments. One quarter of teachers spend as much as 30 to 40 per cent, while every tenth teacher admitted to having spent between 40 and 60 per cent of their time on preparation and grading.

Table 15

Proportion of time spent on preparing and grading by gender (per cent)		
Proportion of time spent (%)	Female	Male
0	1.0	1.7
1 to 9	6.0	8.2
10 to 19	19.1	19.6
20 to 29	34.8	35.9
30 to 39	25.5	23.3
40 to 59	12.9	10.7
60 to 79	0.7	0.6

Secondary school teachers were more likely to spend a large proportion of their time on preparing and grading as the table below shows. Around 41 per cent of *secondary* school teachers spent 30 to 59 per cent of their time on preparing or grading, compared to around 34 per cent of *primary* school teachers.

Table 16

Proportion of time spent on preparing and grading by teaching level (per cent)		
Proportion of time spent (%)	Primary	Secondary
0	1.0	1.4
1 to 9	6.2	7.2
10 to 19	20.4	17.9
20 to 29	37.8	32.1
30 to 39	24.3	25.4
40 to 59	9.6	15.2
60 to 79	0.6	0.6

Over 50 per cent of teachers spent less than 10 per cent of their time on other non-teaching activities. However, there was a considerable group of teachers (around 40 per cent) who spent between 10 and 20 per cent of their time on activities not related to teaching. Moreover, 8 per cent of *females* and 7 per cent of *males* reported spending between 30 and 40 per cent of their time on such non-teaching activities.

Table 17

Proportion of time spent on non-teaching activities by gender (per cent)		
Proportion of time spent (%)	Female	Male
0	0.7	1.6
1 to 4	9.6	10.2
5 to 9	39.1	41.5
10 to 19	41.7	38.3
20 to 39	8.0	7.0
40 to 96	0.9	1.4

Perhaps surprisingly, the proportion of time spent on non-teaching activities varied little between *primary* and *secondary* school teachers. *Secondary* school teachers were slightly more likely than *primary* school teachers to spend a **low** proportion (less than 5 per cent) of their time on non-teaching activities. However, they were also slightly more likely than *primary* school teachers to spend a **high** proportion of their time (20 per cent or more) on non-teaching activities. This may suggest that when *secondary* school teachers do take on non-teaching activities, the activities are relatively more time-consuming than those of their *primary* school counterparts.

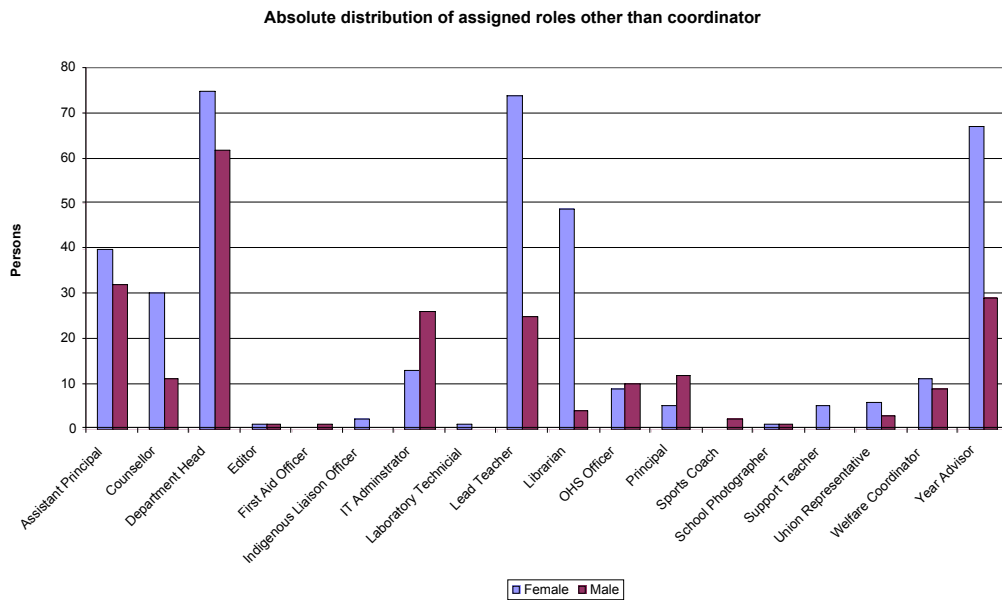
Table 18

Proportion of time spent on non-teaching activities by teaching level (per cent)		
Proportion of time spent (%)	Primary	Secondary
0	0.6	1.4
1 to 4	8.2	11.6
5 to 9	38.9	40.8
10 to 19	44.5	36.4
20 to 39	7.1	8.4
40 to 96	0.7	1.4

Out of the total of 2,355 survey respondents, 1,310 or 56 per cent had auxiliary assigned roles. Of teachers with assigned roles, 693 or 53 per cent were coordinators (54.9 per cent of *females*

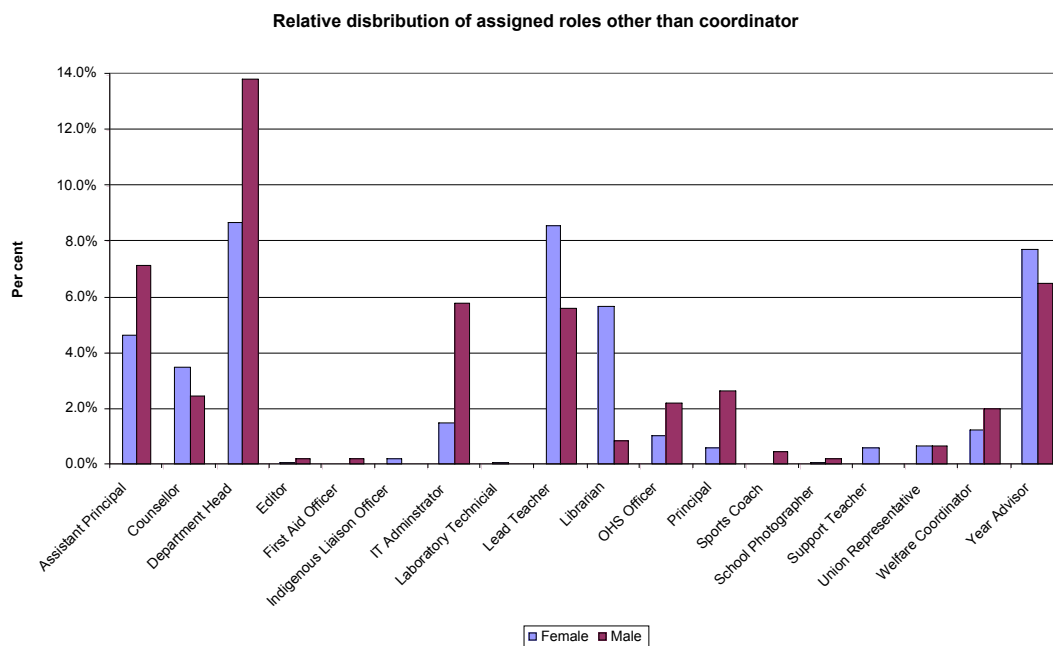
and 49.2 per cent of *males*). Other frequently occurring roles were lead teacher, department head, year advisor, assistant principal and librarian as the Chart below shows.

Chart 18



In relative terms, *male* teachers filled mostly the managerial and technical roles such as department head, assistant principal and IT administrator. *Female* teachers were mostly represented in the assigned roles of lead teacher, librarian, counsellor or year advisor. Interestingly, *males* were slightly more represented in the roles of Occupational, Health and Safety (OHAS) Officer and Welfare Coordinator than *females*.

Chart 19



Factors that are important in attracting and retaining teachers

Careers before entering teaching

The majority of teachers did **not** have another career before entering teaching (1,905 survey respondents, or 80.9 per cent). For those 450 respondents who **did** have a career before entering teaching, 81 or 18.0 per cent worked in administrative or clerical positions, 36 or 8.0 per cent in banking or finance, 30 or 6.7 per cent in the trades and the same number as scientists or chemists, 27 or 6.0 per cent in nursing and 21 or 4.7 per cent in hospitality. Less prevalent previous careers of respondents were diverse and included, for example, a life guard, two truck drivers, an air traffic controller and a florist.

Secondary school teachers were more likely to have had a career prior to entering teaching (24.3 per cent compared to 15.0 per cent of *primary* school teachers), as were male respondents (28.0 per cent compared to 15.3 per cent of female respondents). Teachers in *government* schools were more likely to have had a previous career (18.8 per cent compared to 7.5 per cent of *non-government* school teachers). Teachers in *non-metropolitan* schools were only slightly more likely to have had a previous career (19.5 per cent) than teachers in *metropolitan* schools (18.9 per cent).

Motivations for becoming a teacher

Respondents were asked to identify the biggest motivation behind them deciding to become a teacher. The motivations given have been ranked by prevalence in the following table. *Female* respondents were more likely than *male* respondents to report working with children or a desire to teach as their main motivation for teaching. Perhaps surprisingly, *male* respondents appeared more likely than *females* to be attracted to teaching by 'employment conditions' or in order to 'make a difference'.

Remuneration was ranked as the lowest motivation for both *males* and *females* with only 18 of the 2355 respondents listing it as a motivation for entering teaching.

Table 19

Motivations for becoming a teacher - female, male and all teachers (per cent)			
	Female	Male	Total
Enjoy working with children	32.8	25.9	30.7
Desire to teach	24.0	17.4	22.0
Recruitment campaign or positive impact of role model	11.0	12.5	11.5
Employment conditions	6.5	13.4	8.6
To make a difference	6.8	11.8	8.3
Enjoy subject	5.7	7.2	6.2
Fallback option	6.6	4.9	6.1
Scholarship	5.9	5.9	5.9
Remuneration	0.7	1.0	0.8

Note: Some of the motivations recorded have been grouped for ease of analysis:

- 'Desire to teach' is a combination of 'desire to teach' and 'share skills/knowledge with students';
- 'Employment conditions' is a combination of the responses– 'job security', 'working hours/holiday provisions', and 'mobility of position – allow for travel'; and
- 'Fallback option' is a combination of 'only option available', 'dislike previous career', 'injury sustained from previous career' and 'needed a job/fell into teaching'.

As the table below shows, *primary* school teachers are not surprisingly more likely to enter the profession than *secondary* school teachers because they enjoy working with children and to make a difference. *Secondary* school teachers were more likely to be motivated by employment conditions, and because they enjoy their subject.

Overall, there was little difference in motivations between teachers in the *government* and *non-government* systems. However, *government* school teachers were more likely to be motivated by employment conditions or a scholarship, and *non-government* school teachers were more likely to be attracted to teaching in order to make a difference.

Table 20

Motivations for becoming a teacher - level and system (per cent)				
	Primary	Secondary	Government	Non-government
Enjoy working with children	37.3	23.1	30.1	32.4
Desire to teach	22.7	21.2	21.5	23.4
Recruitment campaign or positive impact of role model	10.9	12.1	11.4	11.8
Employment conditions	6.2	11.3	9.4	6.3
To make a difference	10.0	6.2	7.4	10.5
Enjoy subject	1.8	11.2	6.1	6.3
Fallback option	6.5	5.6	5.9	6.5
Scholarship	4.3	7.7	7.2	2.5
Remuneration	0.2	1.5	0.9	0.3

The table below shows that teachers in *metropolitan* schools were slightly more likely than those in *non-metropolitan* schools to have entered teaching because they enjoyed working with children, had a desire to teach, or as a fallback option. Teachers in *non-metropolitan* areas were slightly more likely to have been attracted to teaching through a recruitment campaign or positive impact of a role model, by employment conditions, because they enjoy their subject or through a scholarship.

Table 21

Motivations for becoming a teacher - school location		
	Metropolitan	Non-metropolitan
Enjoy working with children	33.1	27.8
Desire to teach	22.6	21.3
Recruitment campaign or positive impact of role model	10.7	12.5
Employment conditions	7.0	10.6
To make a difference	8.4	8.1
Enjoy subject	5.5	6.9
Fallback option	6.5	5.5
Scholarship	5.7	6.2
Remuneration	0.5	1.1

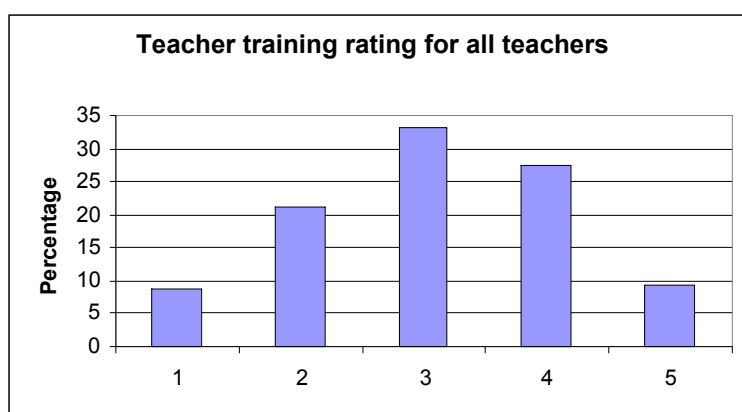
Teacher training

The quality of initial teacher training is important in preparing teachers for a successful transition from study to work. To the extent that the training is well regarded it is likely to positively motivate teachers, and conversely, where it is poorly regarded, it is likely to lead to a less well motivated teaching workforce. Survey respondents were asked to rate their initial teacher training on a 1 (low) to 5 (high) scale.

The next Chart provides information, for all survey respondents, on their views on how their initial teacher education prepared them for the role.

The largest proportion of respondents was moderately satisfied with their initial teacher training with 33.1 per cent rating it “3”. Around 27.6 per cent rated their teacher training at “4” while 9.5 per cent rated it highly at “5”. Some respondents were not satisfied with their training with 21.1 per cent rating it “2” and 8.7 per cent rating it “1”. Since most survey responses using similar rating scales tend to be mid-range responses, the proportion recording extreme dissatisfaction might be viewed as surprisingly high.

Chart 20



The following table compares the views of *primary* and *secondary* teachers on their initial teacher preparation. *Secondary* school teachers were more likely to respond that they were positively satisfied, and that they were extremely dissatisfied, whereas *primary* school teachers were more likely to have a neutral response. The average rating was similar with 3.07 per cent for *primary* school teachers and 3.09 per cent with *secondary* school teachers.

Table 22

Teacher training: Rating by primary or secondary teachers (per cent)						
	Lowest				Highest	
Level	1	2	3	4	5	Average rating
Primary	8.0	21.0	35.1	27.2	8.6	3.07
Secondary	9.6	21.1	30.9	28.0	10.5	3.09

Differences in the views on teachers' initial teacher training by gender and age are outlined below. *Female* teachers rated their training somewhat more highly and were more likely to rate their training at '4' and '5' than were *male* teachers. However, relatively more *female* teachers (9.5 per cent) gave their training a rating of '1' compared to 7.0 per cent of *males*. Overall, *female* teachers were more satisfied than their *male* counterparts with an average rating of 3.09 compared to 3.05 for *males*.

Table 23

Teacher training: Rating by female and male teachers (per cent)						
	1	2	3	4	5	Average rating
Female	9.5	20.0	32.4	28.0	10.1	3.09
Male	7.0	23.6	34.9	26.5	8.0	3.05

Analysis of rating by age groups in the next chart follows. The data show that teachers aged 45 to 54 years were more likely than any other age group to be extremely dissatisfied with their teacher training (10.4 per cent). This compares to a figure of just 3.6 per cent for respondents ages 21 to 24 years. Teachers aged 55 and over were more likely to be highly satisfied with their training (17.4 per cent compared to just 4.4 per cent of 25 to 34 year olds). The cohort with the overall highest satisfaction with teacher training was the 55 and over group which had an average ranking of 3.41, followed by 21-24 year olds with an average ranking of 3.19.

The high average ranking among 21-24 year olds quickly drops away to the lowest average ranking in the 25-34 year cohort, suggesting that young teachers may tend to quickly become less enamoured with the quality of their training as they gain more experience in the workforce. Similarly, the high average ranking of the 55+ cohort may either suggest that the quality of teacher training was actually better when these teachers trained than in later years, or may reflect a fading memory of dissatisfaction with training (many in this cohort would have trained more than 30 years ago).

Table 24

Teacher training: Rating by age groups (per cent)						
Age group	1	2	3	4	5	Average rating
21-24	3.6	20.7	36.0	32.4	7.2	3.19
25-34	8.8	23.6	39.8	23.4	4.4	2.91
35-44	7.5	21.1	35.5	26.7	9.2	3.09
45-54	10.4	22.6	29.3	27.6	10.1	3.04
55+	7.8	12.1	28.7	34.0	17.4	3.41

School environment and working conditions issues that are important in teaching career decisions

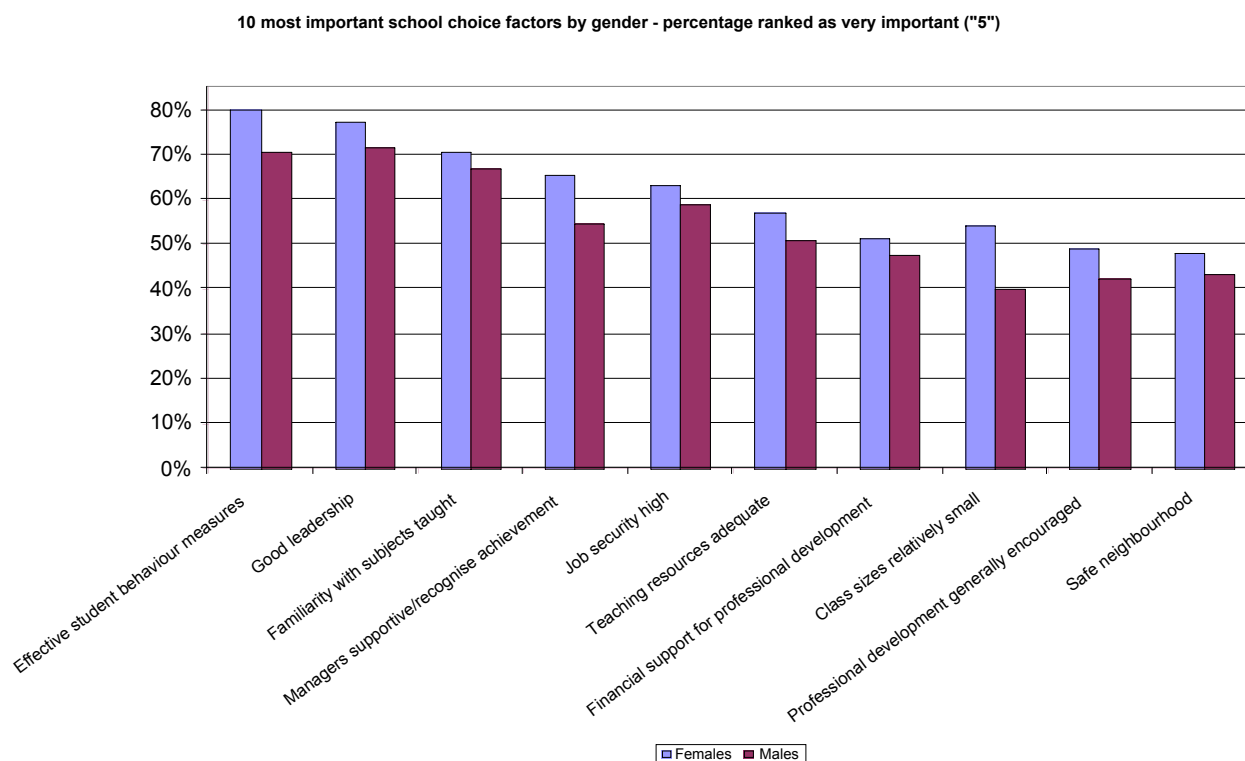
The survey also canvassed information concerning the school environment and survey respondents' working conditions. Teachers were asked to rate the importance to them of various factors about the school environment and working conditions. Participants were requested to rate the factors on a 1-5 rating scale, with factors that were most likely to impact on career decisions being rated as a '5', with least important factors being rated as a '1'. Teachers were asked to rate 20 factors. The factors are ranked from highest to lowest in the table below.

Table 25

Rating of school environment and teaching conditions by all teachers (per cent)					
	1	2	3	4	5
Effective measures for handling student behaviour	0.4	1.1	4.5	16.8	77.2
There is good leadership	0.3	1.1	4.1	18.9	75.6
Familiarity with subjects taught	0.4	0.7	5.8	23.6	69.5
Administrators and managers are supportive and recognise achievement	0.4	1.3	7.8	28.3	62.2
Job security is high	0.2	1.3	8.6	28.1	61.8
Teaching resources are adequate	0.4	1.8	9.6	33.0	55.2
Financial support for professional development	1.1	2.7	12.3	33.6	50.2
Class sizes are relatively small	1.5	4.1	15.2	29.0	50.1
Professional development is generally encouraged	0.3	1.7	11.3	39.5	47.2
Safe neighbourhood	1.9	5.7	17.2	28.5	46.7
Occupational health is well managed	0.6	2.9	12.8	37.2	46.5
You have autonomy or control over your work	0.3	2.1	12.2	46.9	38.6
Salary is high	1.4	5.4	21.9	33.0	38.4
There are generous holiday provisions	1.1	4.1	23.3	33.9	37.5
Community and parents are involved	0.9	3.4	20.4	38.7	36.5
You are able to move between schools as the career progresses	3.2	7.3	21.3	33.7	34.5
The year or level taught is close to what the teacher prefers	3.9	8.8	27.1	30.1	30.0
Promotion opportunities	4.1	9.2	24.8	35.2	26.8
Nice facilities – buildings and ground	1.1	5.4	26.9	40.4	26.1
The workload is relatively light	6.2	16.6	32.8	24.4	20.0

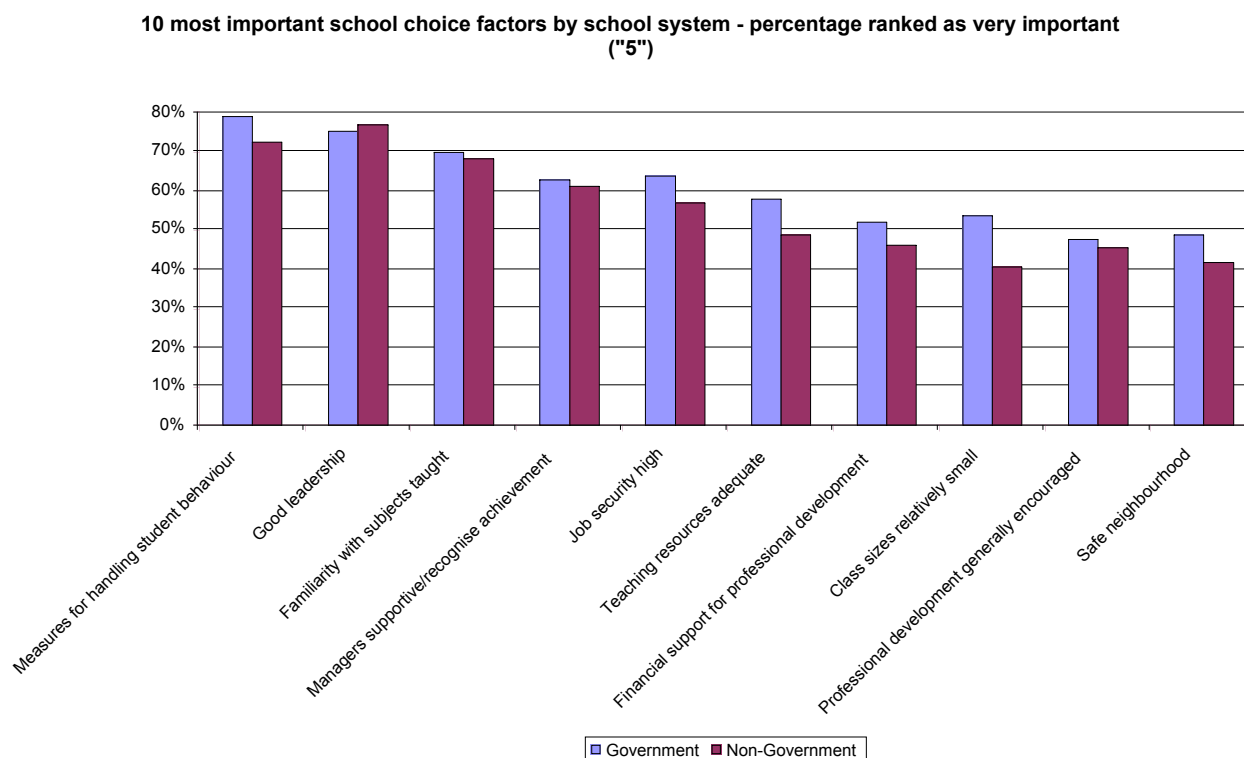
The following chart shows the ten most important factors about school environment and working conditions by gender. Ranking of factors was similar between the genders, with *females* generally tending to rank each factor more highly than *males*. *Females* were slightly more likely than *males* to give emphasis to management support/recognition and relatively small class sizes.

Chart 21



The chart below looks at the ten top ranked factors by school system. Again the rankings were similar but *non-government* teachers gave a lower rating to measures for handling student behaviour and relatively small class sizes and a higher rating for good leadership.

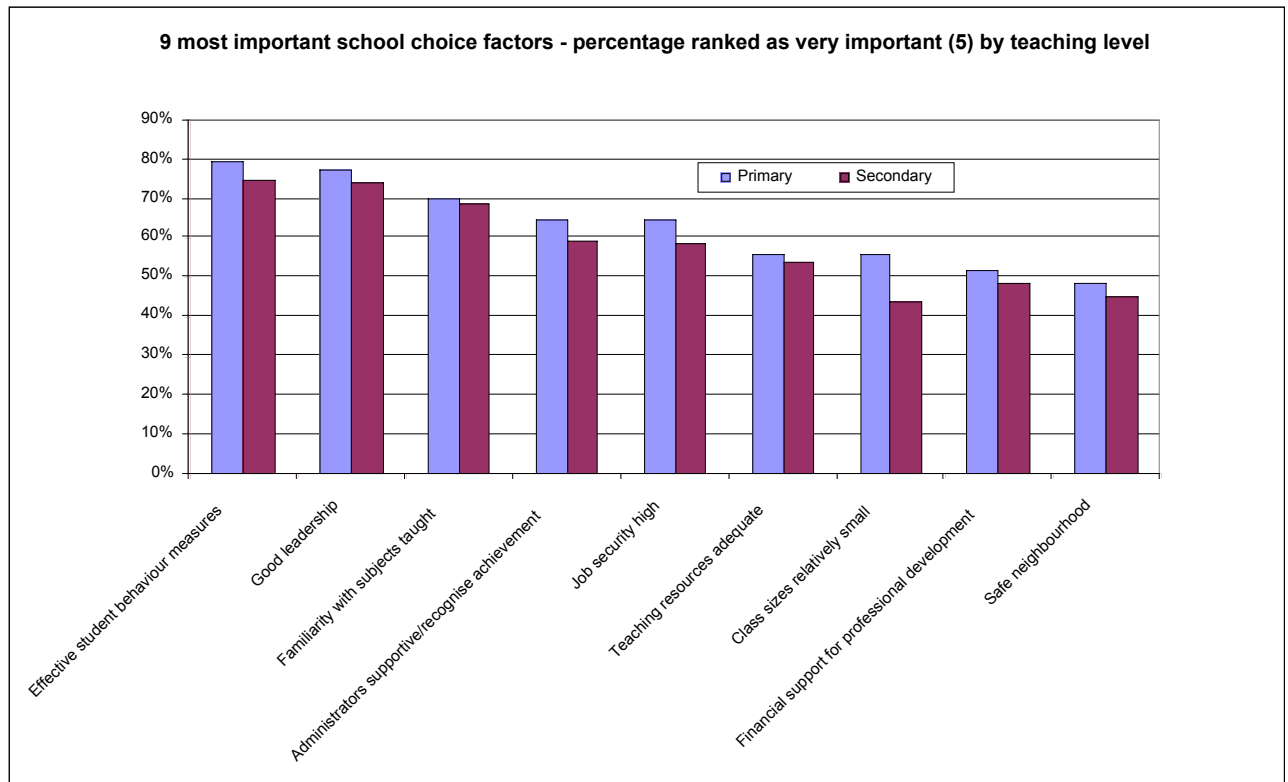
Chart 22



The following chart looks at responses by *primary* and *secondary* teachers. *Primary* teachers generally rated the top nine factors higher than *primary* teachers. Apart from sharing the same top six factors, “financial support for professional development” (48.7 per cent), “safe neighbourhood” (44.9 per cent) and “class sizes are relatively small” (43.5 per cent) were seventh, eighth and ninth in rankings for *secondary* teachers.

The tenth-ranked factor rated at “5” by *primary* teachers was “professional development is generally encouraged” (51.4 per cent), whilst for *secondary* teachers it was “occupational health is well managed” (44.8 per cent).

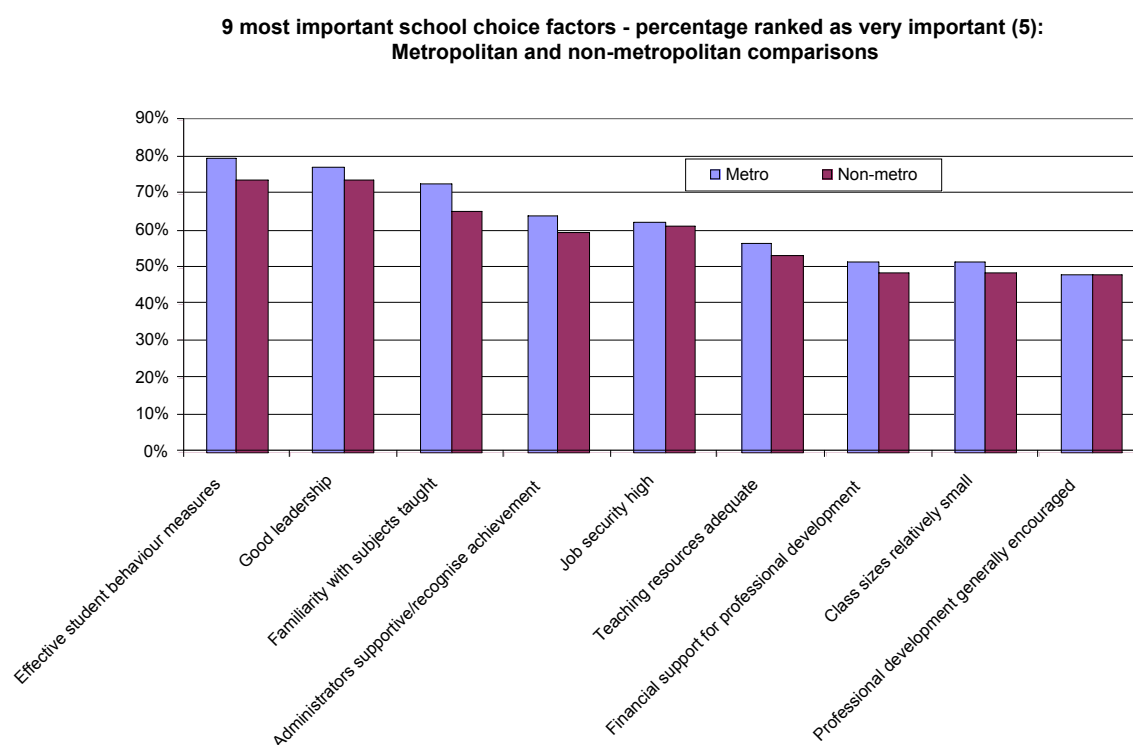
Chart 23



Metropolitan and *non-metropolitan* teachers shared the same top nine factors with ratings of “5” – very important and the chart below shows that. *Metropolitan* teachers gave more emphasis on all the nine factors, particularly having “effective student behaviour measures” (79.7 per cent).

The tenth-ranked factor nominated by *metropolitan* teachers was “occupation health is well managed” (47.7 per cent), whilst for *non-metropolitan* teachers, it was working in a school in a “safe neighbourhood” (45.8 per cent).

Chart 24



Things that bothered teachers

Teachers were asked to identify the single most important issue that bothered them in their work as teachers. For analysis purposes, some factors have been categorised under key themes. For example, 'Lack of resources or time' includes the following responses:

- Overly demanding/tiring work, stress
- Too much paper work
- Lack of administrative support
- Lack of resources, facilities; and
- Lack of time.

'Student welfare issues' include the following responses:

- Student behavioural problems/lack of motivation
- Low quality of service to children; and
- Level of responsibility for children

'Employment conditions other than pay' include the following responses:

- Problems with other staff
- Lack of promotion opportunities
- Contract arrangements; and

- Poor leadership.

'Lack of autonomy or creativity' includes the following responses:

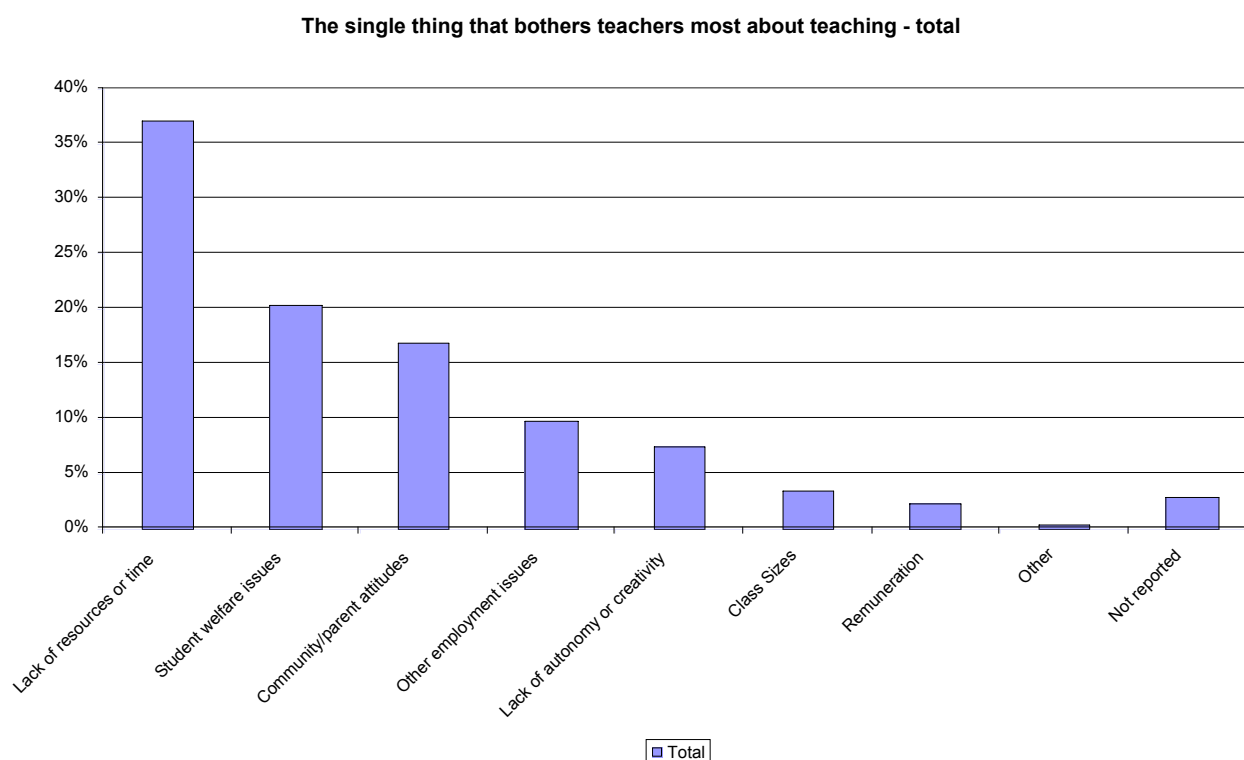
- Lack of creativity
- Lack of autonomy; and
- Constantly changing curriculum.

As shown in the following Chart, the most important issues for teachers in terms of dissatisfaction for their work included:

1. Lack of resources or time (874 or 37.1 per cent);
2. Student welfare issues (479 or 20.3 per cent);
3. Attitude problems of parents and the community (397 or 16.9 per cent);
4. Employment conditions other than remuneration (227 or 9.6 per cent);
5. Lack of autonomy or creativity (174 or 7.4 per cent);
6. Class sizes (79 or 3.4 per cent); and
7. Remuneration (53 or 2.3 per cent).

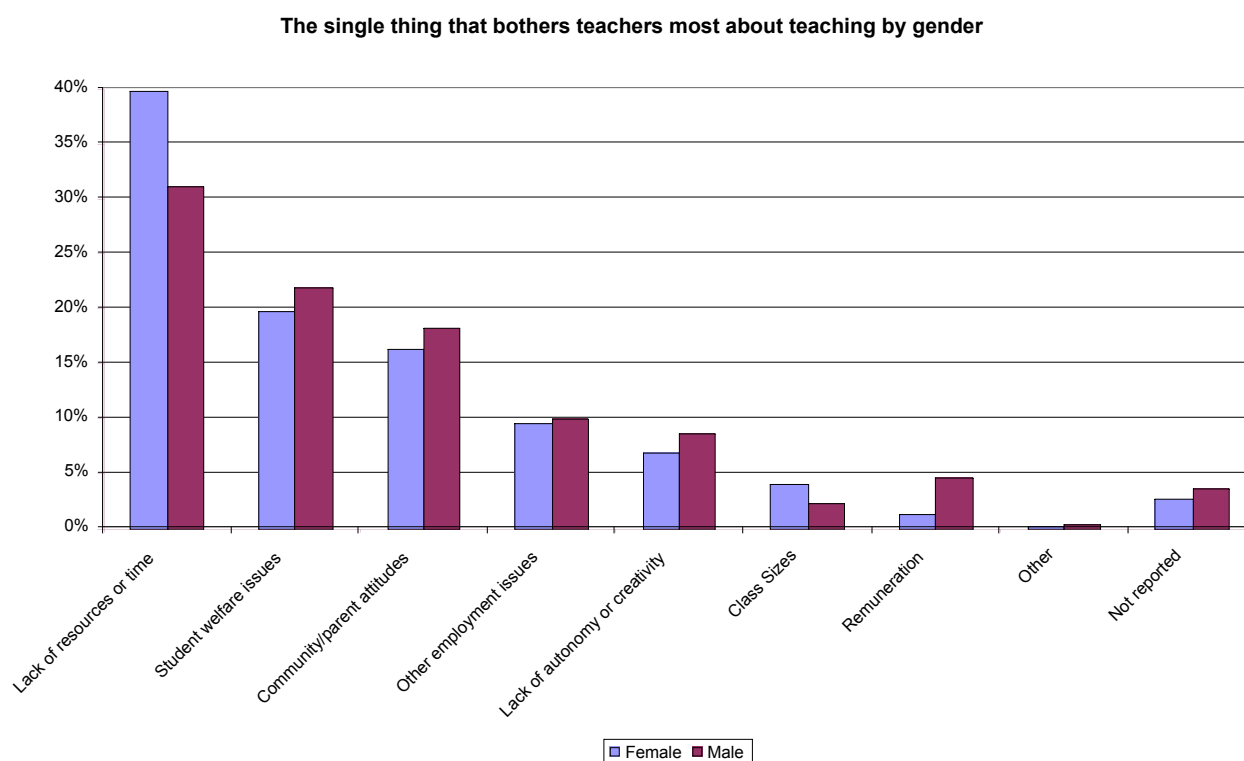
Only five respondents nominated bothersome issues that did not fit into the above categories. Three nominated 'lack of males in the profession', and two nominated 'playground duty'. Some 67 respondents or 2.8 per cent did not nominate an issue that bothered them about teaching.

Chart 25



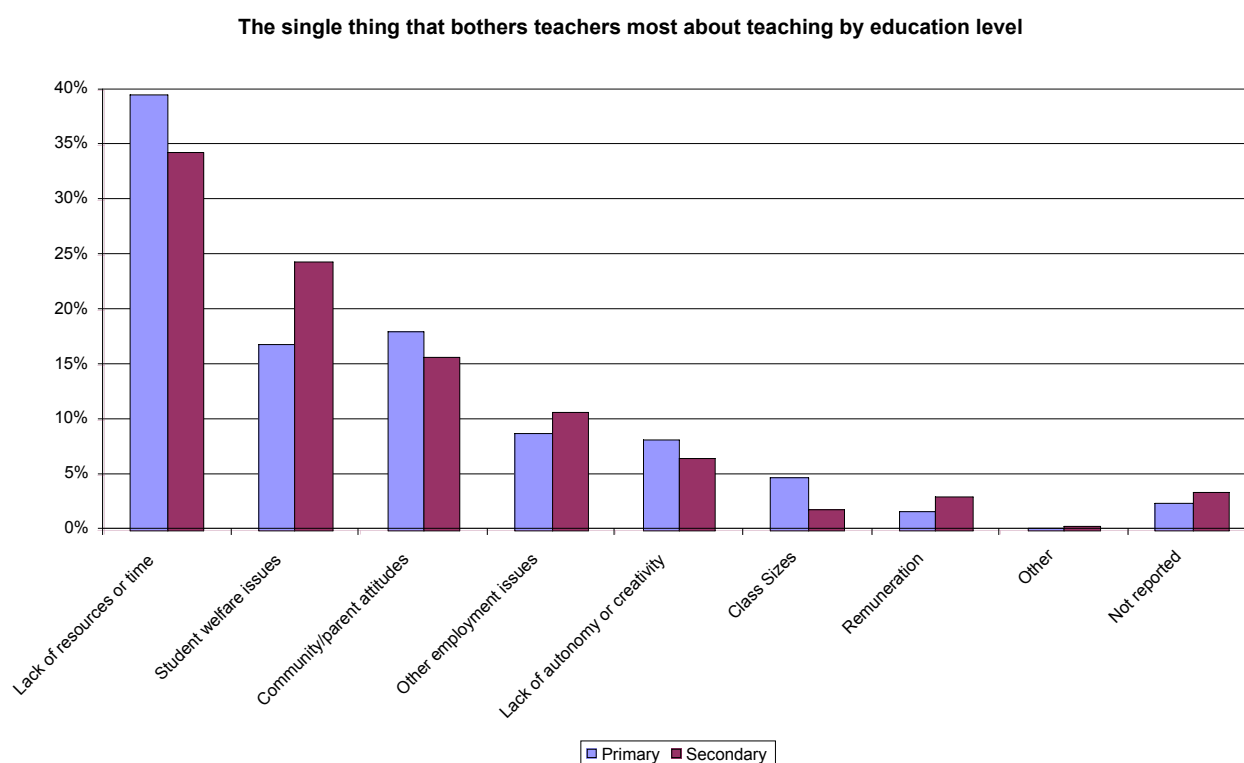
There were some marked differences between responses of *males* and *females* to this question as the chart below shows. *Female* respondents were considerably more likely to nominate lack of time or resources as their biggest 'dislike' (39.7 per cent compared to 31.0 per cent of *males*). *Male* teachers were slightly more likely than *females* to nominate being bothered by student welfare issues, community/parent attitudes and lack of autonomy or creativity. *Males* were over three times more likely to be most bothered by remuneration (4.4 per cent) than *females* (1.3 per cent).

Chart 26



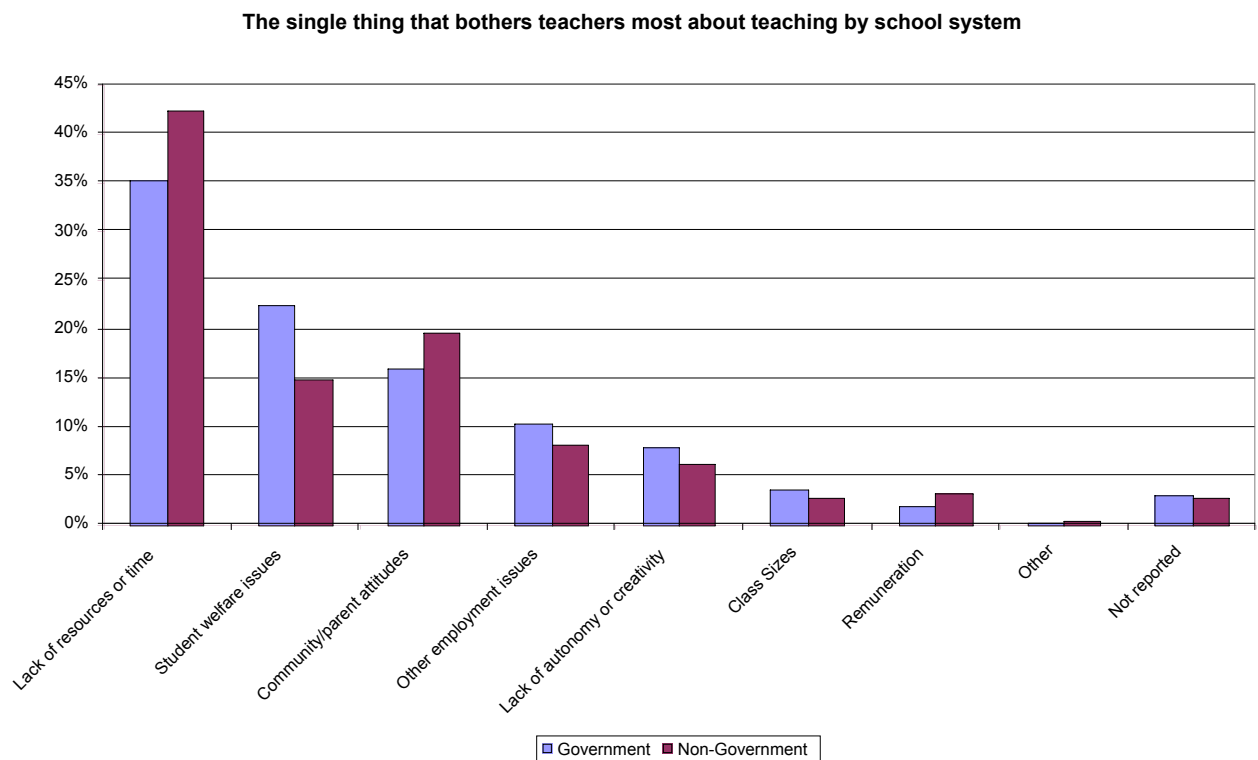
There was also some variation between responses of *primary* and *secondary* school teachers. *Primary* school teachers were slightly more likely to be most bothered by lack of time/resources, community/parent attitudes, lack of autonomy/creativity and class sizes. *Secondary* teachers were considerably more likely to be most bothered by student welfare issues and slightly more likely to be bothered by other employment issues and remuneration.

Chart 27



The following chart compares the dislikes of teachers in the *government* and *non-government* systems. Perhaps surprisingly, *non-government* school teachers were more likely to be most bothered by lack of resources or time (42.3 per cent) than their *government* school counterparts (35.2 per cent). They were also more likely to be bothered by community or parent attitudes, which may reflect the higher expectations that some parents may have of *non-government* schools. They were also slightly more likely to be most bothered by remuneration. *Government* school teachers were considerably more likely to be bothered by student welfare issues (22.4 per cent compared to 14.9 per cent of *non-government* school teachers). They were also slightly more likely to be bothered by other employment issues, lack of autonomy/creativity, and class sizes.

Chart 28

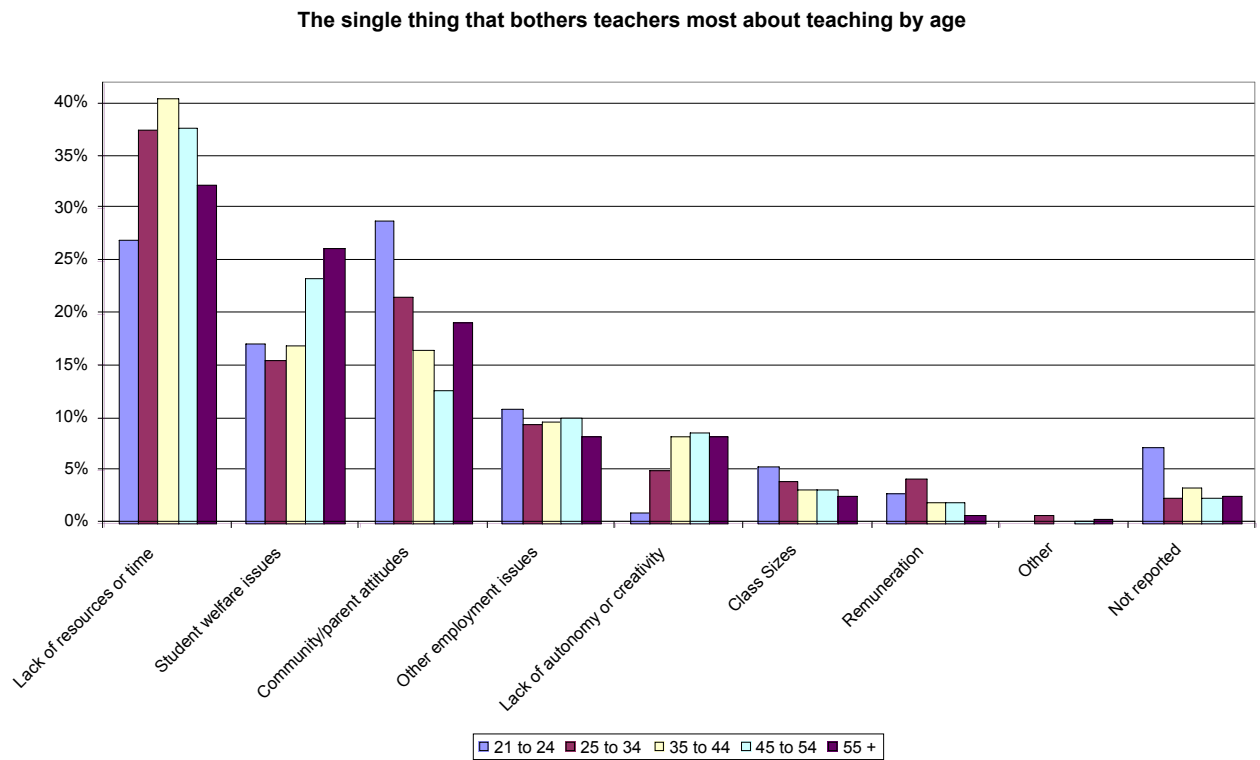


The chart below shows the differences in teacher dislikes according to age cohort. The most striking differences between the age cohorts are that 21 -24 year olds' most prevalent dislike is community/parent attitudes (28.8 per cent compared to the closest figure of 21.4 per cent for 25 to 34 year olds). Every other age cohort nominated lack of time/resources as their strongest dislike. It may be possible that younger teachers are more likely to be challenged by parents due to their relative inexperience.

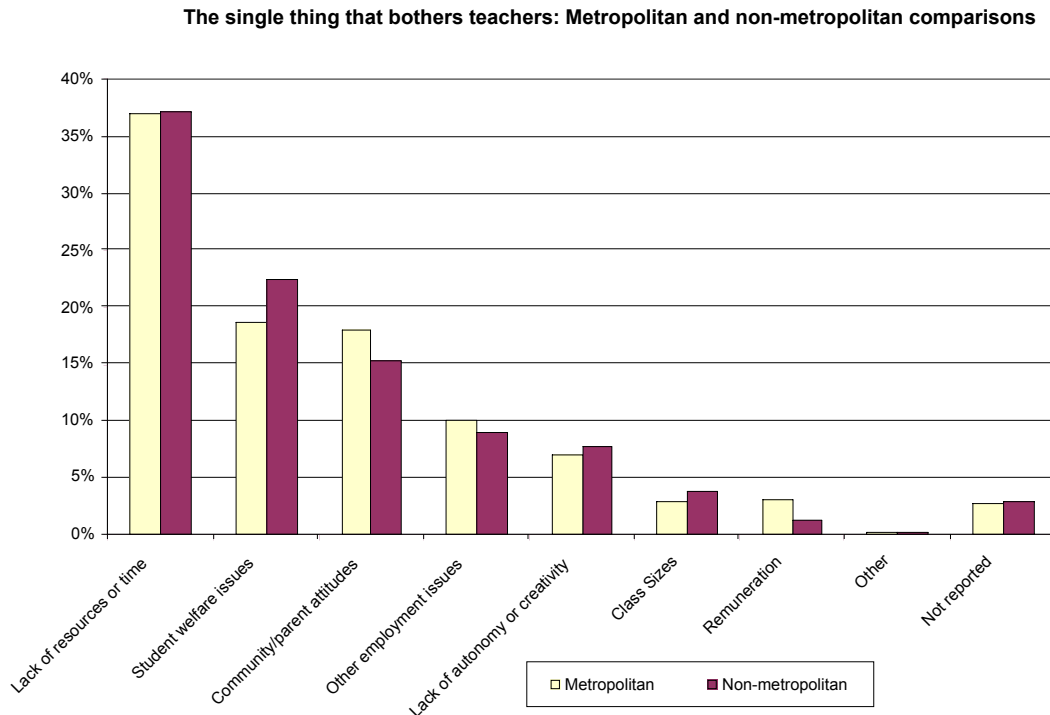
Teachers over 45 years were more likely to be bothered by student welfare issues than younger teachers, perhaps reflecting changes in expectations of student behaviour over the years.

The youngest teachers (21 to 24 year olds) were much more likely to **not** nominate a dislike than other cohorts (7.2 per cent compared to the closest figure of 3.3 per cent for 35 to 44 year olds). This may be because they have had less time in teaching than other cohorts to develop a strong negative view of any particular issue.

Chart 29



The chart below compares the dislikes of teachers from *metropolitan* and *non-metropolitan* schools. The responses were quite similar except that *metropolitan* teachers were more likely to be most bothered by “community or parent attitudes”, “other employment issues” and “remuneration”, whilst their *non-metropolitan* counterparts were more likely to report “student welfare issues”, “lack of autonomy” and “class sizes” as their biggest bother.



Absences from teaching

The survey also canvassed information concerning teachers' absences from teaching, the period of absences, their main occupation during absences from teaching, and their main reason for moving away from teaching.

A total of 440 teachers, representing 18.7 per cent of survey respondents had taken time off from teaching. For those teachers who had taken time off from teaching to follow other pursuits, they had on average, absented themselves from teaching 1.4 times. On average, the longest period where survey respondents were absent was 4.9 years.

The *occupations* pursued by teachers who responded to the survey during absences from teaching were diverse. The most common *occupations* included:

1. Unemployed/Home Duties (132 or 30.0 per cent);
2. Casual employment/worked in nothing specific (48 or 10.9 per cent);
3. Administration (45 or 10.2 per cent);
4. Managers (33 or 7.5 per cent);
5. Salesperson (24 or 5.4 per cent)
6. Consultants (22 or 5.0 per cent);
7. Hospitality (19 or 4.3 per cent); and Self-employed (19 or 4.3 per cent); and
8. Carer (11 or 2.5 per cent).

Reasons for absences from teaching

Reasons for leaving teaching were also diverse. 440 teachers recorded absences from teaching of whom 351 were female and 89 were male. Family formation was the most common reason.

Table 26

Reasons for absence for all teachers	Number
Family Formation	148
Personal commitments	80
Career break, time out	80
To broaden knowledge, life experience	33
Work overseas / travel	33
Avoid politics of education system	20
No teaching work available/Redundancy	16
Too demanding / stressful	17
Undervalued	9
Lack of job security	2
Dislike the school	2
Total	440

Differences between *male* and *female* teachers among career changes were significantly different. While for *females*, the top reason was family formation, this was not nominated as a reason by *male* teachers for taking time out from teaching.

Table 27

Reasons for absence for female teachers	Number
Family Formation	148
Personal commitments	60
Career break, time out	46
Work overseas / travel	29
To broaden knowledge, life experience	20
No teaching work available/Redundancy	13
Too demanding / stressful	13
Avoid politics of education system	11
Undervalued	7
Lack of job security	2
Dislike the school	2
Total	351

For *male* teachers, the main reason for leaving teaching was for a “career break” or “time out”. Personal commitments, to broaden knowledge or life experience and to avoid politics of education system were also important reasons.

Table 28

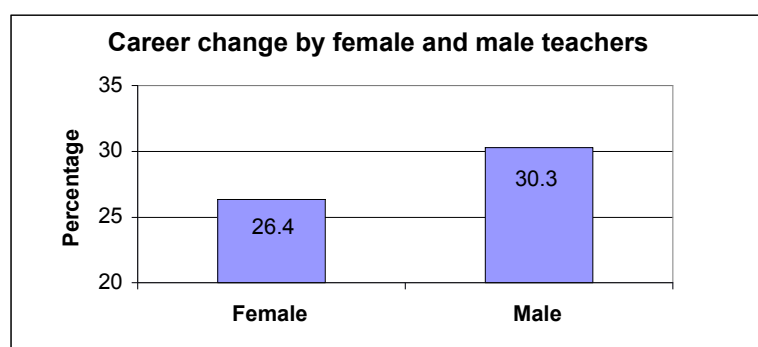
Reasons for absence for male teachers	Number
Career break, time out	34
Personal commitments	20
To broaden knowledge, life experience	13
Avoid politics of education system	9
Work overseas / travel	4
Undervalued	2
Too demanding / stressful	4
No teaching work available/Redundancy	3
Total	89

Thinking of career change?

Teachers who participated in the survey were also asked if they were likely to leave the teaching profession before retiring from work altogether. Some 650 respondents, representing 27.6 per cent of all respondents, indicated that they were likely to change professions before retiring.

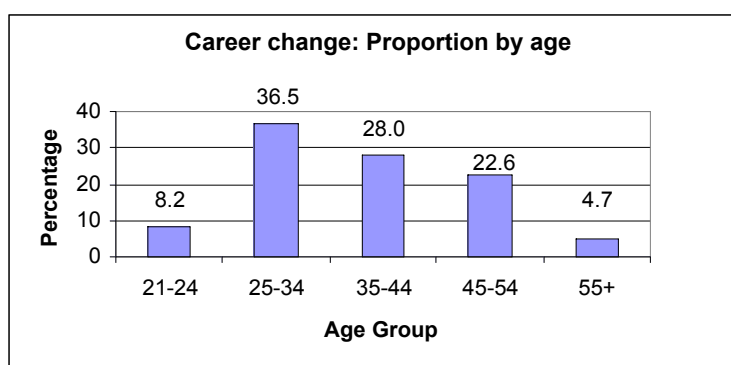
Male and *female* teachers differed in their views on this issue, and the age of teachers is also important in considerations of career change options.

As a proportion of total number of teachers by gender, 26.4 per cent of *female* teachers were considering leaving teaching before retirement, as opposed to 30.3 per cent for *male* teachers.

Chart 30

The proportion of teachers considering a career change before retirement is correlated to their age. Those aged 25-34 represented the biggest age group at 36.5 per cent followed by those aged 35 - 44 (28.0 per cent) and 45-54 (22.6 per cent). Only 8.2 per cent were in the 21-24 age group and 4.7 per cent were aged 55+, reflecting the early career years and the twilight career years of the respective age groups. The oldest teacher thinking of a career change was aged 65.

Chart 31



Changes of school

The survey also solicited information concerning changes of school by teachers, whether they moved between the *government* and *non-government* sectors, whether they moved between States and Territories and the factors that led survey respondents who had changed schools to do so.

A total of 352 survey respondents, representing 14.9 per cent of all survey respondents, had changed schools during the last two years. Of the 352 respondents who had changed schools, 253 or 71.9 per cent were *female* whilst 99 or 28.1 per cent were *male*. *Metropolitan* teachers numbered 209 (or 59.4 per cent) and 143 (or 40.6 per cent) teachers worked in *non-metropolitan* schools.

The propensity for teachers to change school is also age related. The data below suggest that younger teachers were more likely to change schools than older teachers. The number of *female* teachers aged between 25 to 54 years old who changed school was 219 or 86.6 per cent of the 253 *female* respondents. *Male* teachers in the same age range of 25 to 54 had a higher propensity to have had changed schools with 91 (or 91.9 per cent of male teachers having had changed schools in the last two years).

Table 29

School changers: Number by gender and age groups							
Age group	21-24	25-34	35-44	45-54	55-64	65+	All ages
Female	14	68	62	89	19	1	253
Male	3	24	28	39	4	1	99
Total	17	92	90	128	23	2	352

Main reasons nominated for having changed school in the last two years were nominated by 350 teachers and included:

1. Different lifestyle/change (82 or 23.4 per cent);
2. Higher pay/promotion (70 or 20.0 per cent);
3. End of contract (46 or 13.1 per cent);
4. Closer to home (44 or 12.6 per cent);

5. Dislike for previous school (31 or 8.9 per cent)
6. Returned from overseas (30 or 8.6 per cent);
7. Challenge (17 or 4.9 per cent); and
8. Forced transfer (17 or 4.9 per cent).

Less nominated reasons included 'to maintain permanency of job' and 'being dissatisfied with the government sector'. The reasons for having moved schools in the last two years were similar for teachers in *metropolitan* and *non-metropolitan* schools except that more metropolitan teachers cited 'returned from overseas' as a reason. More *non-metropolitan* reported "forced transfer" (6.4 per cent compared to 3.8 percent of *metropolitan* teachers)

Table 30

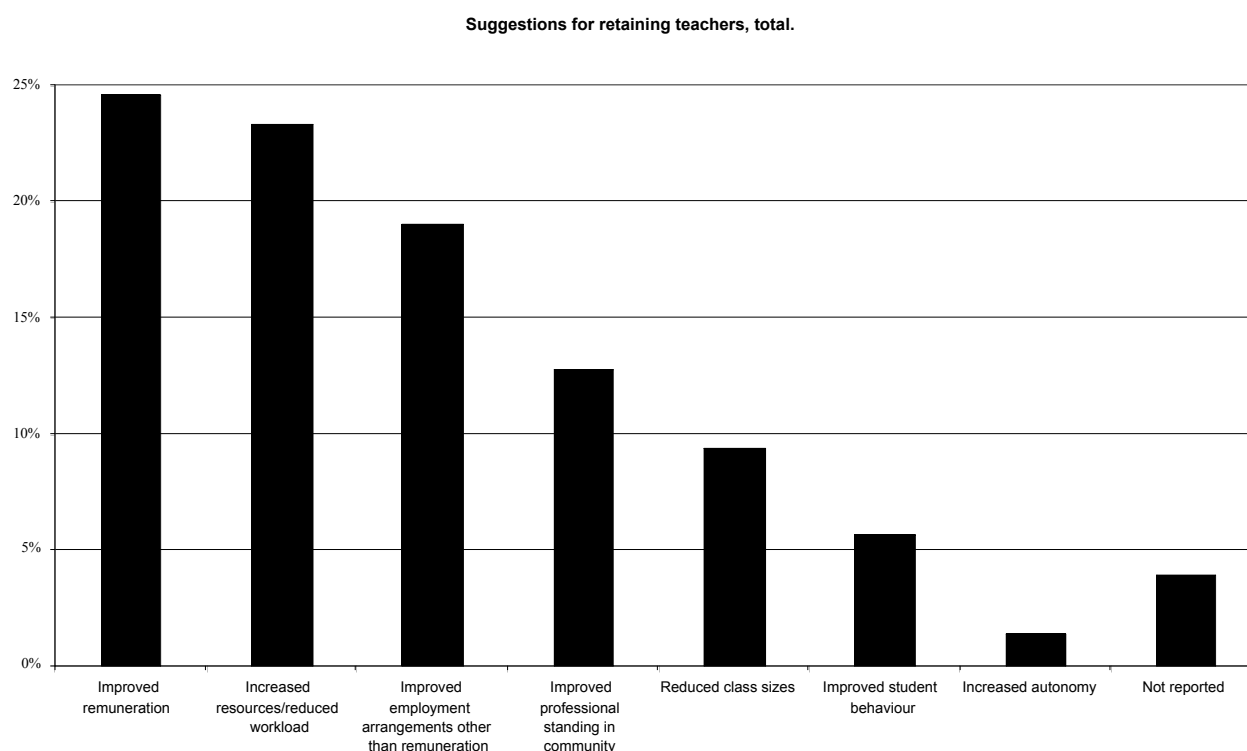
Reasons for changing schools				
Reasons	Number of respondents	Per cent of respondents	Metro	Non-metro
Different lifestyle/change	82	23.4	23.0	24.1
Higher pay/promotion	70	20.0	20.1	19.6
End of contract	46	13.1	13.4	12.8
Closer to home	44	12.6	12.4	12.8
Dislike for previous school	31	8.8	8.6	9.2
Returned from overseas	30	8.6	10.1	6.4
Challenge	17	4.9	4.8	5.0
Forced transfer	17	4.9	3.8	6.4
Maintain permanency of job	8	2.3	1.9	2.8
Dissatisfied with the government sector	5	1.4	1.9	0.7
Total	350	100.0	100.0	100.0

Teachers' suggestions on encouraging teachers to stay in their profession

Survey participants were asked for their suggestions on options to encourage teachers to stay in their profession. A variety of responses were received. Note: 92 respondents did not offer any suggestion. As shown in the Chart below, the most common suggestions were:

1. Improved remuneration (24.6 per cent);
2. Increased resources/reduced workload (23.3 per cent);
3. Improved employment conditions other than remuneration (19.1 per cent);
4. Improved professional standing in the community (12.7 per cent);
5. Reduced class sizes (9.4 per cent);
6. Improved student behaviour (5.6 per cent); and
7. Increased autonomy (1.4 per cent).

Chart 32



Note: Some of the suggestions for how best to *retain* teachers have been grouped for ease of analysis:

- 'Increased resources/reduced workload' covers 'Greater support', 'reduced workload', 'improved conditions for facilities and resources', 'Offer apprenticeships like student teacher assistant' and 'Allow for more time for preparation and consultation'; and
- 'Improved employment conditions other than remuneration' is a combination of the responses– 'Create or fund more opportunities for professional development or promotion', 'Improved leadership', 'Improved job security', 'More permanent instead of contract work', 'Encourage movement between schools', and 'Allow for professional development in own time'.

Comparison of suggestions on retaining teachers by gender

The nature of responses varied somewhat by gender of the teacher. *Male* survey respondents nominated better remuneration (27.6 per cent) as most important, followed by increased resources or reduced workload (21.5 per cent) in helping to retain teachers. For *female* survey respondents, increased resources or reduced workload (24.1 per cent) was more important than better remuneration (23.3 per cent). Similar ordering of suggestions applies from the third-ranked suggestion onwards.

Table 31

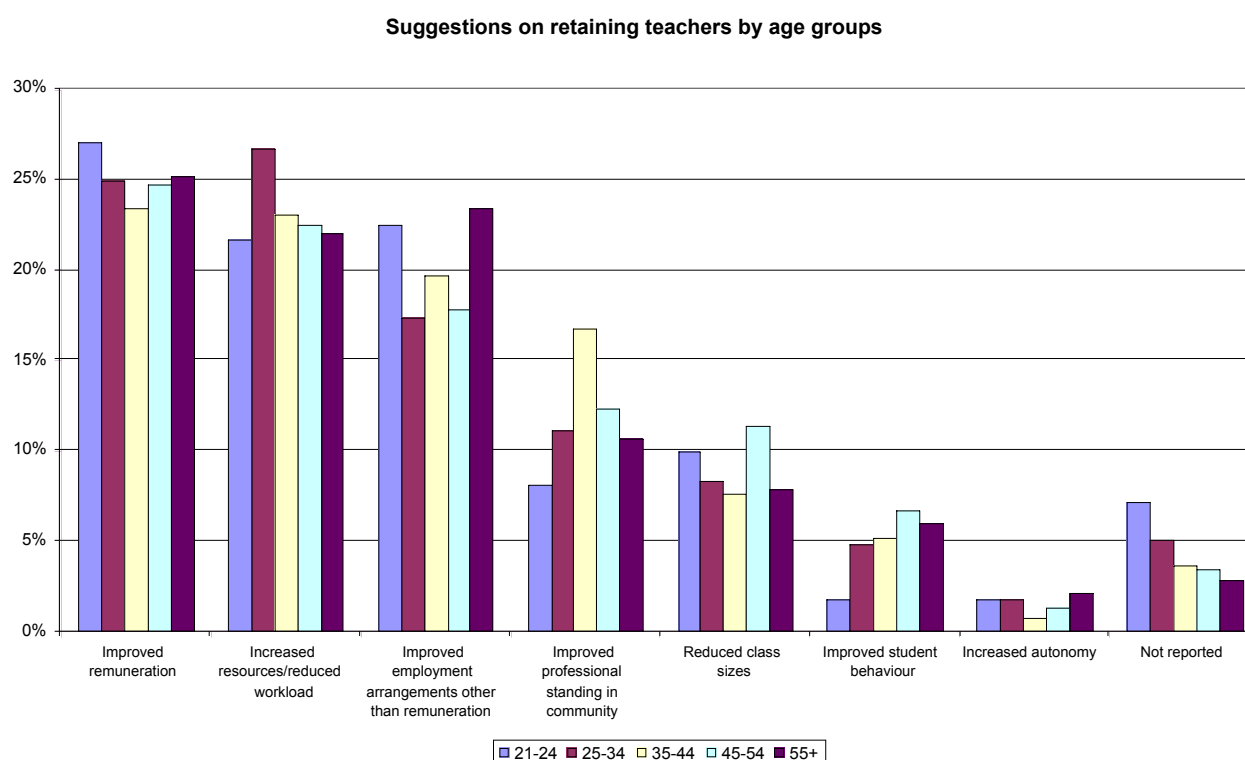
Frequency of suggestions on how to retain teachers by gender			
Female	Per cent	Male	Per cent
Increased resources/reduced workload	24.1	Improved remuneration	27.6
Improved remuneration	23.3	Increased resources/reduced workload	21.5
Improved employment conditions other than remuneration	18.4	Improved employment conditions other than remuneration	20.6
Improved professional standing	13.6	Improved professional standing	10.6
Reduced class sizes	10.0	Reduced class sizes	7.9
Improved student behaviour	5.5	Improved student behaviour	6.0
Increased autonomy	1.1	Increased autonomy	1.9

Given the high proportion of older teachers in the teaching workforce, as well as gaining an overall impression of teachers' views on options to *retain* teachers, it was also considered important to look at the views of older teachers compared to those of younger teachers. The following Chart looks at the views of older (35+) teachers and how they may differ from the younger cohorts'.

The most common factors that older survey respondents suggested for *retaining* teachers included:

1. Improved remuneration (even though proportionally, teachers aged 21-24 recorded the biggest percentage of 27.0%);
2. Increased resources or reduced workload with those aged 25-34 reporting the highest proportion at 26.7 per cent;
3. Improved employment arrangements other than remuneration was nominated as important,
4. Particularly by the 55+ cohort (23.4 per cent) and also by those aged 21-24 (22.5 per cent);
5. Improved professional standing of teachers in the community. At 16.7 per cent, this was a significantly more important factor for those aged 35-44;
6. Reduced class sizes was particularly important to those aged 45-54 at 11.4 per cent; and
7. Improved student behaviour – this was especially emphasised by the survey respondents aged 45-54 and those aged 55+.

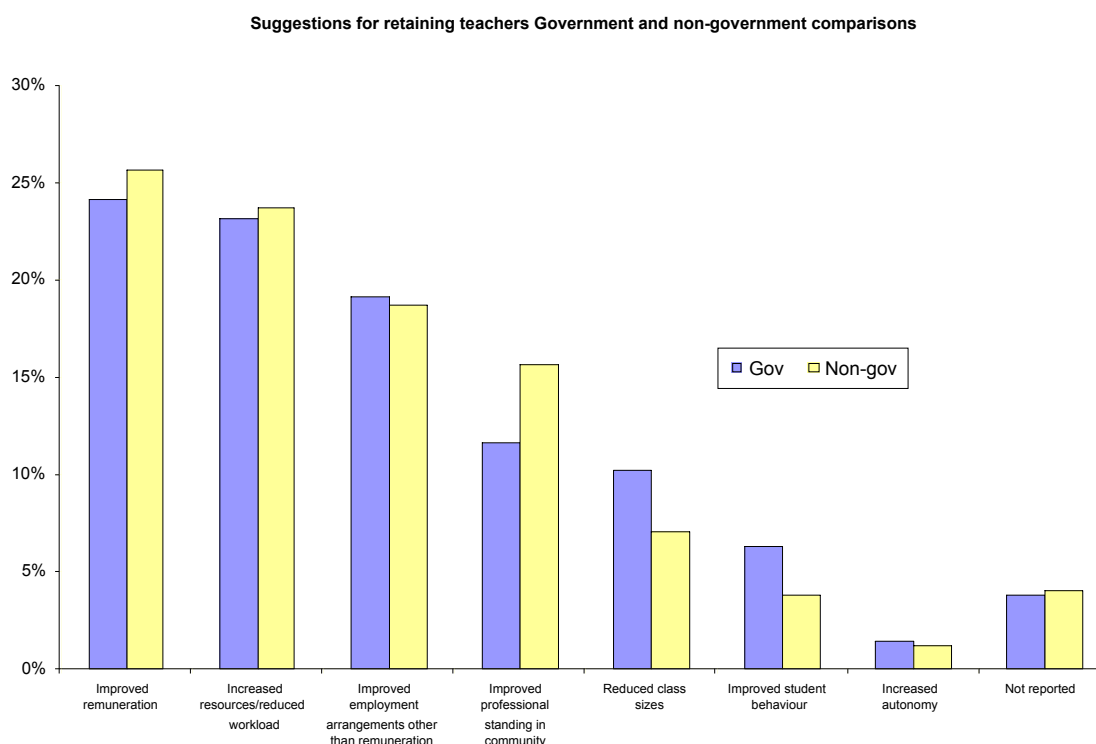
Chart 33



Suggestions for retaining teachers by government or non-government sectors

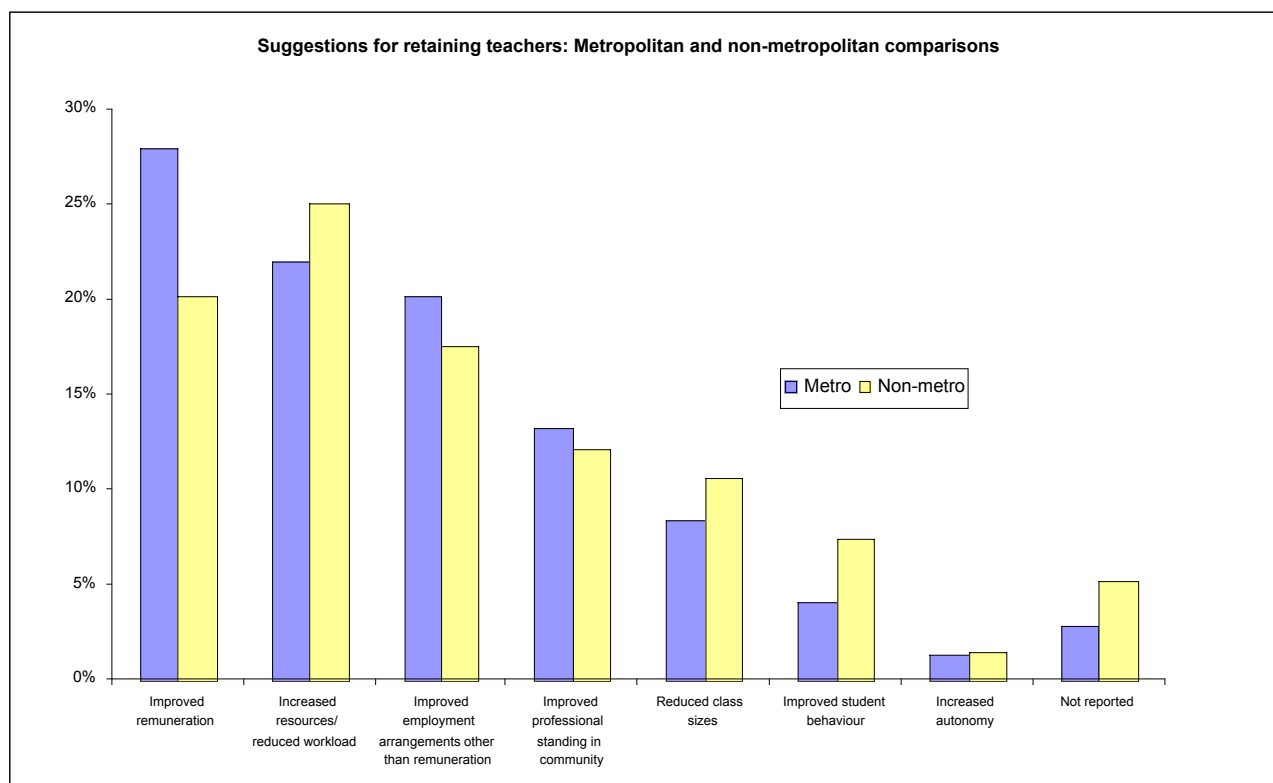
The majority of survey respondents from both the *government* and *non-government* sectors nominated “improved remuneration” as the main factor for retaining teachers. This was followed by “increased resources or reduced workload” and “improved employment conditions other than remuneration”. Teachers in *non-government* schools were more likely to make the suggestion of “improved professional standing of teachers in the community”. As for “reduced class sizes”, “improved student behaviour” and “increased autonomy”, more respondents working in *government* schools nominated these as factors to retain teachers.

Chart 34



Suggestions for retaining teachers by metropolitan and non-metropolitan teachers

Metropolitan teachers were more likely to suggest “improved remuneration” (28 per cent), “improved employment conditions other than remuneration” and “improved professional standing in the community” as factors to help retain teachers. For *non-metropolitan* respondents, “increased resources or reduced workload”, “reduced class sizes” and “improved student behaviour” were more important as retention factors.

Chart 35

Factors to attract people to teaching

The suggestions put forward by teachers³ were varied and some similar responses had been categorised under common themes. Some examples of categorisation of similar responses are listed below.

Promote image of teaching includes:

- Enhancing status of teachers in the community;
- Improve social standing of the teaching profession;
- Put teaching in positive light e.g. teaching as a rewarding career, better media profile; and
- Higher entry scores to attract the best brains to enter teaching.

Improved teaching training also covers access to, and the quality of teacher training with suggestions including:

- Providing more scholarships;
- More practical work for trainee teachers; and
- Mentoring and better in-service practical training.

Improved teaching conditions other than pay include:

³ Note: 172 respondents did not offer any suggestion.

- Offer permanent jobs instead of fixed term contracts; and
- Increase opportunities for promotions.

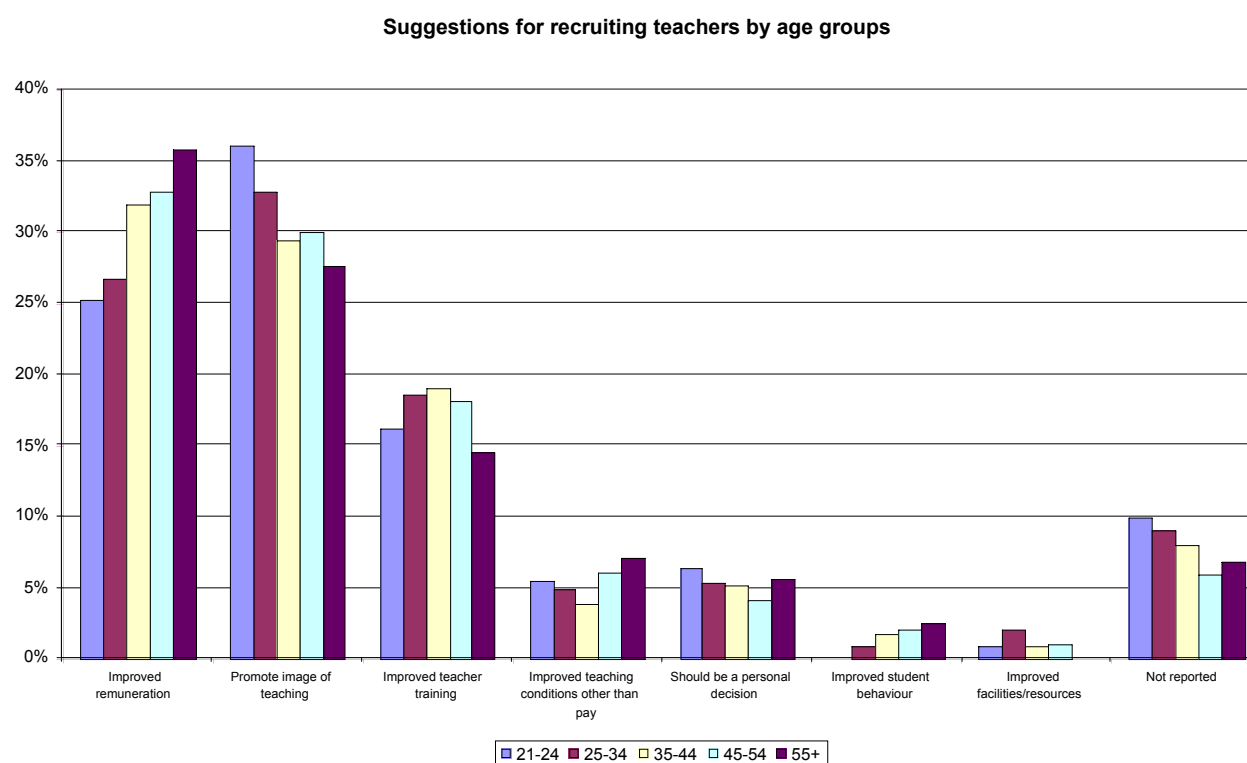
Higher remuneration emerged as the leading factor for attracting more teachers. Of the survey participants aged over 55, 35.8 per cent suggested improving remuneration as the main recruitment incentive. Over 30 per cent in the 35-44 and 45-54 cohorts also suggested higher pay as an incentive. Just over 25 per cent of those aged 21-24 and 26.7 per cent of respondents aged 25-34 had made this suggestion.

Promoting the image of teaching was the second most common suggestion in recruiting more people to the profession with 36 per cent of those aged 21-24 and 32.8 per cent of the 25-34 age cohorts making the suggestion. Almost 30 per cent in each of the 35-44 and 45-54 age groups, and 28.0 per cent of respondents aged over 55 also made the suggestion.

The third most common suggestion was to improve teacher training (including access and in-service training quality issues). Suggestions for improved teacher training covered 'greater support for new teachers, especially mentoring to new teachers', 'linking training at university to more practical classroom work to gain experience' and 'offer more scholarships to promote teaching'. The survey respondents aged 25-4, 35-44 and 45-54 had similar responses with 18.6, 19.0 and 18.0 per cent for each age cohort respectively.

The fourth-ranked suggestion was for "improved teaching conditions other than pay" which included suggestions for 'more permanent positions rather than fixed term contract' and 'increased opportunities for promotions'. Percentages ranging from 3.8 to 7.1 were reported for the different age groups. It "should be a personal decision" that is, entering teaching should be an individual's decision – was ranked fifth with responses ranking from 4.2 per cent for the 45-54 age group to 6.3 per cent for the 21-24 age group.

Chart 36



Comparison of factors to attract teachers by primary and secondary teachers

The chart and table (with factors in order of importance) below show the suggestions put forward by *primary* and *secondary* teachers to attract people to teaching. Higher remuneration was the most common suggestion made by *secondary* teachers whilst promoting the image of teaching was more important to *primary* teachers. Proportionally more *primary* teachers (18.3 per cent) suggested ‘improved teacher training’ whereas more *secondary* teachers suggested “improved teaching conditions other than pay” (6.1 per cent). *Primary* school respondents also placed more emphasis on it being a “personal choice” when someone chooses to be a teacher. More *secondary* teachers cited “improved student behaviour management” as important in recruiting teachers.

Chart 37

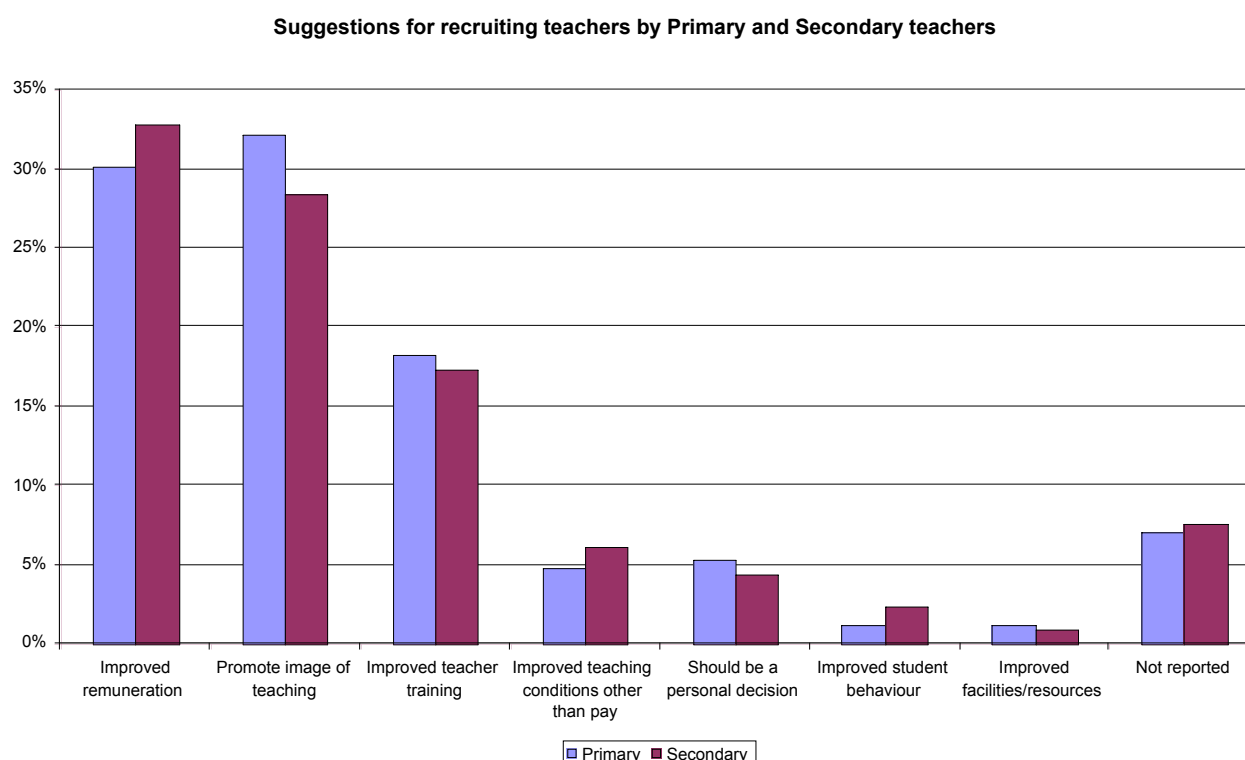


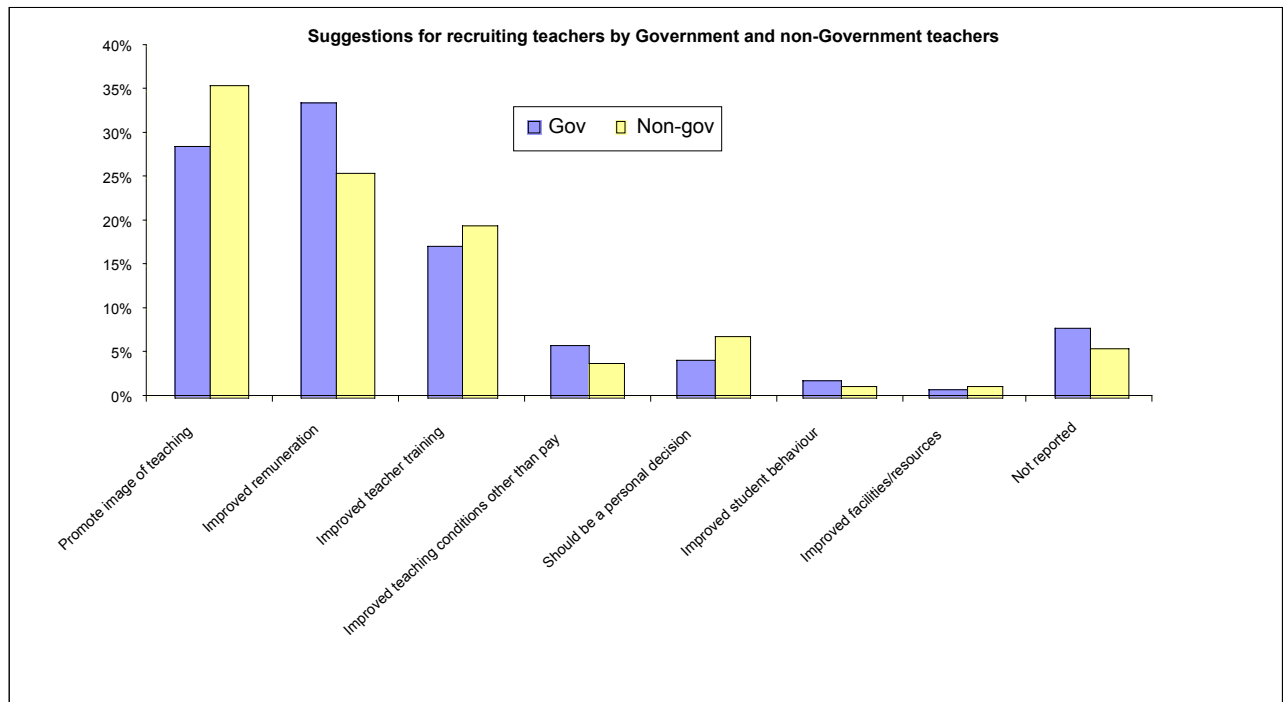
Table 32

Suggestions for recruiting teachers by primary and secondary teachers			
Primary	Per cent	Secondary	Per cent
1. Promote image of teaching	32.2	1. Improved remuneration	32.9
2. Improved remuneration	30.1	2. Promote image of teaching	28.4
3. Improved teacher training	18.3	3. Improved teacher training	17.4
4. Personal choice	5.4	4. Improved teaching conditions other than pay	6.1
5. Improved teaching conditions other than pay	4.8	5. Personal choice	4.4
6. Improved student behaviour	1.1	6. Improved student behaviour	2.4
7. Improved facilities/resources	1.1	7. Improved facilities/resources	0.9

Comparison of factors to attract teachers by government and non-government teachers

Suggestions nominated for attracting more people to teaching differed for *government* and *non-government* teachers. As shown in the chart below, “promoting the image of teaching” emerged as the main recruitment factor with more *government* teachers (35.4 per cent) than *non-government* teachers (28.5 per cent) suggesting it. Proportionally more *government* teachers (33.5 per cent) compared to 25.7 per cent for *non-government* teachers suggested ‘improved remuneration’ as an important factor. For *government* teachers, “improved teaching conditions other than pay” and “improved student behaviour” were also nominated as important factors for recruiting teachers. However, *non-government* teachers were more likely to suggest “improved teacher training” and “it should be a personal decision” as recruitment factors.

Chart 38



Comparison of factors to attract teachers by Metropolitan and non-metropolitan teachers

Improved or higher remuneration was more likely to be suggested as the main recruitment factor by *metropolitan* teachers (36.1 per cent) than *non-metropolitan* teachers (25.4 per cent).⁴ However, *non-metropolitan* teachers were more inclined to suggest “promoting the image of teaching”, “improved teachers training” and “improved student behaviour” as recruitment factors than their *metropolitan* counterparts.

⁴ Note: A total of 79 out of 1,317 teachers working in *metropolitan* areas and 93 out of 1,038 *non-metropolitan* teachers did not report any recruitment suggestions.

**Demand and Supply of
Primary and Secondary School Teachers in Australia**

Part E (ii)

Qualitative Research - National Survey of Principals

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Executive summary

The chapter outlines the results of a national survey of principals on factors that initially motivated them to become teachers, and then principals and the factors that attract and detract from teaching and being a principal. The survey was conducted by the Commonwealth Department of Education, Science and Training on behalf of MCEETYA in the fourth term of 2002. Principals were interviewed by phone although some survey returns were return via facsimile.

The aim of the survey was to canvass the views of 500 principals on what motivated them in becoming a teacher initially, and on the factors that principals feel are important in retaining teachers and attracting people to teaching.

The sample survey population represents approximately 3 per cent of Australia's national number of principals. In total, 337 principals responded to the survey.

The majority of survey respondents were born in Australia, with the United Kingdom being the predominant country of origin for principals born overseas. Around 60 per cent of principals who responded to this survey were *males* and over 55 per cent survey respondents worked in *primary* schools. About 79 per cent of respondents worked in *government* schools.

Over 80 per cent of the survey respondents were aged 45 and over, suggesting a potentially high exit rate for principals due to retirements in the next five to ten years. There were significantly more *male* principals in the 55 to 59 age group. Their retirements could result in even greater feminisation of the teaching profession as there are fewer *male* teachers to promote to the ranks of principals.

Principals had on average worked 9 years as a principal and 17.5 years as a teacher prior to becoming a principal, and the imminent retirement of a large number of these principals would also result in a huge loss of teaching experience. *Male* principals worked an average of 16.6 years in a teaching position before becoming a principal, whilst *female* principals averaged 18.7 years.

Some 90 or about 27 per cent of the surveyed principals held a Masters degree and 193 principals or 57.3 per cent reported also having teaching duties. About 40 per cent of the 337 principals reported being *more* than moderately satisfied to *highly* satisfied with their teaching training.

As to what motivated principals to become teachers in the first place, reasons such as "enjoy working with children" (22.8 per cent), "desire to teach" (20.2 per cent), "positive impact of role model" (17.2 percent) and "to make a difference" (12.2 per cent) were given. Over 57 per cent of principals were motivated "to make a difference or to do more" from a more authoritative role by becoming a principal.

"Lack of resources or time" and "problems with central bodies" made up over 65 per cent of responses of the single thing that bothers principals most about their jobs.

Survey participants were asked for their suggestions on options to encourage teachers to stay in their profession. A variety of responses were received and these included:

1. Increased resources or reduced workload (22.6 per cent);
2. Improved remuneration (17.8 per cent);
3. Improved professional standing in the community (16.6 per cent);
4. Professional development – more opportunities and support (14.5 per cent);
5. Improved employment conditions other than remuneration (10.4 per cent);
6. Reduced class sizes (6.5 per cent);
7. Reward and recognise achievement (5.0 per cent); and
8. Improved student behaviour management (4.7 per cent).

Opinions were sought from principals on factors that might influence the supply and demand of teachers in terms of the school environment and working conditions that teachers have to work in. Principals were asked to consider various factors about the school environment and working conditions and to rate them in order of importance from the viewpoint of their *teaching staff*. Participants were requested to rate the factors on a 1 - 5 rating scale, with factors that were more likely to impact on the teaching staff's career decisions being rated as a 5, with least important factors being rated as a 1. The table outlines the factors in order of importance.

Table 1

Rating of school environment and teaching conditions by all principals (per cent)					
	1	2	3	4	5
There are effective policies and support for handling student behaviour	0.0	0.0	3.0	21.0	76.0
Class sizes are reasonable	0.3	1.8	11.3	32.3	54.3
The neighbourhood and local community are safe	1.5	3.8	13.4	27.3	54.0
Job security is high	0.3	2.1	11.9	32.3	53.4
Teaching resources, including materials and equipment, are readily available	0.0	1.2	8.6	41.5	48.7
The workload is balanced	1.2	3.2	10.1	36.8	48.7
There is financial support for professional development	0.3	2.7	10.1	38.3	48.6
There is a clear vision and direction from the employing authority	0.3	3.3	15.1	33.2	48.1
The salary is satisfactory	0.9	4.4	17.5	30.3	46.9
Occupational health is well managed	0.9	1.8	15.1	36.8	45.4
Employing authorities reward and recognise achievement & celebrate best practices	0.9	4.8	16.9	34.7	42.7
Professional development is generally encouraged	0.6	1.5	14.8	41.0	42.1
The facilities - buildings and grounds - are well maintained and up-to-date	0.3	2.1	14.2	42.1	41.3
There are generous holiday provisions	1.5	6.8	22.2	28.8	40.7
Teachers have autonomy or control over their work	0.0	2.7	21.4	43.3	32.6
There are career pathways within and outside the classroom	2.1	9.5	24.3	37.4	26.7
Community and parents are involved	1.2	7.7	30.6	34.7	25.8
Promotion opportunities exist	2.4	8.9	35.6	31.7	21.4

The predominant suggestion made by principals to attract people to be teachers was “promote the image of teaching” (43.6 per cent), followed by “improved teacher training” (20.8 per cent), “improved remuneration” (19.0 per cent) and “improved teaching conditions other than pay” (6.2 per cent).

The Survey of Principals

Introduction

This chapter of the report reviews the outcomes of the survey of school principals which formed part of the MCEETYA project.

Background

The aim of the survey was to canvass the views of principals on what motivated them in becoming a teacher initially, and on the factors that principals feel are important in retaining teachers and attracting people to teaching.

The sample survey population represents approximately 3 per cent of Australia's national number of principals.

Principals from both the *government* and *non-government* schools sector, for both primary and secondary schools, and for *metropolitan* and *non-metropolitan* Australia have been included in the survey. The survey was conducted in the last term of 2002. Principals were interviewed by telephone.

A copy of the survey instrument is at Attachment A to this chapter.

Broad characteristics of survey participants

Some 337 principals participated in the survey. Of these, 200 or 59.3 per cent were male, and 137 or 40.7 percent were female.

The majority of survey respondents were born in Australia. Of the remaining survey respondents the main countries of birth were the United Kingdom (52.6 per cent of respondents), the United States (13.0 per cent), Ireland (7.9 per cent), and South Africa (5.3 per cent). Principals born overseas had been Australian residents for an average of 35 years.

Some 186 principals who responded to the survey, or 55.2 per cent were *primary* school principals, while 148 survey respondents or 43.9 per cent were *secondary* school principals and 3 or 0.9 per cent were principals of *combined* schools. Considered by sector, 266 principals who responded to the survey or 78.9 per cent were employed in *government* schools, and 71 or 21.1 per cent were employed in *non-government* schools.

A total of 158 principals or 46.9 per cent worked in *metropolitan* schools, while 179 or 53.1 per cent worked in *non-metropolitan* schools.

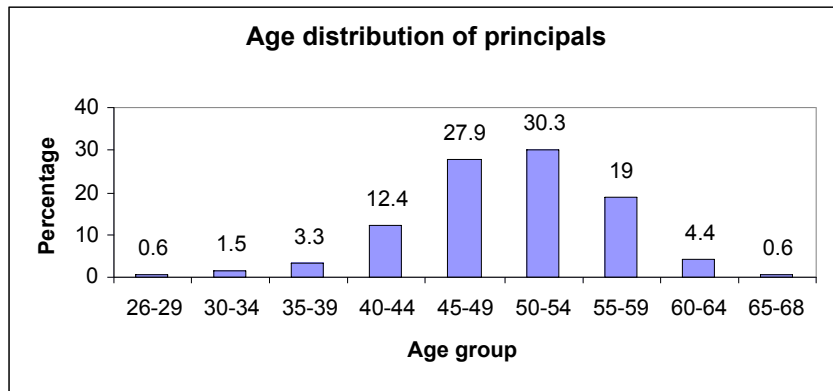
Principals of schools with 10 students and one full-time equivalent teaching staff to principals with 2,500 students and 240 full-time equivalent teaching staff responded to the survey. On average, the number of students was 481 and the number of full-time equivalent teaching was 31.9.

Some 193 principals also had teaching duties and they comprised 57.3 per cent of the sample surveyed.

Age distribution

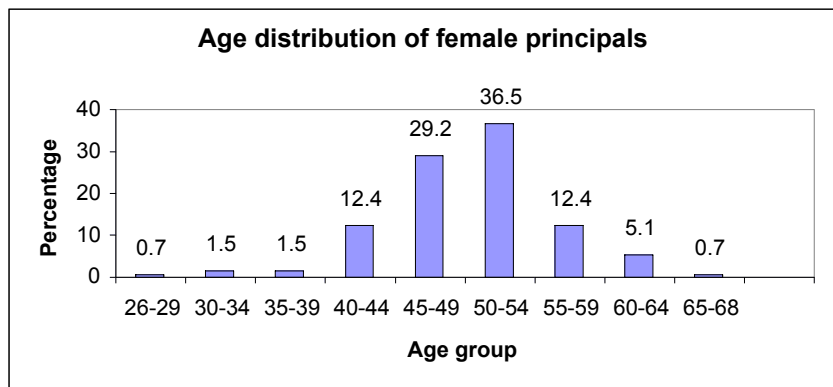
The majority of principals, 277 or 82.2 per cent were aged 45 and over with 30.3 per cent aged between 50 and 54 years. The age distribution of principals reflects the fact that principals were generally experienced teachers prior to becoming principals. At the same time, the data highlight another issue. While the age structure of the general teaching workforce suggests potential significant retirement from teaching in the coming decade, the issue is likely to be even more pronounced for school principals.

Chart 1



The majority of *female* principals were aged 45 and over with those aged 45 - 49 comprising 29.2 per cent and those *female* respondents aged 50 - 54 making up 36.5 per cent. For those aged 50 - 54 to consider retiring in the next five years would result in a significant loss in the number of *female* principals.

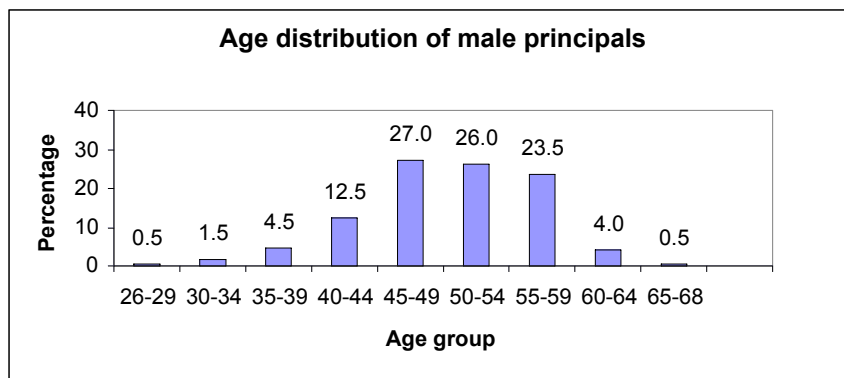
Chart 2



Similar to the age distribution of *female* principals, the majority of *male* principals were aged 45 and over as shown in the table below. However, a smaller proportion was in the 45 - 49 age range (27.0 per cent) and the 50 - 54 age range (26.0 per cent). *Male* principals aged 55-59 comprised 23.5 per cent of *male* respondents which were more than 11 percentage points for the equivalent age range for *female* principals.

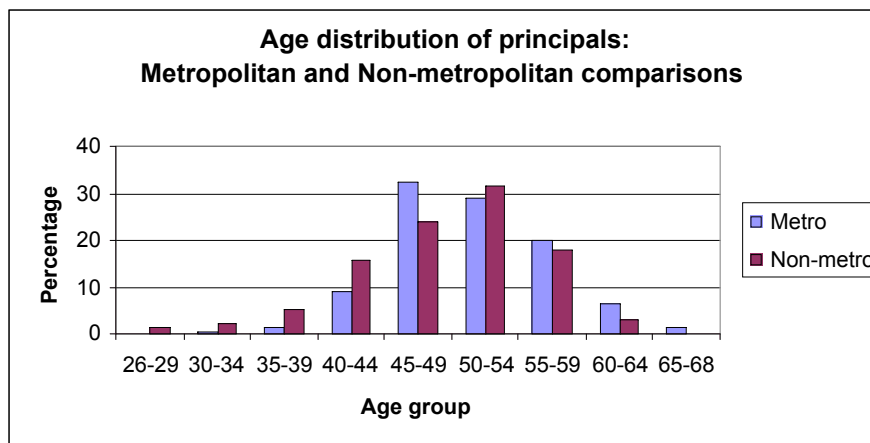
Some 50 per cent of *male* principals were aged 50 to 59 and this highlights the potential for significant retirement by *male* principals within the next five years.

Chart 3



Metropolitan principals were aged 51 on average, compared to a lower average age of 49 for their *non-metropolitan* counterparts. This was because there were more younger principals aged 26 to 44 in the *non-metropolitan* schools.

Chart 4



The period that principals had worked in their profession varied with the age and gender of the principals. As shown in the table below, older principals had generally worked as principals for longer periods than their younger colleagues. *Male* principals also had more experience - having spent more time working as principals.

Male principals had been employed for an average of 10.8 years as a principal at the time of the survey, while *female* principals had worked an average of 6.5 years as principals.

Table 2

Average years worked as a principal by age groups by gender and all principals										
Age group	26-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-68	All principals
Female	3.0	2.5	0.5	4.1	4.7	7.1	9.8	11.6	23.0	6.5
Male	0.0	2.3	7.4	6.1	7.3	11.8	14.1	28.0	27.0	10.8

Years worked in a teaching position before becoming a principal

Respondents to the survey were asked how many years they had worked in a teaching position before becoming a principal. Male principals worked an average of 16.6 years as a teacher before becoming a principal compared to a higher average of 18.7 years for female principals.

Years worked at current school

Survey respondents were also asked how long they have worked at their *current school*. Principals had been employed for an average of 6.2 years at their current school. *Male* principals had been employed an average of 6.5 years, while *female* principals had been employed for an average of 5.8 years.

The data was similar for *primary* and *secondary* principals with *male* principals having worked a higher average number of years at their current schools compared to their *female* counterparts. For the three *combined* schools' principals, the average was 16.7 years at their current school.

On average, principals in *metropolitan* schools had worked an average of 6.8 years at their current school compared to 5.6 years for the *non-metropolitan* principals.

Table 3

Average number of years at current school by gender, teaching level and all principals				
	Primary	Secondary	Combined	Average for all principals
Female	5.6	5.7	16.0	5.8
Male	5.8	7.0	18.0	6.5
Total	5.7	6.6	16.7	6.2

Years worked in previous school and in what role?

Principals were asked how long they worked in a previous school and in what role. On average, principals had worked 5.6 years in a previous school and the most predominant roles were as principals (128 or 38 per cent) and deputy or assistant principals (100 or 29.7 per cent). Sixty-three principals (or 18.7 per cent) were teachers and twenty three principals (or 6.8 per cent) were lead teachers before they gained their promotion.

Principals' qualifications

Principals who participated in the survey were asked about their highest level of teaching qualification and future study plans. Their reported highest levels of qualifications are outlined in the table below. It should be noted, however, that the minimum teaching qualification is generally a 4-year degree or equivalent. The survey did not distinguish between 3 and 4-year degrees, meaning that those principals reporting a postgraduate Diploma of Education as their highest qualification could well include a high proportion of principals for whom the Diploma provides them with the equivalent of a 4-year degree.

Of the 337 principals who responded to the survey, 93 or 27.6 per cent held a Bachelor degree in teaching or education, 93 or 27.6 per cent had completed a post graduate Diploma in Education after their initial Bachelor degree, and 90 or 26.7 per cent had completed a Masters degree. By comparisons, about 6 per cent of respondents of the teachers' survey had attained a Masters degree.

For *male* principals, proportionally more had completed a post graduate Diploma in education after their initial Bachelor degree (59 or 29.5 per cent) compared with 34 or 24.8 per cent for the *female* principals. However, *female* principals in this survey were more likely to have completed a Masters degree (40 or 29.2 per cent) compared to 50 or 25 per cent of the *male* survey participants.

Table 4

Qualifications of principals by gender and all principals								
	Certificate of teaching	Diploma of teaching	Other specialist diploma	Bachelor degree	Graduate certificate	Diploma of education	Masters degree	Doctorate
Female	1	11	1	34	12	34	40	1
Male	5	14	0	59	10	59	50	6
Total	6	25	1	93	22	93	90	7

Qualifications by teaching level

Secondary school principals who responded to the survey were generally more qualified than *primary* principals as shown in the table below. Proportionally more *secondary* survey respondents had completed a post graduate Diploma in Education or Teaching after their initial Bachelor degree (51 or 34.5 per cent) compared to 42 or 22.6 per cent of *primary* school respondents. *Secondary* school principals were also more likely to have completed a Masters degree (48 or 32.4 per cent) compared to 39 or 21.0 per cent of their *primary* school counterparts in the survey. Six *secondary* principals had also completed a Doctorate (4.1 per cent) as opposed to one or 0.5 per cent of *primary* school respondents. All three principals of the *combined* schools held Masters degrees.

Table 5

Qualifications of principals by teaching level								
	Certificate of teaching	Diploma of teaching	Other specialist diploma	Bachelor degree	Graduate certificate	Diploma of education	Masters degree	Doctorate
Primary	5	20	1	63	15	42	39	1
Secondary	1	5	0	30	7	51	48	6
Combined*	0	0	0	0	0	0	3	0

Combined schools offer both primary and secondary education.*

Principal's current study or future study plans

A total of 73 or 21.7 per cent of survey respondents were current studying or planned to study in the future. Of these, 38 or 52.1 per cent were *male*, and 35 or 47.9 per cent were *female*. A relatively high number, 43 or 58.9 per cent of principals, were studying for a Masters degree. Slightly more *male* principals (22 or 51.1 per cent) were studying for a Masters degree.

Table 6

Principals undertaking study by gender						
	Bachelor degree	Doctorate	Masters	*Other	Specialist/graduate diploma	Total
Female	1	3	21	0	10	35
Male	1	6	22	2	7	38
Total	2	9	43	2	17	73

*Other denotes non-degree courses e.g. TAFE Website design

Of the 73 principals who responded to this question, the proportion of *primary* principals undertaking or planning to undertake further study, at 58.9 per cent, was higher than that for *secondary* principals (41.1 per cent).

Of those pursuing a Masters degree, there were more *primary* principals (24 or 55.8 per cent), compared with 19 or 44.2 per cent of *secondary* principals.

Table 7

Principals undertaking study by teaching level						
	Bachelor degree	Doctorate	Masters	*Other	Specialist/graduate diploma	Total
Primary	2	6	24	1	10	43
Secondary	0	3	19	1	7	30
Total	2	9	43	2	17	73

*Other denotes non-degree courses e.g. TAFE Website design

Being a principal is frequently a position of years of teaching or education experience which means principals are generally older. Some 27 or 19.2 per cent of respondents who were currently studying were aged under 40, compared to 59 or 63.0 per cent of respondents who were aged over 45. The youngest principal was a *female* aged 26 and the oldest was a *male* principal aged 63. Both were studying for a Masters degree.

The **main** fields in which principals were currently studying or planning to undertake further study included:

1. Leadership in education (28 or 38.4 per cent);
2. Education (14 or 19.2 per cent);
3. Religious education (5 or 6.8 per cent); Counselling/Student welfare/Psychology studies, (5 or 6.8 per cent); and
4. Information Technology (4 or 5.5 per cent).

The **main** fields where the 38 *male* principals were currently studying or planning to undertake further study included:

1. Leadership in education (18 or 47.4 per cent);
2. Education (6 or 15.8 per cent);

3. Information Technology (4 or 10.5 per cent);
4. Religious education (3 or 7.9 per cent); and
5. Counselling/Student welfare/Psychology studies (2 or 5.3 per cent).

The **main** fields where the 35 *female* principals were currently studying or planning to undertake further study were similar for the top two for *male* principals and included:

1. Leadership in education (18 or 28.6 per cent);
2. Education (8 or 22.9 per cent);
3. Counselling/Student welfare/Psychology studies (3 or 8.6 per cent); and
4. Religious education, English and Information Technology (all three fields had 2 or 5.7 per cent share each).

Reasons for further study

Survey respondents who had undertaken further study or planning to undertake further study were asked for their main reason for studying. The table below outlines the reasons.

The predominant reasons why principals who participated in the survey were undertaking further study or planned to undertake further study included:

1. Personal development or change (42 or 57.5 per cent);
2. Personal interest (16 or 21.9 per cent); and
3. To meet employer's requirement (7 or 9.6 per cent).

Less important reasons included 'to shift to another role within the education industry', 'to get out of teaching profession' and 'to secure permanent position or promotion'.

Both *female* and *male* principals gave similar reasons with studying for personal development or change being the leading reason followed by studying for personal interest. More *male* principals nominated 'to meet employer's requirement' as the reason for undertaking further study.

Table 8

Reasons for further study for all principals and by gender			
Reason for studying	Female	Male	Total
Personal development or change	23	19	42
Personal interest	7	9	16
To meet employer's requirement	1	6	7
To shift to another role within the education industry	2	1	3
To get out of teaching profession	1	2	3
Secure permanent position or promotion	1	1	2
Sub-total	35	38	73

Looking by age, principals as young as 26 and as old as 63 cited 'personal development or change' and 'personal interest' for studying. The top two reasons comprised 79.4 per cent out of all responses and would be inextricably linked to each principal's personal development, if not to his or her career development.

Allocation of work time

The work of a principal encompasses a wide range of activities which include providing strategic or educational leadership¹, administrative or management or operational roles and other activities. The table below provides information on the allocation of principals' time in an average working week. It should be noted that many principals commented that it was difficult to estimate their time use as there were duties that cut across the different categories.

Survey respondents reported spending the most time on staff or student welfare issues, followed by time spent on strategic or education leadership.

Table 9

Average proportion of time (%) spent by type of activity and teaching level			
Type of activity	Combined	Primary	Secondary
Strategic or education leadership	14.9	21.8	26.1
Financial management	5.8	10.5	10.8
Marketing	15.8	6.2	7.4
Staff or student welfare issues	40.9	23.6	27.5
Operational tasks	5.8	17.8	19.3
Teaching	10.7	12.5	4.2
Other activities	1.1	3.8	3.0

Time spent on strategic or educational leadership by gender

More *female* principals (32.9 per cent) compared to 28.5 per cent for *male* principals reported spending 10 to less than 20 per cent of their time on strategic or educational leadership. However, some 34.0 per cent of *male* principals devoted 20 to less than 30 per cent of their time to this activity, compared to 24.1 per cent for *female* principals. Some 20 per cent of *female* and *male* principals spent 30 to less than 40 per cent of their time on strategic leadership.

Table 10

Proportion of time (%) spent on strategic or educational leadership by gender		
Proportion of time (%) spent	Female	Male
3 to less than 10	13.1	9.0
10 to less than 20	32.9	28.5
20 to less than 30	24.1	34.0
30 to less than 40	19.7	20.5
40 to less than 50	5.1	4.5
50 to 60	5.1	3.5

¹ Strategic or educational leadership includes professional development for staff and the principals, policy development, school planning in association with school board, enterprise bargaining and other human resource management.

Time spent on strategic or educational leadership by teaching level

Over 60.0 per cent of *primary* and *secondary* principals spent 10 to less than 30 per cent of their time on strategic and educational leadership. Some 35.5 per cent of *primary* principals spent 10 to less than 20 per cent whilst 36.5 per cent of *secondary* principals reported spending 20 to less than 30 per cent on this activity. For the three *combined* school principals, one-third each spent 3 to less than 10 per cent, 10 to less than 20 per cent, and 20 to less than 30 per cent on strategic and educational leadership respectively.

Table 11

Proportion of time (%) spent on strategic or educational leadership by teaching level			
Proportion of time (%) spent	Combined	Primary	Secondary
3 to less than 10	33.3	14.0	6.1
10 to less than 20	33.3	35.5	23.6
20 to less than 30	33.4	24.7	36.5
30 to less than 40	0	17.8	23.7
40 to less than 50	0	4.8	4.7
50 to 60	0	3.2	5.4

Time spent on financial management by gender

The majority of principals spent between 1 per cent to less than 20 per cent of their time on financial management with the proportion of 91.3 per cent for *female* principals being slightly higher than the 90.0 per cent for *male* principals.

Table 12

Proportion of time (%) spent on financial management by gender		
Proportion of time (%) spent	Female	Male
0	0.0	0.5
1 to less than 10	53.3	51.0
10 to less than 20	38.0	39.0
20 to less than 30	7.3	9.0
30 to 36	1.4	0.5

Time spent on financial management by teaching level and school system

As the table below shows, all three *combined* school principals spent less than 10 per cent of their time on financial management. Both *secondary* and *primary* school principals reported similar proportions of time with over 90 per cent of principals spending 1 to less than 20 per cent of their time on financial management. However, about 1.6 per cent of *primary* principals devoted 30 to 36 per cent to this activity.

Some 90 per cent of *government* principals and 93 per cent of *non-government* principals reported spending 1 to less than 20 per cent of their time on financial management. However, *government* principals (9.4 per cent) were more likely to spend 20 to less than 30 per cent of their time than for *non-government* principals (4.2 per cent).

Table 13

Proportion of time (%) spent on financial management by teaching level & school system					
Proportion of time (%) spent	Combined	Primary	Secondary	Government	Non-government
0	0.0	0.0	0.7	0.0	1.4
1 to less than 10	100.0	51.6	51.4	50.0	59.2
10 to less than 20	0.0	38.7	39.2	39.8	33.8
20 to less than 30	0.0	8.1	8.7	9.4	4.2
30 to 36	0.0	1.6	0.0	0.8	1.4

Time spent on marketing by gender

The majority of principals spent 1 to less than 10 per cent on marketing with 81.0 per cent of *female* principals and 70.0 per cent of male survey respondents doing so. At 21.5 per cent, *male* principals were more likely to spend 10 to less than 20 per cent of their time on marketing compared to 16.8 per cent of their *female* counterparts. One *female* principal reported spending over 30 per cent of her time on marketing each week.

Table 14

Proportion of time (%) spent on marketing by gender		
Proportion of time (%) spent	Female	Male
0	0.7	5.5
1 to less than 10	81.0	70.0
10 to less than 20	16.8	21.5
20 to less than 30	0.7	3.0
30 to less than 40	0.7	0.0

Time spent on marketing by teaching level and school system

The majority of principals spent 1 to less than 10 per cent of their time on marketing the school from 66.7 per cent for combined schools to 73.7 per cent for *secondary* principals and 75.3 per cent for *primary* principals. *Government* and *non-government* principals reported similar pattern of time usage, except that 4.2 per cent of *non-government* principals devoted 20 to less than 30 per cent of their time to marketing compared to 1.5 per cent for *government* principals.

One *combined government* school principal reported spending over 30 per cent of her time on marketing the school. There is an overlap here of promoting the relationship with the community and actual marketing of the school itself. Most principals reported activities such as community liaison with local sporting clubs, promoting goodwill with parents or citizens and the like under 'other activities'.

Table 15

Proportion of time (%) spent on marketing by teaching level & school system					
Proportion of time (%) spent	Combined	Primary	Secondary	Government	Non-government
0	0	4.8	2.0	3.8	2.8
1 to less than 10	66.7	75.3	73.7	74.8	73.2
10 to less than 20	0	18.3	21.6	19.6	19.7
20 to less than 30	0	1.6	2.7	1.5	4.2
30 to less than 40	33.3	0	0	0.4	0

Time spent on staff or student welfare issues by teaching level and school system

For the three *combined* school principals, 1 principal or 33.3 per cent spent 20 to less than 30 per cent of the time on student or staff welfare issues; 1 or 33.3 per cent devoted 40 to less than 50 per cent and 1 or 33.4 per cent devoted 50 to less than 60 per cent.

More *non-government* principals reported spending 20 to less than 30 per cent of their time on staff or student welfare issues (35.2 per cent) compared to 24.1 percent for *government* principals. Nearly 17 per cent of *government* principals devoted 40 to less than 60 per cent of their time on this activity, compared to 8.4 per cent for *non-government* principals.

Table 16

Proportion of time (%) spent on staff or student welfare issues by teaching level & school system					
Proportion of time (%) spent	Combined	Primary	Secondary	Government	Non-government
1 to less than 10	0.0	16.7	5.4	11.6	11.3
10 to less than 20	0.0	28.0	28.4	28.2	26.8
20 to less than 30	33.3	24.2	29.0	24.1	35.2
30 to less than 40	0.0	17.7	17.6	17.7	16.9
40 to less than 50	33.3	8.6	13.5	12.4	5.6
50 to less than 60	33.4	3.2	4.1	4.1	2.8
60 to less than 70	0.0	1.1	2.0	1.5	1.4
80	0.0	0.5	0.0	0.4	0.0

Time spent on operational tasks by gender

The majority of principals spent up to one-third of their time on operational tasks with 80.3 per cent of *female* principals and 77.5 per cent of *male* principals doing so. Some 6 per cent of *male* principals spent between 40 to less than 50 per cent of their time on operational tasks compared to 3.6 per cent for their *female* counterparts. The proportion of *female* principals who reported spending 60 to less than 70 per cent of their time on this activity was one percentage point higher than for *male* principals (0.5 per cent).

Table 17

Proportion of time (%) spent on operational tasks by gender		
Proportion of time (%) spent	Female	Male
0	2.9	4.0
1 to less than 10	27.7	24.5
10 to less than 20	32.9	29.0
20 to less than 30	19.7	24.0
30 to less than 40	9.5	11.0
40 to less than 50	3.6	6.0
50 to less than 60	2.2	1.0
60 to less than 70	1.5	0.5

Time spent on operational tasks by teaching level and school system

Of the three principals of *combined* schools, two or 66.7 per cent spent 1 to less than 10 per cent of their weekly average hours on operational tasks with one principal spending less than 20 per cent of the time on this activity. Six principals each of *primary* and *secondary* schools reported not spending any time on operational tasks.

Over 80 per cent of *secondary* principals and almost 76 per cent of *primary* principals devoted up to one-third of their time on operational tasks. *Primary* principals were more likely to have spent 10 to less than 20 per cent of their time (33.9 per cent) compared to their *secondary* counterparts (26.4 per cent) on operational tasks.

The time spent on operational tasks was similar to that shown for the *primary* and *secondary* principals. The majority of principals spent up to one-third of their time on operational tasks with 75.8 per cent for *government* principals and 87.4 per cent for *non-government* principals. The twelve principals (or 4.5 per cent) who reported not devoting any time to this activity all worked in *government* schools.

The three principals who reported spending between 60 to less than 70 per cent of their time on operational tasks worked in *primary government* schools.

Table 18

Proportion of time (%) spent on operational tasks by teaching level & school system					
Proportion of time (%) spent	Combined	Primary	Secondary	Government	Non-government
0	0.0	3.2	4.0	4.5	0.0
1 to less than 10	66.7	27.4	23.0	25.9	25.4
10 to less than 20	33.3	33.9	26.4	29.3	35.2
20 to less than 30	0.0	19.4	26.4	21.1	26.8
30 to less than 40	0.0	8.6	12.8	11.0	8.4
40 to less than 50	0.0	4.3	6.1	5.6	2.8
50 to less than 60	0.0	1.6	1.3	1.5	1.4
60 to less than 70	0.0	1.6	0.0	1.1	0.0

Time spent on teaching by gender

Some principals also have teaching duties whilst others worked in one teacher or principal schools. Fifty-seven *female* principals or 41.6 per cent and eighty-seven *male* principals or 43.5 per cent reported no teaching. The remaining proportions of principals (58.4 per cent of *female* principals) and 56.5 per cent of *male* principals recorded some time spent teaching.

Close to 30 per cent of *female* principals and 36 per cent of *male* principals reported spending 1 to less than 10 per cent of their time teaching. Eleven per cent of both *female* and *male* principals devoted 10 to less than 20 of their time on teaching. However, proportionally more *female* principals reported spending 40 to less than 70 per cent of their weekly hours teaching.

One *female* principal reported spending 76.9 per cent of her time teaching, whilst one *male* principal spent 70 per cent and another 75 per cent of his time teaching. All were principals of small *non-metropolitan primary* schools with between 11 to 63 students.

Table 19

Proportion of time (%) spent on teaching by gender		
Proportion of time (%) spent	Female	Male
0	41.6	43.5
1 to less than 10	29.2	36.0
10 to less than 20	11.0	11.0
20 to less than 30	2.9	3.5
30 to less than 40	1.5	2.0
40 to less than 50	5.1	1.5
50 to less than 60	4.4	0.5
60 to less than 70	3.6	1.0
70 to 76.9	0.7	1.0

Time spent on teaching by teaching level and school system

More *primary* principals (about 70 per cent) spent time in the classroom teaching compared to their *secondary* counterparts (42.0 per cent). This partly reflects the flexibility of adapting their teaching qualifications to meet the needs of being both a *primary* teacher and running a *primary* school as a principal. The demands on *secondary* principals, especially when dealing with older adolescents, together with the greater curriculum needs of a *secondary* education meant less room in combining the roles of being a teacher and principal.

Some 49 per cent of *primary* principals devoted 1 to less than 20 per cent of their time on teaching, while the corresponding proportion for *secondary* principals was about 38.5 per cent. Around 5.4 per cent of *primary* principals spent 40 to less than 50 per cent of their time on this activity with 1.6 per cent devoting 70 to 76.9 per cent of their weekly hours to teaching.

Some 75 per cent of principals of *non-government* reported teaching responsibilities compared to over 50 per cent of government school principals. Over 50 per cent of *non-government* principals spent 1 to less than 10 per cent of the time on teaching, while the proportion for *government* principals was 28.6 per cent. Proportionally more *non-government* reported spending 10 to less than 30 per cent of their weekly hours on teaching, whilst more *government* principals spent 30 to less than 70 per cent of their time on teaching. Two out of the three principals who reported spending 70 to 76.9 per cent of their time on teaching came from *non-government* schools.

Table 20

Proportion of time (%) spent on teaching by teaching level & school system					
Proportion of time (%) spent	Combined	Primary	Secondary	Government	Non-government
0	33.3	30.6	58.1	47.4	25.4
1 to less than 10	33.3	37.6	27.7	28.6	50.7
10 to less than 20	0.0	11.3	10.8	10.2	14.1
20 to less than 30	33.4	3.8	2.0	3.0	4.2
30 to less than 40	0.0	2.7	0.7	1.8	1.4
40 to less than 50	0.0	5.4	0.0	3.8	0.0
50 to less than 60	0.0	3.8	0.0	2.3	1.4
60 to less than 70	0.0	3.2	0.7	2.2	1.4
70 to 76.9	0.0	1.6	0.0	0.7	1.4

Time spent on teaching by metropolitan and non-metropolitan comparisons

Non-metropolitan principals (62.6 per cent) were more likely than *metropolitan* principals (51.3 per cent) to have teaching responsibilities. While 40 per cent of the *metropolitan* principals devoted 1 to less than 10 per cent of their time on teaching, the proportion for their non-metropolitan counterparts was 27.4 per cent.

Non-metropolitan principals spent considerably more time (over 10 per cent of an average week) on teaching with 14 per cent spending 10 to less than 20 per cent of their time, 5 per cent each spending 20 to less than 30 per cent and 40 to less than 50 per cent of their time on teaching. All three principals who spent 70 to 76.9 per cent of their time on teaching worked in *non-metropolitan* schools.

Table 21

Proportion of time (%) spent on teaching: Metropolitan & non-metropolitan		
Proportion of time (%) spent	Metropolitan	Non-metropolitan
0	48.7	37.4
1 to less than 10	40.0	27.4
10 to less than 20	7.6	14.0
20 to less than 30	1.3	5.0
30 to less than 40	0.6	2.8
40 to less than 50	0.6	5.0
50 to less than 60	0.6	3.4
60 to less than 70	0.6	3.3
70 to 76.9	0.0	1.7

Time spent on other activities by gender

Of the *female* respondents, 46.7 per cent reported spending time on other activities with the proportion being 42.5 per cent for *male* respondents. Some 36.5 per cent of *female* principals and nearly one-third of *male* principals reported spending 1 to less than 10 per cent on other activities. Just over 10 per cent of *female* principals and about 13 per cent of *male* principals spent 10 to less than 20 per cent of their time on this activity. One *female* principal reported spending 20 per cent of her time and 2 *male* principals reported spending up to 21.1 per cent of their average weekly hours on other activities.

Table 22

Proportion of time (%) spent on other activities by gender		
Proportion of time (%) spent	Female	Male
0	53.3	57.5
1 to less than 10	36.5	29.5
10 to less than 20	9.5	11.5
20 to 21.1	0.7	1.5

Time spent on other activities by teaching level and school system

One out of the three *combined* school principals spent 1 to less than 10 per cent of the time to other activities, whilst the proportion for *primary* principals was 34.9 per cent and 33.5 per cent for *secondary* principals. More *primary* principals (12.9 per cent) compared to 8.1 per cent for *secondary* principals reported spending 10 to less than 20 per cent of their time performing

other activities. Two or 1.1 per cent of *primary* principals and two or 1.4 per cent of *secondary* principals reported spending 20 to 21.1 per cent of their time on other activities.

As more *primary* principals also taught, most of these other activities would relate to preparation work for lessons.

More *non-government* principals were involved in other activities (49.3 per cent) compared to 42.9 per cent of *government* principals. Most spent 1 to less than 10 per cent on other activities with 33.5 per cent of *government* principals and 28.2 per cent of *non-government* doing so. *Non-government* principals (19.7 per cent) were more likely to spend 10 to less than 20 per cent of their time on other activities compared to 8.3 per cent for *government* principals.

Of the four principals who spent 20 to 21.1 per cent of their time on other activities, 3 worked in *government* schools.

Table 23

Proportion of time (%) spent on other activities by teaching level & school system					
Proportion of time (%) spent	Combined	Primary	Secondary	Government	Non-government
0	66.7	51.1	61.5	57.1	50.7
1 to less than 10	33.3	34.9	29.0	33.5	28.2
10 to less than 20	0.0	12.9	8.1	8.3	19.7
20 to 21.1	0.0	1.1	1.4	1.1	1.4

Time spent on other activities by metropolitan and non-metropolitan comparisons

The pattern of time spent on other activities reported by *metropolitan* and *non-metropolitan* principals was similar as the following table shows. About one-third of both *metropolitan* and *non-metropolitan* principals spent 1 to less than 10 per cent of their time on other activities. Three principals (1.7 per cent) who spent 20 to 21.1 per cent of their time on other activities worked in *non-metropolitan* schools compared to one or 0.6 per cent from a *metropolitan* school.

Table 24

Proportion of time (%) spent on other activities: Metropolitan & non-metropolitan		
Proportion of time (%) spent	Metropolitan	Non-metropolitan
0	55.7	55.9
1 to less than 10	32.9	31.8
10 to less than 20	10.8	10.6
20 to 21.1	0.6	1.7

Duties reported for other activities

The predominant duties involved meetings with parents, preparation work for class for those principals who also taught, attendances at sporting events or social functions or performances involving the schools, and meetings with potential sponsors for school events. Lesser duties included carrying out maintenance work, other administrative tasks, promoting Catholic education or religious leadership, travel time between campuses and regional areas, external briefings, being a member of a committee or panel and site management of new premises.

Career and school changes

Absences from teaching

The survey also sought information on principals' absences from the teaching or education profession, the duration of absences, their main occupations during absences, and their main reason for the move.

Some 66 principals or under 20 per cent of the sample had taken time off from teaching or being a principal. On average, principals absented themselves from the education profession 1.4 times and for a period of 3.5 years. The longest duration for a principal's absence was 16 years and the shortest duration was for 1 year.

The *occupations* pursued by principals whilst absent from teaching or being a principal were varied. The main occupations reported were:

1. Unemployed/ Home duties (14 or 21.2 per cent);
2. Education consultants (13 or 19.7 per cent);
3. Managers (7 or 10.6 per cent);
4. Casual employment – nothing specific (7 or 10.6 per cent);
5. Administration (6 or 9.1 per cent);
6. Self employed (3 or 4.5 per cent);

Other occupations reported by principals who took absences from teaching or being a principal included defence forces, hospitality, human resource services, public relation, public service , recreation, real estate agents, social work and working as a tradesperson.

Reasons for absences from teaching or being a principal

Reasons for absences from teaching or being a principal were also varied. Of the 66 principals who reported absences, 38 were *female* and 28 *male*. The most common reason was "career change or time out or needed a change", followed by "family formation" and "to broaden knowledge or life experience".

Table 25

Reasons for absences for all principals	Number
Career change / time out / needed a change	14
Family formation	13
Broaden knowledge or life experience	13
Work overseas/travel	11
Personal commitments	6
Secondment to Education Department	4
Avoid politics of education system	2
No teaching work available / Redundacy	2
Compulsory national service	1
Total	66

There were significant differences in the reasons nominated by for *male* and *female* principals for their absences from teaching or being a principal. Similar to the results of the teachers'

survey, while for *female* principals, the top reason was “family formation”, this was not nominated as a reason by *male* principals.

Even though there were more *male* principals who responded to the survey, proportionally more *female* principals took leave of absence from teaching or being a principal.

Table 26

Reasons for absences for female principals	Number
Family formation	13
Broaden knowledge or life experience	9
Work overseas/travel	6
Career change / time out / needed a change	4
Personal commitments	4
Secondment to Education Department	2
Total	38

For *male* principals, the main reason for leaving teaching or being a principal was for “career change or time out or needed a change”, followed by “work overseas/travel” and “broaden knowledge or life experience”.

Table 27

Reasons for absences for male principals	Number
Career change / time out / needed a change	10
Work overseas/travel	5
Broaden knowledge or life experience	4
Avoid politics of education system	2
No teaching work available / Redundancy	2
Personal commitments	2
Secondment to Education Department	2
Compulsory national service	1
Total	28

Reasons for returning to the teaching profession or being a principal

As shown in the table below, the main reason for principals who absented themselves from teaching or being a principal, and then returned to the teaching profession was “love of the job”. Realising “teaching was a better or more rewarding career”, “family commitments and needed a stable career” and “missed the classroom and the kids” were also important reasons.

Less important reasons included “returned after travel”, “returned after having children”, “promotion” and “better working hours”.

Table 28

Reasons for returning to the teaching profession for all principals	Number
Love of the job	19
Teaching was a better or more rewarding career	12
Family commitments and needed a stable career	10
Missed the classroom and the kids	9
Returned after travel	6
Returned after having children	4
Offered a promotion	3
Better working hours	1
Not reported	2
Total	66

“Love of the job” was the main reason nominated for *female* principals’ return to the teaching profession, followed by ‘family commitments and needed a stable career’ and “missed the classroom and the kids”.

Table 29

Reasons for returning to the teaching profession for female principals	Number
Love of the job	11
Family commitments and needed a stable career	6
Missed the classroom and the kids	5
Returned after having children	4
Returned after travel	4
Teaching was a better or more rewarding career	4
Offered a promotion	2
Not reported	2
Total	38

For *male* principals, “love of the job” and “teaching was a better or more rewarding career” were equally important for their return to the teaching profession, followed by ‘family commitments and needed a stable career’ and “missed the classroom and the kids”.

Table 30

Reasons for returning to the teaching profession for male principals	Number
Love of the job	8
Teaching was a better or more rewarding career	8
Family commitments and needed a stable career	4
Missed the classroom and the kids	4
Returned after travel	2
Better working hours	1
Offered a promotion	1
Total	28

Changes of schools

Principals were also asked if they had changed schools in the past two years, whether the move was between *government* and *non-government* schools and if it involved a change of State or Territory.

Some 66 principals reported having changed schools in the last two years. Of these respondents, 24 or 36.4 per cent were *female* and 42 or 63.6 per cent were *male*. Eight principals' changes of schools also involved a move *inter-state* with two *female* principals and 6 *male* principals reporting this. *Metropolitan* principals numbered 30 or 45.5 per cent and there were 36 or 54.5 per cent *non-metropolitan* principals who had changed schools in the last two years.

More significantly, 60 of the 66 principals (comprising 90.9 per cent) who changed schools in the last two years also moved from working in a *government* school to a *non-government* school. The average age of this group of principals was 47 years with the youngest aged 31 and the oldest of the school changers being 63 years old. Of the 60 principals, 21 or 35.0 per cent were *female* and 39 or 65.0 per cent were *male*.

Reasons for changing school

Principals were asked to provide a reason for changing schools. The reasons nominated were similar in order of importance for all principals, whether by *gender* or *metropolitan* and *non-metropolitan* analysis as shown in the table below.

The top reason given by principals was "higher pay or promotion", followed by "different lifestyle or change" and "challenge" for having changed schools in the last two years. Less important reasons given were "closer to home", "disliked previous school", "maintain permanency" and "end of contract".

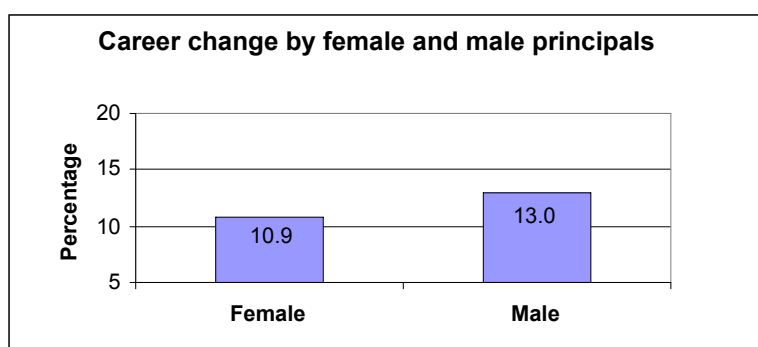
Table 31

Reasons for changing schools by gender, metropolitan and non-metropolitan comparisons				
	Female	Male	Metropolitan	Non-metropolitan
Higher pay or promotion	16	23	19	20
Different lifestyle or change	4	9	6	7
Challenge	2	3	0	5
Closer to home	1	2	2	1
Disliked previous school	0	2	1	1
Maintain permanency of job	0	2	1	1
End of contract	1	0	0	1
Forced transfer	0	1	1	0
Total = 66	24	42	30	36

Thinking of a career change?

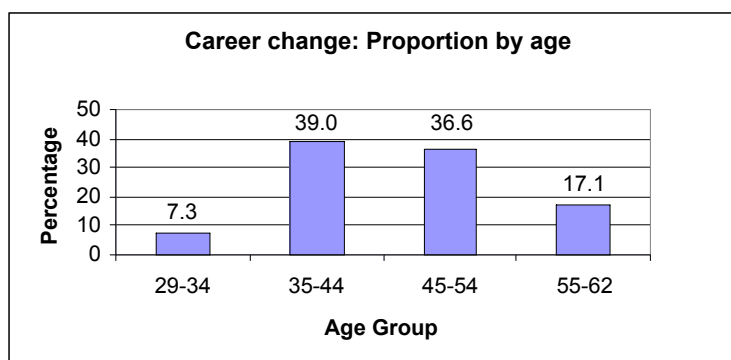
Principals who participated in the survey were also asked if they were likely to leave the education profession before retiring or resigning from work altogether. Some 41 respondents, representing 12.2 per cent of all respondents, indicated that they were likely to change professions before retiring. Of these 41 principals, 15 were *female* and 26 were *male*. Proportionally more *male* principals (13.0 per cent) had considered a change of profession compared to 10.9 per cent of the *female* principals who responded to the survey.

Chart 5



The proportion of principals considering a career change before retirement is correlated to their age as shown in the table below. For the 41 principals considering a career change, those aged 35 - 44 (39.0 per cent) comprised the biggest proportion, followed by those aged 45 - 54 (36.6 per cent), the 55-62 age cohorts (17.1 per cent) and the cohorts aged 29-34 (7.3 per cent). The youngest was a *male* principal aged 29 and the oldest was a *female* principal aged 62. Both worked in *non-metropolitan government* schools of 10 and 51 students respectively.

Chart 6



Age of retirement or resignation for principals

Those principals who answered “no” to leaving their job for other occupations were asked when they were likely to retire or resign.

Some 297 principals (or 88.1 per cent of survey participants) reported that they were not likely to leave the education profession. The most frequently suggested retirement or resignation age was 60 at 31.4 per cent, followed by the age of 55 at 23.6 per cent, the age of 58 at 12.5 per cent and the age of 65 at 11.1 per cent.

For those principals who answered “yes” to leaving the education profession before retiring, they were asked when they were likely to leave their job as a principal. The age which these respondents nominated as to when they were likely to leave the education profession before retiring is correlated to their current age. The youngest *male* principal aged 29 is likely to leave the education profession at age 30, whilst the oldest principal (aged 62) is likely to leave when he turns 63. The average age for the 40 respondents who reported the likely age for them to

leave the education profession for another occupation was 52.4 years. One *female* principal aged 54 did not report what age she is likely to leave her job for another occupation.

Factors that are important in attracting and retaining teaching professionals

Principals' motivations for becoming first a teacher, and then a principal

The majority of survey respondents (296 principals or 87.8 per cent) did not have another career before first becoming a teacher, and then a principal. For the 46 principals who did have a previous career before entering teaching, most worked as public servants (13.0 per cent), nurses (13.0 per cent), accountants (6.5 per cent), bank clerks (6.5 per cent), secretaries (6.5 per cent), tradesmen (6.5 per cent) and 4.4 per cent each worked as engineers, financial planners, and labourers.

Respondents also worked in administration, marketing, hospitality, information technology and publishing and as managers, recreational officers, commercial pilot, farmer, laboratory technician, smelter, professional soccer player and sociologist. One ran his own business before entering the teaching profession.

Key motivations put forward by survey respondents for becoming a teacher initially ranked by prevalence are shown in the table below:

Male respondents (24.0 per cent) were more likely than *female* respondents (21.2 per cent) to nominate “working with children” as a key motivator for becoming a teacher. *Female* principals (27.0) were more likely to report “a desire to teach” as their main motivation for teaching compared to 15.5 per cent of *male* principals.

Perhaps surprisingly, *male* respondents appeared more likely than *females* to be attracted to teaching by “positive impact of role models” or in order to “make a difference”.

The availability of “scholarships” and “fallback option” also featured as main motivators for becoming a teacher, followed by “employment conditions” and the fact that principals “enjoyed the subject matter”. “Pay” was the least ranked motivation for becoming a teacher with one *male* respondent nominating it.

Table 32

Motivations for principals for entering teaching by female, male and total (per cent)			
	Female	Male	Total
Enjoy working with children	21.2	24.0	22.8
Desire to teach	27.0	15.5	20.2
Positive impact of role models	15.3	18.5	17.2
To make a difference	10.9	13.0	12.2
Scholarship	9.5	12.0	11.0
Fallback option	9.5	6.5	7.7
Employment conditions	4.4	6.5	5.6
Enjoy subject	2.2	3.5	3.0
Pay	0.0	0.5	0.3

Note: Some of the motivations recorded have been grouped for ease of analysis.

- “Desire to teach” is a combination of “Desire to teach” and “share skills/knowledge”;
- “Employment conditions” is a combination of the responses – “job security”, “working hours/holiday provisions”; and “mobility of position – allowed to transfer”; and

- “Fallback option” is a combination of “only option available”, “dislike for previous career”, “injury sustained from previous career” and “needed a job/fell into teaching”.

For the three *combined* schools, one principal each nominated “Enjoy working with children”, “to make a difference” and teaching as a “fallback option”. *Primary* principal were more likely to nominate “enjoy working with children”, “positive impact of role models”, “fallback option” and “employment conditions” as key motivations. One *primary* principal nominated “pay” for making the decision to be a teacher. *Secondary* principals were more likely to report “to make a difference”, access to “scholarships” and “enjoyment of subject” as reasons for becoming teachers.

Table 33

Motivations for principals for entering teaching by teaching level (per cent)			
	Combined	Primary	Secondary
Enjoy working with children	33.3	24.2	21.0
Desire to teach	0.0	20.4	20.3
Positive impact of role models	0.0	20.4	13.5
To make a difference	33.3	8.6	16.2
Scholarship	0.0	7.6	15.5
Fallback option	33.4	9.2	5.4
Employment conditions	0.0	7.5	3.4
Enjoy subject	0.0	1.6	4.7
Pay	0.0	0.5	0.0

More principals from *non-government* schools (32.4 per cent) compared to 20.3 per cent of *government* principals nominated “enjoy working with children” as their main motivation for becoming teacher. Proportionally more *non-government* principals (9.9 per cent) compared to 7.1 per cent of *government* principals cited teaching as a “fallback option”. However, *government* school principals were more likely to be motivated by a “desire to teach”, the “positive impact of role models”, the availability of “scholarships”, “employment conditions” of the teaching profession, and the “enjoyment of the subject” than their non-government counterparts. One *government* principal nominated “pay” as his motivation for teaching.

Table 34

Motivations for principals for entering teaching by school system (per cent)		
	Government	Non-government
Enjoy working with children	20.3	32.4
Desire to teach	21.5	15.5
Positive impact of role models	18.4	12.7
To make a difference	11.3	15.5
Scholarship	12.0	7.0
Fallback option	7.1	9.9
Employment conditions	6.0	4.2
Enjoy subject	3.0	2.8
Pay	0.4	0.0

Motivations for becoming a principal

Respondents were also asked what motivated them to become a principal. The table below outlines the motivations nominated by principals. Some 57.3 per cent wanted to make a difference from a more authoritative role as a principal, whilst 18.4 per cent of principals enjoyed the leadership or management role. Many principals (12.5 per cent) were modest in saying they simply fell into the job, albeit sometimes with the persuasion of the district administrators.

Male principals were more likely to admit to “enjoying the leadership or management role” as key motivation for them being principals. Proportionally more *female* principals nominated “never wanted it/fell into it” and “advance career or challenge” as motivations for becoming a principal.

Table 35

Motivations for becoming a principal by female, male and total (per cent)			
	Female	Male	Total
To make a difference/ wanted to do more	54.7	59.0	57.3
Enjoy the leadership or management role	13.9	21.5	18.4
Never wanted to be one/fell into it	13.9	11.5	12.5
Advance career or challenge	17.5	8.0	11.8

Note: Some of the motivations recorded have been grouped for ease of analysis.

- “To make a difference/ wanted to do more” is a combination of “Make a difference” - which accounted for 90.7 per cent of this category, “ability to improve the school”; “wanted to be better than other principals” and “wanted to share knowledge with staff”;
- “Enjoy the leadership or management role” is a combination of mainly “enjoy the leadership or management role” and one response of “wanted autonomy”;
- “Never wanted to be one/fell into it” included “never wanted to be one/fell into it”, “natural progression” and “enjoyable career”; and
- “Advance career or challenge” covers “advance career” or “challenge”.

Motivations for becoming a principal by teaching level

For the three *combined* schools, one principal each nominated “to make a difference”, “never wanted it/fell into it” - citing it was a natural progression and “to advance career” as reasons for becoming a principal. *Secondary* principals (64.2 per cent) were more likely to nominate “to make a difference/wanted to do more” as a key motivation for becoming a principal, compared to 52.2 per cent of primary principals. *Primary* principals were more likely to nominate “enjoy the leadership or management role” and “advance career or challenge”, whilst proportionally more *secondary* principals said they “never wanted to be one/fell into it” for why they became principals.

Table 36

Motivations for becoming a principal by teaching level (per cent)			
	Combined	Primary	Secondary
To make a difference/ wanted to do more	33.3	52.2	64.2
Enjoy the leadership or management role	0.0	22.0	14.2
Never wanted to be one/fell into it	33.3	11.3	13.5
Advance career or challenge	33.4	14.5	8.1

Note: Some of the motivations recorded have been grouped for ease of analysis. See note for table 35 above.

Motivations for becoming a principal by school system

More principals from *non-government* schools (69.0 per cent) compared to 54.1 per cent of *government* principals nominated “to make a difference/ wanted to do more” as their main motivation for becoming a principal. *Government* principals were proportionally more likely than their *non-government* counterparts to suggest “enjoy the leadership or management role”, “never wanted to be one/ fell into it” and “advance career or challenge” as reasons for becoming a principal.

Table 37

Motivations for becoming a principal by school system (per cent)		
	Government	Non-government
To make a difference/ wanted to do more	54.1	69.0
Enjoy the leadership or management role	19.5	14.1
Never wanted to be one/fell into it	13.2	9.9
Advance career or challenge	13.2	7.0

Note: Some of the motivations recorded have been grouped for ease of analysis. See note for Table 35 above.

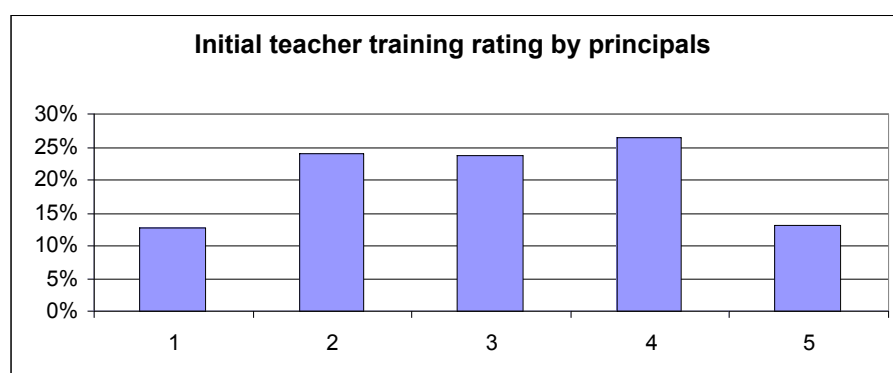
No marked differences existed for motivations put forward by *metropolitan* and *non-metropolitan* principals. Hence, no analysis has been presented.

Principals' opinion on initial teacher training

The majority of principals came up through the ranks as teachers. Their opinions on the quality of initial teacher training were sought as to how well prepared they felt when making the transition from study to working as a teacher. Survey respondents were asked to rate their initial teacher training on a 1 (low) to 5 (high) scale.

The chart below displays the ratings that principals reported for their initial teacher training. For many principals, this would have occurred many years ago. The biggest proportion of principals (26.4 per cent) rated their training with a ‘4’, suggesting more than moderate satisfaction with it. Some 13.1 per cent of respondents were very satisfied with their training and gave it a high rating of ‘5’. About 23.7 per cent of principals were moderately satisfied with their training (‘3’ rating”, whilst others were clearly not satisfied with 24.0 per cent of principals rating it ‘2’ and 12.8 per cent were highly dissatisfied - reporting ratings of ‘1’.

Chart 7



Teacher training rating by gender

Female principals tended to rate their teacher training more positively than their *male* counterparts. Some 30.7 per cent of *female* principals reported ratings of '4' and 17.5 per cent gave ratings of '5', indicating more than moderate satisfaction to high satisfaction with their teaching training. The proportion of *male* principals who reported a '4' rating was 23.5 per cent and 10 per cent of *male* principals gave their training a rating of '5'.

Female principals (13.1 per cent) were slightly more likely to be *very* dissatisfied with their training by more ratings of '1', compared to 12.5 per cent of *male* respondents. However, *male* principals were more likely to express moderate dissatisfaction with their training with 28.0 per cent reporting a '2' rating, as opposed to 18.3 per cent of *female* principals. Some 26.0 per cent of *male* principals and 20.4 per cent of *female* principals rated their training at '3', suggesting moderate satisfaction for the mid-range responses.

Female principals gave an average rating of 3.2 compared to a lower average rating of 2.9 for *male* principals.

Table 38

Teacher training: rating by gender (per cent) and average ratings						
	Proportion (%)					
	1	2	3	4	5	Average rating
Female	13.1	18.3	20.4	30.7	17.5	2.9
Male	12.5	28.0	26.0	23.5	10.0	3.2

Teacher training rating by teaching level

The table below compares the views of the *combined*, *primary* and *secondary* principals on their initial teacher training. For the three *combined* school principals, one each had a rating of '1', '2' and '3' suggesting great dissatisfaction to moderate satisfaction with their training. *Primary* principals (15.1 per cent) were more likely to give their training a rating of '5' suggesting high satisfaction compared to 10.8 per cent of *secondary* principals. However, more *secondary* principals (27.7 per cent) rated their training with a '4' as opposed to 25.8 per cent of *primary* principals. *Secondary* principals were also more likely to report a '3' rating suggesting moderate satisfaction or a more neutral response.

The average rating for *combined* principals was 2.0 compared to a similar average rating of 3.1 for *primary* principals and 3.0 for *secondary* principals.

Table 39

Teacher training: rating by teaching level (per cent) and average ratings						
	Proportion (%)					
	1	2	3	4	5	Average rating
Combined	33.3	33.3	33.4	0.0	0.0	2.0
Primary	10.2	26.9	22.0	25.8	15.1	3.1
Secondary	15.5	20.3	25.7	27.7	10.8	3.0

Teacher training rating by school system

Government principals were more likely to give a '4' rating for their teacher training, suggesting more than moderate satisfaction. Proportionally more non-government principals (14.1 per cent) were highly satisfied (a '5' rating) with their training, compared to 12.8 per cent of government principals. Conversely, non-government principals were more likely to be most dissatisfied with their training with 15.5 per cent rating it '1' compared to 12.0 per cent of government principals. Non-government principals (26.8 per cent) also reported more '2' ratings compared to 23.3 per cent of their government counterparts.

Overall, government principals had a higher average rating of 3.1 as opposed to 2.9 for non-government principals.

Table 40

Teacher training: rating by school system (per cent) and average ratings						
	Proportion (%)					
	1	2	3	4	5	Average rating
Government	12.0	23.3	23.7	28.2	12.8	3.1
Non-government	15.5	26.8	23.9	19.7	14.1	2.9

Teacher training rating by age groups

The next table provides rating information (proportional share for each rating) and the average rating of teacher training for all the respondents by age ranges. The principals aged 26 - 34 (28.6 per cent) were more likely to be very dissatisfied compared to 15.1 percent of the 35 - 44 age cohorts, 13.3 per cent of principals aged 45 - 54 and 8.9 per cent of the respondents aged 55 - 64. The same 26 - 34 age cohorts also had the biggest proportion for being moderately satisfied with their training with 42.8 per cent reporting a rating of '3'.

Some 34.1 per cent of the 55 - 64 age cohorts and 25 per cent of those respondents aged 45 - 54 rated their training at '4', suggesting more than moderate satisfaction. One 68 years old principal also rated his training at '4', accounting for 50 per cent for the 65 and 68 age group.

For those who rated their training a '5', the biggest proportion of 22.8 per cent was recorded for the 55 - 64 age cohorts, followed by the principals aged 35 - 44 (13.2 per cent) and those respondents aged 45 - 54 at 9.7 per cent.

Proportionally more principals aged 55+ were **more** than moderately satisfied (4 rating) to **highly** satisfied (5 rating) with their teacher training compared to their younger counterparts. The average rating of 3.5 was recorded for the respondents aged 55 and over.

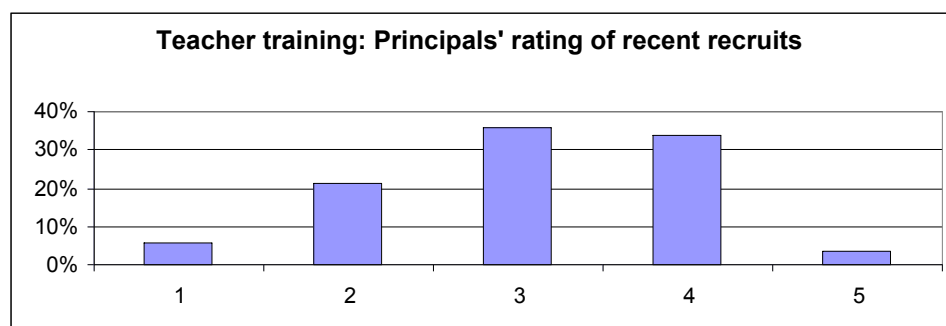
Table 41

Teacher training: rating by age groups (per cent) and average ratings						
	Proportion (%)					
Age group	1	2	3	4	5	Average rating
26-34	28.6	14.3	42.8	14.3	0.0	2.4
35-44	15.1	28.3	22.6	20.8	13.2	2.9
45-54	13.3	27.0	25.0	25.0	9.7	2.9
55+	8.6	14.8	19.8	34.6	22.2	3.5

Training rating of recent teacher graduates

Principals were also asked to rate the quality of teacher training based on their recruitment experience with recent teacher graduates. Some 35.6 per cent of principals gave ratings of '3' reflecting moderate satisfaction regarding the quality of training of recent recruits. However, 33.8 per cent rated the training of recently recruited teachers as '4' which indicated they were more than moderately satisfied. Some 5.6 per cent of principals were very dissatisfied with the quality of teacher training by rating it '1', while on the other hand, 3.9 per cent of principals rated the training highly at '5'. About 21 per cent of principals rated their new recruits' training at '2' suggesting some dissatisfaction with the quality of the training.

Chart 8



Rating of quality of training of recent recruits by gender

Female principals were more likely to be moderately satisfied by the quality of the recent graduate teachers with 39.4 per cent reporting a '3' rating compared to 33.0 per cent of *male* principals. However, proportionally more *male* principals expressed greater than moderate satisfaction to high satisfaction with the quality of their teacher recruits' training. Some 38.0 per cent gave ratings of '4' compared to 27.7 per cent of female principals, and some 4.5 per cent of *male* principals reported ratings of '5' as opposed to 2.9 per cent of *female* principals.

More ratings of '1' and '2' were given by *female* principals for the quality of teacher training of their new recruits indicating more than moderate dissatisfaction to extreme dissatisfaction. Overall, *male* principals (average rating of 3.2) were more satisfied with the quality of training of their recent recruits, compared to an average rating of 3.0 for *female* principals.

Table 42

Teacher training: rating of recent recruits by gender (per cent) and average ratings						
	Proportion (%)					
	1	2	3	4	5	Average rating
Female	7.3	22.6	39.5	27.7	2.9	3.0
Male	4.5	20.0	33.0	38.0	4.5	3.2

Rating of quality of training of recent recruits by teaching level

The ratings of the quality of training of their recent teacher recruits recorded by the *combined*, *primary* and *secondary* principals are outlined in the following table. One each of the three *combined* school principals reported ratings of '2', '3' and '4'. *Primary* principals (37.1 per cent) were more likely to record '3' ratings, compared to 33.8 per cent of *secondary* principals.

Primary principals (4.8 per cent) were also more inclined to be highly satisfied with the quality of training for their recent teacher recruits, whilst 2.7 per cent of secondary principals recorded ratings of '5'.

However, more *secondary* principals (37.8 per cent) reported ratings of '4' suggesting more than moderate satisfaction for the quality of teacher training of recent teacher graduates, compared to 30.7 per cent of their *primary* counterparts. Ratings of '1' and '2' attracted similar responses.

The average rating for *combined* principals was 3.0 and the average rating of 3.1 was recorded for both *primary* principals and *secondary* principals.

Table 43

Teacher training: rating of recent recruits by teaching level (per cent) and average ratings						
	Proportion (%)					
	1	2	3	4	5	Average rating
Combined	0.0	33.3	33.3	33.4	0.0	3.0
Primary	5.4	22.0	37.1	30.7	4.8	3.1
Secondary	6.1	19.6	33.8	37.8	2.7	3.1

Rating of quality of training of recent recruits by school system

Non-government principals gave higher ratings of '3', '4', and '5' (combined proportion of 83.1 per cent) for the quality of teacher training of recent graduates, compared to 70.7 per cent of government principals. Proportionally more government principals (6.8 per cent) reported ratings of '1' indicating extreme dissatisfaction with the quality of training of recent teacher graduates, compared to 1.4 per cent of non-government principals. Some 22.5 per cent of government gave '2' ratings as opposed to 15.5 per cent of their non-government counterparts.

However, the overall average rating of 3.0 was recorded for both *non-government* and *government* principals for the quality of training seen in recent teacher recruits.

Table 44

Teacher training: rating by school system (per cent) and average ratings						
	Proportion (%)					
	1	2	3	4	5	Average rating
Government	6.8	22.5	34.6	32.7	3.4	3.0
Non-government	1.4	15.5	39.5	38.0	5.6	3.0

Rating of quality of training of recent recruits by age groups

The most predominant rating was '3' among the 'younger' principals aged under 55. Some 57.1 per cent of 7 principals aged 26 - 34, 45.3 per cent of principals aged 35 - 44 and 34.7 per cent of principals aged 45 - 54 gave a '3' rating for the quality of training of recent teaching graduates. Some 34.2 per cent of the 196 principals aged 45 - 54 also rated the quality of the new recruits' training quite highly at '4'.

For the 79 principals aged 55 and over, 42.0 per cent gave a rating of '4' and 29.6 per cent reported a rating of '3', reflecting a considerable degree of satisfaction with the quality of training

of new teachers. The highest rating of '5' for high satisfaction with the quality of training seen in the new graduates recorded responses from 4.1 per cent of the 45 - 54 age cohorts and 3.8 per cent of principals aged 35 - 44 and 3.7 per cent of principals aged 55 and over.

About 6.1 percent of principals aged 45 - 54 recorded ratings of '1' for extreme dissatisfaction with the quality of training manifested by their new teacher recruits.

Principals aged 55+ gave the highest average rating of 3.2, followed by the 3.1 average rating for the 45 - 54 age cohorts. The average ratings increased with age suggesting 'older' principals were more satisfied with the quality of training they had seen in new teachers compared to their 'younger' counterparts.

Table 45

Teacher training ratings - age distribution (per cent) and average						
	Proportion (%)					
Age group	1	2	3	4	5	Average rating
26-34	14.3	14.3	57.1	14.3	0.0	2.7
35-44	3.8	24.5	45.3	22.6	3.8	3.0
45-54	6.1	20.9	34.7	34.2	4.1	3.1
55+	4.9	19.8	29.6	42.0	3.7	3.2

Things that bothered principals

Principals were asked to identify the single most important issue that bothered them in their work as principal. For analysis purposes, some factors have been categorised under key themes. For example, 'Lack of resources or time' included the following responses:

- Overly demanding/tiring work, stress;
- Too much paper work;
- Lack of administrative support;
- Lack of resources, facilities;
- Lack of time; and
- Managing conflicting expectations or demands.

'Staff management' included the following responses:

- Poor quality staff and staff conflicts.

'Student management and responsibility' included the following responses:

- Student behaviour management; and
- Level of responsibility for children.

'Problems with central bodies' included the following responses:

- Lack of autonomy;
- Poor leadership and support from the Education Department;
- Lack of financial support from the Education Department;

- Constantly changing curriculum; and
- Too much bureaucracy.

For 'Other', (each nominated dislike had 1 to 3 responses) and included:

- Accountability;
- Pay;
- Lack of younger teachers; and
- Lack of formal training.

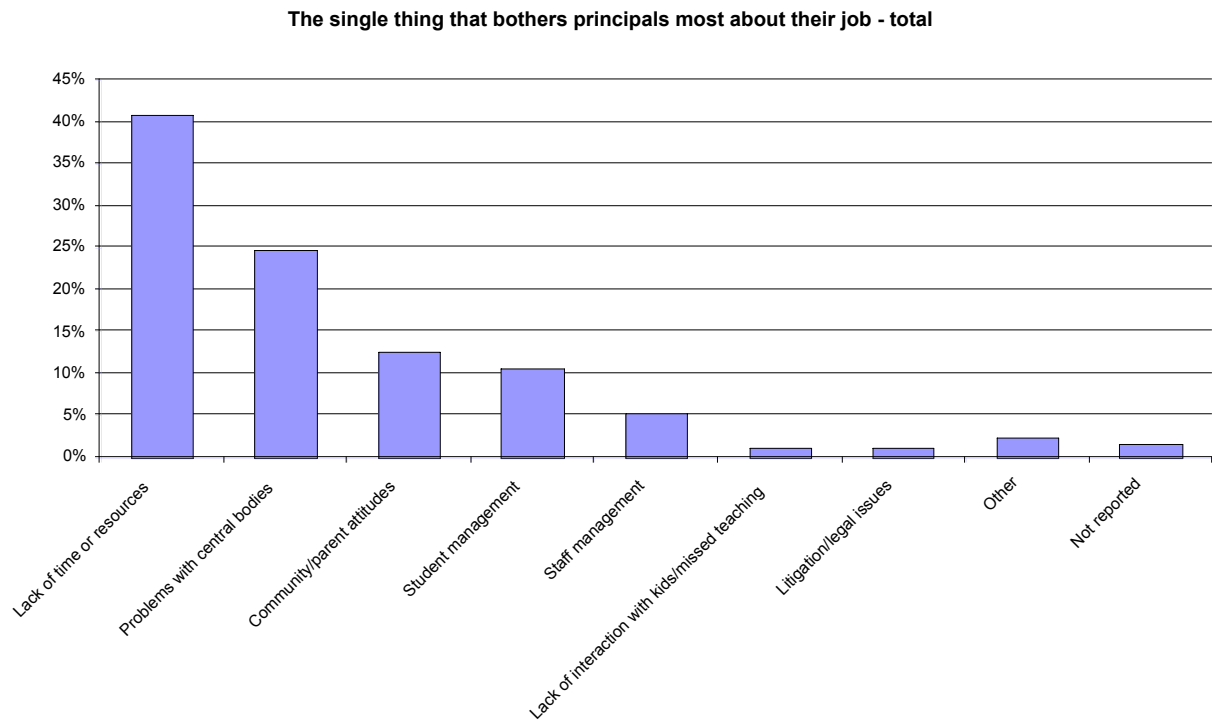
As shown in the following Chart, the most important issues for principals in terms of dissatisfaction for their work included:

1. Lack of resources or time (137 or 40.7 per cent);
2. Problems with central bodies or bureaucracy (83 or 24.6 per cent);
3. Attitude problems of parents and the community (42 or 12.5 per cent);
4. Student management (36 or 10.7 per cent);
5. Staff management (18 or 5.3 per cent);
6. Lack of interaction with kids/missed teaching (4 or 1.2 per cent); and
7. Litigation or legal issues (4 or 1.2 per cent).

Some 7 principals reported dislikes which had 1 to 3 responses each and these had been grouped under 'Other'. Three principals each nominated "accountability" and "lack of formal training for the role" as their main dislike. One principal each named "pay" and "lack of younger teachers" as their main concern about being a principal.

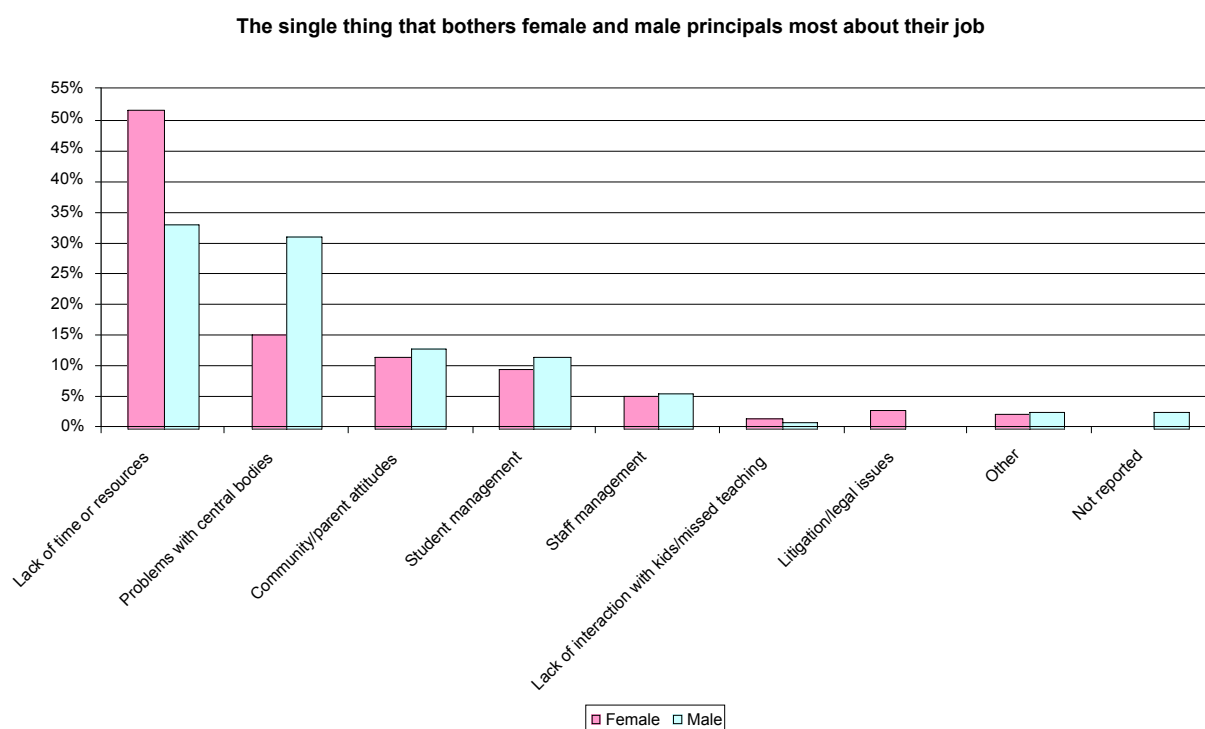
Five principals *did not* report their main dislike about being a principal.

Chart 9



There were significant differences in the dislikes nominated by *female* and *male* principals as the chart below shows. *Female* respondents were considerably more likely to nominate lack of time or resources as their biggest dislike (51.8 per cent compared to 33.0 per cent of *males*) and all four principals who nominated “litigation or legal issues” as a concern were *female*. *Male* principals were significantly more likely to nominate their main dislike under “problems with central bodies or too much bureaucracy” (31.0 per cent as opposed to 15.3 per cent of *female* principals). The issue of “pay” was brought up by one *male* principal.

Chart 10

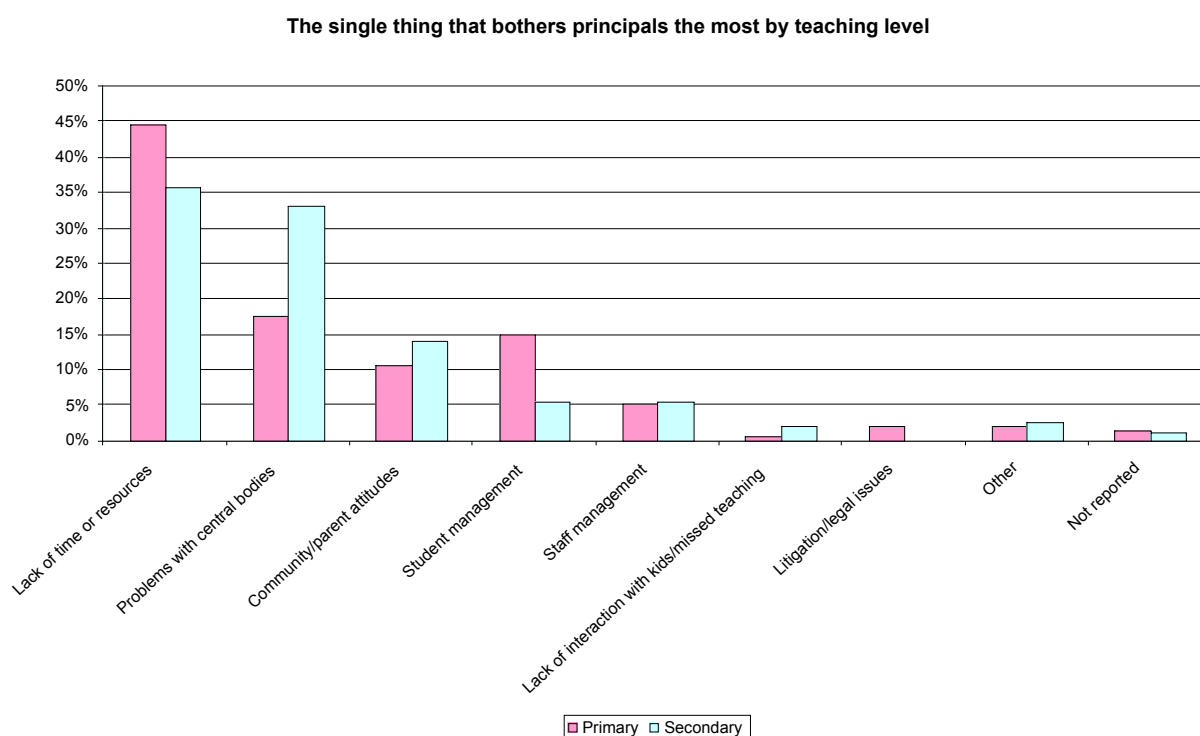


For ease of chart display, the three *combined* school principals' findings are presented here but not in the chart below. One principal each reported "lack of time or resources", being bothered by "community or parent attitudes" and "problems with central bodies or bureaucracy – lack of support from the Education Department".

There were some significant differences between responses of *primary* and *secondary* principals as shown in the following chart. *Primary* principals were more likely to be most bothered by "lack of time/resources" (44.6 per cent compared to 35.8 per cent of *secondary* principals). The 15.1 per cent reported under "student management" by *primary* principals included a majority who reported their main bother as the "level of responsibility for the children". Surprisingly, "student behaviour management" issues were raised by only 5 or 2.7 per cent of *primary* principals and 3 or 2.0 per cent of *secondary* principals in the survey.

For *secondary* principals, their main bother or dislike related to "problems with central bodies or bureaucracy" (33.1 per cent compared to 17.7 per cent of *primary* principals). *Secondary* principals were also more bothered by "community/parent attitudes" (14.2 per cent compared to 10.8 per cent of *primary* principals).

Chart 11

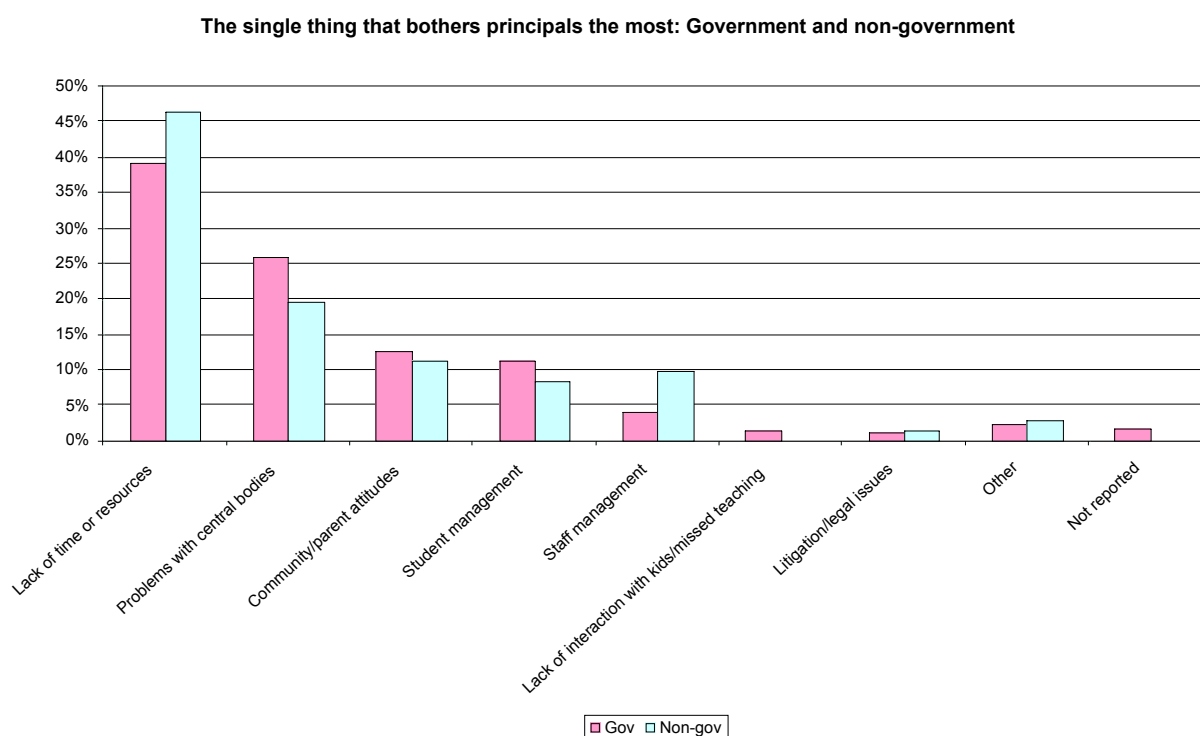


The following chart compares results of what principals in *government* and *non-government* schools nominated as their main concerns about being a principal. Note: no responses were recorded for 3 *government* and 2 *non-government* principals.

Perhaps surprisingly, *non-government* principals were more likely to be most bothered by lack of resources or time (46.5 per cent) than their *government* school counterparts (39.1 per cent). They were also more likely to be bothered by “staff management” issues (9.9 per cent as opposed to 4.1 per cent for government principals).

Government school principals were significantly more likely to be bothered by “problems with central bodies or bureaucracy”, mainly related to “too much bureaucracy”, “poor leadership and support from the Education Department”, “lack of autonomy”, “constant changing curriculum” and “lack of financial support from the Education Department” in order of importance. More *government* principals were concerned about “community/parent attitudes” and “student management” issues. As mentioned earlier, the majority of principals raised the “level of responsibility for children” as a key concern, rather than issues with “student behaviour management”.

Chart 12

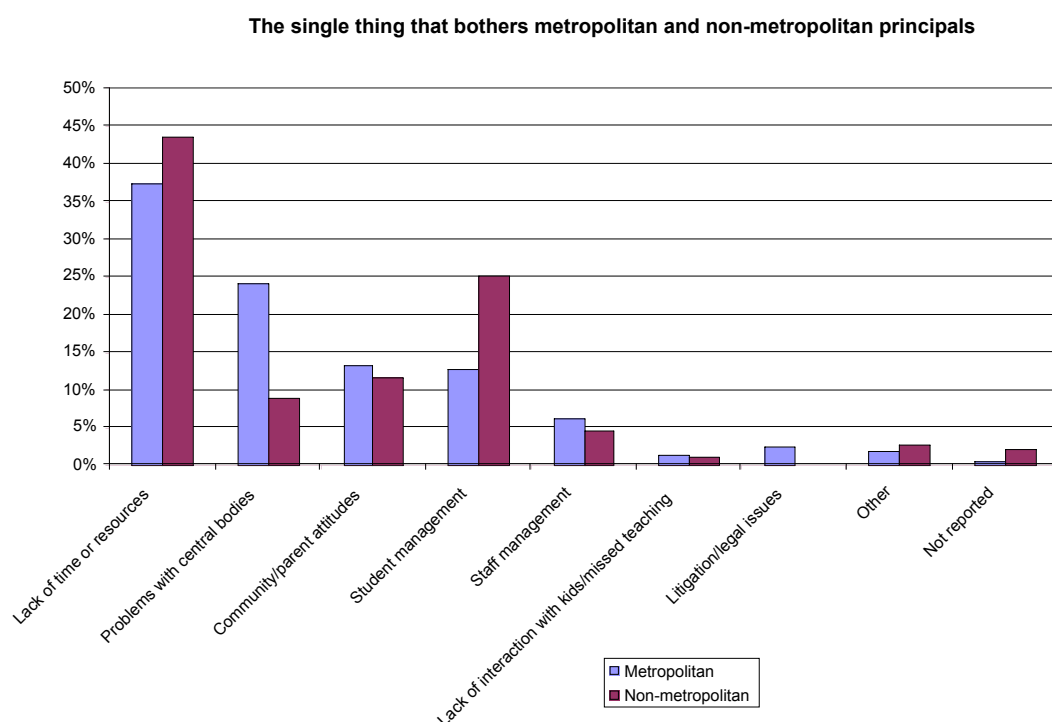


As the chart below shows, *non-metropolitan* principals were more concerned about “lack of resources or time” (43.6 per cent) and “student management or responsibility” (25.1 per cent).

Under ‘other’, three *non-metropolitan* principals nominated the “level of accountability” and two cited the “lack of formal training” as a concern.

Metropolitan principals were more likely to be bothered by “problems with central bodies or bureaucracy”, mainly related to “too much bureaucracy”, “the lack of autonomy” and “poor leadership and support from the Education Department” (24.1 per cent). Issues such as “community/parent attitudes” (13.3 per cent), “student management and responsibility” (12.7 per cent), “staff management” (6.3 per cent) and “litigation or legal issues” (2.5 per cent) also bothered *metropolitan* principals more. One *metropolitan* principal each cited “pay”, “lack of younger teachers” and “lack of formal training” as a concern under ‘other’.

Chart 13



The chart below shows the differences in principals' dislikes by age. Younger principals – those aged 26 - 34 (57.1 per cent) were more likely to nominate “Lack of time or resources” compared to principals aged 35 - 44 (45.3 per cent), those aged 45 - 54 (41.8 per cent) and the cohorts aged 55 and over (34.2 per cent).

The 26 - 34 age cohorts (42.9 per cent) in this survey were also more concerned about “Problems with central bodies or bureaucracy”, followed by principals aged over 55 (30.4 per cent), those aged 45 - 54 (23.5 per cent) and 18.9 per cent of those respondents aged 35 - 44.

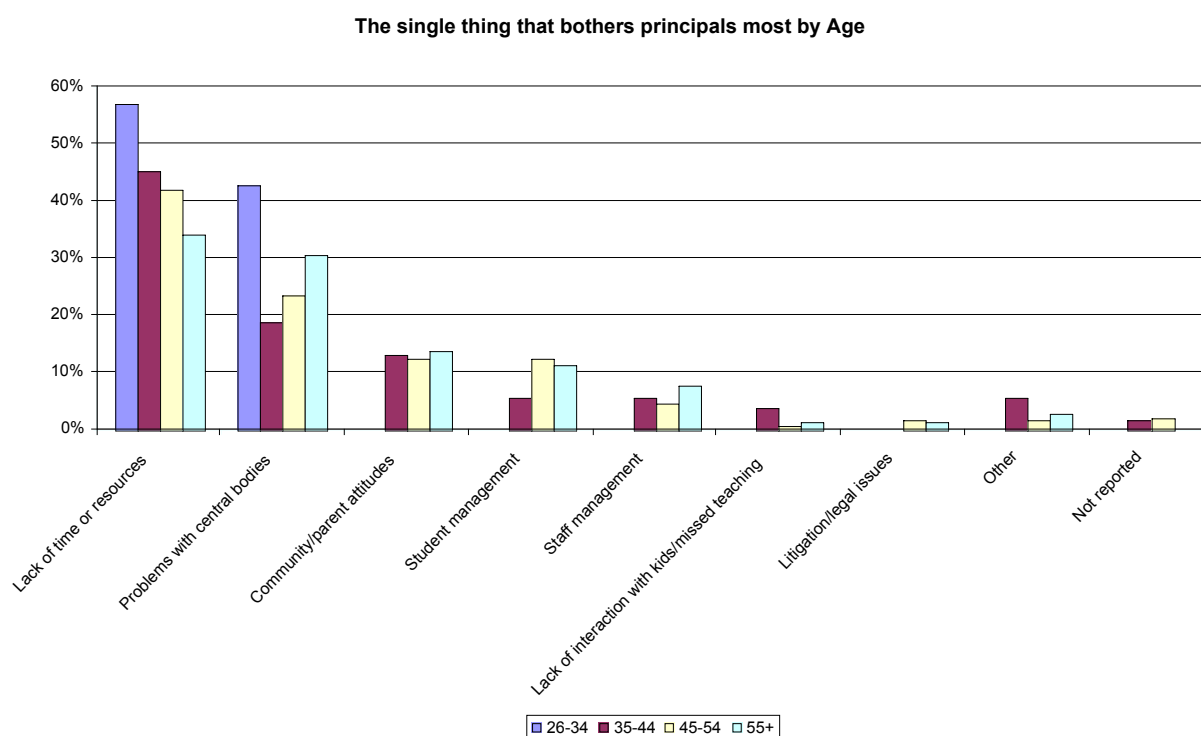
Concern regarding “Community or parent attitudes” was more likely to be reported by principals aged 35 to 64. Some 13.9 per cent of the principals aged 55+, 13.2 per cent of those aged 35 - 44 and 12.2 per cent of the principals aged 45 - 54 reported “community or parent attitudes” as their biggest concern.

Principals aged over 45 years were more likely to be bothered by “student management” issues. As noted earlier, “student management” relates more to the “level of responsibility that principals have for the children” (75.8 per cent) rather than “student behaviour” issues which accounted for 24.2 per cent.

Proportionally the same number of principals in the 35 - 44, and 45 - 54 age cohorts, and 7.6 per cent of principals aged 55+ reported “staff management” as their main bother about being a principal. “Litigation or legal issues” were nominated by four principals aged 45, 48, 53 and 58.

For the 35 - 44 age cohorts under “Other”, one *female* principal aged 40 reported “lack of formal training”, one 43 years-old *male* principal nominated “accountability” and one 41-years old *male* principal cited “pay” as an issue.

Chart 14



School environment and working conditions issues that impact on teachers making career decisions

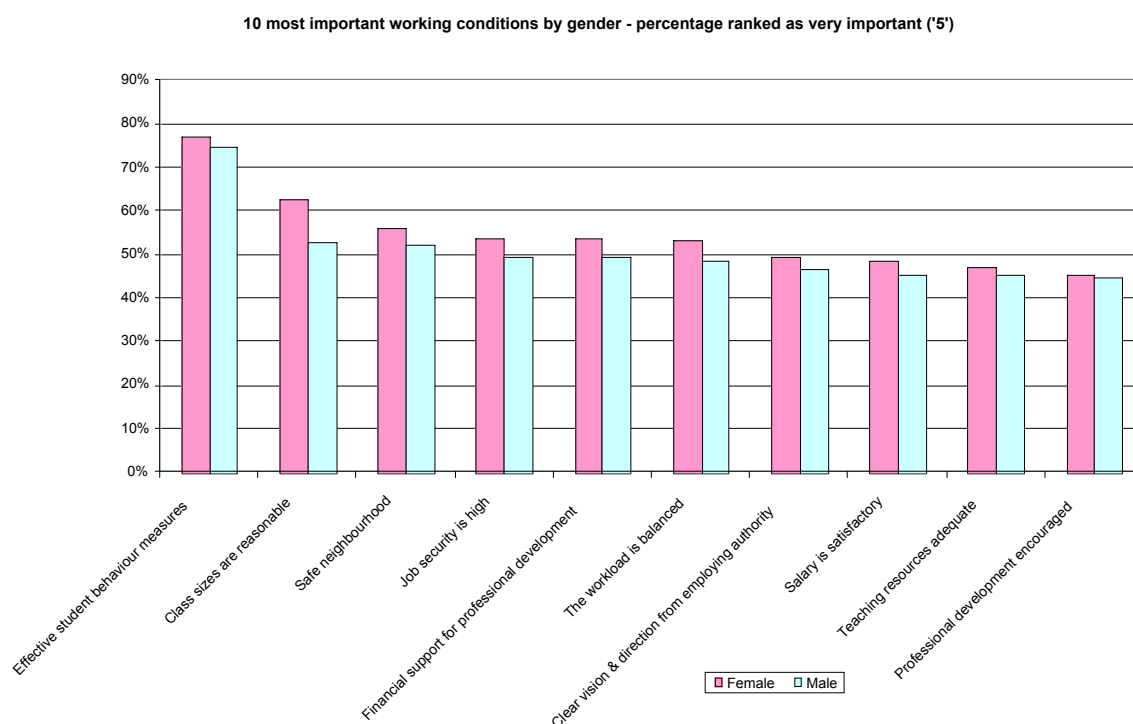
Opinions were sought from principals on factors that might influence the supply and demand of teachers in terms of the school environment and working conditions that teachers have to work in. Principals were asked to consider various factors about the school environment and working conditions and to rate them in order of importance from the viewpoint of their *teaching staff*. Participants were requested to rate the factors on a 1 - 5 rating scale, with factors that were more likely to impact on the teaching staff's career decisions being rated as a 5, with least important factors being rated as a 1. Principals were given 18 options to provide ratings against which were similar to those that were posed in the survey of teachers. The factors are ranked from the highest to the lowest in the table below.

Table 46

Rating of school environment and teaching conditions by all principals (per cent)					
	1	2	3	4	5
There are effective policies and support for handling student behaviour	0.0	0.0	3.0	21.0	76.0
Class sizes are reasonable	0.3	1.8	11.3	32.3	54.3
The neighbourhood and local community are safe	1.5	3.8	13.4	27.3	54.0
Job security is high	0.3	2.1	11.9	32.3	53.4
Teaching resources, including materials and equipment, are readily available	0.0	1.2	8.6	41.5	48.7
The workload is balanced	1.2	3.2	10.1	36.8	48.7
There is financial support for professional development	0.3	2.7	10.1	38.3	48.6
There is a clear vision and direction from the employing authority	0.3	3.3	15.1	33.2	48.1
The salary is satisfactory	0.9	4.4	17.5	30.3	46.9
Occupational health is well managed	0.9	1.8	15.1	36.8	45.4
Employing authorities reward and recognise achievement & celebrate best practices	0.9	4.8	16.9	34.7	42.7
Professional development is generally encouraged	0.6	1.5	14.8	41.0	42.1
The facilities - buildings and grounds - are well maintained and up-to-date	0.3	2.1	14.2	42.1	41.3
There are generous holiday provisions	1.5	6.8	22.2	28.8	40.7
Teachers have autonomy or control over their work	0.0	2.7	21.4	43.3	32.6
There are career pathways within and outside the classroom	2.1	9.5	24.3	37.4	26.7
Community and parents are involved	1.2	7.7	30.6	34.7	25.8
Promotion opportunities exist	2.4	8.9	35.6	31.7	21.4

The following chart shows the ten most important factors about school environment and working conditions by gender. Ranking of factors was similar between the genders, with *females* generally tending to rank each factor more highly than *males*. *Female* principals were more likely than *male* principals to give more importance to “class sizes are reasonable”, “a balanced workload”, “job security is high” and “financial support for professional development”.

Chart 15



Rating of working conditions by school teaching level

For the three *combined* school principals, the main factor that was seen as very important were “the generous holiday provisions” with three responses of ‘5’. Two out of the three *combined* school principals nominated “effective measures for student behaviour”, “safe neighbourhood”, “clear vision from the employing authority” and “job security is high” as key factors that may influence teachers in making career decisions.

The comparisons for *primary* and *secondary* principals’ ratings of the school environment and working conditions from the viewpoint of how important each factor is to their teaching staff is separately presented here. The table below looks at the ten top ranked factors with ratings of ‘5’ reported by *primary* and *secondary* principals.

Apart from sharing the first and seventh ranked factors of “effective student behaviour measure” and “clear vision and direction from employing authority”, *primary* and *secondary* principals rated similar factors with some degree of differences. *Secondary* principals considered “satisfactory pay” to be a very important working condition, whilst more *primary* principals were concerned that “professional development is encouraged”.

Table 47

Top 10 school and teaching conditions - percentage ranked as very important '5' by primary and secondary principals			
	<i>Primary</i>		<i>Secondary</i>
Effective student behaviour measures	73.1	Effective student behaviour measures	79.7
Class sizes are reasonable	57.0	Safe neighbourhood	52.0
Financial support for professional development	55.9	Class sizes are reasonable	51.3
Job security is high	55.4	Job security is high	50.7
Safe neighbourhood	55.4	Salary is satisfactory	50.0
The workload is balanced	53.8	Teaching resources adequate	45.3
Teaching resources adequate	51.6	Employing authorities reward & recognise achievement	45.3
Clear vision & direction from employing authority	51.1	Clear vision & direction from employing authority	43.9
Professional development encouraged	47.9	Occupational health is well managed	43.2
Occupational health is well managed	47.3	The workload is balanced	42.6

Rating of working conditions by school system²

Government and *non-government* principals rated similar factors with high importance except that *Government* principals (56.4 per cent) were more likely to rate working in a school in a “safe neighbourhood” as very important compared to 45.1 per cent of their *non-government* counterparts. “Class sizes are reasonable” also concerned *government* principals (54.9 per cent) more than the *non-government* principals (52.1 per cent). *Government* principals also nominated “financial support for professional development” of high importance whilst “employing authorities reward and recognise achievement” was put forward by *non-government* as very important. *Non-government* principals were more likely to nominate “clear vision and direction from employing authority” as a very important factor that may influence their career decisions in terms of school and teaching conditions

² There were 266 government and 71 non-government principals in the survey.

Table 48

Top 10 school and teaching conditions - percentage ranked as very important '5' by government and non-government principals			
	Govt		Non-govt
Effective student behaviour measures	76.7	Effective student behaviour measures	73.3
Safe neighbourhood	56.4	Clear vision & direction from employing authority	63.4
Class sizes are reasonable	54.9	Job security is high	53.5
Job security is high	53.4	Class sizes are reasonable	52.1
Financial support for professional development	51.9	Safe neighbourhood	45.1
Teaching resources adequate	50.8	Salary is satisfactory	43.7
The workload is balanced	50.4	The workload is balanced	42.3
Salary is satisfactory	47.7	Employing authorities reward & recognise achievement	42.3
Occupational health is well managed	47.0	Teaching resources adequate	40.9
Clear vision & direction from employing authority	44.0	Occupational health is well managed	39.4

Rating of working conditions by metropolitan and non-metropolitan principals³

Although the same eight working conditions featured for both *metropolitan* and *non-metropolitan* principals, apart from sharing the top-ranked factor, their rankings were somewhat different as shown in the table below. Having “effective student behaviour measures” as a school or teaching condition ranked as most important for both *metropolitan* (75.3 per cent) and *non-metropolitan* (76.5 per cent) principals. *Metropolitan* principals (56.3 per cent) placed higher emphasis on having a school in a “safe neighbourhood” compared to 52.0 per cent of the *non-metropolitan* principals.

Whilst *metropolitan* principals considered “occupational health is well managed” (48.7 per cent) and “employing authorities reward and recognise achievement” (46.2 per cent) as important, their *non-metropolitan* counterparts rated having “financial support for professional development” (52.5 per cent) and “professional development is encouraged” (43.0 per cent) as more important.

Table 49

Top 10 school and teaching conditions - percentage ranked as very important '5' by metropolitan and non-metropolitan principals			
	Metropolitan		Non-metropolitan
Effective student behaviour measures	75.3	Effective student behaviour measures	76.5
Safe neighbourhood	56.3	Class sizes are reasonable	53.7
Class sizes are reasonable	55.1	Job security is high	53.1
Teaching resources adequate	54.4	Financial support for professional development	52.5
Job security is high	53.8	Safe neighbourhood	52.0
Salary is satisfactory	50.7	The workload is balanced	47.5
The workload is balanced	50.0	Clear vision & direction from employing authority	46.9
Clear vision & direction from employing authority	49.4	Teaching resources adequate	43.6
Occupational health is well managed	48.7	Salary is satisfactory	43.6
Employing authorities reward & recognise achievement	46.2	Professional development encouraged	43.0

³ There were 158 metropolitan and 179 non-metropolitan principals in the survey.

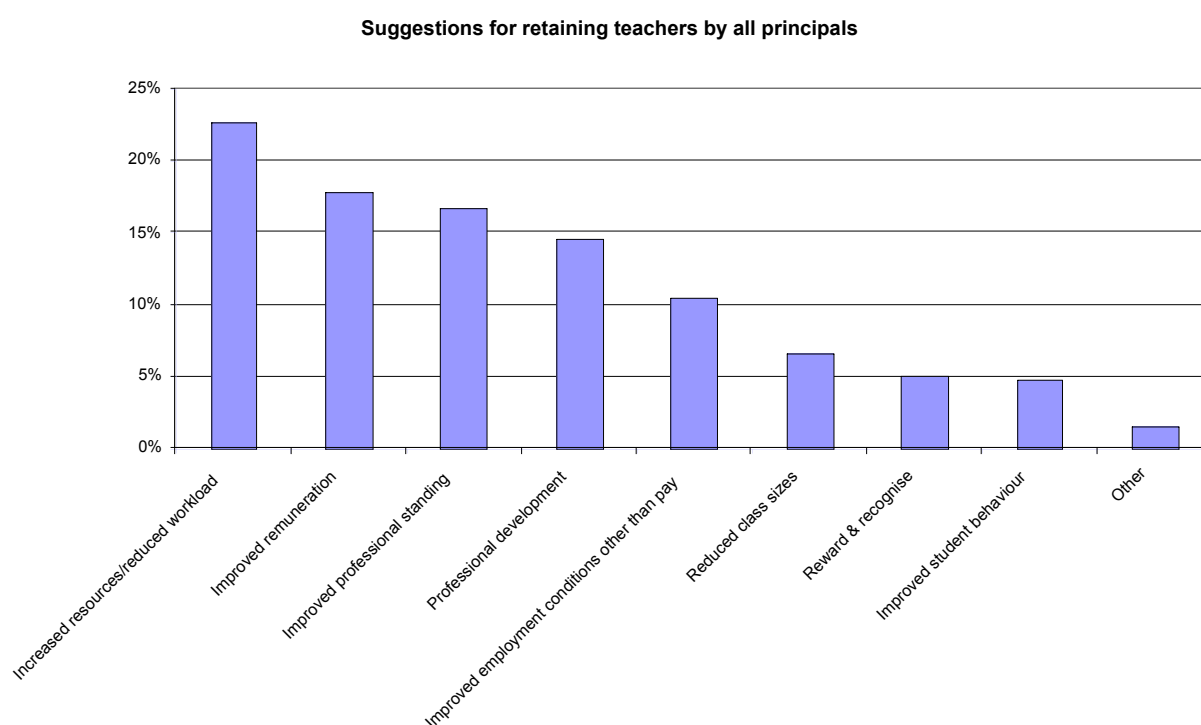
Principals' suggestions on encouraging teachers to stay in their profession

Survey participants were asked for their suggestions on options to encourage teachers to stay in their profession. Of the 337 principals, only one *male primary metropolitan* principal, aged 58 did not offer any suggestions. A variety of responses were received. As shown in the Chart below, the most common suggestions were:

1. Increased resources or reduced workload (22.6 per cent)
2. Improved remuneration (17.8 per cent);
3. Improved professional standing in the community (16.6 per cent);
4. Professional development – more opportunities and support (14.5 per cent);
5. Improved employment conditions other than remuneration (10.4 per cent);
6. Reduced class sizes (6.5 per cent);
7. Reward and recognise achievement (5.0 per cent); and
8. Improved student behaviour management (4.7 per cent).

Under 'Other', four principals nominated "reduced level of accountability/more protection for teachers" and "review child protection legislation" as retention factors. One principal suggested "rid the profession of under-performers".

Chart 16

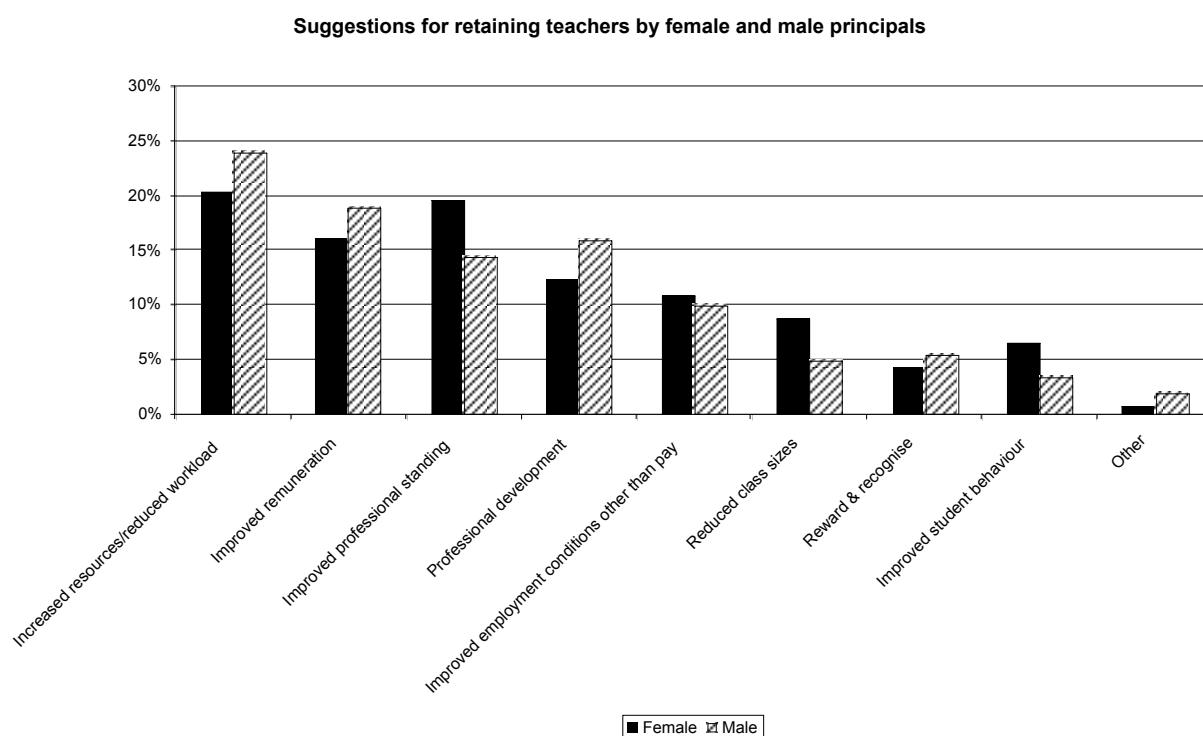


Suggestions for retaining teachers by female and male principals⁴

Female principals were more inclined to nominate “improved professional standing in the community” (19.7 per cent), “improved employment arrangement other than remuneration” (10.9 per cent) “reduced class sizes” (8.8 per cent), and “improved student behaviour management” (6.6 per cent) as factors to retain teachers. *Male* principals were more likely to suggest “increased resources or reduced workload” (24.0 per cent), “improved remuneration” (19.0 per cent), “professional development – more opportunity for teachers” (16.0 per cent) and “reward and recognition of teachers” (5.5 per cent) as factors to retain teachers.

The oldest *male* principal, aged 65, suggested “improved professional standing in the community” whilst the 68-years old *female* principal made the suggestion of “increased resources or reduced workload”, specifically citing “more focus on teaching and less administrative tasks” as a crucial factor to retain teachers.

Chart 17



Suggestions for retaining teachers by principals by teaching level⁵

For the three *combined* school principals, one each nominated “increased resources or reduced workload”, “improved employment arrangement other than remuneration” and “review child protection legislation” (under “Other”) as important retention factors.

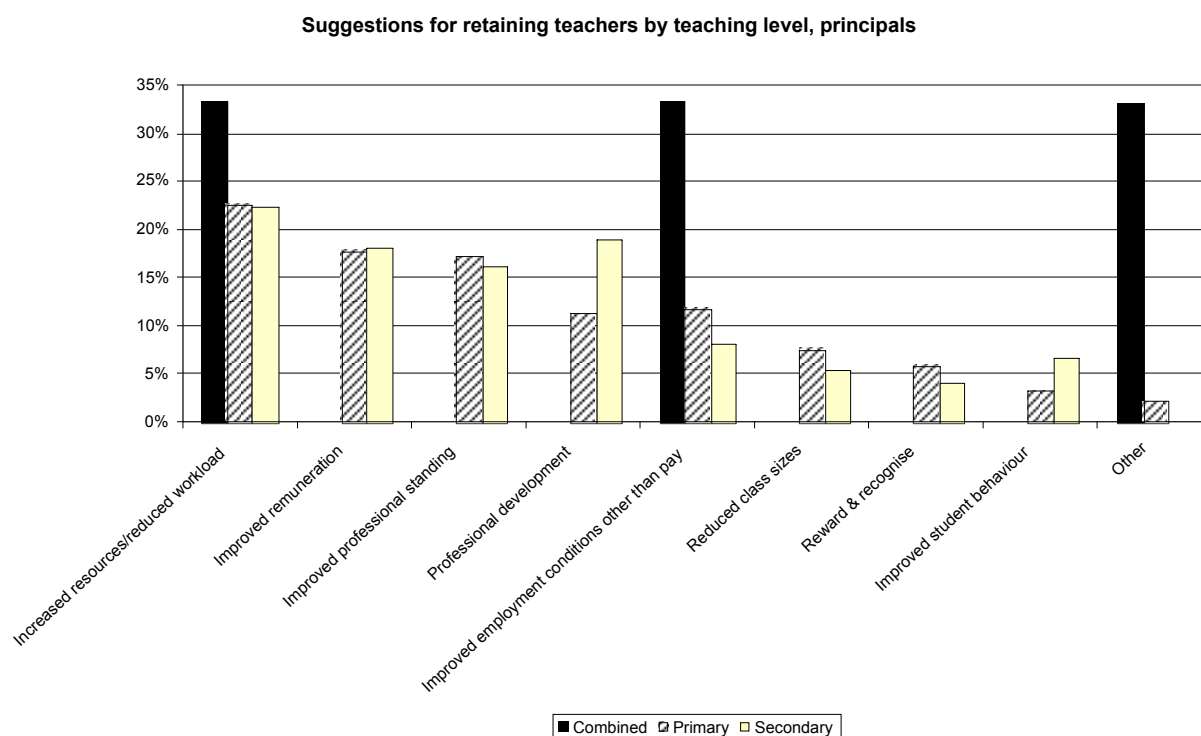
Primary principals were more likely to suggest “improved employment conditions other than pay” (11.8 per cent), “reduced class sizes” (7.5 per cent), “reward and recognition of teachers”

⁴ There were 137 female and 200 male principals in the survey.

⁵ There were 3 combined, 186 primary and 148 secondary principals in the survey.

(5.9 per cent) and “reduced level of accountability or more protection for teachers” (2.2 per cent under “Other”). *Secondary* principals were more inclined to suggest “professional development – more opportunity for teachers” (18.9 per cent) and “improved student behaviour management” (6.8 per cent) as main retention factors.

Chart 18

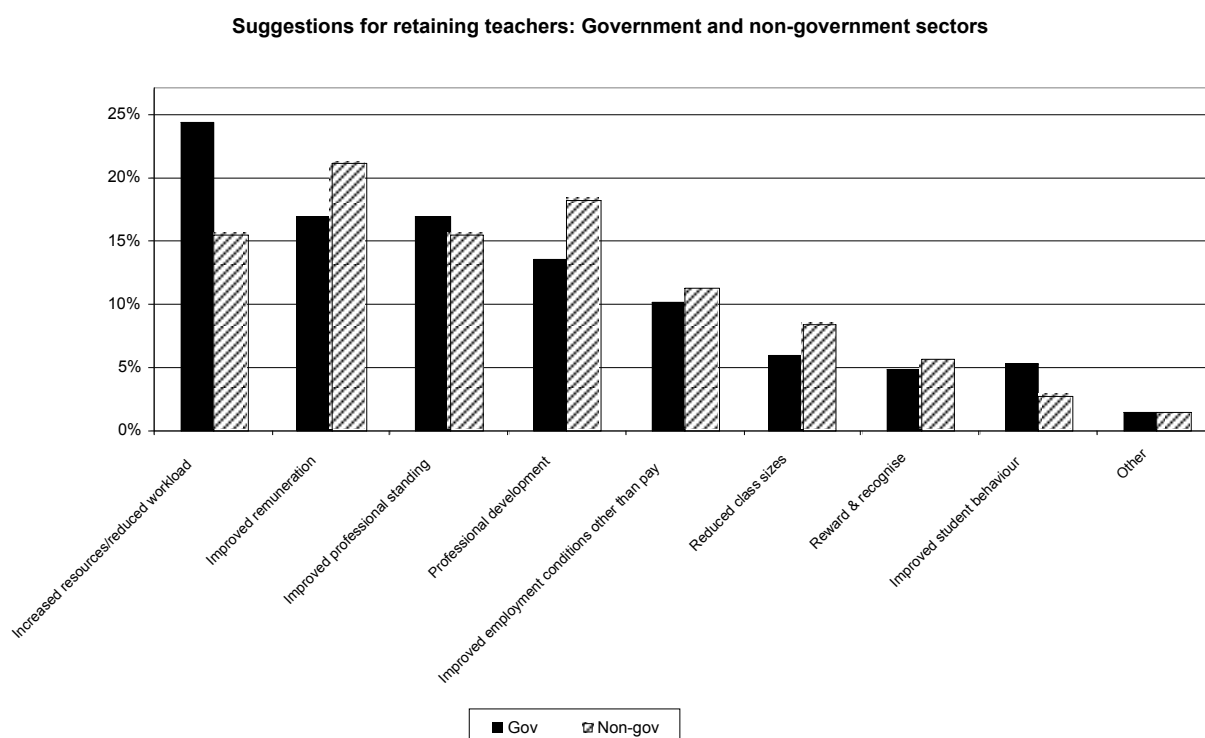


Suggestions for retaining teachers by government and non-government principals⁶

Responses from *government* and *non-government* principals were fairly similar except that *Government* principals were more likely to suggest “increased resources or reduced workload” (24.4 per cent), “improved professional standing” (16.9 per cent) and “improved student behaviour management” (5.3 per cent) as key factors. More *non-government* principals suggested “improved remuneration” (21.1 per cent), “professional development” (18.3 per cent), “improved employment arrangements other than remuneration” (11.3 per cent), “reduced class sizes” (8.5 per cent) and “reward and recognition” (5.6 per cent).

⁶ There were 266 government and 71 non-government principals.

Chart 19



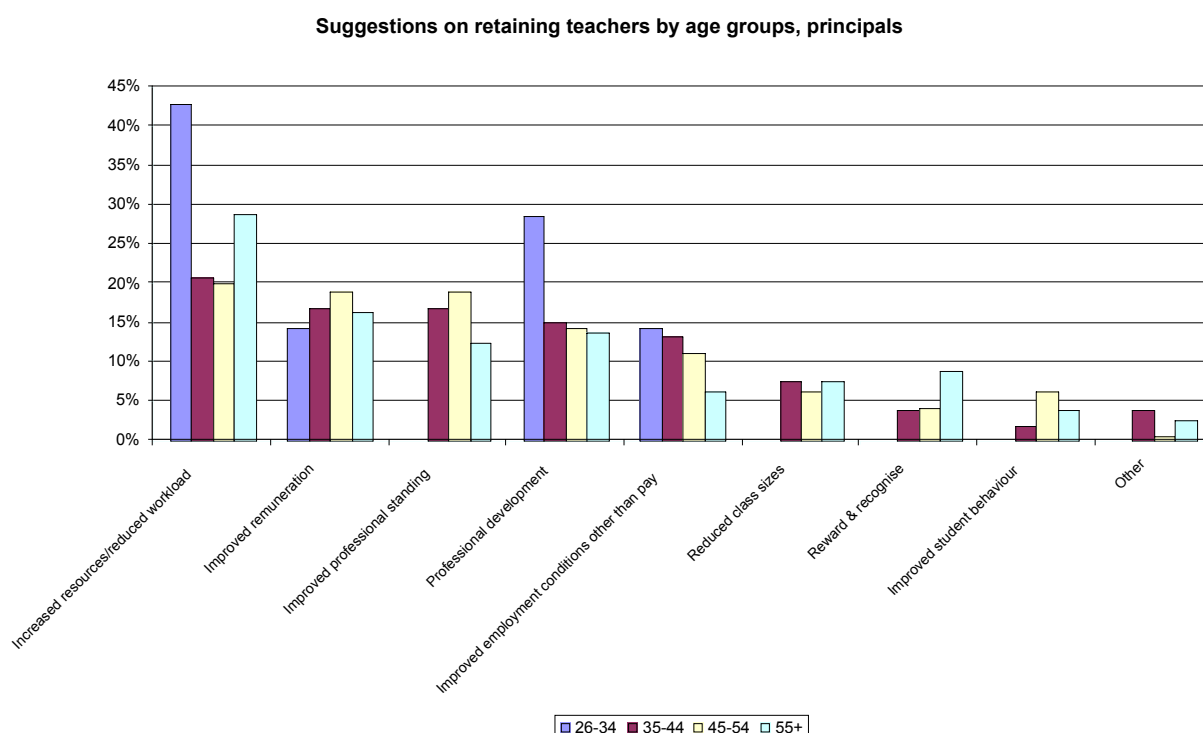
Suggestions for retaining teachers by age of principals

The chart below shows the proportional share for each age group in making suggestions on how to retain teachers. Principals aged 26 - 34 were more likely to suggest "increased resources or reduced workload" (42.9 per cent) and "professional development – more opportunity for teachers" (28.6 per cent) as key factors. The principals aged 35 - 44 also nominated "increased resources or reduced workload" (20.8 per cent), "improved remuneration" (17.0 per cent) and "improved professional standing in the community" (17.0 per cent).

For the principals aged 45 - 54, similar proportion made suggestions which included "increased resources or reduced workload" (19.9 per cent), "improved professional standing in the community" (18.9 per cent) and "improved remuneration" (18.9 per cent).

Principals aged 55 and over were proportionally more inclined to suggest retention factors such as "increased resources or reduced workload" (28.8 per cent), "improved remuneration" (16.3 per cent) and "professional development – more opportunity for teachers" (13.8 per cent). They also emphasised the need for "reward and recognition of teachers" (8.8 per cent) to keep teachers in the profession.

Chart 20



Principals' suggestions for encouraging people to enter teaching

The suggestions made by principals on how to attract more people to teaching were varied, but for ease of analysis, similar factors have been grouped under common themes.⁷

"Promote image of teaching" includes:

- Enhancing status of teachers in the community;
- Improve social standing of the teaching profession;
- Put teaching in positive light e.g. teaching as a rewarding career, better media profile; and
- Higher entry scores to attract the best brains to enter teaching.

"Improved teaching training" also covers access to, and the quality of teacher training with suggestions including:

- Providing more scholarships;
- More financial assistance for student teachers/remove HECS
- More practical work for trainee teachers; and
- Mentoring and better in-service practical training.

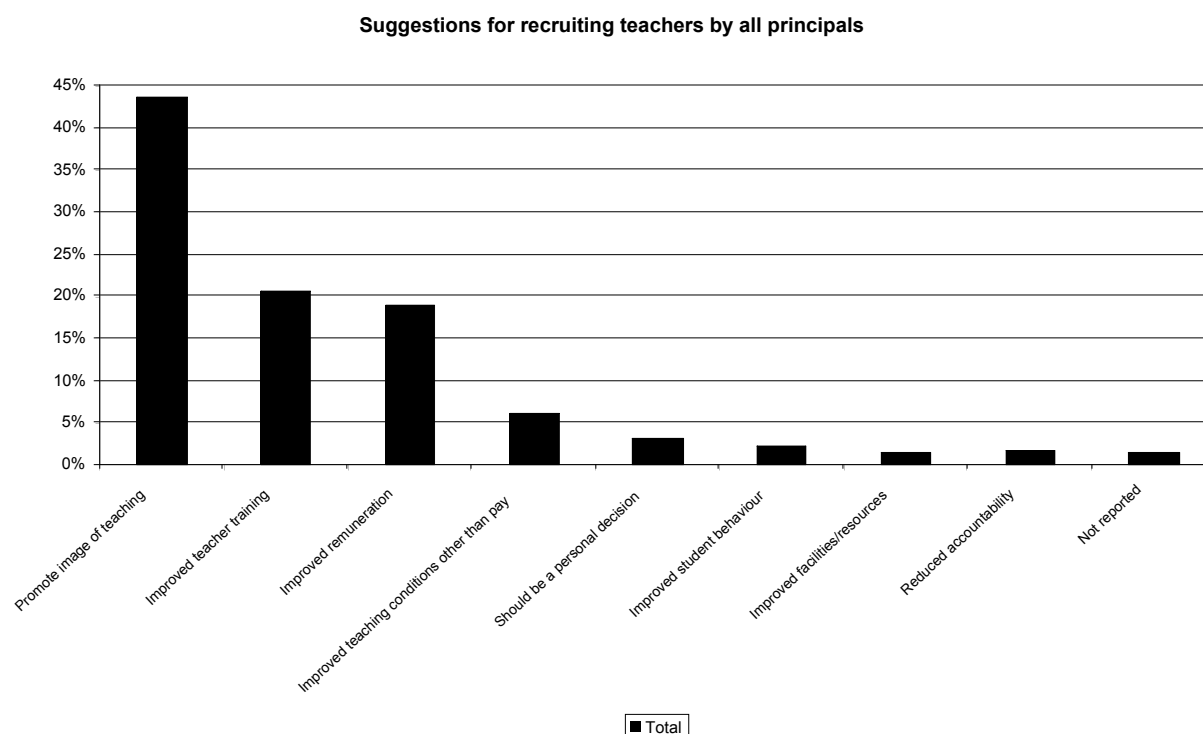
"Improved teaching conditions other than pay" include:

- Offer permanent jobs instead of fixed term contracts; and
- Increase opportunities for promotions.

⁷ Note: Five principals did not offer any suggestion.

The predominant suggestion made by principals to attract people to be teachers was “promote the image of teaching” (43.6 per cent), followed by “improved teacher training” (20.8 per cent), “improved remuneration” (19.0 per cent) and “improved teaching conditions other than pay” (6.2 per cent).

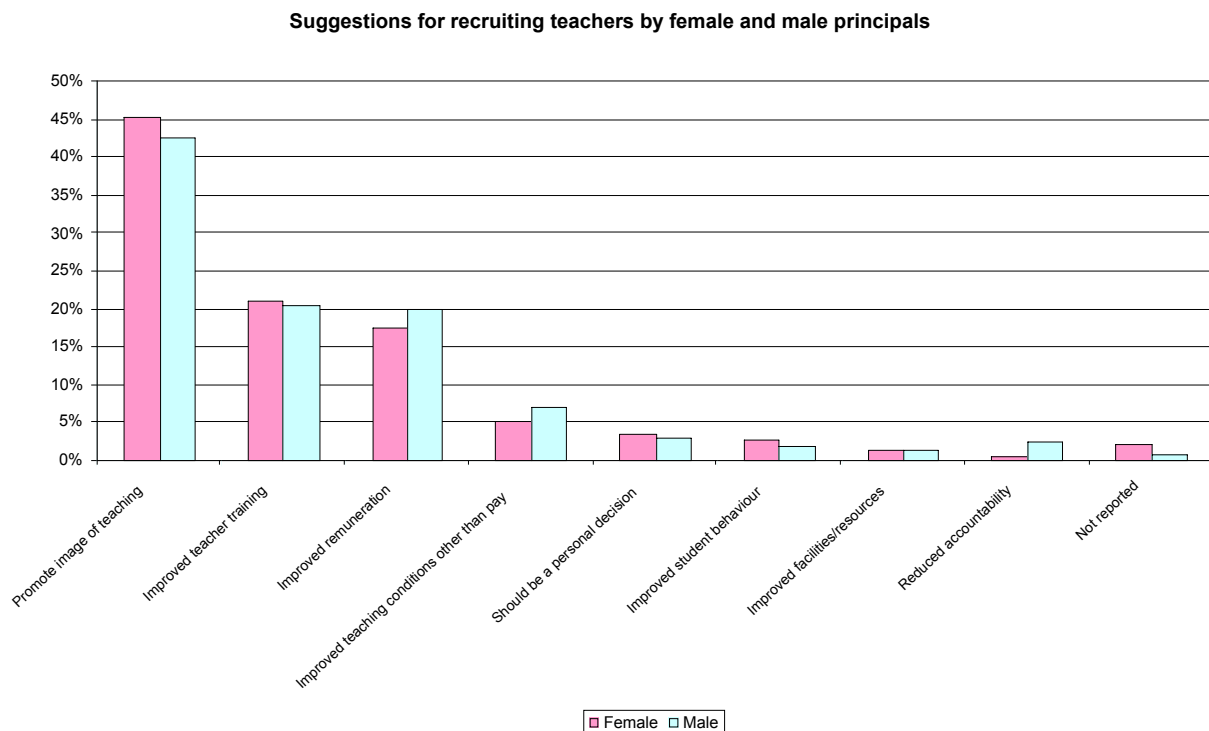
Chart 21



Suggestions for recruiting teachers by female and male principals

Female principals were more likely to suggest “promote the image of teaching” (45.3 per cent), “improved teacher training” (21.2 per cent), “should be a personal decision” (3.6 per cent) and “improved student behaviour management” (2.9 per cent). Some 42.5 per cent of *male* principals nominated “promote the image of teaching” as an incentive to attract more teachers, and they were also more inclined to suggest “improved remuneration” (20.0 per cent), “improved teaching conditions other than pay” (7.0 per cent) and “reduced level of accountability or more protection for teachers” (2.5 per cent).

Chart 22

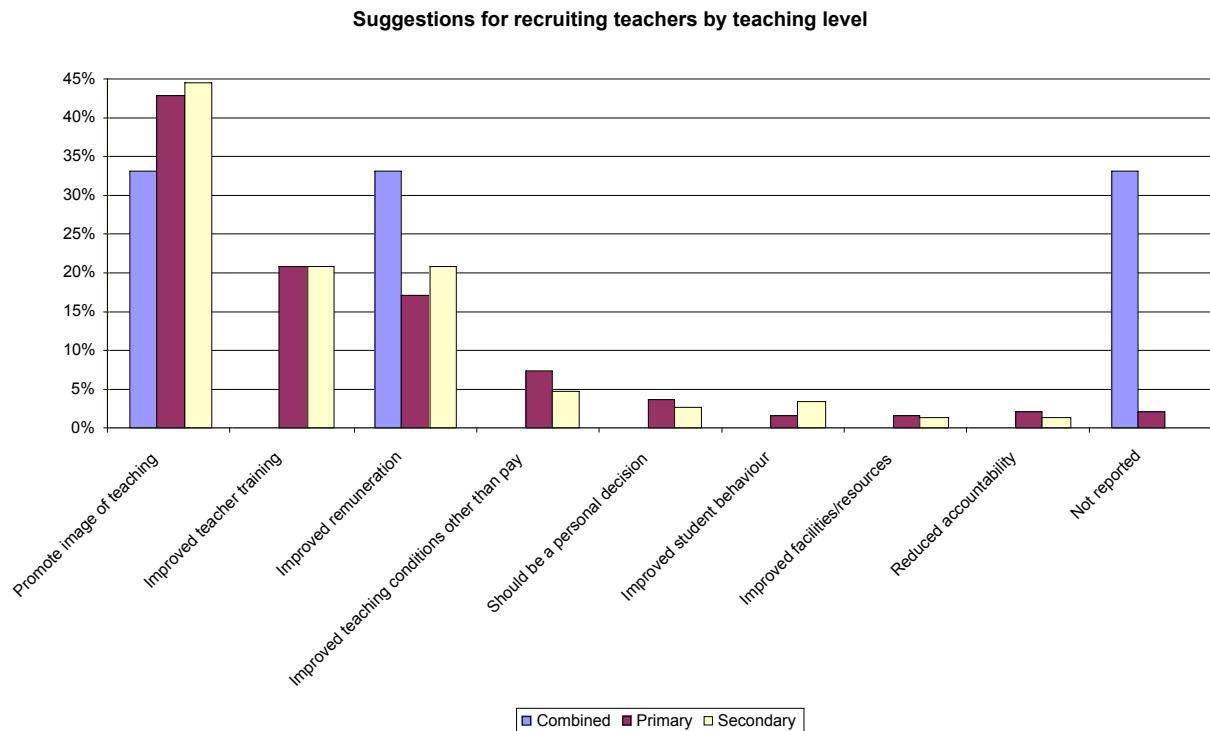


Suggestions for recruiting teachers by teaching level

Of the three *combined* school principals, one did not respond. The other two nominated “promote the image of teaching” (33.3 per cent) and “improved remuneration” (33.3 per cent).

Responses for both *primary* and *secondary* principals were similar, except that *secondary* principals were more likely to nominate “promote the image of teaching” (44.6 per cent), “improved remuneration” (20.9 per cent) and “improved student behaviour management” (3.4 per cent). *Primary* principals were more likely to suggest “improved teacher training” (21.0 per cent), “improved teaching conditions other than pay” (7.5 per cent), “should be a personal decision” (3.8 per cent) and “reduced level of accountability or more protection for teachers” (2.2 per cent).

Chart 23

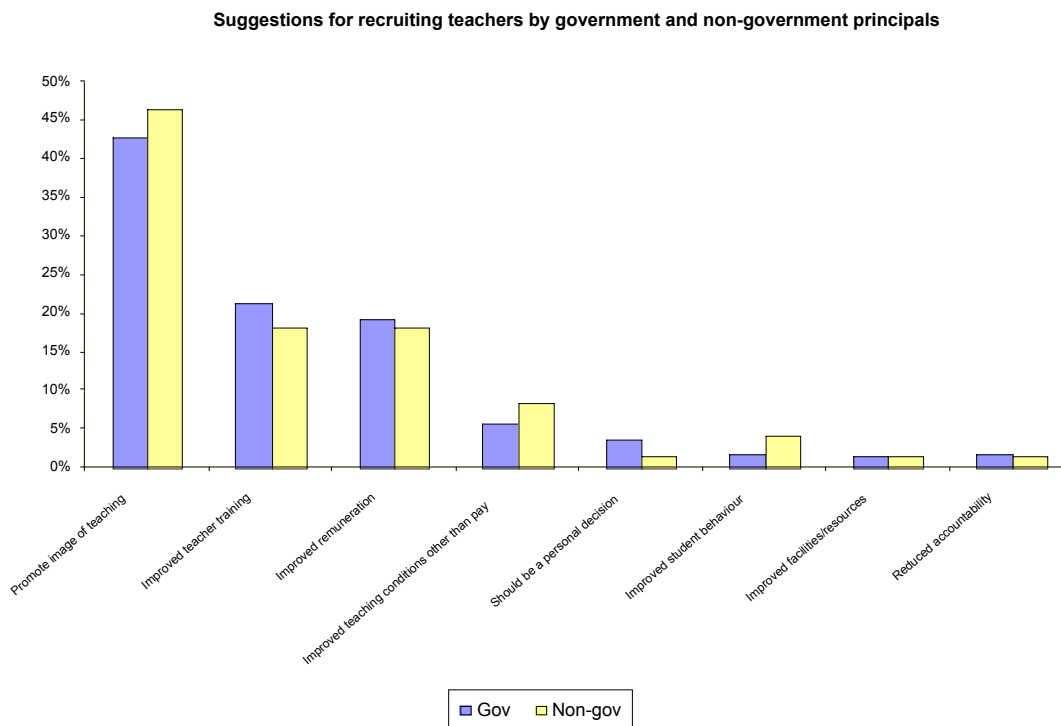


Suggestions for recruiting teachers by government and non-government principals⁸

More *government* principals made suggestions that included “improved teacher training” (21.4 per cent), “improved remuneration” (19.2 per cent), “should be a personal choice” (3.8 per cent) and “reduced level of accountability or more protection for teachers” (1.9 per cent). For *non-government* principals, they were more likely to suggest “promote the image of teaching” (46.5 per cent), “improved teaching conditions other than pay” (8.5 per cent) and “improved student behaviour management” (4.2 per cent).

⁸ There were 266 government and 71 non-government principals.

Chart 24

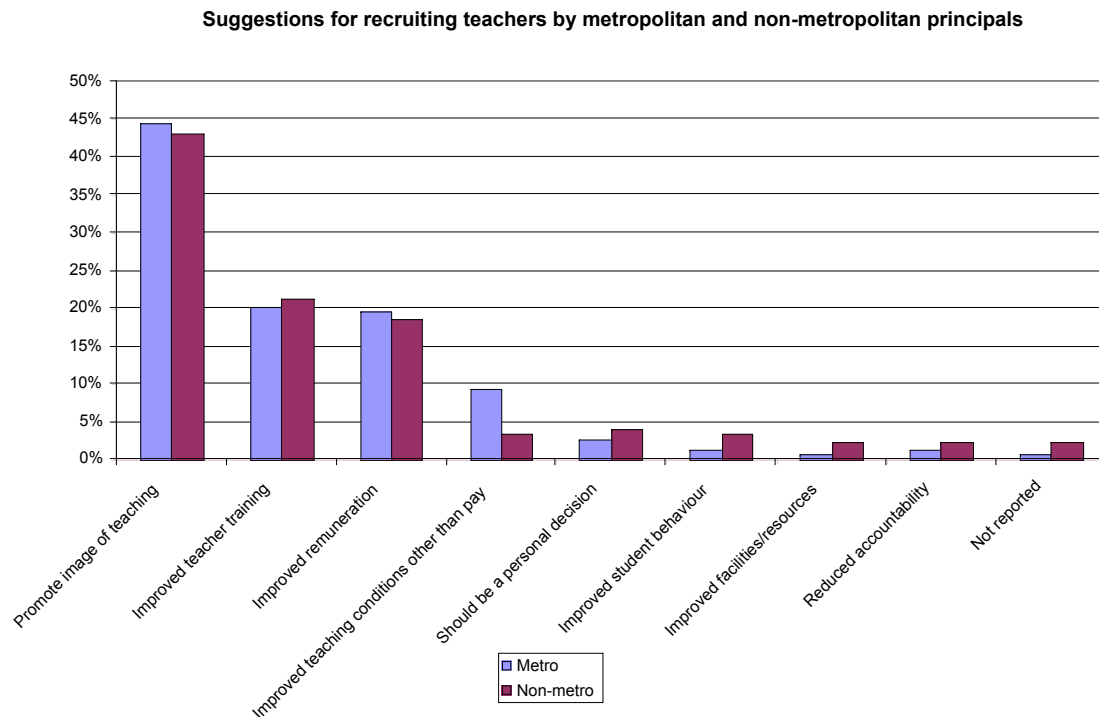


Suggestions for recruiting teachers by metropolitan and non-metropolitan principals⁹

Metropolitan principals were more likely to suggest “promote image of teaching” (44.3 per cent), “improved remuneration” (19.6 per cent) and “improved teaching conditions other than pay” (9.5 per cent). More *non-metropolitan* principals suggested “improved teacher training” (21.2 per cent), “should be a personal decision” (3.9 per cent), “improved student behaviour management” (3.4 per cent), “improved facilities or resources” (2.2 per cent) and “reduced level of accountability or more protection for teachers” (2.2 per cent).

⁹ There were 158 metropolitan and 179 non-metropolitan principals in the survey.

Chart 25



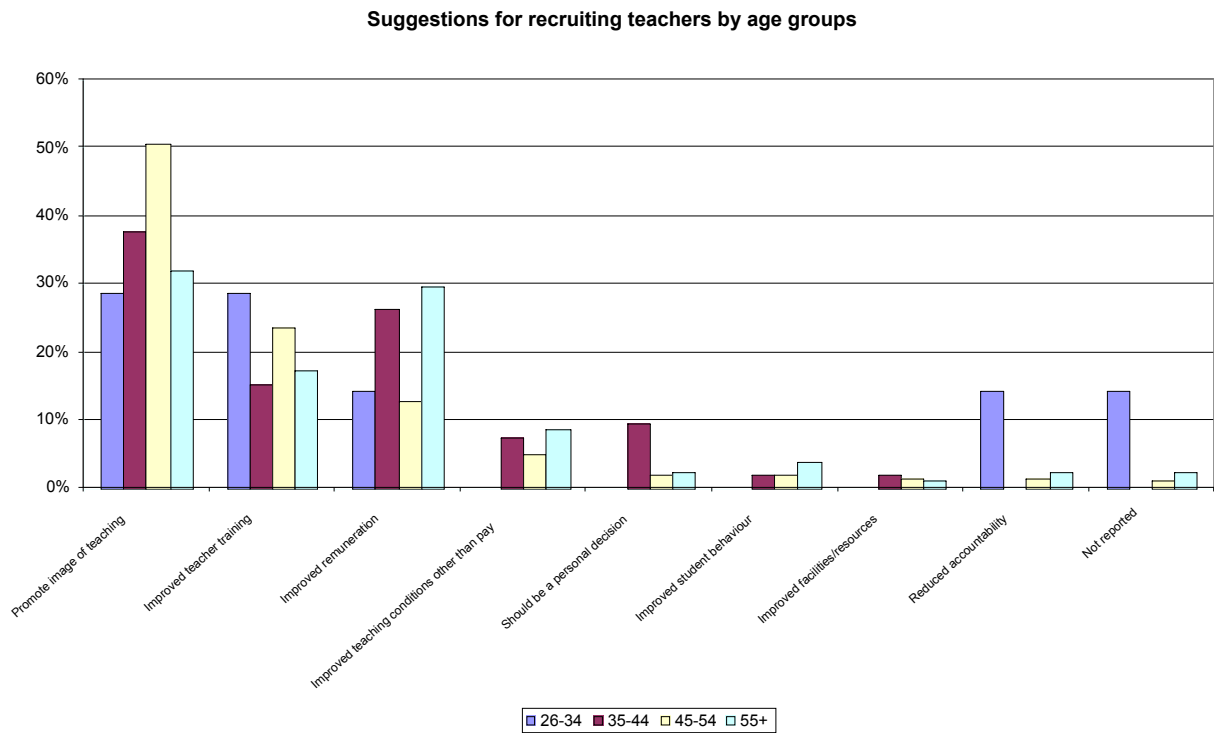
Suggestions for recruiting teachers by age of principals

“Promote the image of teaching” was more likely to be suggested by principals aged 45 - 54 (50.5 per cent), followed by principals in the 35 - 44 age group (37.7 per cent). Some 28.6 per cent of principals aged 26 - 34 and 23.5 per cent of those aged 45 - 54 nominated “improved teacher training”. Principals aged 26 - 34 were more likely to suggest “reduced level of accountability or more protection for teachers” (14.3 per cent).

About 30 per cent of principals aged 55+ and 26.4 per cent of principals aged 35 - 44 suggested “improved remuneration” as the incentive to make teaching more attractive. Some 9.4 per cent of principals aged 35 - 44 suggested that choosing to teach “should be a personal decision”.

The principals aged 55+ were also more likely to suggest “improved teaching conditions other than pay” (8.6 per cent) and “improved student behaviour management” (3.7 per cent) as a key recruitment factor. For the oldest principals in the 55+ age group, the 65-years old *male* principal suggested “improved teacher training”, whilst the 68-years old *female* principal nominated “improved teaching conditions other than pay” as recruitment incentives.

Chart 26



**Demand and Supply of
Primary and Secondary School Teachers in Australia**

Part F

Complementary Research

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1. Implications of the ageing of Australia's teaching workforce for teacher supply

Introduction

This paper has been developed as part of research being undertaken by the Department of Education Science and Training for the Ministerial Council on Employment, Education, Training and Youth Affairs (MCEETYA) on demand and supply for teachers.

In July 2001 MCEETYA released a report, Demand and Supply of Primary and Secondary School Teachers in Australia which found that, at that time, the teacher labour market was broadly in balance across Australia, in both the primary and secondary sectors, and that teacher graduations were expected to be sufficient to meet the demand for new teachers until 2003. However, MCEETYA noted that there were recruitment difficulties during 2000 in a number of disciplines such as Mathematics, Science and Information Technology, and in rural and remote regions. Further, MCEETYA indicated that the age profile of the teaching workforce raises concerns about potential losses of older teachers from retirement. MCEETYA noted that

“retirements as a proportion of the teaching workforce will rise in the current decade and this will increase the pressure on the teacher labour market. This pressure is expected to be greater in the second half of the decade than the first” (p.74);

“there is some uncertainty about the precise patterns of future retirements” (p.74). The report noted (p.74) that the annual loss of teachers through future retirements would vary depending on whether future retirements would concentrate about the 55 years age limit or be distributed across a broader age range, such as 55-60 years;

“there is a general belief that the impact of retirements will be greater for secondary science and mathematics teachers” than possibly other secondary teachers (p.78).

In July 2002 MCEETYA endorsed a new framework for analysis of teacher supply and demand issues including research on ageing of the teacher workforce. This paper addresses the implications of ageing of the teacher workforce for the future supply of teachers.

Background

The majority of OECD countries are undergoing a major demographic transformation with a larger proportion of older people in the population. In Australia, a number of factors, including the baby boom following the Second World War, the post war immigration program, and more recently, a decline in mortality and in the birth rate, have contributed to this changing demographic profile.

The implications of this demographic change have been studied from both general economic perspectives and from social science perspectives (Productivity Commission 1999, Department of Health and Aged Care 1999, Access Economics 2001). This paper examines broad population trends in Australia, demographic trends in the national labour force, and provides a snapshot of the current teacher workforce before examining recent and likely trends in the age structure of the teaching workforce, both at broad and more detailed levels.

Demand for school teachers is dependent on two key factors:

- the number of students in schools; and
- the teacher student ratio.

While demographic changes may result in a decline in the proportion of school age persons in the national population the *number* of school students will remain relatively static over time. This implies that the level of demand for teachers is likely to continue to be significant in the future, if there are no major changes in teacher student ratios. Hence, the potential for significant retirement of the teaching workforce in the near future becomes a critical issue in regard to teacher supply.

Data for this analysis are drawn from a range of published information. Of these, the Australian Bureau of Statistics (ABS) population projections (ABS 1998), the MONASH Employment Forecasts prepared by the Centre of Policy Studies from Monash University (CoPS 2001), the DEST 2002 Government and Non-Government School Staffing Surveys and the 1999 Australian College of Educators (ACE) National Survey: *Teachers in Australian Schools* (Dempster *et al* 2000) are the major data sources. The CoPS MONASH model covers information on the Australian distinguishing 112 industries, 56 regions and 340 occupations. It is developed on the basis of employment data from the ABS second national household survey and employment labour force surveys. The 1999 ACE National Survey was a quantitative survey of over 20,000 teachers employed in more than 1,000 government and non-government schools in Australia. Data for the DEST School Staffing Surveys were supplied by State and Territory Education Departments and approximately 45 per cent of non-government schools.

Australian Population Trends

Australia's population is ageing — the *proportion* of older persons in the population is rising. Projections undertaken by the ABS, as illustrated in Chart 1 below, show that the proportion of the population aged 0 - 14 years will decrease to 16 per cent of the total population, while the proportion of population aged 65 years over is projected to increase to 24 - 27 per cent by 2051. However, the likely change in the age structure of Australia's population does not bring a reduction in population size for all age groups. As seen from Chart 2, the number of the school age population will remain relatively constant over the next 30 years.

The important message here is that demand for school level education will not decline in the period ahead as a result of overall demographic changes. However, as discussed in more detail below, ageing of the teacher workforce in line with general population and workforce ageing may have an adverse impact on teacher supply.

Chart 1

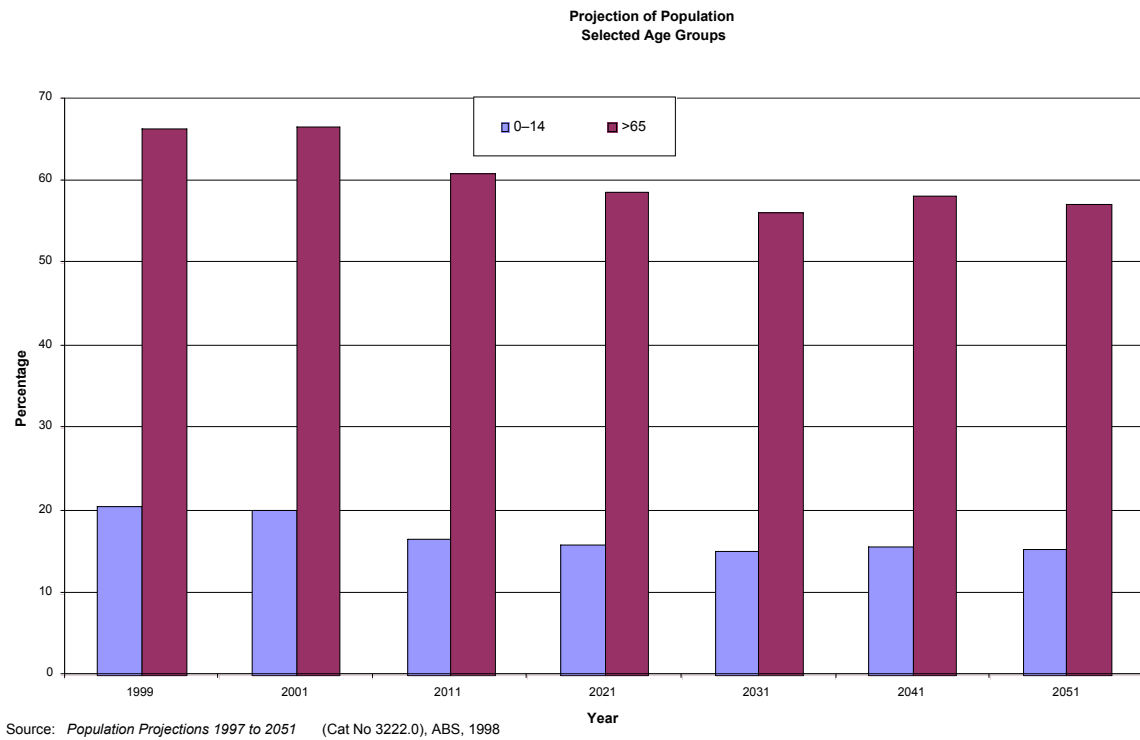
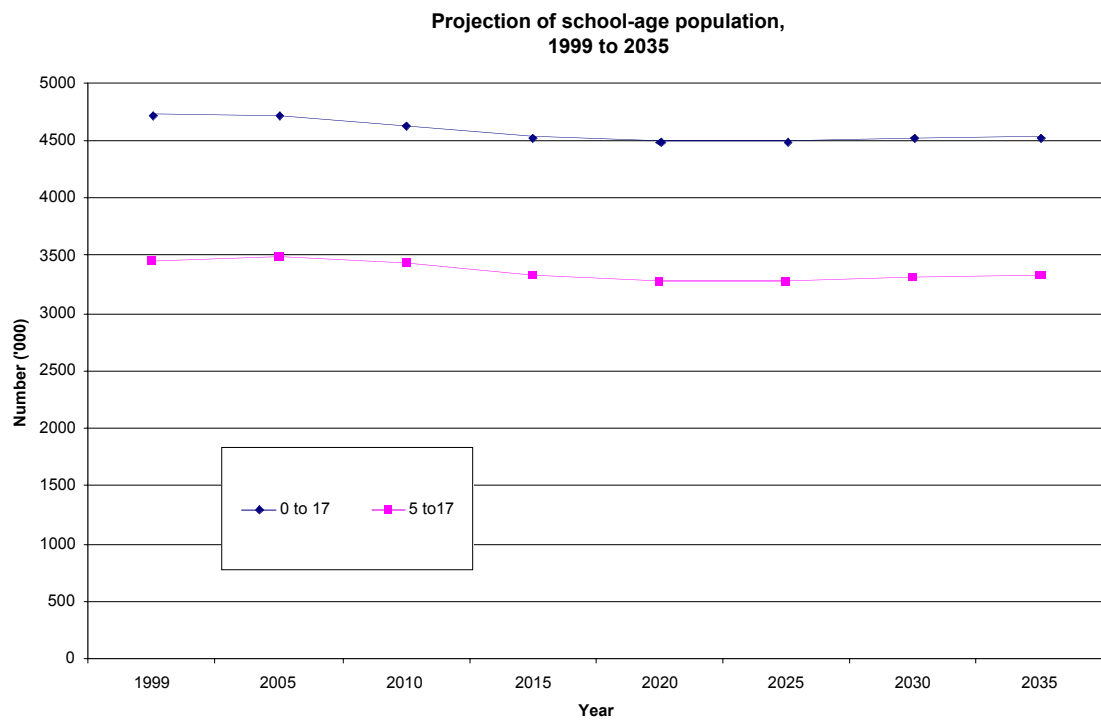


Chart 2



Broad Workforce Trends

The Australian workforce, like the population more generally, is also ageing. The share of older workers in the labour force is increasing as shown in Chart 3. The 45 to 64 year old age group, which includes the older 'baby-boomers', is projected to become an increasingly larger proportion of the Australian workforce — rising from about 31 per cent in 1999 to about 41 per cent in 2051. At the same time, the proportion of the population likely to be in the labour force by the year 2051 is also falling. In 1999 the working age population accounted for approximately 66 per cent of the total population. By 2051 the working age population will represent 48 per cent of the population (Chart 4).

A similar trend is evident with respect to the Australian teacher workforce, as documented below. However, as outlined in later sections of the paper, overall national data are not necessarily reflected at the State level, or with respect to the government or non government school sectors, and the situation also varies somewhat between the primary and secondary school sectors.

Chart 3

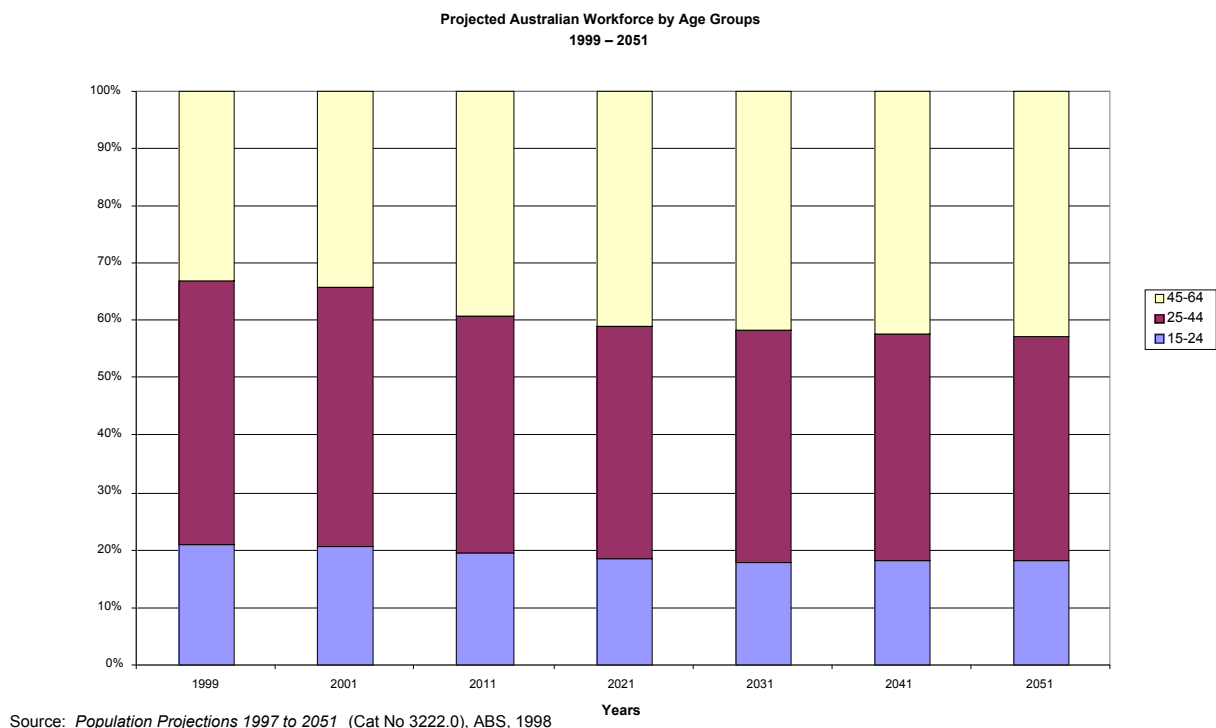
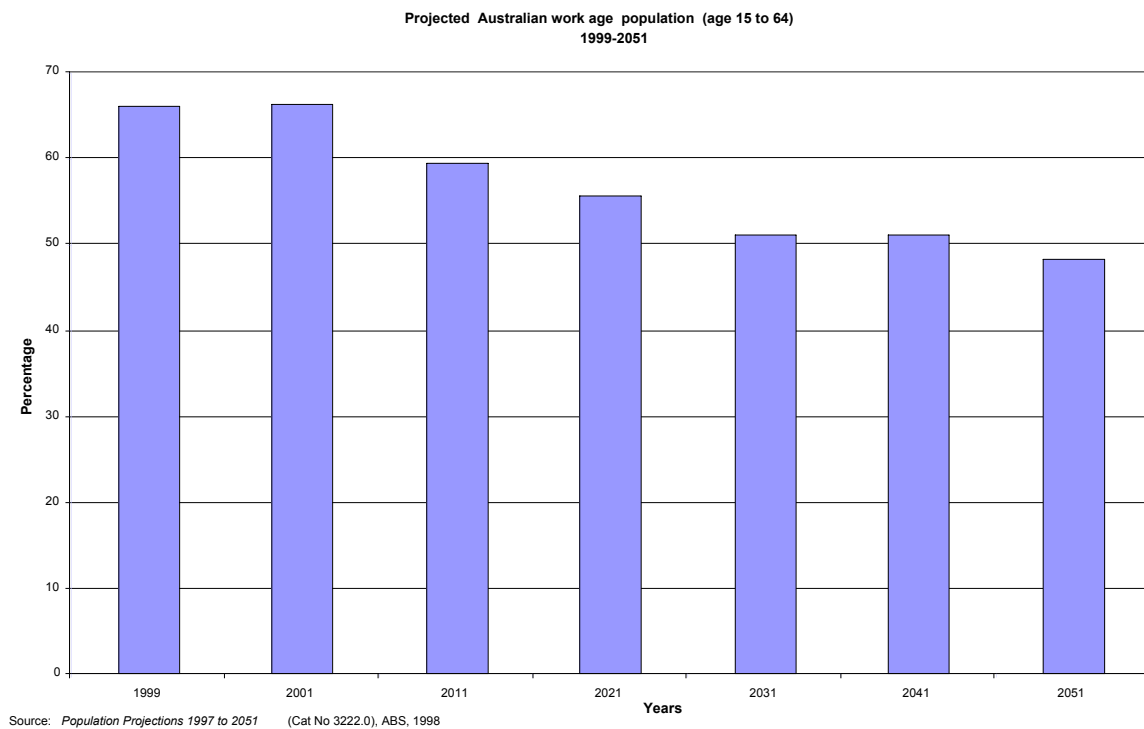


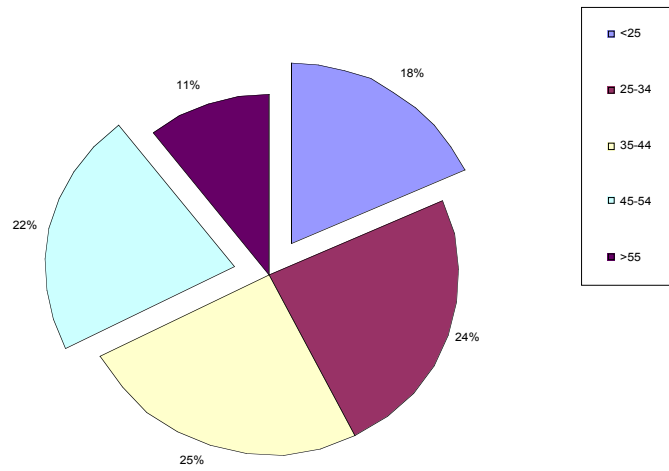
Chart 4

Snapshot of Australia's Current Teacher Workforce

The proportion of older teachers in the teacher workforce is already significant. At the time of the 1999 ACE National Survey, the national mean age of teachers who responded to the survey was 41.1 years with a national mode of 47 years and a median of 42 years. The mode is the most frequently occurring age in the teacher workforce. There is therefore potential for a bunching of retirement of older teachers. For survey respondents, teachers from the government schools sector were marginally older than those from the non-government sector: nearly 60 per cent of the government school teachers were aged 40 years and over, compared to around 50 per cent in the same age band from the non-government schools sec

Other data indicate that compared to the Australian workforce as a whole (Chart 5), the teacher workforce had few employees under age 25 (Chart 6). Employees under 25 years comprised only 6 per cent of the teacher workforce, compared to 18 per cent of the Australian workforce in the same age categories. This difference reflects the need for university study prior to commencing teaching. Notably, this data indicate that teachers aged between 45 - 54 comprise a large proportion (a third) of the entire teacher workforce.

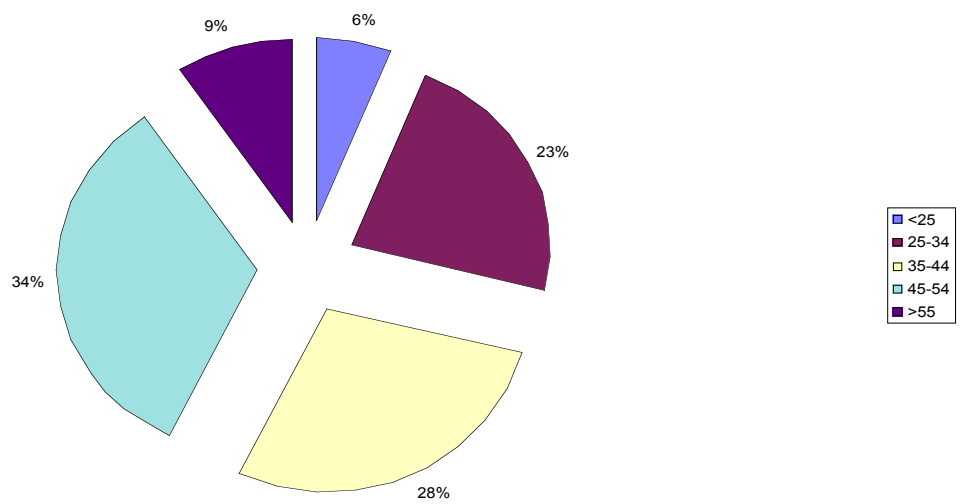
Chart 5

Age composition of the Australian workforce
at 2000 - 01

Source: Centre of Policy Studies (CoPS), Monash University, 2002

Chart 6

Age Group Composition of Teacher Workforce



Source: ABS 2001 Census of Population and Housing

The proportion of older teachers in the teaching workforce has been rising

The share of older teachers in the teacher workforce has risen over the past three decades. In 1999 the proportion of teachers older than 51 years of age was 17 per cent compared to 8 per cent in 1989 and 7 per cent in 1979. The proportion of teachers in the 41 - 50 age band has increased remarkably during the period between 1979 and 1999, from approximately 14 per cent in 1979, to 25 per cent in 1989 and to 39 per cent in 1999. That is, while age retirement may not have been a significant issue for teacher supply in the past decade, this is no longer the case

The teaching workforce will continue to age

Charts 7 and 8 provide projections of likely employment changes between 2000 and 2010 arising from the Centre of Policy Studies, Monash University. The projections suggest that:

- Both workforces will experience a continuing growth in employment and the employment share of older workers will increase.
- The 'baby booming' effect comes earlier in the teacher workforce and will be sustained over the next 10 years.

By comparison with the national picture, significant increased workforce participation past age 55 is not projected for the teacher workforce, as shown in Chart 8. Instead, the employment of teachers aged over 55 in the teacher workforce is projected to remain relatively steady over the forecast period.

The data hence suggest there is potential for significant losses of older teachers from the teacher workforce in the next decade. However, while the overall ageing of the teacher workforce raises concerns about possible teacher losses, there are differences in the age structure of the teaching workforce considered by gender, by State, by government and non government schools and between primary and secondary teachers. These differences are examined below.

Chart 7

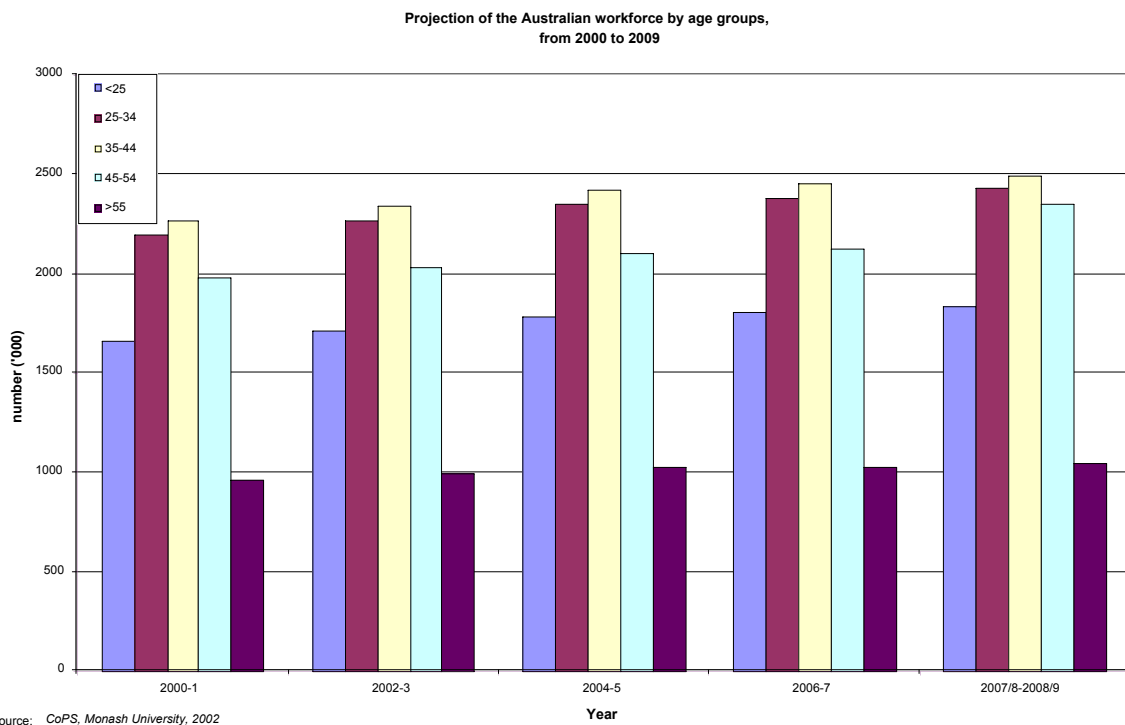
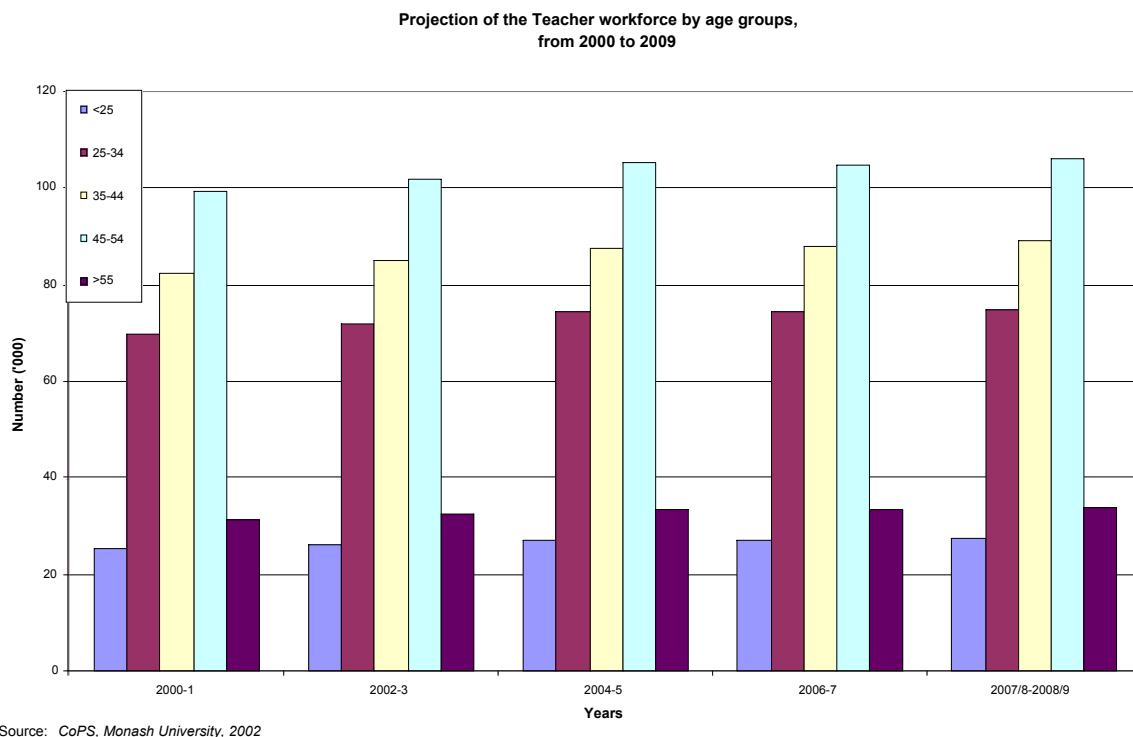


Chart 8



Teaching workforce- age profile by gender

The teacher workforce is predominately female, especially in the primary school sector. The proportion of women in the teaching workforce has increased over time. (This topic is examined in more detail elsewhere in this report).

Data on number of teachers employed, by gender and age, as at 2001 is shown in the table below, drawn from data from the ABS (2001) Census of Population & Housing (Table 1).

Table 1:
Proportion of teachers employed by age & gender : 2001

	M ales %	Female%	Age %
Under 25	4.0%	6.8%	6.0%
25-34	20.3%	23.7%	22.7%
35-44	27.2%	28.9%	28.5%
45-54	36.8%	32.0%	33.3%
55 & Over	11.6%	8.6%	9.4%
	100%	100%	100%

Source: *ABS (2001) Census of Population and Housing*

The data emphasise the extent of age 45+ teachers, particularly male teachers. Some 48.4 per cent of male teachers were aged 45 years and over at 2001, compared to 40.6 per cent of female teachers. Younger to middle age teachers comprised a higher proportion of the female teacher workforce (9.4 per cent females compared to 51.5 per cent males).

Age Profile of Australia's teaching Workforce by Government and Non Government Schools Sectors

The 1999 ACE National Survey revealed that teachers aged over 40 comprised a larger proportion of respondents (59.9 per cent) in the government schools compared to those in the non-government sector (49.4 per cent in Catholic schools and 56.1 per cent in independent schools). By comparison, data from the Government and Non-Government School Staffing Surveys (DEST 2002), and Monash Centre of Policy Studies, reveal that:

- Primary – 47.5 per cent of government teachers, compared with 35.7 per cent of non-government teachers, were aged 45 and over in 2001 (Table 2).
- Secondary – 50.6 per cent of government teachers, compared with 40 per cent of non-government teachers, were aged 45 and over in 2001 (Table 3).
- More than 50 per cent of older teachers (45 plus) in secondary Government school sector were male at 2001 ((Table 3).
- Female teachers comprised between 75 and 88 per cent of the primary teacher workforce in all groups (Chart 10).

Chart 9

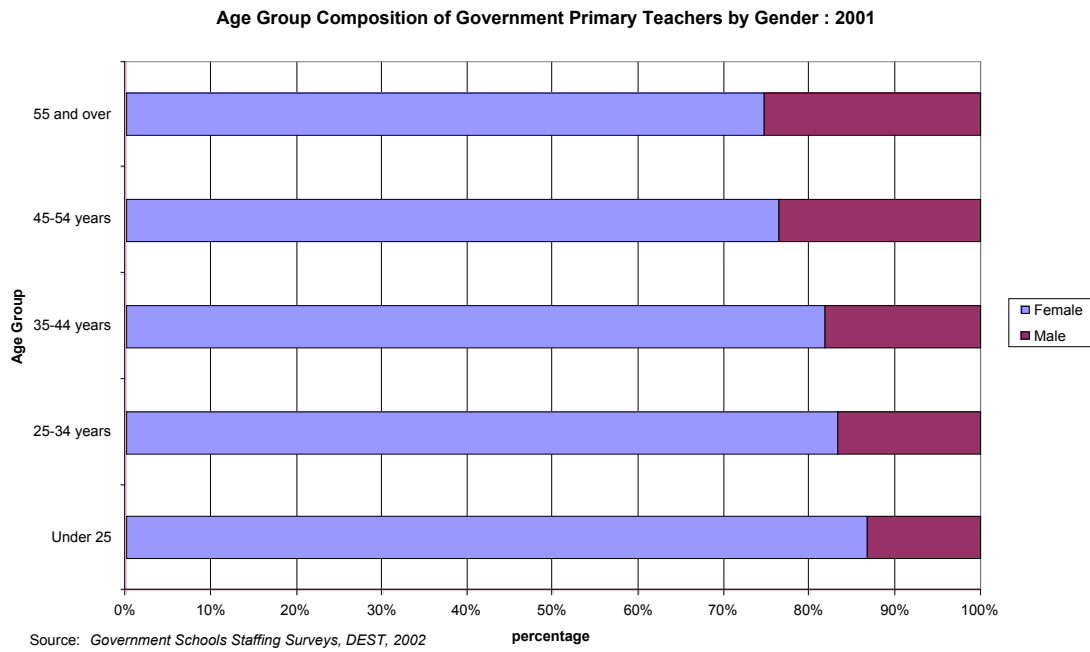


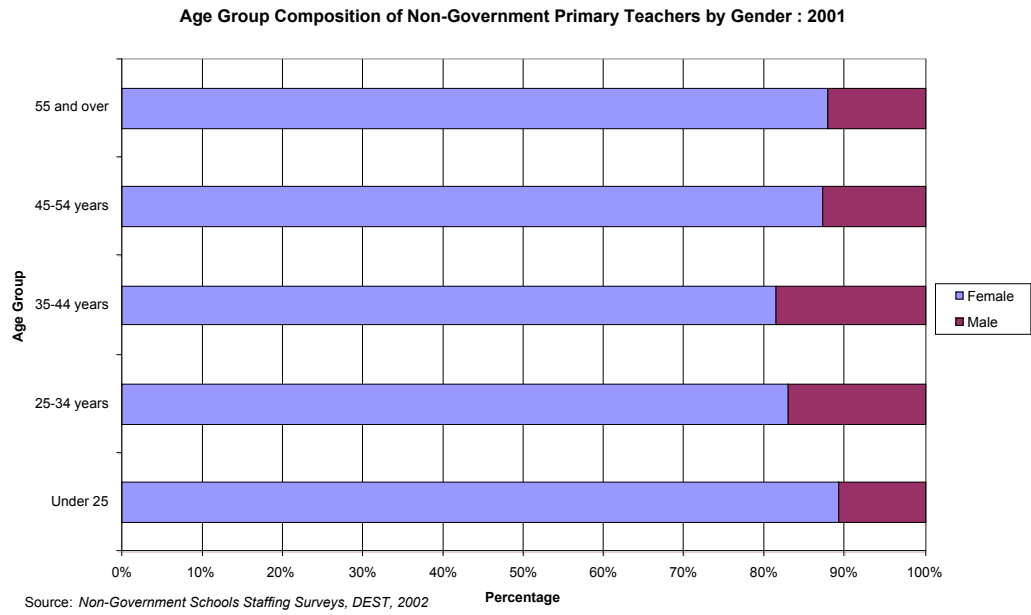
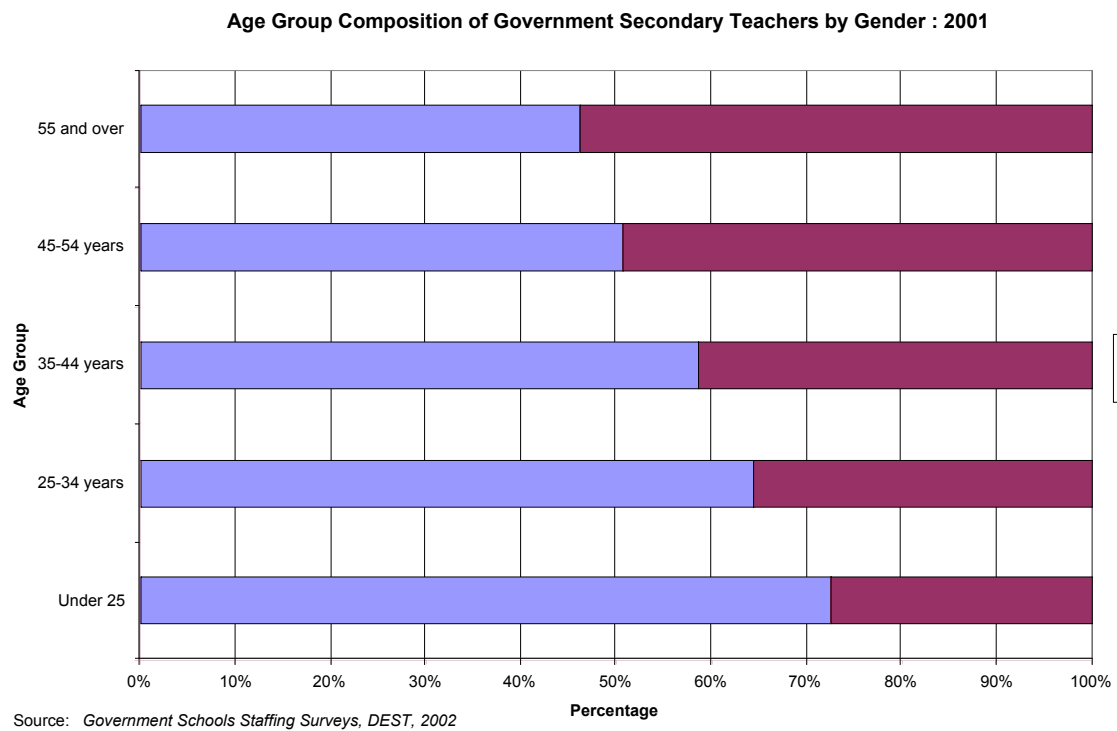
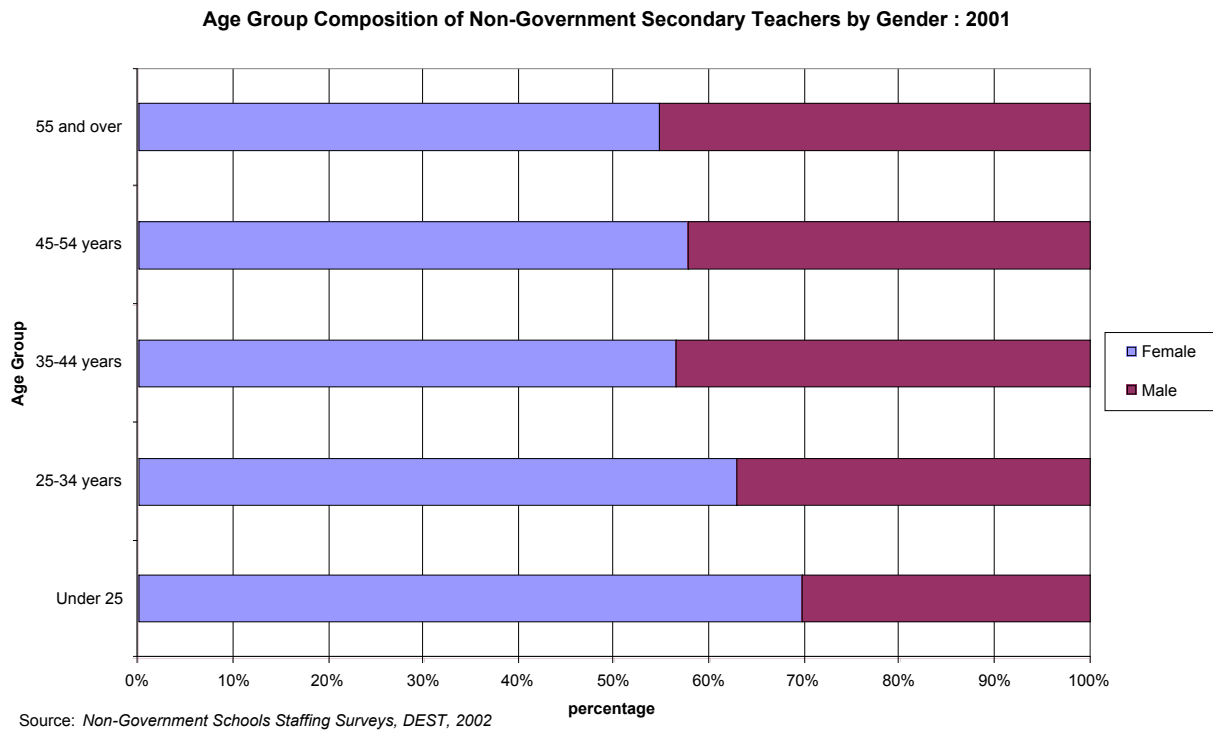
Chart 10**Chart 11**

Chart 12



Age Profile by Geographic Areas

There are considerable variations in the age composition of the teacher workforce between the States and Territories. As seen from Table 2, at 2001:

- The proportion of Government primary school teachers aged at 45 - 54 years ranged from 28.7 per cent to 45 per cent respectively across States and Territories. In three States, South Australia (45 per cent), Victoria (43.2 per cent) and New South Wales (42.2 per cent), the proportion in this age group was higher than that of the national average (38.8 per cent);
- The proportion of Non-Government primary school teachers aged at 45 - 54 years ranged from 25 per cent to 32.7 per cent respectively across States and Territories;
- Data in this table indicate that ageing of the teacher workforce is of particular concern for South Australia in which the proportion of 'old' Government primary and Government secondary teachers was much higher than that of the national average.

Table 2:

Percentage of Primary Teachers Aged 45 and over by Sector and State/Territory, 2001

State/Territory	Government			Non-Government		
	45 - 54 years	55 and over	Total	45 - 54 years	55 and over	Total
NSW	42.2%	10.4%	52.6%	25.1%	7.9%	33.0%
VIC	43.2%	6.6%	49.7%	30.3%	9.2%	39.5%
QLD	30.4%	6.9%	37.3%	26.0%	10.1%	36.1%
SA	45.0%	10.0%	55.1%	25.5%	7.6%	33.1%
WA	37.0%	11.1%	48.0%	25.1%	5.4%	30.5%
NT	28.7%	9.9%	38.5%	25.3%	5.7%	31.0%
TAS	35.6%	9.2%	44.8%	32.7%	12.9%	45.5%
ACT	42.0%	11.2%	53.2%	25.0%	10.2%	35.2%
National	38.8%	8.7%	47.5%	27.1%	8.7%	35.7%

Source: *Government and Non-Government Schools Staffing Surveys, DEST, 2002*

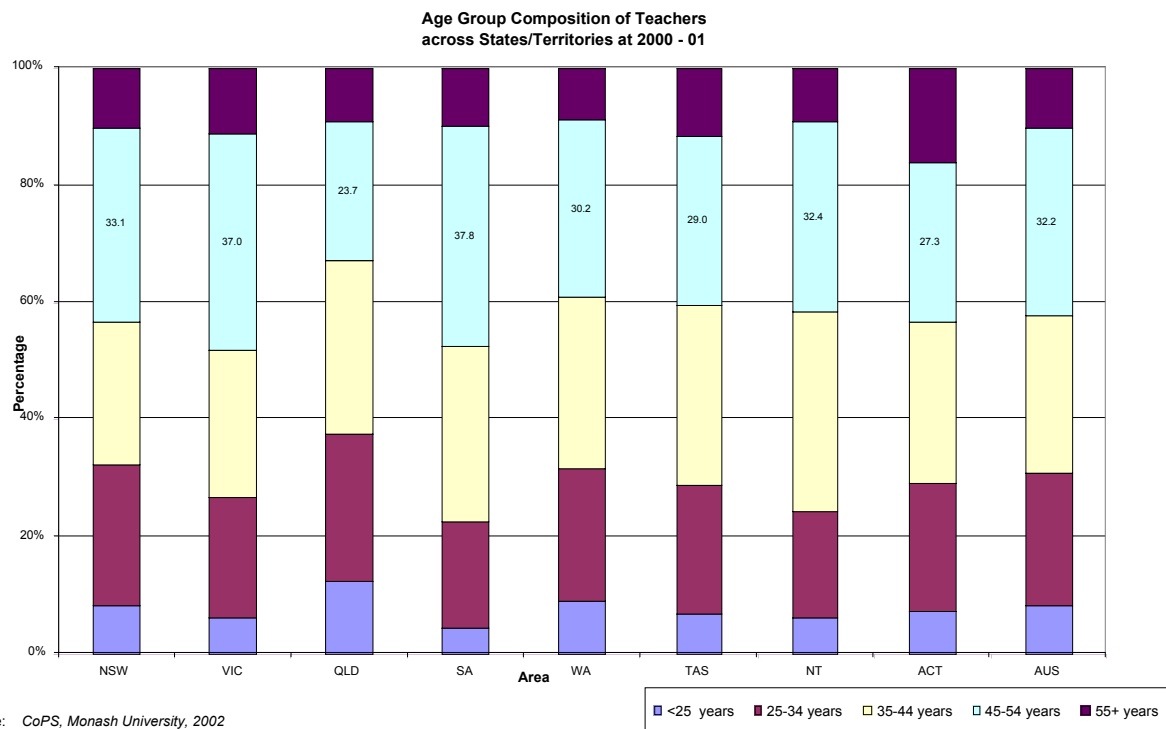
Table 3:

Percentage of Secondary Teachers Aged 45 and over by Sector and State/Territory, 2001

State/Territory	Government			Non-Government		
	45 - 54 years	55 and over	Total	45 - 54 years	55 and over	Total
NSW	43.2%	10.4%	53.6%	27.7%	8.4%	36.1%
VIC	44.3%	8.2%	52.5%	29.1%	11.3%	40.4%
QLD	31.9%	6.9%	38.8%	30.7%	12.4%	43.2%
SA	49.2%	11.6%	60.8%	30.0%	14.8%	44.8%
WA	34.5%	13.9%	48.4%	28.9%	10.2%	39.2%
NT	35.6%	13.8%	49.4%	28.1%	12.5%	40.6%
TAS	41.5%	10.2%	51.7%	36.1%	12.0%	48.2%
ACT	44.2%	12.1%	56.3%	30.6%	13.7%	44.3%
National	40.9%	9.7%	50.6%	29.2%	10.8%	40.0%

Source: *Government and Non-Government Schools Staffing Surveys, DEST, 2002*

Chart 13



Source: CoPS, Monash University, 2002

Retirement Issues

One of the major issues in respect to the teacher workforce is the potentially high retirement by the 'baby boomer' generation. Patterns of age based retirement from the teacher workforce are likely to be critically influenced by superannuation arrangements. Superannuation arrangements vary from State to State – some had voluntary superannuation arrangements prior to the introduction of the Superannuation Guarantee in the early 1990s.

In several States, however, superannuation arrangements may tend to result in heavy retirement at age 55. Early retirement may also be triggered by the nature of teaching — classroom teachers need to physically fit and also face considerable stresses in classroom management. The nature of superannuation arrangements in the non-government schools sector are likely to be somewhat different to those of the States and Territories, as well varying between different independent schools.

Nonetheless, with the possibility of retirement at age 55, teachers aged 50 in 2000 will be eligible to retire by 2005. Those aged 45 over should be able to retire by 2010. Given teachers within the 45 - 55 age band constitute a large proportion of the current teaching workforce (32 per cent), if these teachers were going to leave teaching at age 55, the potential impact on the entire workforce could be substantial. A relatively high proportion (32.4 per cent) of government sector teachers want to retire in the 51 - 55 age band; compared to 18.8 per cent and 17.7 per cent for the Catholic and the Independent sectors respectively.

On the other hand, the data presented above show that there is still a proportion of teachers remaining in teaching after reaching age 55. As reported in the 1999 ACE National Survey:

- nearly 25 per cent of the current teachers intended to retire from teaching at age of 55 years;
- 4 per cent of teachers planned to retire from teaching between the ages of 56 and 59 years;
- a further 20 per cent of respondents indicated their retirement intention at age 60 years;
- over 10 per cent (12.5 per cent) planned to continue teaching after reaching age 61.

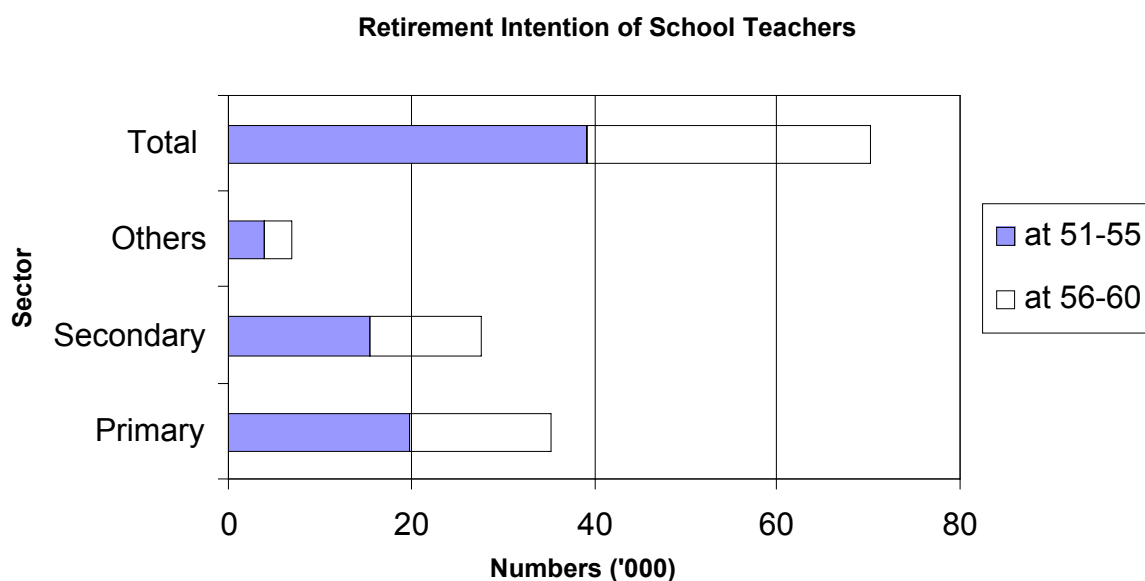
Using these retirement intention figures (proportion), and assuming most teachers would retire between 55 and 60 years of age, there will be 30,000 and 40,000 teachers retiring from the teacher workforce by 2010, as shown in Chart 14. This level of separations would impact on the supply of teachers with respect to both primary and secondary schools, in the government and non-government sectors, although the impacts will vary:

Age band retirements are likely to impact more severely on the supply of teachers in the government schools sector than in the non-government sector given the higher proportion of older teachers and a higher level of retirement intention. The extent of retirement from government teaching positions may also be greater than in the non-government school sector due to the nature of the respective superannuation arrangements.

Secondary schools are likely to face high levels of age band retirements by male teachers. This may have particular adverse implications depending on the concentration of this retirement male group in particular teaching specialisations.

The data highlight an emerging problem. However, at the same time the data give only limited guidance to the possible extent of retirement, suggesting the need for further research on teacher superannuation arrangements to better quantify the scale of the problem

Chart 14



Source: author's calculation based on ACE 1999 National Teacher Survey and CoPS, Monash University, 2002

Conclusions

This paper has provided data on the impact of population ageing on potential demand for school teachers and with respect to potential ageing of the teaching workforce. While Australia's population is ageing, with the result that there will be a higher proportion of older persons in the population, the number of persons of school age will not decline substantially in the next 5 - 10 years. There will be sustained demand for teachers, assuming no radical changes in student-teacher ratios.

On the other hand, in line with general trends across the labour force, the teaching workforce has aged in the last two decades, although the teaching workforce is "older" than the labour force more generally. Moreover, the teaching workforce will continue to age in the next 5 - 10 years, with the result that a substantial proportion of the teacher workforce will be eligible to retire on age grounds in the next 5 - 10 years.

The extent of retirement will depend on a variety of factors, including incentives to remain in teaching, and the nature of particular teacher's superannuation arrangements. Overall, there is a higher proportion of older teachers in the government schools sector than in the non government schools sector, and the government schools sector may therefore be more affected by age retirement. It is also noteworthy that there are a higher proportion of male teachers that will become eligible for age based retirement.

Overall, this analysis indicates that ageing of the teacher workforce will be more intense than for the general workforce given the relative higher share of older teachers in the teaching workforce and the early arrival of the 'baby booming' effect. The potential losses through retirement are therefore significant, which may add to difficulties in staffing in some subject areas.

It is also important to consider the impact of teacher workforce ageing on teaching quality. The loss of older teachers through retirement will impact on teaching quality. Older teachers have rich teaching experience which contributes substantially to a high quality of teaching. Hence, it is even more difficult to effectively replace the lost subject knowledge, teaching methodology and expertise that older teachers have accumulated through their years of teaching.

Moreover, older teachers not only influence students, they also have an influence their colleagues — younger teachers. Older teachers are an important learning resource for younger teachers. A successful knowledge transfer, role model and mentoring process for younger teachers will not only ensure improved retention of the teacher workforce, but also will attract and retain talented people to the teaching profession.

2. Gender Trends in Australia's Teaching Workforce

Introduction

This paper examines trends in employment of school teachers by gender. The main purpose for undertaking this analysis is to examine recent trends in teacher employment by gender, and to consider the possible impacts, if any, of changes in the gender mix of Australia's teaching workforce with respect to the supply of teachers, with particular emphasis on the quantity of teaching skills in some specialisations.

Elsewhere in this report we have noted that at the secondary level the government and non government schools sector are facing recruitment difficulties in certain specialisations. These specialisations include Science (especially the Physical Sciences), Mathematics, Technology (including Information Communication Technology) and Languages other than English (LOTE) (although the extent of recruitment difficulties varies considerably between specialisations and in different States and regions).

Another chapter in this report addresses a related issue, the impact of ageing on the future supply of teachers. This issue is in part influenced by the gender composition of the teaching workforce. We have not considered that issue, however, but rather examined the issue of gender in isolation.

As is the case for many other developed countries, there is a growing proportion of female teachers in the teaching profession in Australia. The number of female school teachers rose significantly over the last decade, in both primary and secondary education. By contrast, there was a slight decline in male teacher numbers. Considered together, the two movements significantly expanded the female share of teacher employment.

In the next section of this chapter we examine trends in teaching employment considered by gender in Australia in more detail. The following section then compares Australia's experiences with other OECD countries. In the subsequent sections we then examine the implications of teaching employment gender trends for supply of teachers, including factors leading to greater female employment as teachers, recent trends in Australian graduations in teaching courses, and factors that may influence recruitment of male teachers.

Trends in teacher employment by gender

Table 1 below presents data on changes in employment of male and female primary school teachers (full time equivalent) between 1991 and 2001.

Table 1

Employment of male and female primary teachers, FTE, Australia, 1991 to 2001

Year	Female	Male
1991	71,363	25,416
1992	72,653	25,303
1993	73,352	25,174
1994	73,850	25,017
1995	76,875	24,160
1996	77,894	24,373
1997	79,796	23,978
1998	81,052	23,551
1999	84,926	23,939
2000	86,200	23,877
2001	88,534	23,981

Source: *Schools Australia* (Cat. No. 4221.0), ABS, 2001

Over the period between 1991 and 2001 the number of female primary teachers rose, while the number of male primary teachers declined. Employment of female primary teachers rose by 24.1 per cent over this period, while male primary teacher numbers declined by 5.6 per cent. Considered together, this resulted in the share of female primary teachers rising from 73.7 per cent to 78.7 per cent of primary teaching employment between 1991 and 2001.

Table 2 presents equivalent data for secondary teachers.

Table 2

Employment of male and female secondary teachers, FTE, Australia, 1991 to 2001

Year	Female	Male
1991	51,803	50,951
1992	52,709	51,400
1993	52,881	50,505
1994	52,101	49,376
1995	52,996	48,369
1996	53,514	48,192
1997	54,879	48,408
1998	55,899	48,578
1999	57,766	49,094
2000	58,709	49,265
2001	60,052	49,361

Source: *Schools Australia* (Cat. No. 4221.0), ABS, 2001

In *secondary* education, between 1991 and 2001 the number of female teachers rose from 51,803 to 60,052, a 15.9 per cent increase. Employment of male secondary teachers

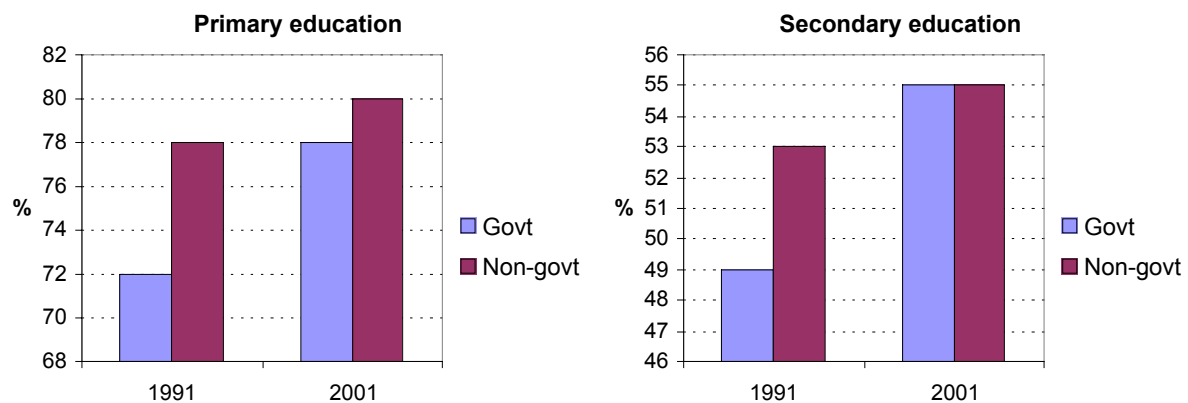
contracted by 4.1 per cent over the same period. Overall, the male share of the secondary teacher workforce declined from 49.6 per cent to 45.1 per cent between 1991 and 2001.

One factor that has influenced the share of male and female employment among teachers has been increased representation of women in the government schools sector. Chart 1 below provides data on this.

In 1991, the *government* sector had a lower female employment share, at both primary and secondary levels than the non government schools sector. By 2001, the gap had entirely closed in secondary education and was only 2 percentage points in primary education.

Chart 1

Female share of teacher employment, government and non-government, 1991 and 2001

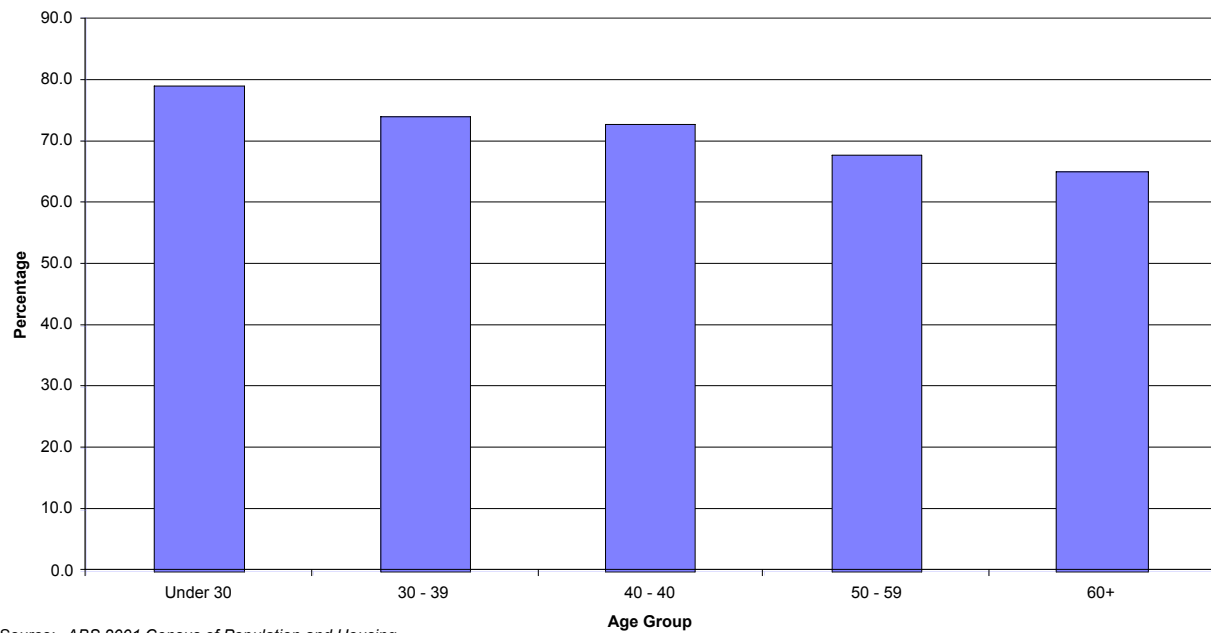


Source: *Schools Australia*, (Cat No 4221.0), ABS, 2001

The recent trend towards an increasing share of female employment among teachers is reflected in data on the gender composition of age groups. Chart 2 shows women comprise over 70 per cent of schoolteachers in their 40s, and close to 80 per cent of teachers aged under 30. That is, women have been the majority of recent new recruits to teaching in Australia (although it should be noted that two-thirds of female teachers are aged over 30, with a significant proportion aged over 40).

Chart 2

**Female share of school teacher employment by age group,
2001**



International Comparisons

The share of female employment in the teaching workforce has also increased significantly in other OECD countries. The OECD notes

In all OECD countries, pre-primary and primary teachers are predominantly women...The trend is less pronounced in lower secondary education... in upper secondary education the percentages of male and female teachers are similar.¹

The following table shows the share of female employment among teachers across OECD countries.

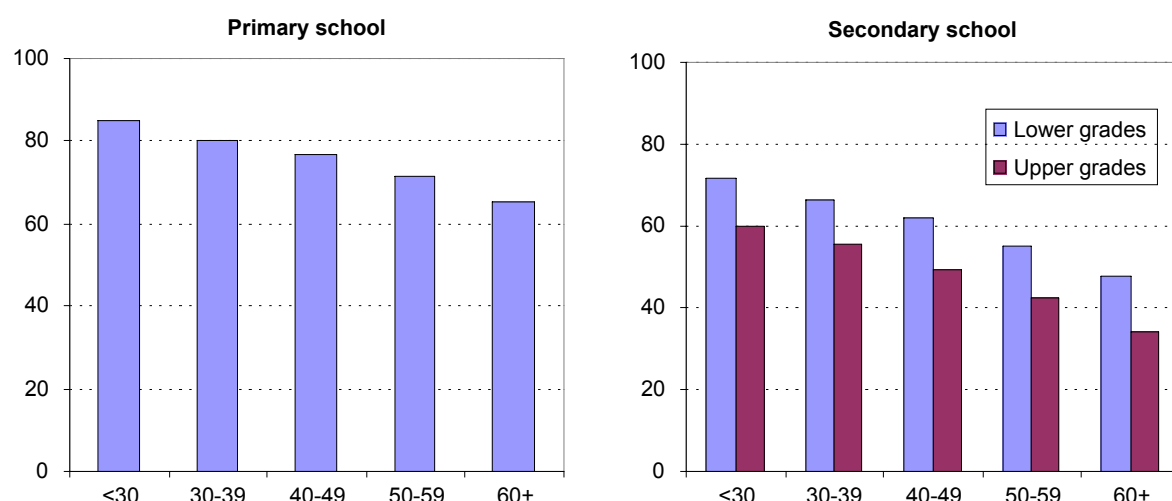
¹ OECD, Education Indicators at a Glance, 2001, p.213

Table 3 Gender distribution of teachers - Percentage of women (1999)

	Pre-primary education	Primary education	Lower secondary education	Upper secondary education (All programmes)	Upper secondary education (general programmes)	Upper secondary education (vocational programmes)	Post- secondary non-tertiary education	Tertiary- type B	Tertiary-type A and advanced research programmes	Tertiary education	All levels of education
Australia	m	m	m	m	m	m	m	m	36.1	m	m
Austria	m	m	m	m	m	m	m	m	m	m	m
Belgium (Fl.)	99.1	74.4	x	56.2	x	x	x	x	x	34.5	64.3
Canada	68.0	68.0	68.0	68.0	68.0	a	x	x	33.3	39.5	60.4
Czech Republic	99.7	84.4	82.4	55.7	68.3	53.5	47.1	58.8	32.6	38.4	71.2
Denmark	92.0	64.0	64.0	33.9	39.3	27.8	m	m	m	m	68.6
Finland	96.5	71.7	71.1	56.4	68.0	50.7	x	x	45.3	45.3	66.3
France	x	80.0	64.1	47.0	55.0	33.0	33.0	x	33.0	33.0	61.0
Germany	95.0	81.2	58.7	39.6	39.8	39.5	36.0	46.6	26.7	31.0	57.7
Greece	m	m	m	m	m	m	m	m	m	m	m
Hungary	100.0	84.9	84.5	59.4	66.7	55.8	x	x	38.5	38.5	75.4
Iceland	98.5	77.8	x	45.1	x	x	x	56.2	41.4	42.6	73.1
Ireland	91.2	85.1	57.6	x	x	x	x	31.4	35.7	m	62.6
Italy	99.3	94.8	72.8	58.9	x	x	m	31.2	29.9	30.0	75.4
Japan	m	m	m	m	m	m	m	m	m	m	m
Korea	99.7	70.3	59.7	30.5	29.6	31.9	a	30.1	25.3	26.9	48.6
Luxembourg ¹	97.6	60.5	40.2	x	x	x	m	m	m	m	53.7
Mexico	93.7	65.4	47.2	39.8	38.7	45.5	a	x	x	x	59.9
Netherlands	x	75.5	x	40.2	37.3	45.9	x	m	m	m	m
New Zealand	98.7	83.8	65.0	54.6	57.5	49.1	50.3	50.2	41.8	43.8	68.0
Norway	m	x	72.3	44.3	44.3	x	x	x	35.9	35.9	59.9
Poland	m	m	m	m	m	m	m	m	m	m	m
Portugal	m	m	m	m	m	m	m	m	m	m	m
Slovak Republic	99.9	90.3	75.6	66.6	72.1	65.2	x	x	36.8	38.4	75.5
Spain	94.9	69.1	x	50.3	x	x	xc	49.8	33.7	m	58.5
Sweden	96.7	80.4	62.1	50.2	55.9	45.8	26.9	x	38.3	38.3	67.4
Switzerland ¹	m	m	m	m	m	m	m	m	25.6	25.6	m
Turkey	m	m	m	m	m	m	m	m	m	m	m
United Kingdom	95.3	81.1	58.8	58.5	58.8	58.2	a	x	xc	33.1	64.5
United States	94.7	86.5	60.2	50.8	50.8	a	40.7	49.0	38.0	41.4	65.9
Country Mean	90.5	77.6	64.7	50.3	53.1	46.3	39.0	44.6	33.8	36.2	64.7
1. Public institutions only											
2. Year of reference 1999.											
3. Year of reference 2001.											
Source: OECD.											

The next chart provides data on teaching employment across the OECD by age and gender, which indicates that the female share of teacher employment is significantly greater in younger age groups, as was the case for Australia.

² OECD Table: m – Data not available; x – Data included in another category.

Chart 3 Female share of schoolteacher employment by age group, OECD mean, 1999

Percentage of women among teaching staff in public and private institutions, by level of education and age group, based on head counts. Country mean among nations supplying figures.

Source: *Education at a Glance 2001 – List of Indicators*, OECD, 2001

For primary education in the OECD, the average employment share for the female under-30 age group is a very high 85 per cent. Older age groups have progressively lower female representation, with the over-60 age group having the lowest female employment share of 62 per cent.

While female representation in secondary-level teaching is considerably smaller, there is a similar pattern of the female employment share falling as the age classification rises. In lower secondary education, the employment share for under-30s is 72 per cent.

This compares with 62 per cent for teachers in their 40s. For upper secondary education, women account for 60 per cent of teachers under 30. In comparison, the share is below 50 per cent for the 40 to 49 age group.

As noted by Siniscalco (2002) in a study for UNESCO

The percentage of female teachers varies considerably across the world. However, it rose in all regions during the 1990s, continuing the trend observed during the 1980s. In general, the education sector is a more important source of employment for women than for men in developed countries, influenced by opportunities to combine employment and family responsibilities and better pay rates and career advancement potential relative to other occupations (Wylie, 2000), whereas the opposite is often true in developing countries. The countries where teaching is still mainly a male profession are mostly in sub-Saharan Africa and in South Asia, although also in these regions the 1990s marked a move towards slightly higher percentages of female teachers'.³

³ Siniscalco M (2002) *A Statistical Profile of the Teaching Profession* commissioned by UNESCO (Geneva: UNESCO)

In terms of more direct comparisons with other countries, in New Zealand in 2001, 20 per cent of primary teachers in Government schools were males. In 1981, 35.7 per cent were males. Of the students enrolled in pre-service primary teacher education courses as at July 2001, 20.6 per cent were male.

In the United Kingdom males accounted for 11.9 per cent of all full-time regular qualified teachers in Government nursery and primary schools, a proportion which has changed little over the past 5 years.

In April 2002, the UK Teacher Training Agency announced that it would be aiming to increase the proportion of men on primary teacher training courses by 20 per cent each year for the next three years until the ratio of men to women on these courses rises to one in five. At present the proportion is 12.8 per cent.

By comparison, in the United States, the National Center for Education Statistics advises that males currently make up approximately 27.1 per cent of teachers in all public schools, with male elementary teachers representing approximately 16 per cent of the elementary teacher population.

Recent trends in graduations in teaching courses considered by gender

Recruitment of men and women as teachers is largely a function of trends in graduations from teaching courses. The trend towards a greater share of female teachers is being reinforced by trends in supply from teaching courses.

The proportion of Australian males undertaking tertiary qualifications in Education dropped by 9.5 percentage points between 1983 and 2000 (from 34.1 per cent to 24.6 per cent). The proportional decline appears to have stabilised since 1997.

As shown in the Table below in 1983, 25,369 males were undertaking studies in education. By comparison in 2000 17,971 males were undertaking studies in education. This comprises a decline of 29 per cent. By comparison and over the same period, the number of females increased from 48,945 to 55,709 (an increase of 14.3 per cent). Male university enrolments in education have declined in absolute terms, compared with an increase in nearly every other field of study, over the period 1983-2000.

Table 4

Enrolments in education studies, Australia, 1983 to 2000, by gender

Year	Males	Females	Total	% Males	% Females
1983	25,369	48,945	74,314	34.1	65.9
1984	25,212	48,339	73,551	34.3	65.7
1985	25,850	49,200	75,050	34.4	65.6
1986	25,591	51,566	77,157	33.2	66.8
1987	22,182	49,930	72,112	30.8	69.2
1988	21,484	51,132	72,616	29.6	70.4
1989	20,323	52,336	72,659	28.0	72.0
1990	20,630	54,145	74,775	27.6	72.4
1991	21,706	57,868	79,574	27.3	72.7
1992	21,309	56,782	78,091	27.3	72.7
1993	20,925	55,643	76,568	27.3	72.7
1994	19,645	52,669	72,314	27.2	72.8
1995	19,153	51,482	70,635	27.1	72.9
1996	18,606	51,919	70,525	26.4	73.6
1997	19,144	54,388	73,532	26.0	74.0
1998	18,817	54,437	73,254	25.7	74.3
1999	18,201	54,322	72,523	25.1	74.9
2000	17,971	55,709	73,680	24.4	75.6

Source: *Higher Education Statistics* , unpublished data, DEST

Factors influencing recruitment of male teachers

While teaching continues to be a relatively attractive career option for women in Australia and in other OECD countries, the proportion of young males choosing to work as teachers has declined significantly. Why has the female share of teaching employment increased over recent decades in Australia and other OECD countries? There are a number of possible explanations. However, in part the issue may be that fewer males are being attracted to teaching careers.

The following chart shows changes in the share of education professionals among overall female employment in Australia between 1996 and 2002. Data is sourced from the ABS Labour Force Survey and uses the sum of the classifications 'School Teachers' and 'Other Teachers and Instructors' prior to the ASCO revision of 1996, and 'Education Professionals' for post 1996 data. In August 1985, 60 per cent of males and 76 per cent of females in these classifications were school teachers.

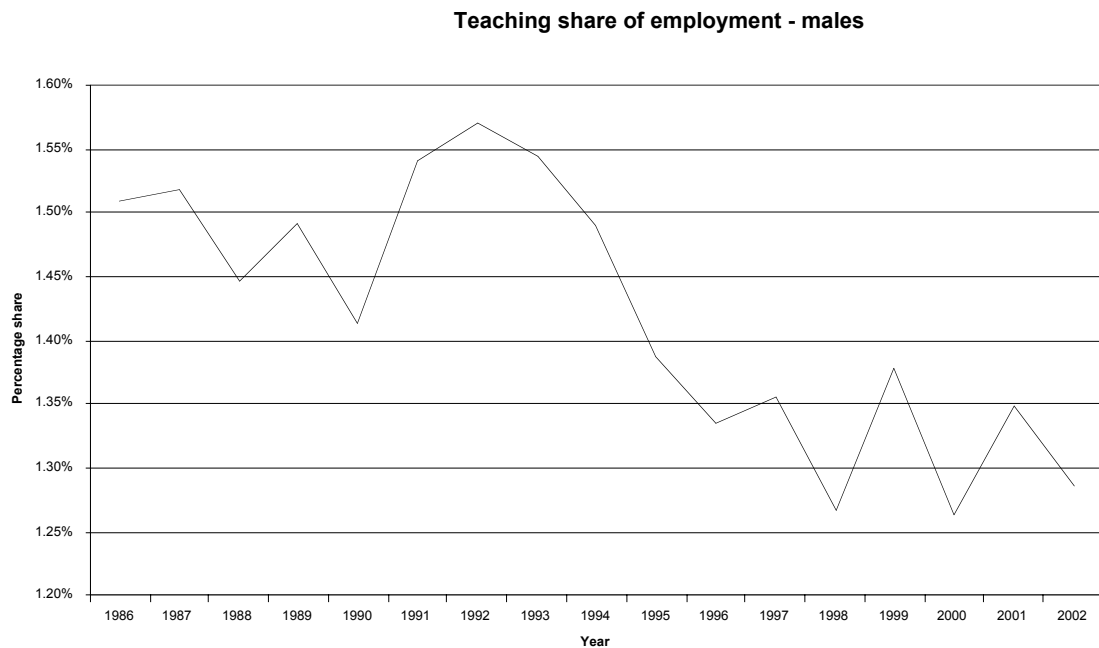
The data indicate that teaching as an employment destination for women has not declined significantly over the last 14 years (3.6 per cent in August 1986 compared to 3.5 per cent in August 2002).

Chart 4



On the other hand, the share of male employment accounted for by education professionals has declined more markedly over the same period, from 1.51 per cent in August 1986 to 1.29 per cent in August 2002, as shown in the next Chart. It should be noted that teaching employment provides a much smaller proportion of male employment than is the case for women. The male share of employment has fallen by 14.8 per cent in the last 14 years, compared to a fall of just 2.9 per cent for females.

The male and female series both show peaks in the teaching employment share around the time of the early 1990s recession.

Chart 5

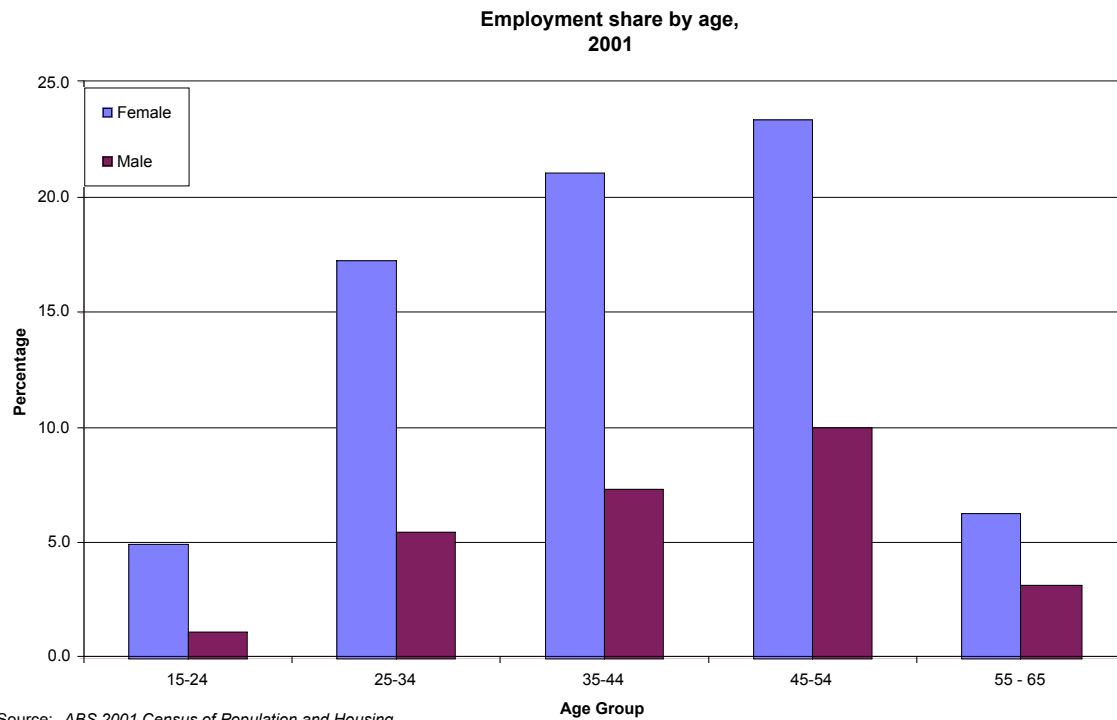
Source: *Labour Force Survey (Supertables)* , (Cat. No 6203.0), ABS

Note: Data is for the August quarter of each year.

Classifications used: the sum of the classifications 'School Teachers' and 'Other Teachers and Instructors' prior to the ASCO revision of 1996, and 'Education Professionals' for post 1996 data.

The share of teaching employment by gender, as well as by age, is also of interest. As the chart below shows, employed males aged between 45 and 54 are almost twice as likely to be employed as school teachers than males aged between 25 and 44. The comparison for females is less marked. This indicates while younger age cohorts of both genders appear to be increasingly entering into occupations other than teaching, the trend seems to be more pronounced for males.

Chart 6



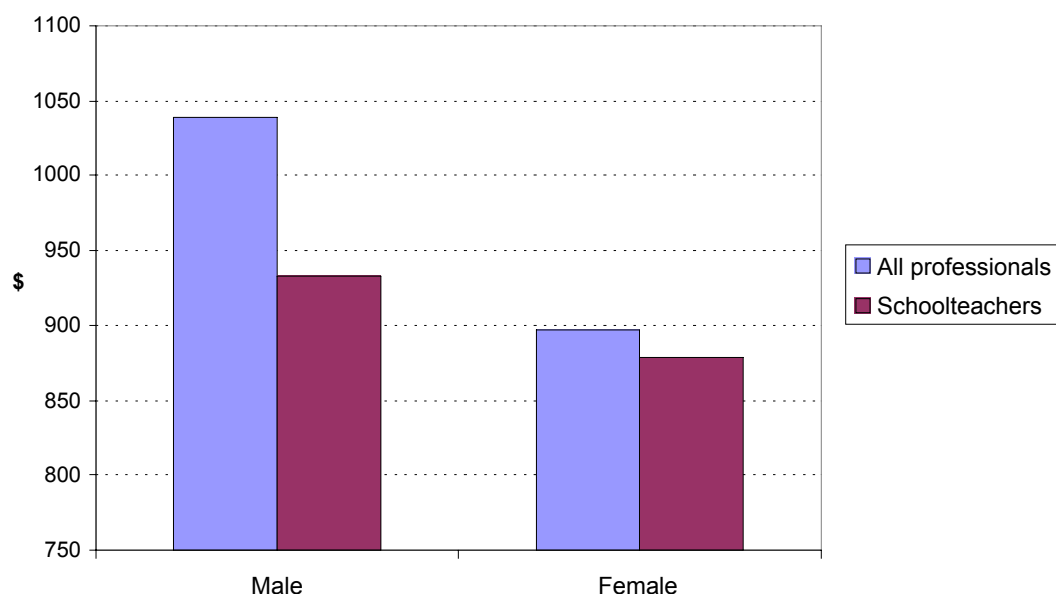
Research on why males are tending to steer away from school teaching as a career has identified three major causes:

- Salaries are uncompetitive and career advancement opportunities too limited;
- Teaching is perceived as an occupation for women; and
- Fears of being labelled a child abuser or sexual deviant have grown.

Teaching salaries

One factor that may influence male recruitment to teaching positions is salary levels relative to other professions. We have examined this issue in another section of this report. However, to summarise, teaching remuneration levels tend to fall below those of other professions, particularly for men. Moreover, pay differentials widened overall during the 1990s.

As shown in Chart 7 female teachers earn just under \$20 per week less than female professionals generally. However, although male teachers are about \$54 per week better off than female teachers, they lag behind other male professionals by \$107 per week on average. Male teachers earn about 10 per cent less than male non-managerial professionals in general, compared to a deficit of just 2 per cent with respect to women.

Chart 7 Weekly wages, schoolteachers vs. professionals and males vs. females

Average weekly total earnings, full-time adult non-managerial employees.

Source: *Employee Earnings and Hours*, (Cat. No. 6306.0), ABS

Perception of teaching as an occupation for women

Some writers suggest that men are not attracted to teaching, particularly at the primary level, is the perception that teaching is “women’s work”. Clifford (1989), for example, suggests:

The expectation is that women will be found working in 'traditional', 'feminine' areas. Thus it is seen as 'natural' for women to work with young children and to adopt a caring mother/teacher role. Conversely, male teachers in ... schools are often viewed with suspicion and their sexual orientation may well be called into question.

Similarly Wilson (1999) states:

Research in Canada and the United States tends to show that strongly-entrenched values are a determining factor in the male-female ratio in the lower grades of elementary schools ... There is a perception that teaching remains mostly a woman’s profession – in Primary-Junior grades in particular.⁴

Farquhar (1999) expresses similar views:

Research indicates the tremendous peer pressure that male school leavers can face in breaking with the macho image and entering teaching. Men more likely to be attracted to teaching are those who have already tried another occupation, who in many cases have fathering experience, and those who cannot find work in a traditional male area.

Child abuse associations

Overseas researchers have suggested child sex abuse issues are a deterrent to males pursuing teaching as a career.

⁴ (Margaret Wilson, Registrar of the Ontario College of Teachers _ in Giguère (1999)).

In New Zealand, Farquhar (1999) has argued that, along with gender stereotyping, sex abuse associations are a major cause of declining numbers of male primary-school teachers:

My research on men in early childhood teaching, which was nationally publicised in 1997, identified fear of accusation of sex abuse and the social stigma attached to being a man in a women's field as leading factors scaring men off becoming teachers. In a subsequent paper, I also proposed that these factors were probable causes for the decline of men's participation in primary teaching, and questioned whether the teaching profession should be allowed to continue its movement towards becoming a women-only profession.

To support her argument, Farquhar points to the outfall from charges of child sexual abuse:

In recent years, male teachers have mainly received negative press, especially surrounding accusations of child sex abuse. In April 1998, a (male) primary school teacher ... after being acquitted of charges of sexual abuse, warned men not to consider teaching as a career, and advised male teachers to get out because of the dangers.

In the United Kingdom, research has highlighted how the stigma of child abuse makes it difficult for male primary teachers to feel comfortable about normal physical contact with students:

Fear of being seen as a child abuser or pervert may be deterring men from applying to train as primary teachers. Male trainee teachers are now concerned that their actions will be misconstrued, according to a researcher at Hertfordshire University. Dr. Mary Thornton, who studies male teacher recruitment, says that physical contact with young children is now a key concern for BEd students, (David Budge, 1998, London Times, Education Supplement, August 28 _ in Giguère (1999)).

Lack of male role models in classroom settings

Some commentators have expressed concern about a lack of male role models in schools teaching. In announcing an inquiry into male teacher numbers, the then NSW Minister for Education, John Aquilina, said:

Male teachers are vital role models for both boys and girls. "They reinforce positive messages about masculinity and education, and help dispel the myth that it is uncool to do well at school. Primary school is a place where young people get their first experience of life outside their immediate family. A strong, positive role model can benefit all students. (Minister's Press Release, 13 March 2002).

The imbalance in the teacher gender mix can be understood as harmful based simply on the proposition that diversity is good. As with racial, ethnic and age diversity, gender diversity in teaching gives children a more balanced impression of the world and helps them learn how to interact with a greater variety of people. It assists and broadens the social development of children, ultimately strengthening community cohesion.

One issue that has not been canvassed as broadly is the lack of women in senior management positions in schools. In a recent report, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) drew attention to a lack of representation by women in management positions in primary schools throughout the world. The UNESCO report noted:

Despite the increasing feminisation of the teaching profession, women are still underrepresented in management positions in schools in the majority of countries⁵

UNESCO further noted that while in various high and middle income countries there was greater participation by women in management positions, especially at the secondary school level, this was not universally the case. UNESCO stated:

...women managers remain severely underrepresented in some high income countries (such as Australia, Cyprus, Denmark and Republic of Korea⁶.

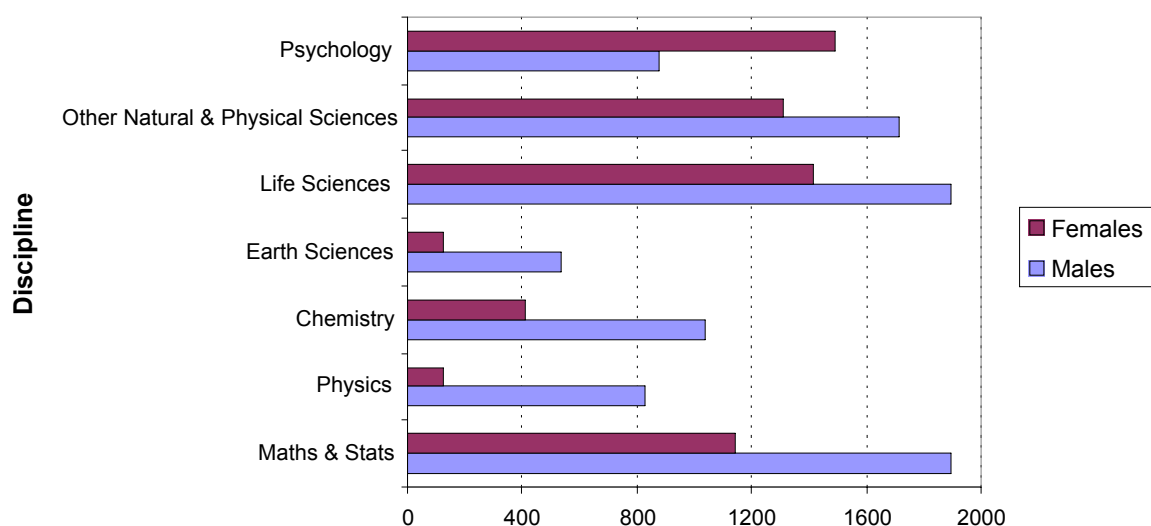
Teacher shortfalls in some subjects

Accompanying increased participation by women in the teaching workforce has been an alteration of the skill profile of the teacher workforce. This is in terms of the proportion of teachers able to specialise in each subject area. It is a consequence of males and females having widely varying subject preferences. Increased participation by women in the teaching workforce may create a tendency for disciplines favoured by female teachers to be oversupplied and, correspondingly, shortfalls to occur in the subjects traditionally taught by men. Imbalances are mainly a problem in secondary education where there is greater specialisation.

An indication of the extent to which specialisation is gender-dependent is provided by Chart 8. It shows the number of education professionals (including university lecturers and secondary school teachers) who have science degrees. This is by major discipline and gender.

There are significantly more male teachers holding science qualifications overall, with women outnumbering the men only in the case of Psychology. Over 60 per cent of teachers with Mathematics and Statistics majors are male. Men outnumber women by factors of greater than two-to-one with respect to Physics, Chemistry and Earth Sciences.

Chart 8 Science degree holders employed as education professionals, 1996



Source: *Trends in Science Education: Learning, Teaching and Outcomes, 1989 – 1997*, ACDS, 1999

⁵ Siniscalco, op. cit. p. 18

⁶ Ibid.

Conclusions

The analysis has indicated that numbers of male teachers have declined in recent times leading to a greater proportion of female teachers in the national teaching workforce. Participation by males in teacher training courses has also declined significantly over time.

Some of the decline in male recruitment may reflect a growing perception that teaching is “women’s work”, heightened male fears of being the subject of child sex allegations, and a preference for work in other, possibly better paid professions.

Increased participation by women in the secondary teaching workforce may pose some problems in terms of supply of teaching specialisations where recruitment difficulties currently exist, unless more women can be attracted to teach in these specialisations. Males have tended to dominate supply of Mathematics, Science (especially Physics and Chemistry) and Technology (including ICT) teaching in the past, and only a small proportion of women elect to teach in these specialisations.

3. Career Paths of People with Teaching Qualifications

Introduction

This chapter addresses career choices made by people with teaching qualifications. A significant minority of teachers leave teaching to pursue other careers. The aim is to examine the types and earnings levels of occupations where people with teaching qualifications tend to seek and find work.

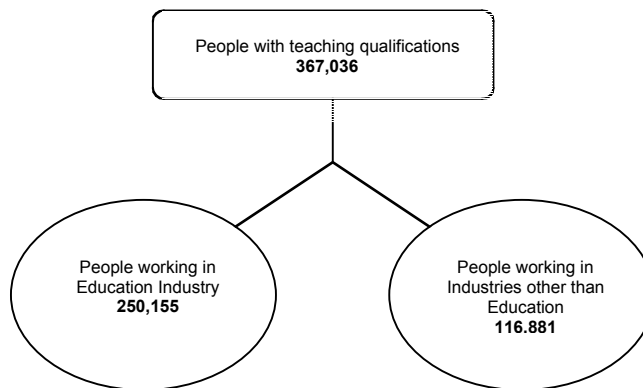
This chapter uses Australian Bureau of Statistics (ABS) data on occupations of people with teaching qualifications, from the Transition from Education to Work 2001 survey. The data relate to a person's highest level of attainment. They will not pick up all people in the target group with higher level qualifications.

Data on average earnings were sourced from the ABS *Survey of Employee Earnings and Hours*, May 2000.

Supporting data have been sourced from the Graduate Careers Council of Australia Graduate Destinations Survey and the Australian College of Education 1999 Teachers Survey, conducted by Dempster et al at Griffith University.

Employment considered by Industry

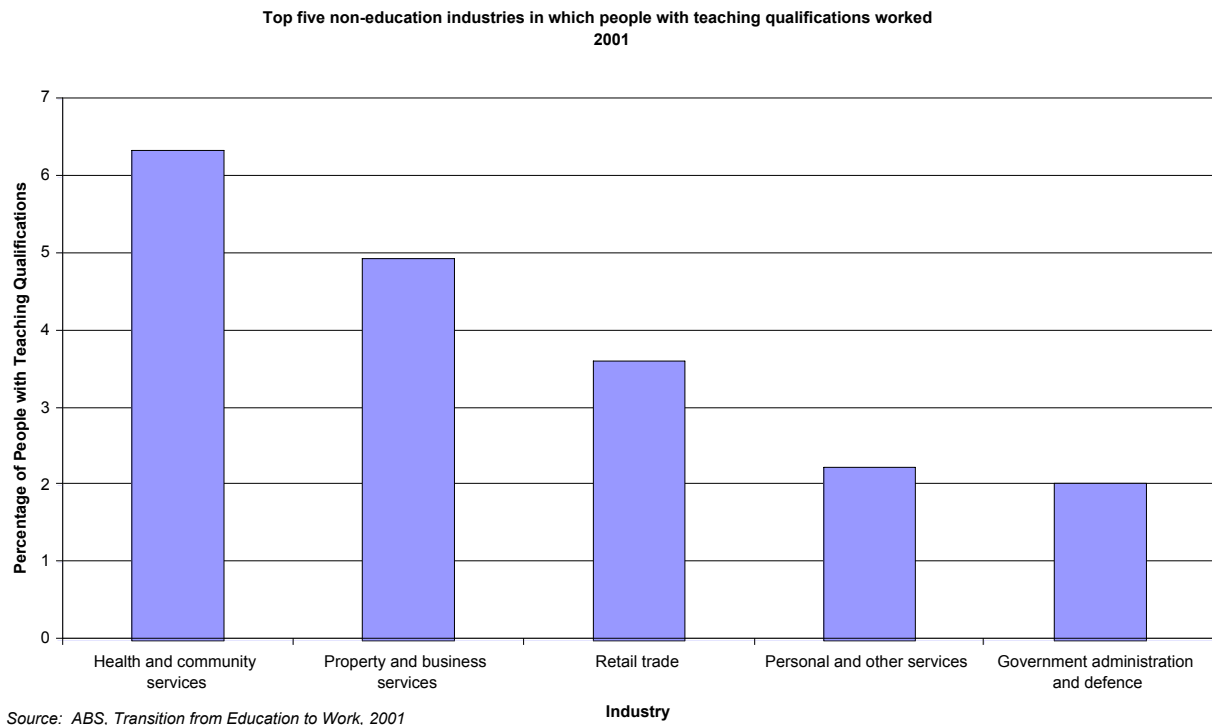
Transition from Education to Work survey data indicate there were around 367,000 people whose highest qualification was a teaching qualification in May 2000. Of these, around 250,000 (68.2 per cent) worked in the Education industry. Effectively this means that there were around 115,000 qualified teachers employed in other industries.



Source: ABS Transition from Education to Work, 2001

Where do the 31.8 per cent of people with teaching qualifications work if they are not employed as teachers? As shown in Chart 1, the industry with the highest level of employment behind education was Health and community services, where 6.3 per cent of people with teaching qualifications were employed. A further 4.9 per cent were working in the Property and business services industry, 3.6 per cent in the Retail trade industry, 2.2 per cent in the Personal and other services industry and 2.0 per cent in the Government administration and defence industry.

Chart 1



The range of industries where people with teaching qualifications were employed was consistent across age ranges.

Looking at other research on this issue, Morgan and Banks provided data to the New South Wales Ramsey Review⁷ on teacher employment by occupation. The data covered applicants with Bachelor of Education qualifications who had approached the company seeking placement in an industry other than teaching in the twelve months prior to February 2000.

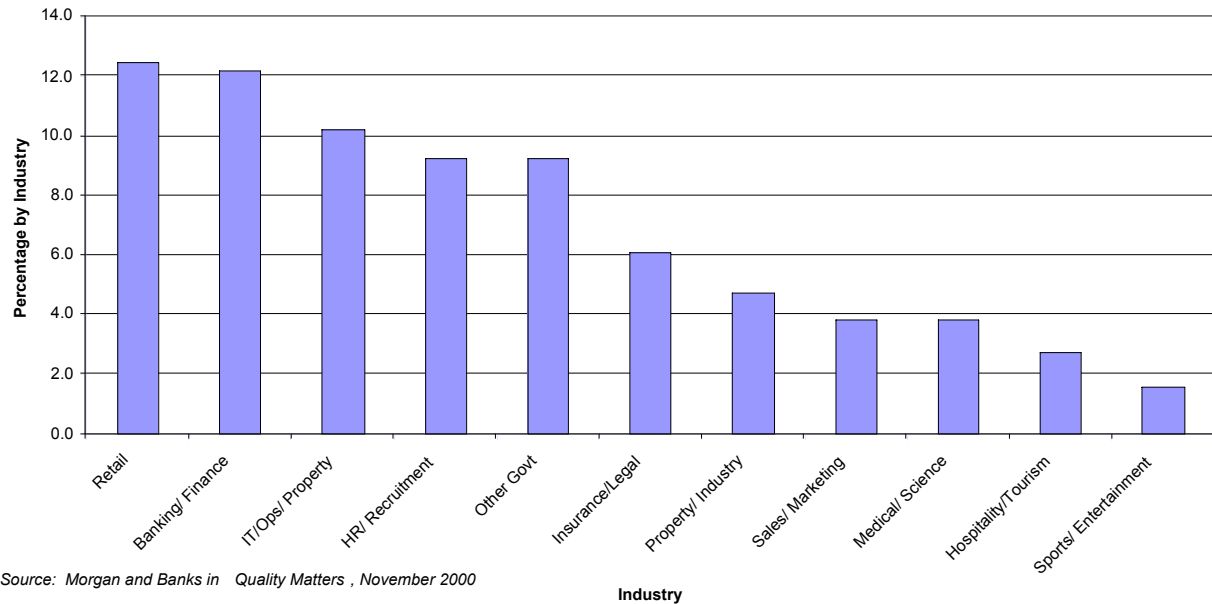
Of 443 applicants, 105 (23 per cent) were currently working in education. The majority were working in industries such as human services, retail, information technology, government, financial services and property as Chart 2 shows. The data also suggest that people with teaching backgrounds are generally well represented in the middle and upper level management of these industries.⁸

⁷ p.40 Ramsey, G

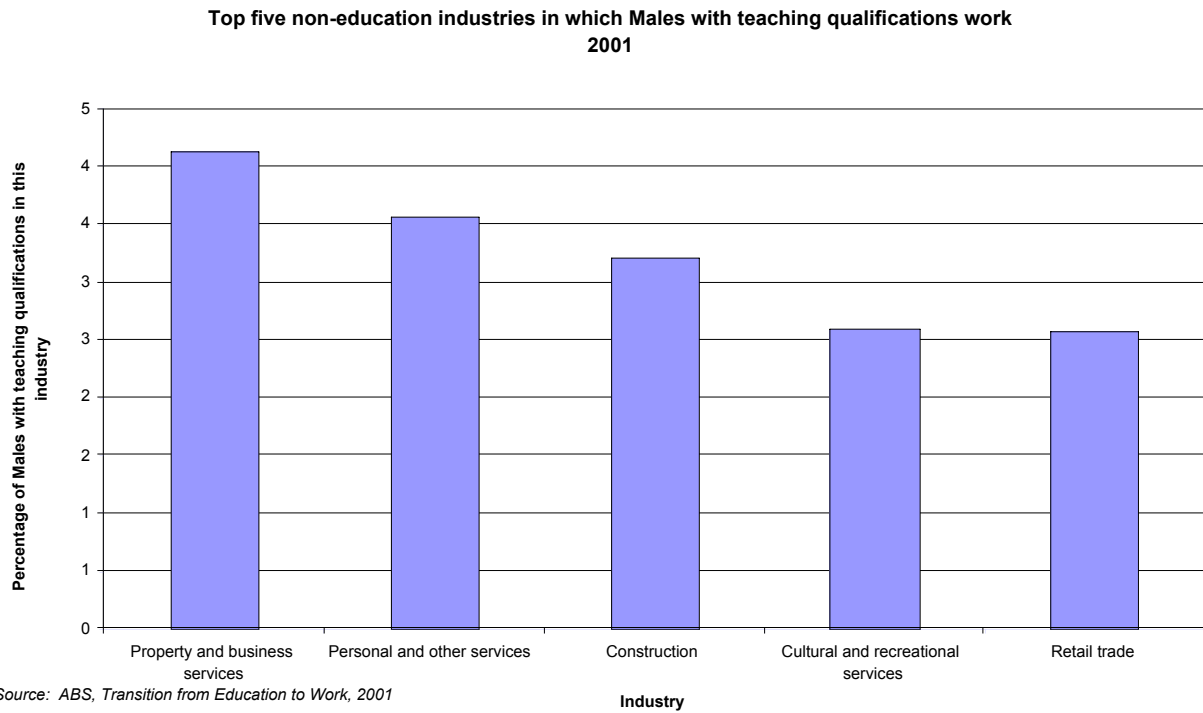
⁸ p.40 Ramsey, G

Chart 2

**Qualified teachers in the Non-Education Labour Market -
Morgan and Banks Sample of Job Applicants with B.Ed
February 1999 - February 2000**

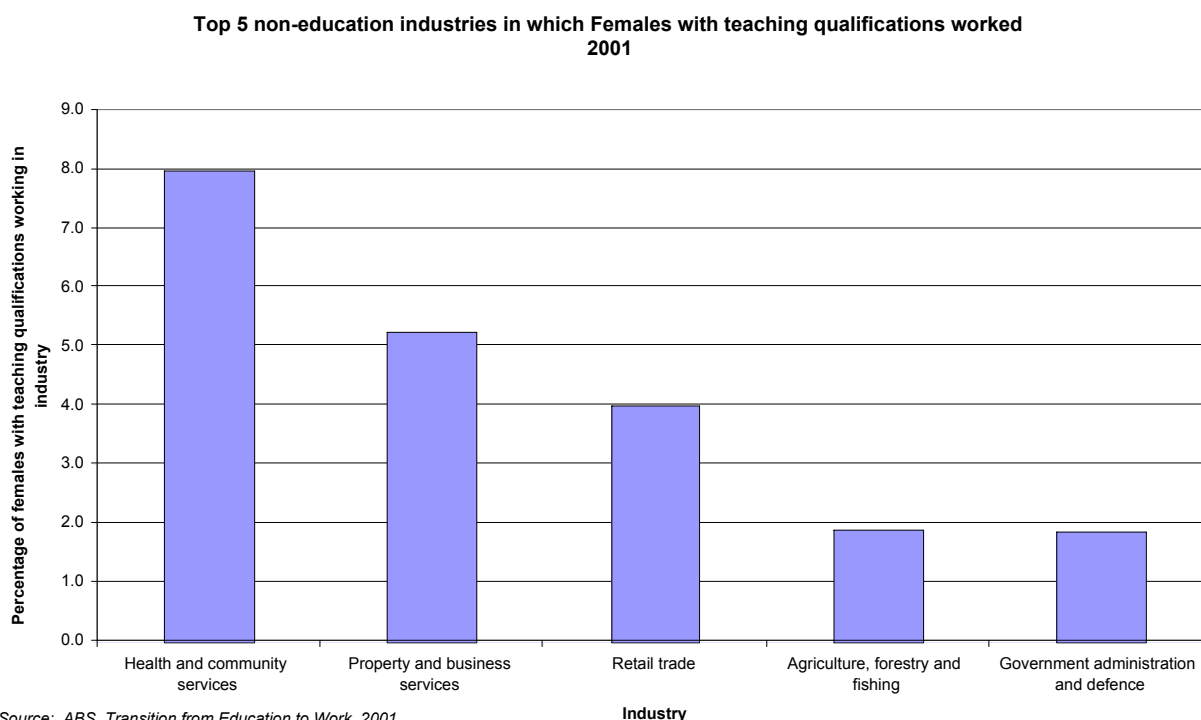


For males, ABS data indicate the industry providing the highest level of employment for persons with teaching qualifications behind education was Property and business services, where 4.1 per cent of males were employed. A further 3.6 per cent were working in the Personal and other service industry, 3.2 per cent in Construction, 2.6 per cent in Cultural and recreational services, and a similar percentage in the Retail trade industry.

Chart 3

Young males with teaching qualifications were largely employed in two industries – Education, and Cultural and Recreational Services.

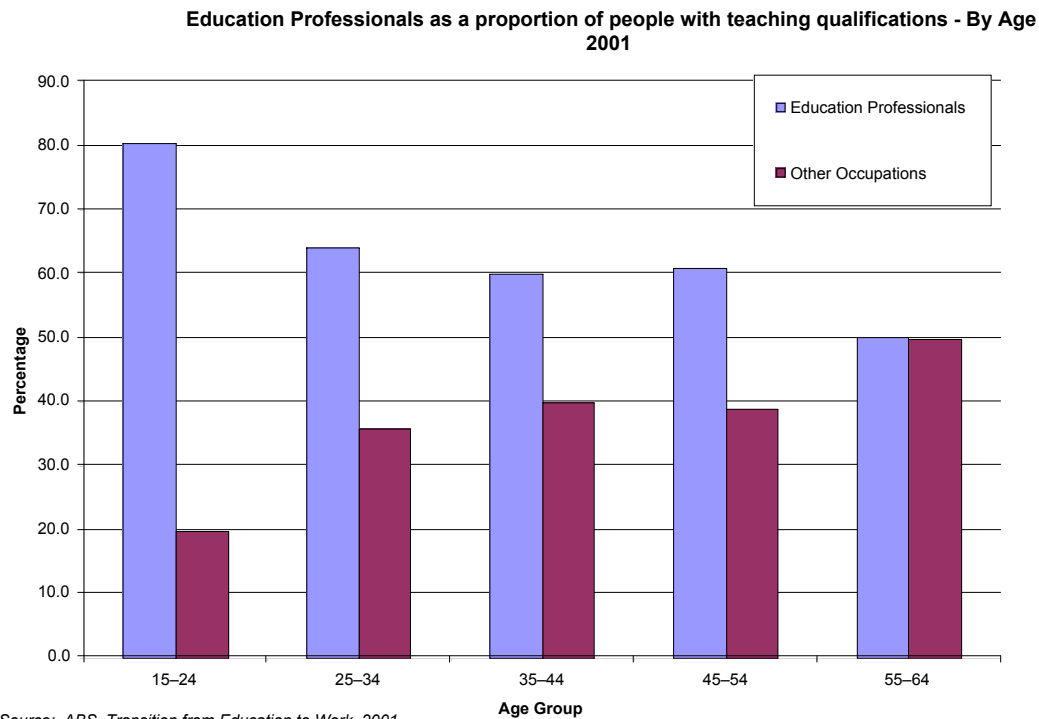
For females with teaching qualifications, the industry providing the highest level of employment after Education was Health and community services (8 per cent), followed by Property and business services (5.2 per cent), Retail trade (4 per cent) and Agriculture, forestry and fishing (1.9 per cent). The majority (56 per cent) of females with teaching qualifications employed in Agriculture, forestry and fishing were aged 55-64 years.

Chart 4

Across most age groups females with teaching qualifications worked in a broad range of industries, with the exception of 15-24 year olds where employment was concentrated in a few industries. The most common industries of employment were Retail trade, and Health and community services (all five age groups), Property and business services (four of the age groups).

Employment considered by occupation

ABS data indicate that people with teaching qualifications were employed in a diverse range of occupations. The largest proportion (61 percent) were employed in Education Professions, including School Teachers, University and TAFE lecturers and tutors, and Education Officers. Employment in other occupations was more common for older workers.

Chart 5

Of Education Professionals, the highest proportion were employed as Primary Teachers (51.7 per cent), followed by Secondary School Teachers (29.5 per cent).

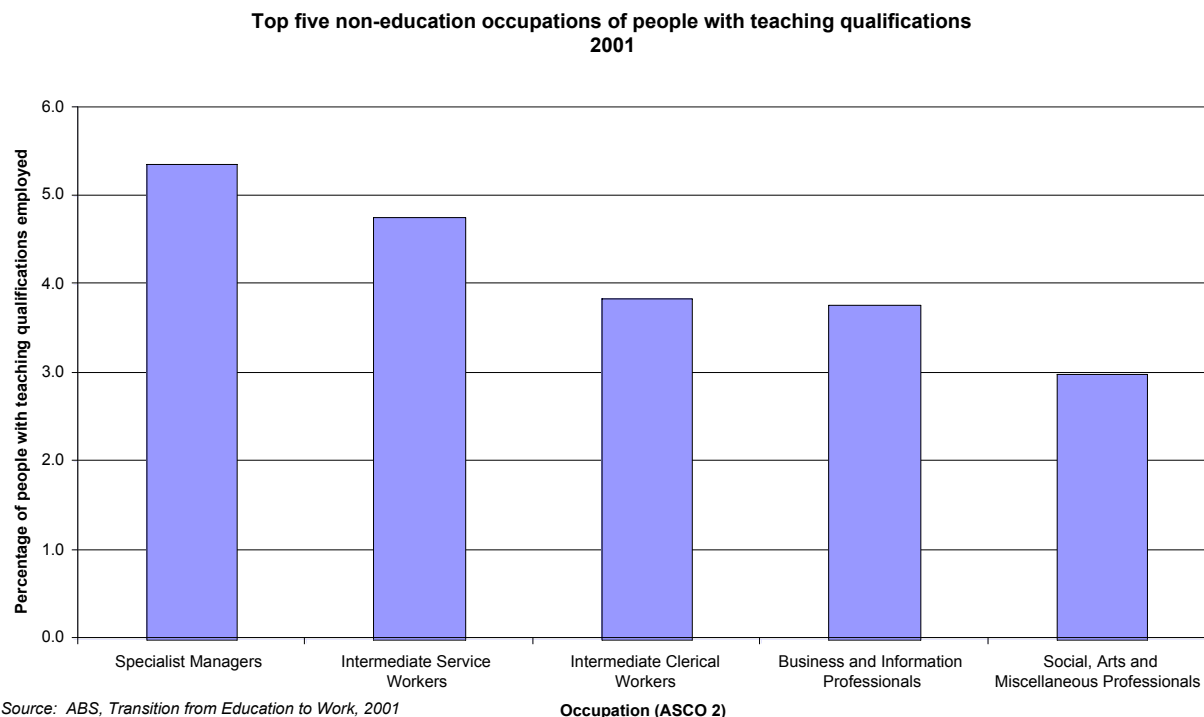
Table 5**Proportions of People in Education Professions**

Occupation	% of Ed Professionals
PrePrimary School Teachers	4.2
Primary School Teachers	51.7
Secondary School Teachers	29.5
Special Education Teachers	3.6
University Lecturers and Tutors	1.9
Vocational Education Teachers	4.1
ExtraSystemic Teachers	2.3
English as a Second Language Teachers	0.7
Education Officers	1.9
Education Professionals	100.0

Source: ABS, Transition from Education to Work, 2001

People in Occupations other than Education Professional

Chart 6



After Education Professionals, the other largest occupation groups for people with teaching qualifications were significantly smaller – for example, 5.4 per cent were employed as Specialist Managers. It needs to be acknowledged, however, that this classification includes those who identified themselves as “Education Managers”, including School Principals.

The level of aggregation does not enable identification of the proportion of those “Specialist Managers” who are working as School Principals. This classification also includes Policy and Planning Managers, who “plan, develop, administer and review policy advice and strategic planning within a government agency or corporate business”⁹.

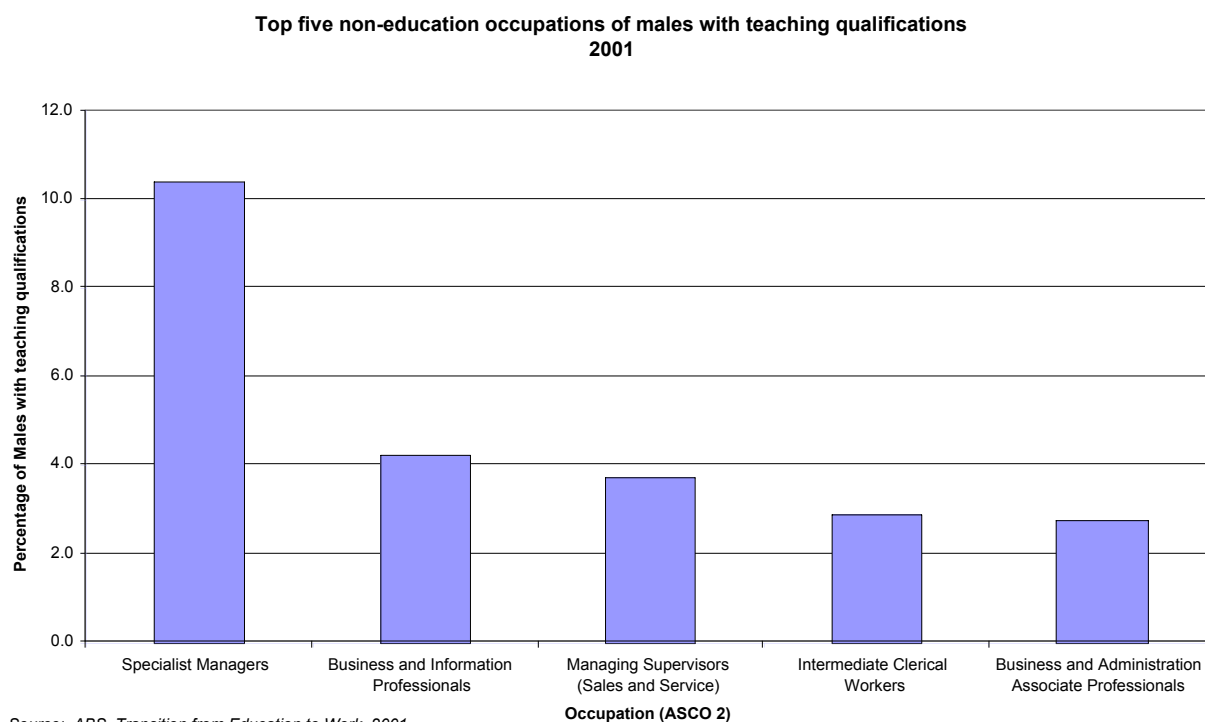
The Specialist Managers classification was followed by Intermediate Service Workers (4.8 per cent), Intermediate Clerical Workers (3.8 per cent) and Business and Information Professionals (3.8 per cent). The occupations in which people with teaching qualifications were most prevalent are concentrated in Professional, Managerial, Clerical and Service categories.

⁹ 1291-11 Policy and Planning Manager, Australian Standard Classification of Occupations (ASCO) Second Edition Structure and Definitions, Australian Bureau of Statistics Statistical Concepts Library, <http://www.abs.gov.au/ausstats/abs@.nsf>

Employment by occupation by gender

Males with teaching qualifications tended to be employed in a limited range of occupations, as shown in the Chart below.

Chart 7



After Education Professionals (57.7 per cent), Specialist Managers make up the next largest proportion of males with teaching qualifications, accounting for 10.4 per cent of the target population, followed by Business and Information Professionals (4.2 per cent), Managing Supervisors (Sales and Service) (3.7 per cent) and Intermediate Clerical Workers (2.9 per cent).

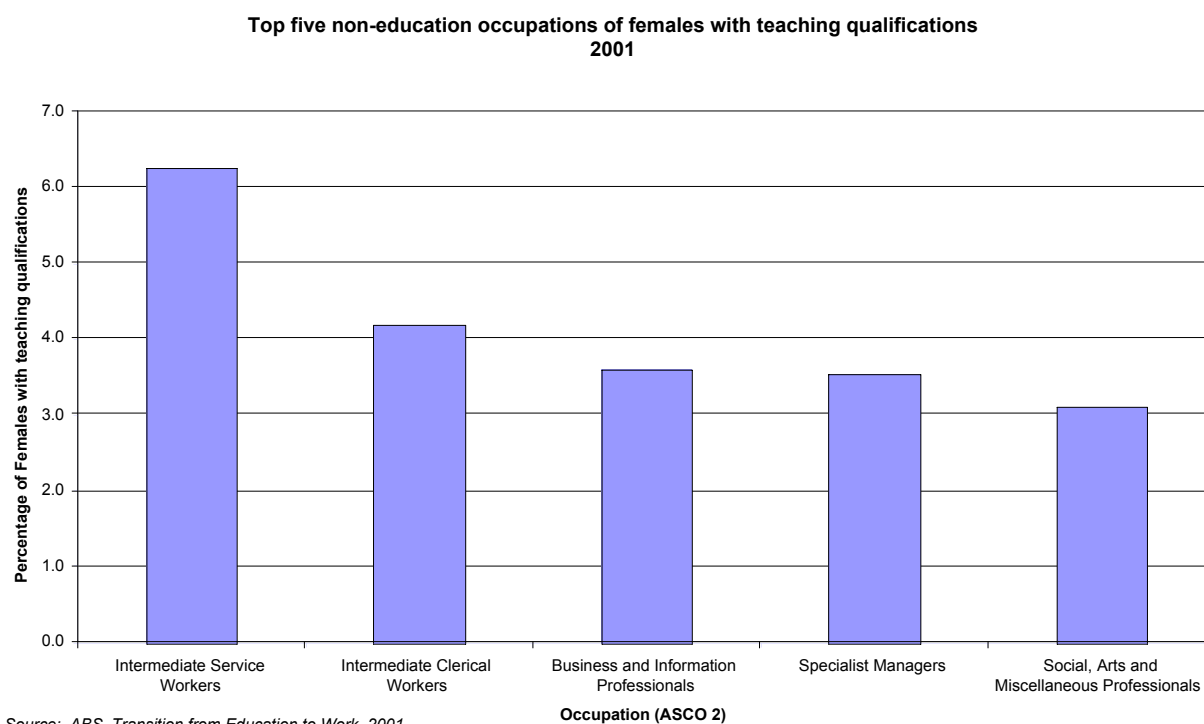
For all age groups, Education Professionals is the most prevalent occupation classification. The age group in which the highest proportion of males with teaching qualifications is employed as Education Professionals is 25 to 34 years (67.7 per cent). In the oldest age group, 55 – 64, where most teachers would aim to retire, the percentage drops to 41.3 per cent.

While Specialist Managers ranks in the top three occupations for all age ranges, the highest proportion of this classification occurs in the 45 – 54 age group (17.3 per cent of 10.4 per cent across all ages). This trend is reflected in the results of the *ACE Teachers in Australian Schools survey of 1999*¹⁰, where the highest proportion of teachers employed in Executive/Managerial positions was in the 41 to 50 years age group.

Most *women* with teaching qualifications worked as Education Professionals (62.8 per cent). The range of occupations in which females with teaching qualifications were employed was also diverse, as shown in the Figure below.

¹⁰ Dempster, N; Sim, C; Beere, D and Logan, L, *Teachers in Australian Schools – A Report from the 1999 National Survey*, Griffith University, September 2000

Chart 8



Intermediate Service Workers make up the next largest proportion of females with teaching qualifications, accounting for 6.2 per cent of the teaching qualified population. The remaining top five occupations of females with teaching qualifications were Intermediate Clerical Workers (4.2 per cent), Business and Information Professionals (3.6 per cent) and Specialist Managers (3.5 per cent).

The age group in which the highest proportion of females with teaching qualifications is employed as Education Professionals is the 15 – 24 age group (79.4 per cent).

In the oldest age group, 55 – 64, the percentage drops to 54.7 per cent. Specialist Managers (which includes School Principals) ranks in the top five occupations for all ages (3.5 per cent), but only in two separate age groups – the 25 – 34 (4.7 per cent and ranked second) and the 45 – 54 (6.6 per cent – again ranked second).

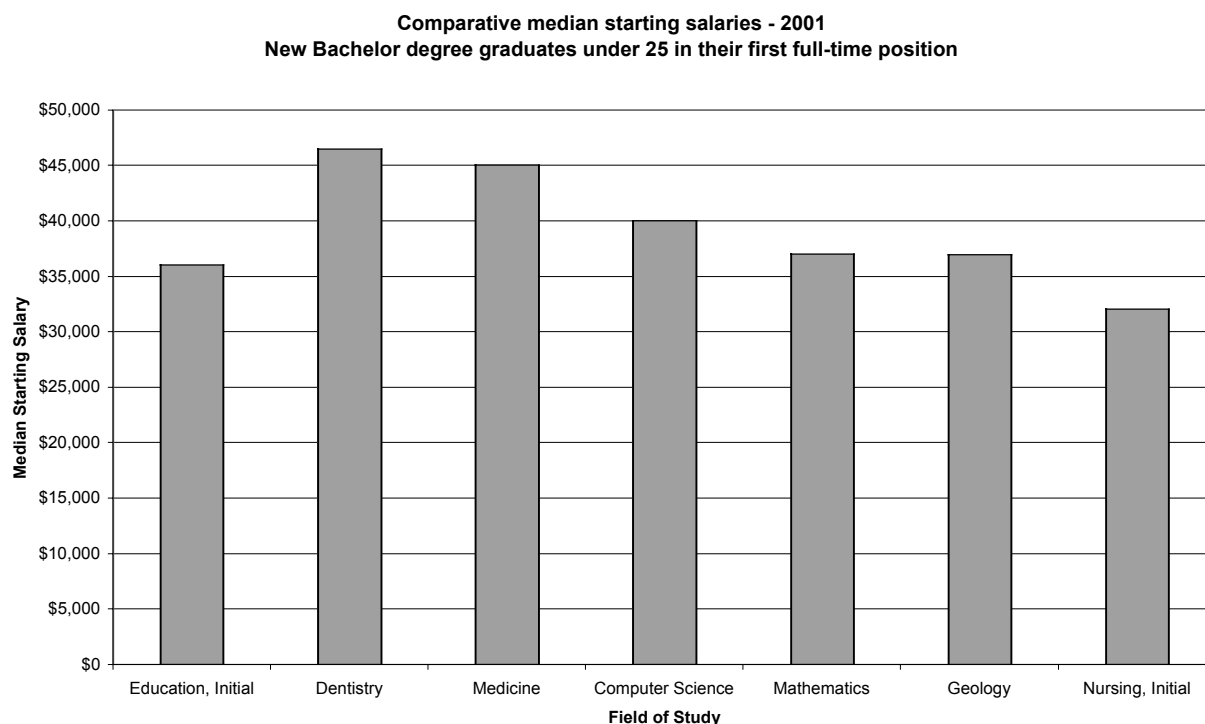
Are Career Choices Driven by Earnings Potential?

A number of factors influence the career paths of people with teaching qualifications away from teaching. This portion of the paper investigates the comparative earnings of those occupations and industries where people with teaching qualifications work.

When it comes to starting salaries, education graduates appear to do quite well. Education graduates ranked equal eighth according to level of starting salary in 1997, maintaining similar levels in subsequent years.

The median annual starting salary for new bachelor degree graduates aged less than 25 in their first full-time position in 2001 was \$35,000.¹¹ For Education graduates it was \$36,000, behind fields such as Dentistry (\$46,450), Medicine (\$45,000), Engineering (\$40,000), Computer Science (\$40,000), Geology (\$36,900) and Mathematics (\$37,000). It should be pointed out, however, that some of these starting salaries – including teaching – relate to a four-(or more) year, rather than a three-year, full-time course.

Chart 9



Source: *The Grad Files, August 2002, Graduate Careers Council of Australia*

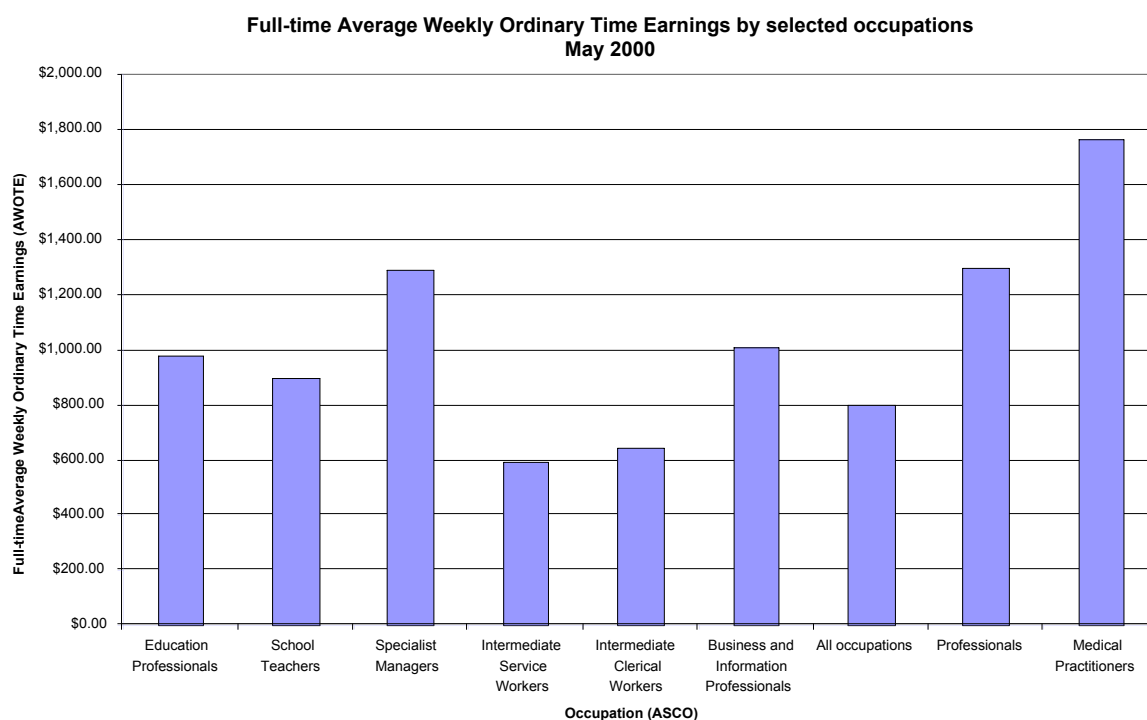
Earnings by Occupation

Full-time Average Weekly Ordinary Time Earnings (AWOTE) for all occupations was \$799.30 in May 2000. For professionals it was \$1293.92, although this figure was bolstered significantly by Medical Practitioners (\$1765.00).

The full-time AWOTE for Education professionals was \$976.33. Of this, the full-time AWOTE for School Teachers, encompassing Pre-Primary School Teachers, Primary School Teachers, Secondary School Teachers and Special Education Teachers, was \$897.00.

¹¹ The Grad Files, August 2002, Graduate Careers Council of Australia,

Chart 10



Source: ABS, Survey of Earnings and Hours, May 2000

The second most common occupation for people with teaching qualifications was Specialist Managers. Full-time AWOTE for Specialist Managers of \$1286.70 exceeded that of school teachers, and comes close the earnings for all professionals.

The next most common occupation was Intermediate Service Workers, (including carers, teachers aides and hospitality workers). Full-time AWOTE of \$593.03, for Intermediate Service Workers significantly behind that of Education professionals. It seems unlikely that earnings would be the key lure for people with teaching qualifications in this occupation!

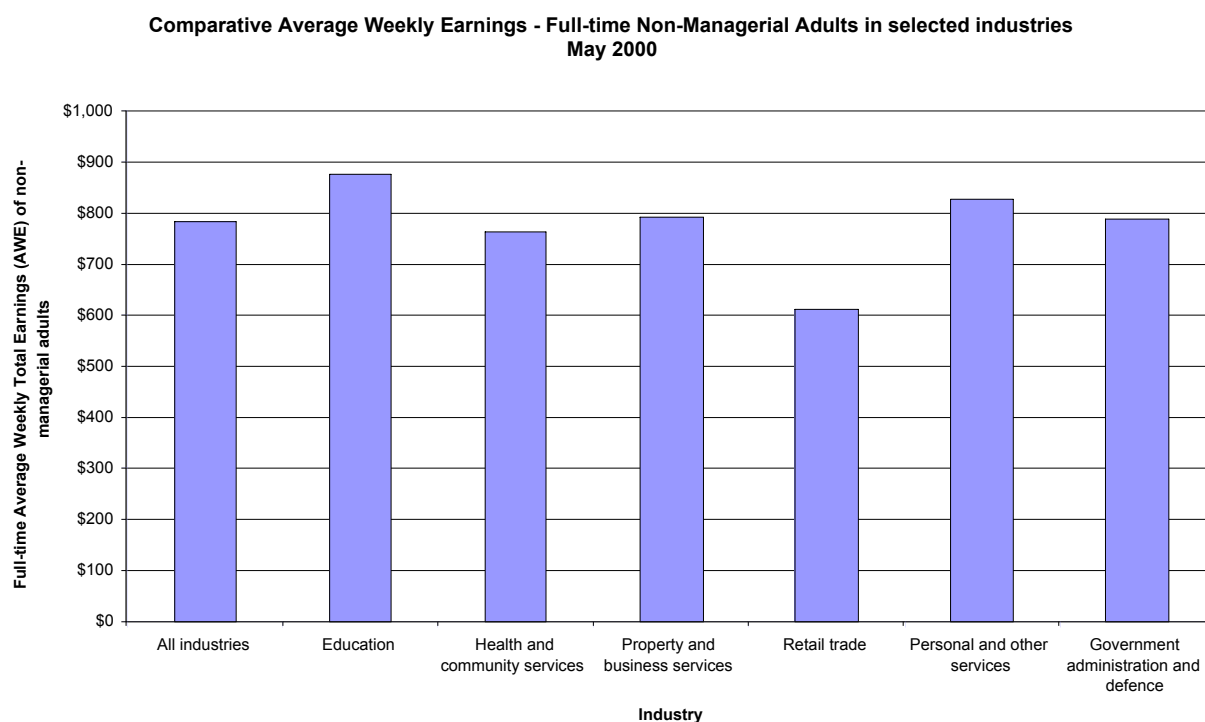
The fourth ranked occupation for people with teaching qualifications was Intermediate Clerical Workers, (including keyboard operators, receptionists, despatch clerks, library assistants and personnel clerks), with a full-time AWOTE of \$643.37. Again, earnings alone would seem unlikely to lure teachers to this occupation.

Business and Information Professionals rounded out the top five most common non-education occupations for people with teaching qualifications (3.8 per cent of persons with teaching qualifications. This occupation offered a full-time AWOTE well above that of Education professionals.

Earnings by Industry

Full-time Adult Non-managerial Average Weekly Total Earnings (AWE) for all industries in May 2000 was \$783.50. For the Education industry it was \$878.00. The second most popular industry for people with teaching qualifications is Health and Community Services, where the full-time AWE was \$765.20. The third most popular industry for persons with teaching qualifications was Property and Business Services, with a full-time AWE of \$727.00.

Chart 11



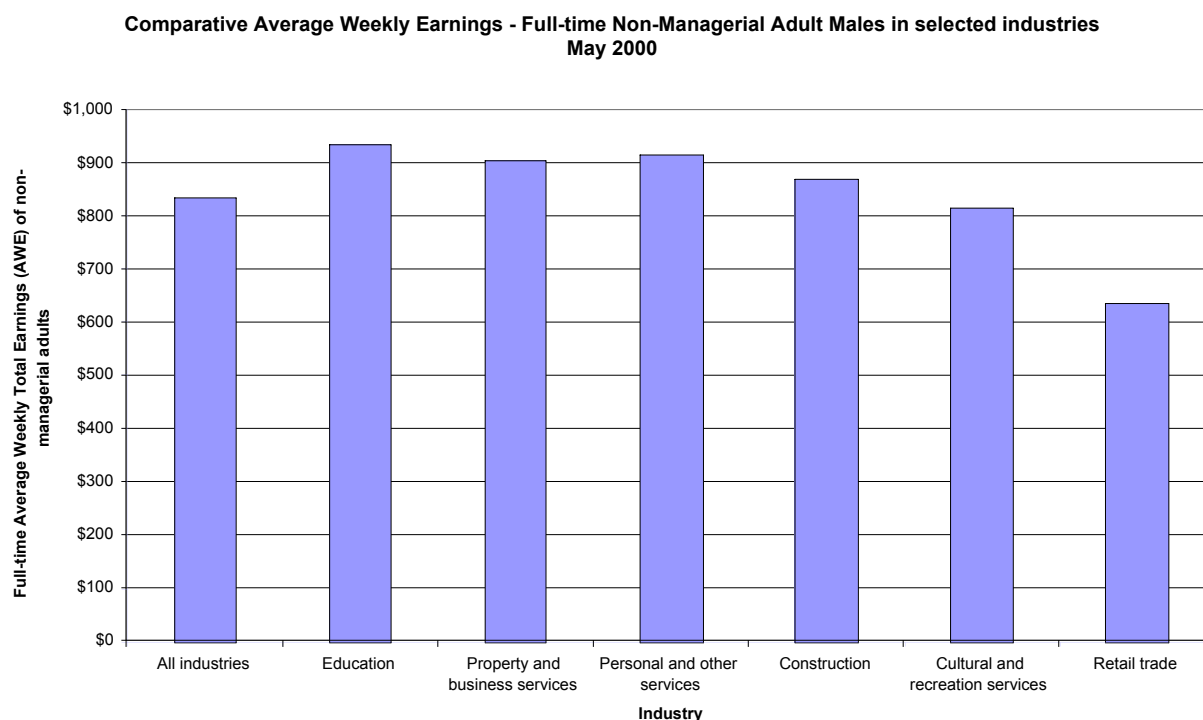
Source: ABS, *Employee Earnings and Hours*, 6306.00 May 2000

The fourth ranked industry for people with teaching qualifications was Retail trade. A full-time AWE of \$612.10 places earnings in this industry well behind those of Education Professionals. Retail trade would seem unlikely to attract few teachers on earnings alone, although earnings vary considerably within the industry. As shown in Chart 11, earnings in the Education industry were higher than in the next top five most popular industries for qualified teachers. Education had the fourth highest full-time adult non-managerial AWE of the sixteen industries behind Mining, Electricity, gas and water supply, and Communication services.

Earnings by Industry by Gender

Full-time adult non-managerial Average Weekly Total Earnings (AWE) of males employed in Education compared favourably with those for the average male employee (\$936.60 compared with \$835.30). The second most popular industry for males with teaching qualifications was Property and business services, where the full-time adult non-managerial AWE was \$905.20. The third most popular industry was Personal and other services, with a full-time AWE of \$914.20. The fourth ranked industry for males with teaching qualifications was Construction, with a full-time AWE of \$871.30.

Chart 12

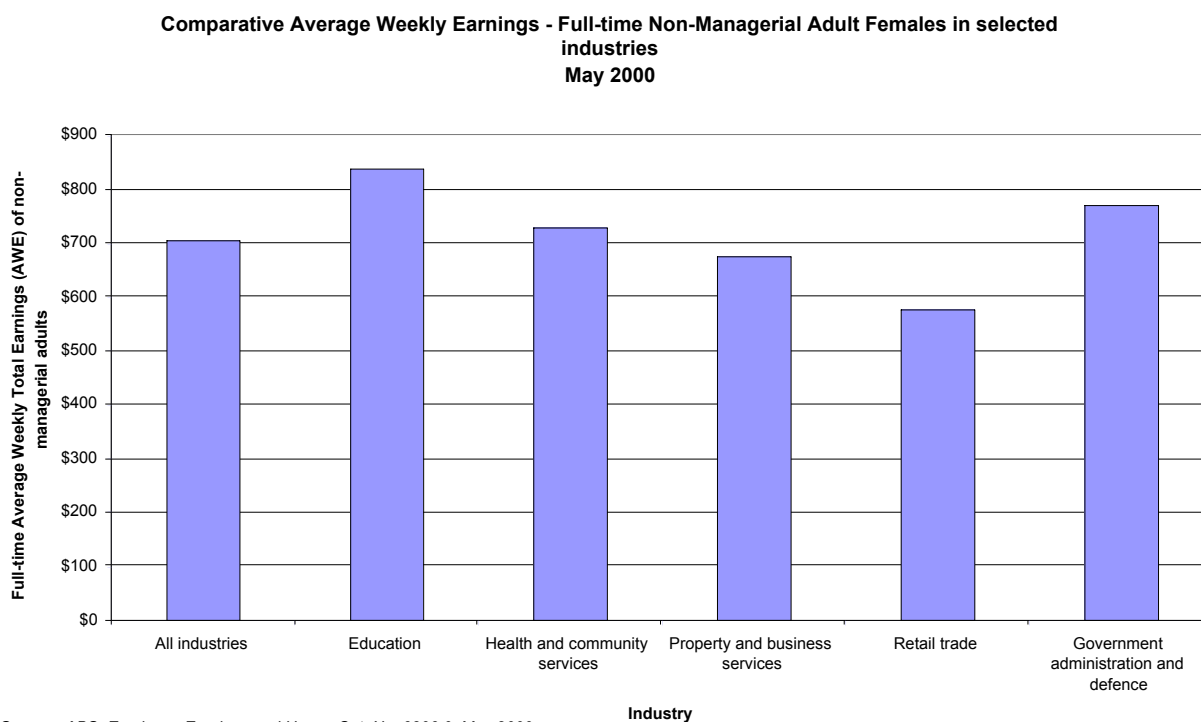


Source: ABS, *Employee Earnings and Hours*, Cat. No 6306.00, May 2000

As Chart 12 shows, the male full-time AWE of the fifth-ranked industry employing people with teaching qualifications, Cultural and recreational services, \$632.90, trail that of the Education industry, as does that of the sixth-ranked industry, Retail trade (\$494.00). As seen in Chart 12, male full-time non managerial earnings in Education were higher than in the next top five most popular industries for qualified teachers. Male earnings in Education were the fourth highest of the sixteen industries after Mining, Electricity, gas and water supply, and Communication services.

Full-time adult non-managerial AWE of females generally compared unfavourably with males (\$706.20 in all industries, and \$836.70 in Education). In the Health and community services industry, where females where teaching qualifications are commonly employed, AWE of \$729.80 was less than that for Education. This was also the case for third-ranked Property and business services (\$674.50), the fourth-ranked Retail trade (considerably lesser earnings of \$577.50) and the fifth-ranked Government administration and defence (\$769.90). In other words, female adult non-managerial earnings were higher in Education than in the next five most popular industries for those with teacher qualifications. Education is the third highest paid industry for adult non-managerial female employees after Mining and Communication services, as Chart 13 shows. (Note, an adult non-managerial earnings figure for the fifth-ranked industry in popularity, Agriculture, forestry and fishing, is not included in the ABS data, due to wages and salaries rarely being paid in the industry.)

Chart 13



Exits from teaching due to lack of career path for experienced classroom teachers

The Senate Employment, Education and Training Reference Committee Inquiry into the Status of the Teaching Profession, *A Class Act*, reported that “the disadvantages suffered by teachers, relative to other professionals with similar qualifications, relate not so much to their starting salaries but to their compressed salary scale. This means that they reach the top of their salary scale after nine years teaching... The teaching profession compares unfavourably with many other professions which have both more extended salary scales and more opportunities for promotion ‘at the coal face’.”¹²

For most State and Territory teaching awards, there are about eleven increments to achieve the top of the classroom teacher classification, with variations on the increment at which four- and five-year trained teachers commence. In WA and Queensland, for example, 4-year trained teachers commence at the fifth increment, in Victoria they commence on the first increment, in the ACT they commence on the second increment of the scale.

Once classroom teachers have reached the top of the classification, they are largely faced with the prospect of relying on increases negotiated under new Enterprise Agreements to increase their salaries, unless they are prepared to take on additional responsibilities, and advance into the highly competitive “Promotion Classifications”, such as “Experienced Teacher with Responsibility, Leading Teacher (Vic)”¹³, Level 2 Executive Teacher (ACT)¹⁴, Coordinator (SA)¹⁵,

¹² Senate Employment, Education and Training References Committee, *A Class Act – Inquiry into the Status of the Teaching Profession*, March 1998,

¹³ Human Resource Management – Pay and Conditions, Personnel Policy, <http://www.sofweb.vic.edu.au/hrm/PayCond/tchsal.htm>, 16 September 2002

Executive Teacher (NSW)¹⁶, Deputy Principal and Principal. Such classifications generally mean a reduced number of class contact hours, and an increase in management or policy-related functions within the school.

As *A Class Act* describes it, “teachers reach the top of their salary range by the age of 30 (assuming they begin their training from school). They remain at this level until they retire unless they are promoted out of the classroom and into administration.”¹⁷ The typical “pyramid” structure of schools means that the proportion of available positions decreases the further a teacher advances.

Working on the assumption that most teachers would enter the profession at age 22, taking annual increments to the top of the classification would see them achieve this position by their early to mid-thirties.

Conclusion

This paper confirms that, while the majority of people with teaching qualifications work in education, a significant minority are employed in other occupations and industries.

Remuneration alone does not explain such losses from the profession as, particularly in the case of women, the earnings in the Education industry and the Education Professional occupation remain competitive with most of the top fields of employment for people with teaching qualifications working outside education. The occupations filled by men with teaching qualifications working outside education tend to have higher earnings than those of females with teaching qualifications. Across the board, there is a marked tendency towards employment in management, administrative, and people-oriented roles.

¹⁴ Department of Education, Youth and Family Services, - Teacher Rates of Pay
<http://www.decs.act.gov.au/departments/pdf/WSAL2002teach3A.pdf>, 16 September 2002

¹⁵ South Australian Education Staff (Government Preschools, Schools and TAFE) Certified Agreement 2002 -
http://www.dete.sa.gov.au/HR1/files/links/Certified_Agreement_2002.pdf, 3 October 2002

¹⁶ Crown Employees (Teachers in Schools and TAFE and Related Employees) Salaries and Conditions Award -
<http://www.det.nsw.edu.au/media/downloads/teachersawardjul02.pdf>, 3 October 2002

¹⁷ p.113 Senate Employment, Education and Training References Committee, *A Class Act – Inquiry into the Status of the Teaching Profession*, March 1998

4. Trends in new supply of Mathematics, Science and Information Communication Technology (ICT) teachers.

Introduction

This chapter of the report examines trends in the national supply of Mathematics, Science and Information Communication Technology (ICT) teachers from new graduates.

The 2001 MCEETYA report identified shortages in teachers in these specialisations, and analyses presented in earlier chapters of the report suggest that both the government and non government schools sectors continue to face recruiting difficulties in these secondary teaching specialisations.

New supply of teaching graduates arises from two main sources

- Graduates from initial teacher education courses, including those graduating with Bachelor of Education degrees and those completing Graduate Diploma of Education courses
- Net immigration of teachers (i.e. immigrant teachers less emigrant teachers).

The net immigration of teachers has been examined in detail in chapter X of this report. Chapter Y focuses on the pool of qualified teachers who are not working in the profession. The primary focus of this chapter is trends in graduations from initial teacher education courses at university. We are interested in graduates who are qualified to teach Mathematics, Science or ICT. It should be noted that a proportion of new graduates do not go on to work as teachers.

This chapter also examines trends in upper level school participation in Mathematics, Science and ICT subjects, as this impacts on later participation in university level in degrees in related disciplines and the choice of these subjects in teacher education courses.

The data show that trends in participation in Mathematics and some areas of Science (physics, chemistry) that may be of concern to the future supply of qualified teachers, both in terms of participation at school and in teacher preparation higher education courses. The situation in respect to ICT is less clear. Participation in this area at school and teacher preparation courses in higher education has increased, but the extent to which people who have studied ICT enter teaching is limited.

Data sources and caveats to the data

Data in this chapter is largely drawn from three sources:

- The Schools data collection prepared and published by the Commonwealth Department of Education, Science and Training and from aggregation of State government data.
- The Higher Education data collection prepared and published by the Commonwealth Department of Education, Science and Training.
- Graduate destination studies published by the Graduate Career Council of Australia (GCCA).

There are difficulties in compiling national data on trends in enrolments in subjects at school level given differences in subject classification systems between States and Territories. The data on school level enrolments therefore need to be interpreted with caution.

At university level we were able to track participation by subject by examining unpublished data on students undertaking Bachelor of Education courses and post Graduate Diploma of Education courses from the Higher Education data base.

We examined the GCCA graduate destination survey data on the destinations of graduates who had undertaken Mathematics, Science or ICT degrees to establish what proportion of them are employed as teachers. However response rates to the GCCA survey may not be even across disciplines, which could introduce some bias into this aspect of the analysis.

Trends in participation in schools in Year 12 Mathematics, Science, and ICT subjects

Overall enrolment trends

The number of students undertaking Year 12 subjects has remained reasonably constant in the past decade, as shown in Chart1. The number of students enrolled in Year 12 declined in the mid part of the decade, but subsequently returned to early 1990s levels.

Chart 1

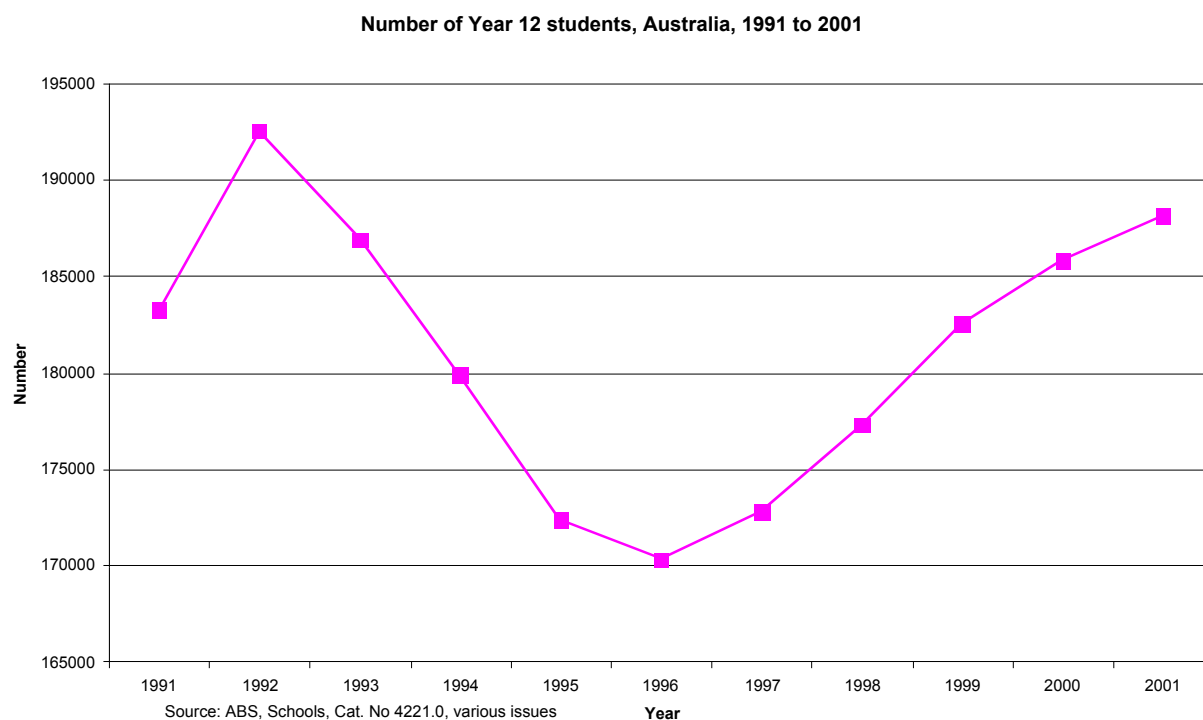
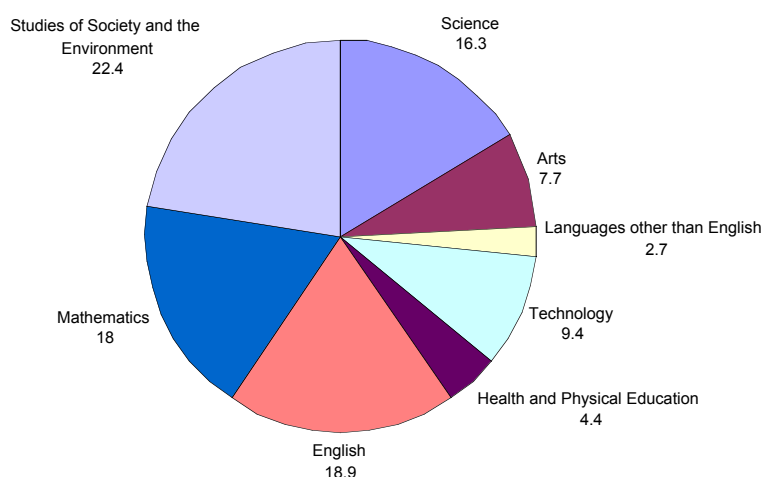


Chart 2 shows the distribution of Year 12 enrolments in tertiary admission subjects for 2000 for Australia. Science subjects represented 16.3 per cent of enrolments in 2000, Mathematics 18.0 percent, and Technology, including ICT, 9.4 per cent.

Chart 2**Percentage of Year 12 Enrolments by KLA,
2000, Australia**

Source: DEST Schools Group, 2002

Year 12 Mathematics Enrolments

The following table provides data on Year 12 mathematics enrolments for Australia for the period 1991 to 2001.

Table 1**Year 12 Mathematics enrolments, Australia,
1991 to 2001**

Year	Number
1991	170,117
1992	175,987
1993	168,205
1994	166,873
1995	152,019
1996	154,534
1997	156,903
1998	152,794
1999	155,722
2000	162,888
2001	171,185

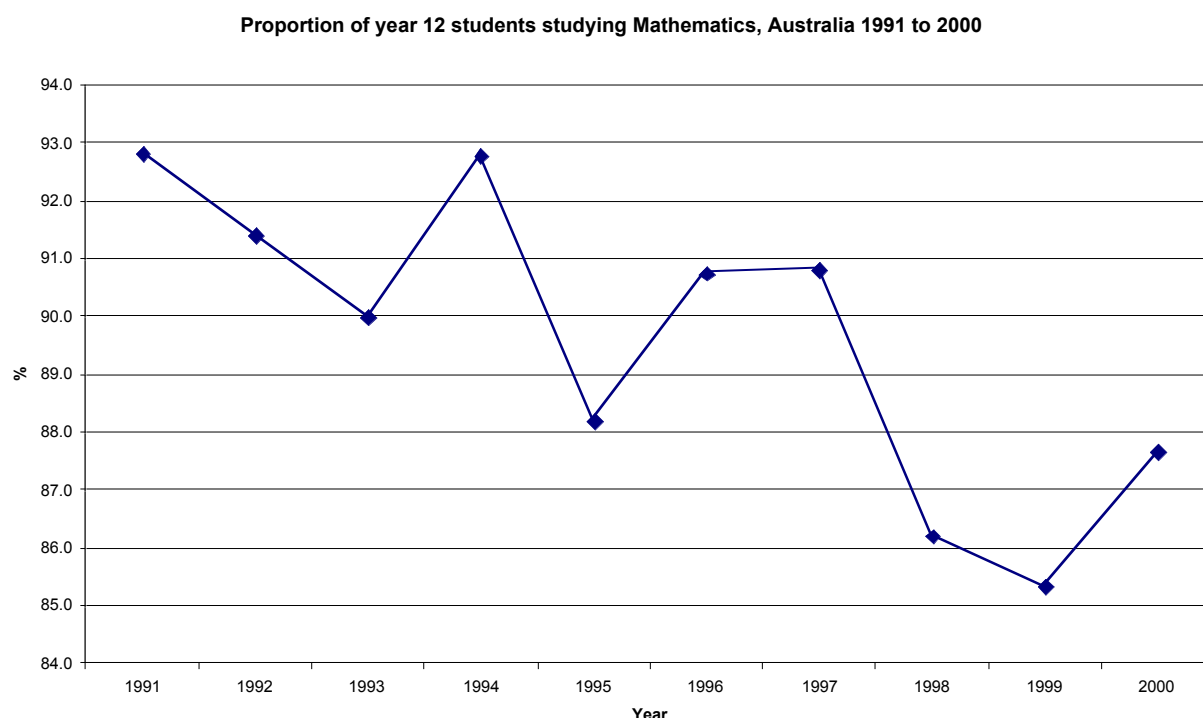
Source: DEST, unpublished data compiled by Schools Group

Over the period between 1991 and 2001, an average of 162,475 students enrolled in Year 12 mathematics subjects. Numbers enrolled declined between 1992 and 1995, then remained relatively stable between 1995 and 1999, before increasing in 2000 and 2001. Despite increases in the number of students enrolled in Year 12 mathematics in 2000 and 2001, the

average annual numbers of persons enrolled in the period 1997 and 2001 was 2.9 per cent lower than in the period 1991 to 1996.

It is also noteworthy that the share of Mathematics enrolments compared to total enrolments in tertiary admission subjects declined after 1995. This is reflected in data presented in Chart 3, which compares enrolments in Mathematics at Year 12 to total Years 12 enrolments over the period 1991 to 2000.

Chart 3

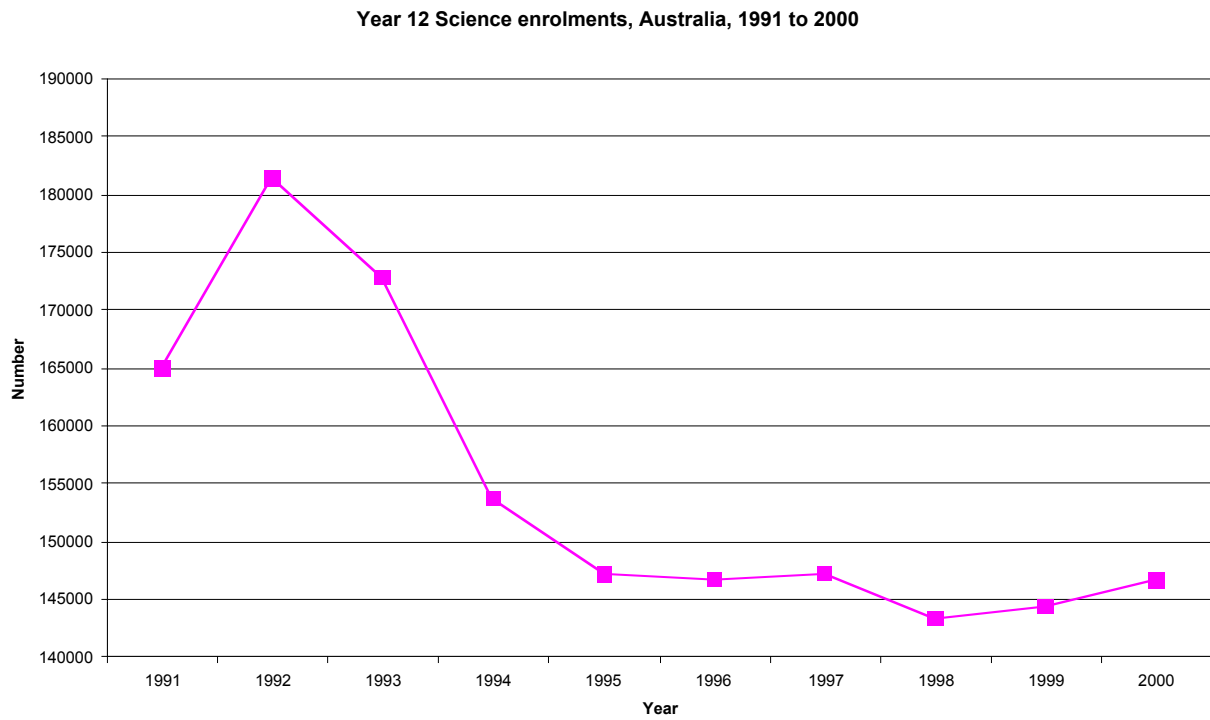


While the data is volatile from year to year, the long term trend appears to be towards a smaller proportion of Year 12 students undertaking Mathematics subjects¹⁸.

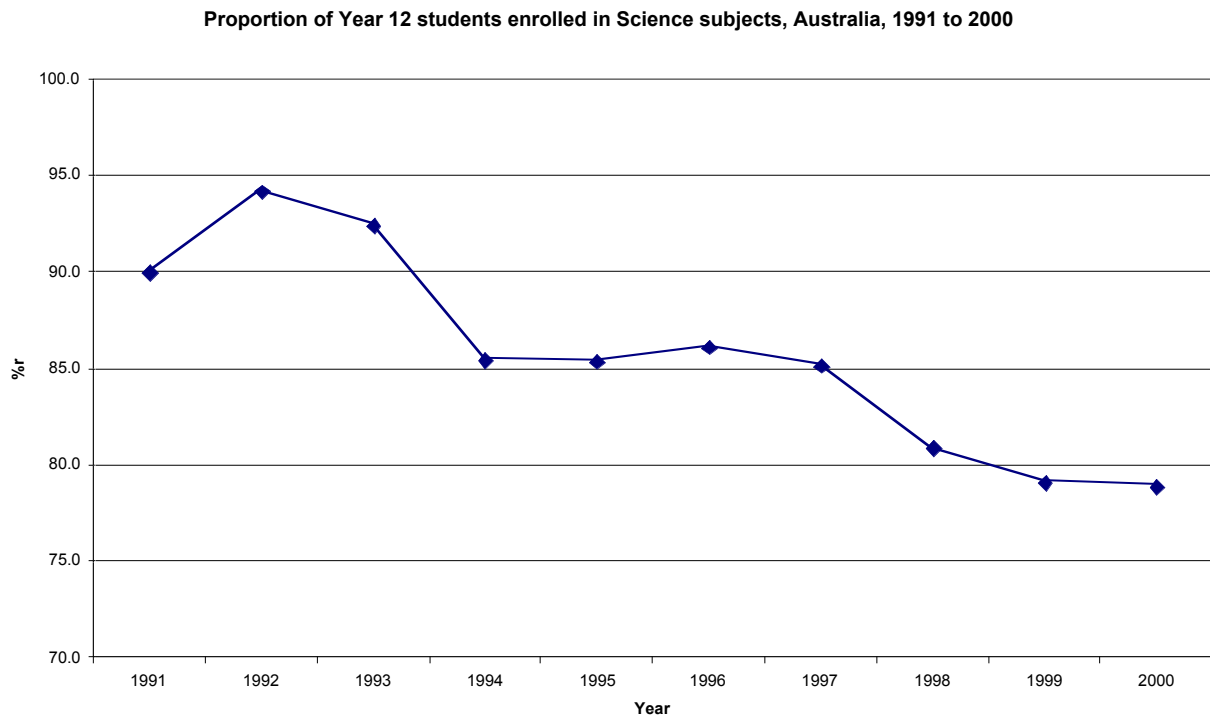
Trends in participation in Year 12 Science subjects

The data also indicate that, considered as a whole, enrolments in Year 12 Science tertiary admission subjects declined over the period 1991 to 2000 and have stabilised at significantly lower levels over the latter part of the period, as shown in Chart 4.

¹⁸ As noted earlier, there are however, some difficulties in aggregating national data for this analysis. The NSW education authorities record two tertiary accredited Mathematics subjects: 'Mathematics in practice or Mathematics in society' and 'Mathematics'. In the period 1994-2000, the number of NSW enrolments in the basic/intermediary Mathematics subjects rose, while the number of enrolments in the higher level Mathematics subjects has been falling.

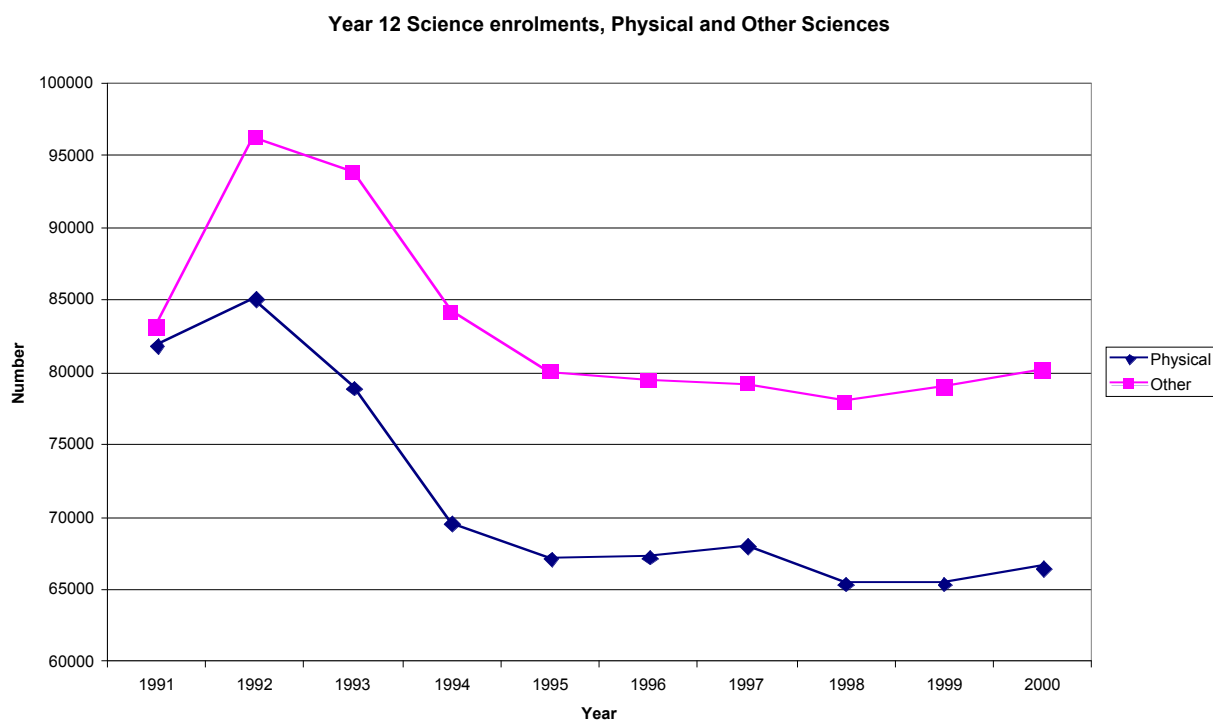
Chart 4

The data also indicate that the proportion of Year 12 students undertaking Science subjects is declining over time, as shown in Chart 5.

Chart 5

Comparisons between Year 12 enrolments in the Physical Sciences and other Sciences are shown in Chart 6. It is clear that the number of Year 12 students doing Physical Science subjects has fallen well below that in other Sciences since the early 1990s¹⁹.

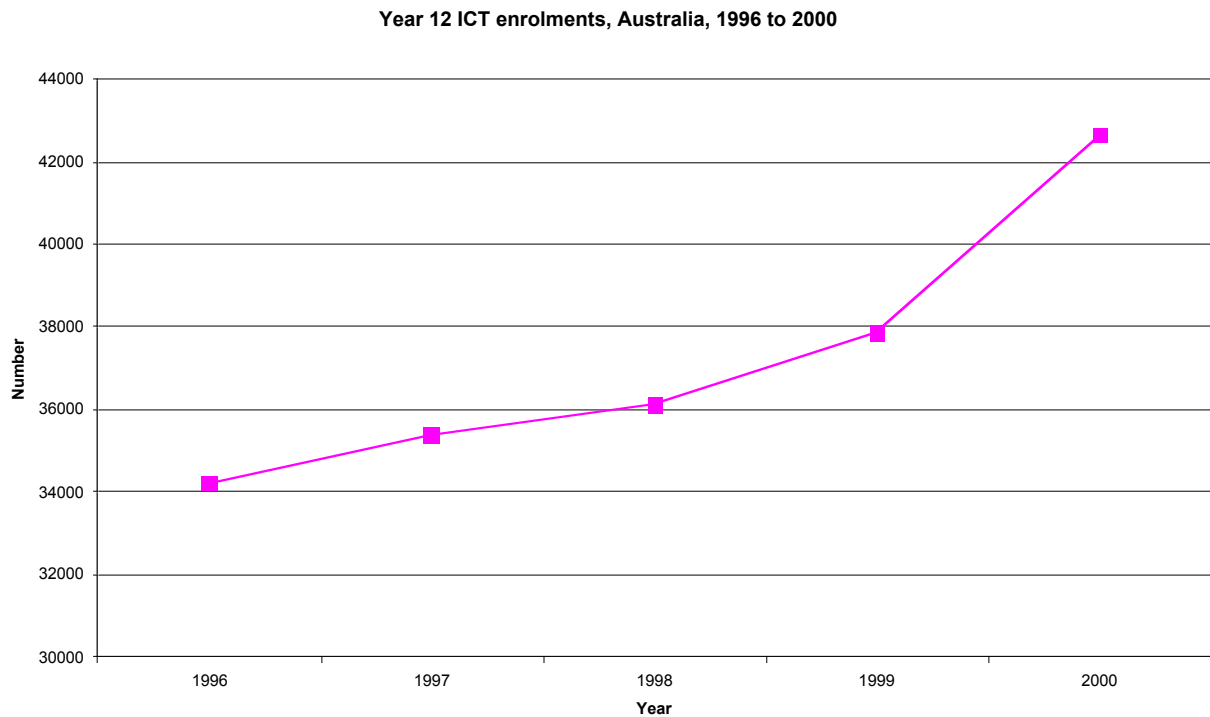
Chart 6



Trends in participation in Year 12 Information Communication Technology subjects

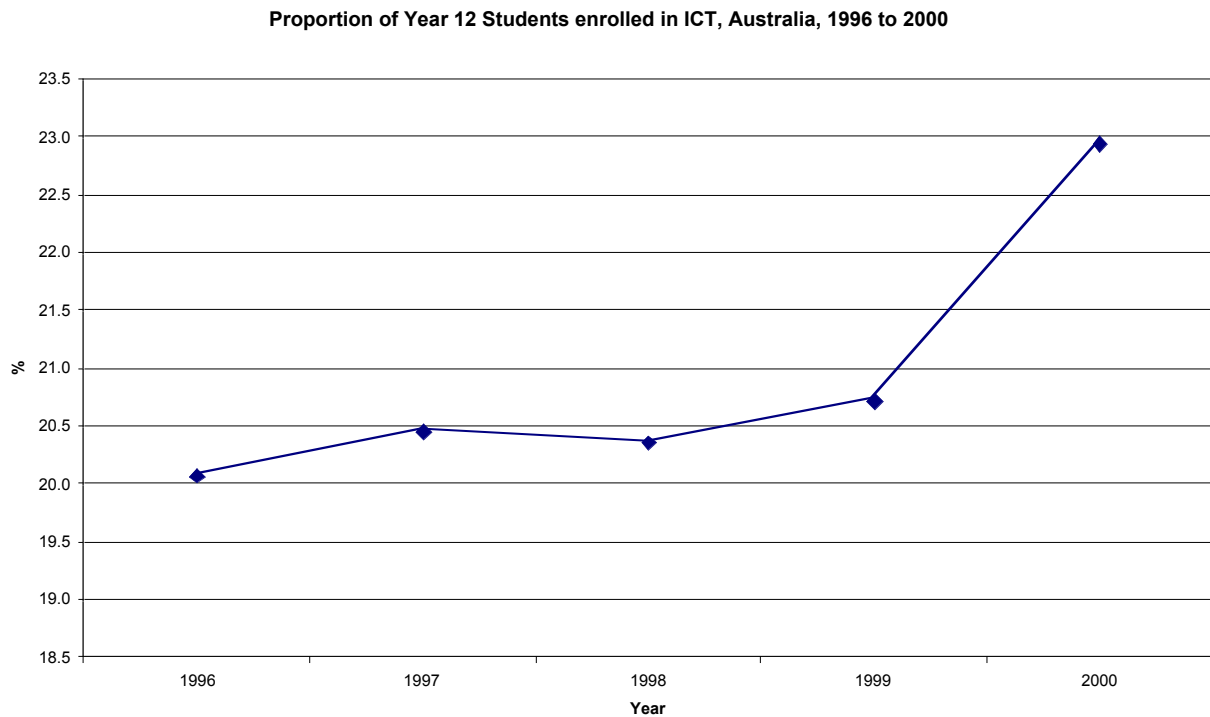
Chart 7 provides data on Year 12 enrolments in Information Communication Technology (ICT) subjects.

¹⁹ Physical Sciences includes Chemistry, Electronics, Electronics Design, VET laboratory skills, Physical Science, Physics, and Physics/Electronics. Other includes all other sciences, of which Biology is the largest subject in enrolment terms, representing around 42 per cent of 2000 enrolments.

Chart 7

Data was only available for the period 1996 to 2000, over which period enrolments in ICT increased significantly. Over this period around 63 per cent of enrolments were by male students, although as the number of males in ICT subjects was rising over the period compared to relatively static female enrolments, the share of males rose between 1996 and 2000.

As might be expected given increases in numbers of students enrolled in ICT, the proportion of Year 12 students enrolled in ICT has increased in recent years, as shown in Chart 8.

Chart 8

Trends in participation in university initial teacher education courses

Participation in Bachelor of Education courses

The two principle sources of supply of teachers are graduates of Bachelor of Education courses and Post Graduate Diploma of Education courses. Some 62.1 per cent of students who commenced Secondary Teaching Education studies undertook Bachelor of Education courses. The next figure shows the number of students enrolled in these courses in Australia between 1991 and 2000.

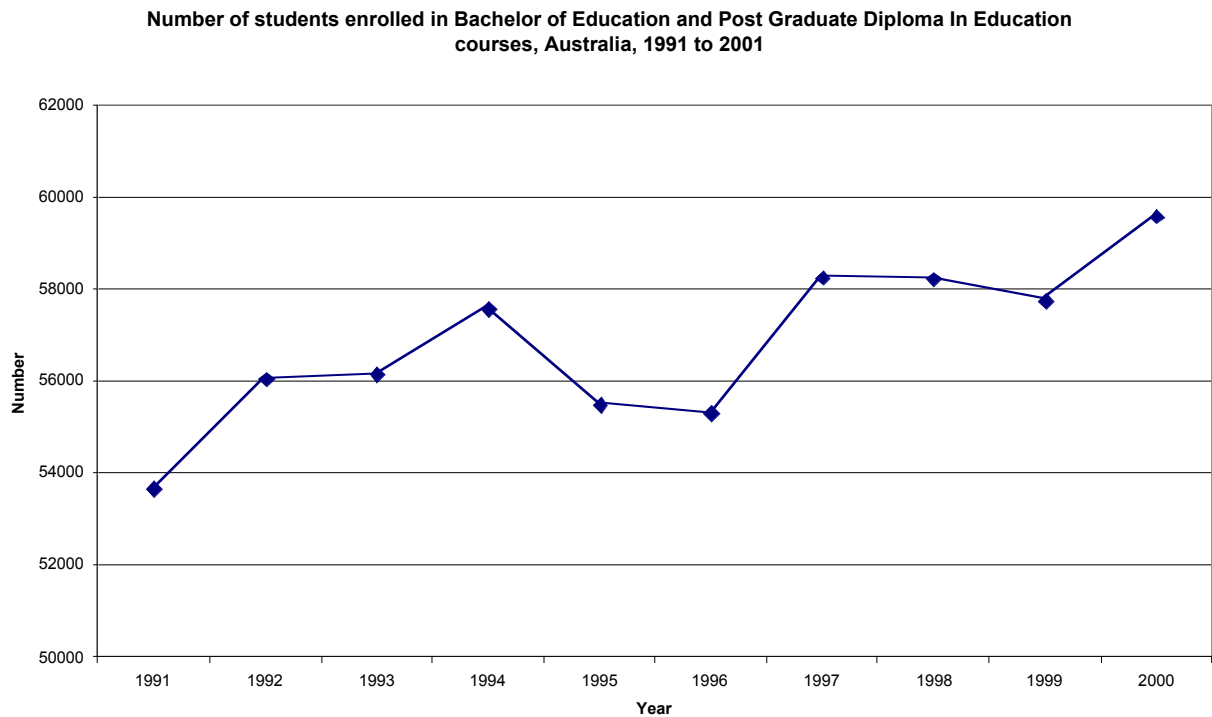
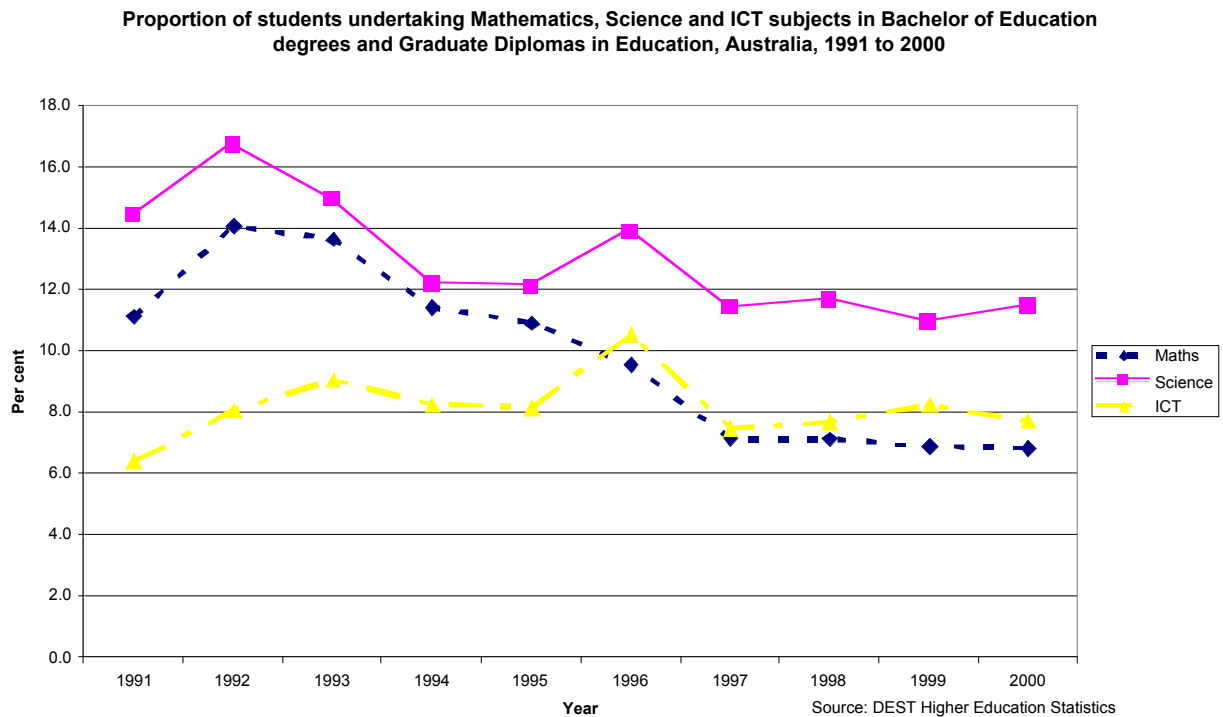
Chart 9

Chart 10 shows the proportion of Bachelor of Education and Graduate Diploma of Education students undertaking Mathematics, Science and ICT subjects between 1991 and 2000.

Chart 10

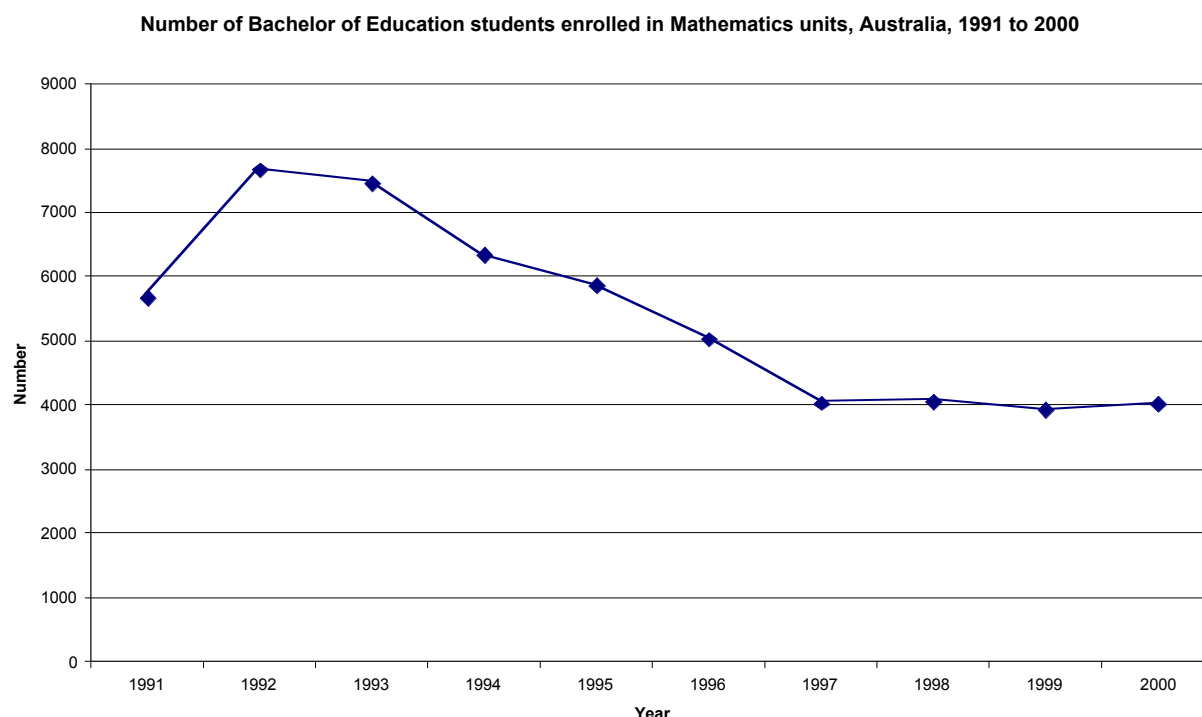
The data suggest that participation in Mathematics and Science subjects in Bachelor of Education courses, and Post Graduate Diplomas of Education has declined somewhat in the

period between 1991 and 2000, although participation early in the period may have been high by historical standards which would overstate the decline in later years.

Trends in participation in Mathematics subjects in Bachelor of Education courses

Chart 11 indicates the number of Bachelor of Education students enrolled in Mathematics subjects between 1990 and 2000. This gives some notion of trends in supply, although actual numbers completing will be below the number of participants.

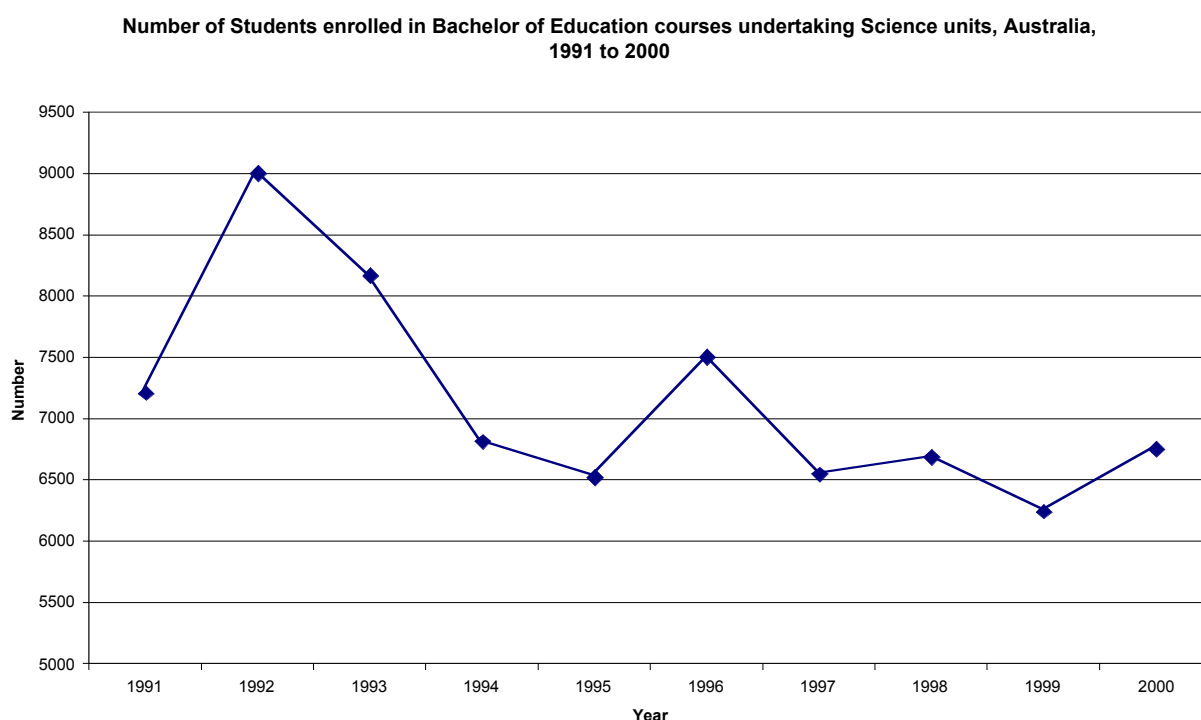
Chart 11



The data indicate that the number of students enrolled in Mathematics subjects declined over the period 1991 to 2000. An average of 5,414 students enrolled in Mathematics subjects each year over the period 1991 to 2000. Average enrolments per year in the period 1996 to 2000 were 36.1 per cent lower than in the period 1991 to 1995, although enrolments appear to have stabilised between 1997 and 2000.

Trends in participation in Science subjects in Bachelor of Education courses

Chart 12 provides data on the number of people undertaking Science subjects. Note that education students may enrol in both Science and Mathematics subjects, qualifying them to teach in both areas.

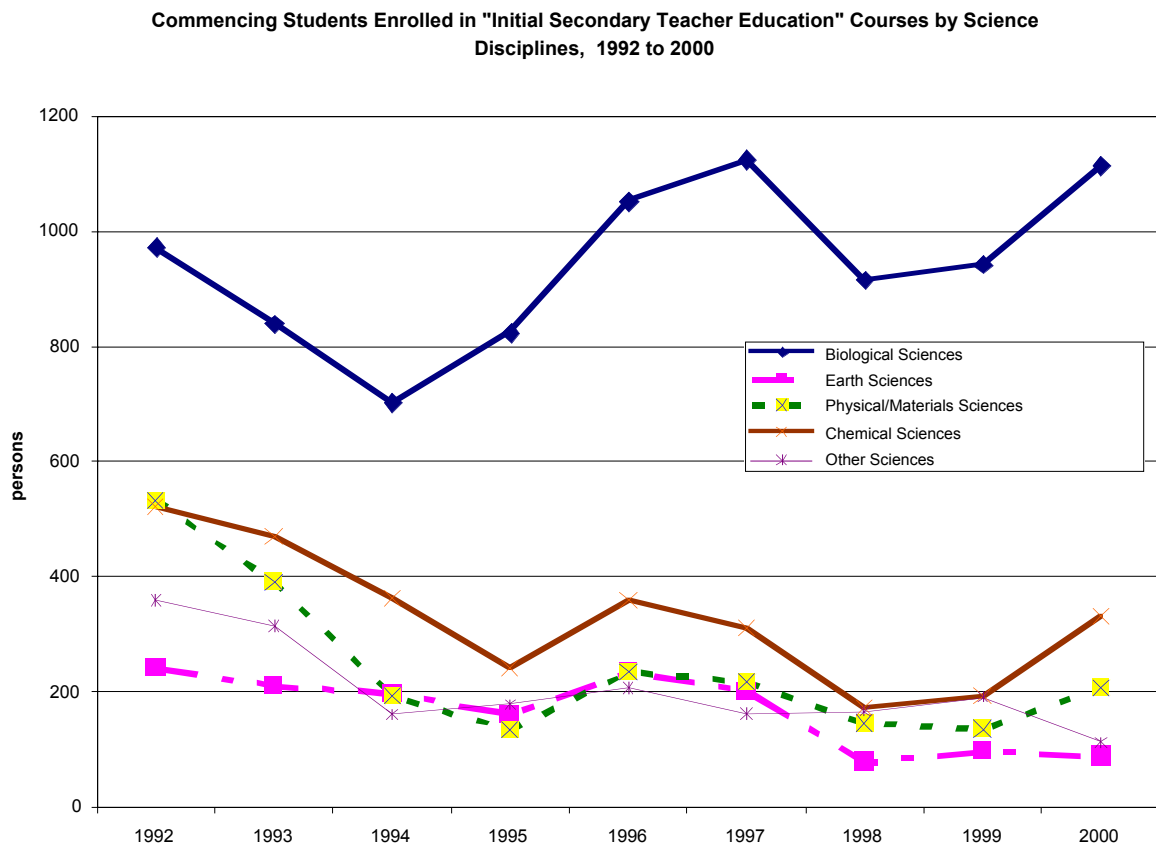
Chart 12

The data suggest enrolments in Science subjects in Bachelor of Education courses declined between 1991 and 2000. An average of 7,150 students undertaking Bachelor of Education degrees were enrolled in Science subjects each year between 1991 and 2000. Between 1996 and 2000 6,752 students were enrolled in Science subjects each year, compared to an average of 7,548 students per year between 1991 and 1995. Average annual enrolments in these subjects were 10.6 per cent lower between 1996 and 2000 than in the earlier part of the decade.

The question of trends in particular Science disciplines is also of interest. Figure 13 shows the number of commencing students in Bachelor of Education courses between 1992 and 2000 by Science discipline. While the year on year commencements exhibit considerable fluctuations, some major trends can be seen by comparing commencements in the period 1992 to 1996 with the period 1997 to 2000.

With the exception of Biological Sciences, where commencements rose by 16.6 per cent in the latter period, commencements fell in the remaining areas, by 44.2 per cent for Earth Sciences, 40.3 per cent for Physical Sciences, 35.4 per cent for Chemical Sciences and 35.0 per cent for Other Sciences. The share of Physical Sciences and Chemical Sciences among total Bachelor of Education commencements also fell markedly over the period, from 18.3 per cent in 1992 to 6.1 per cent in 2000 for Physical Sciences and from 8.4 to 4.9 per cent for Chemical Sciences.

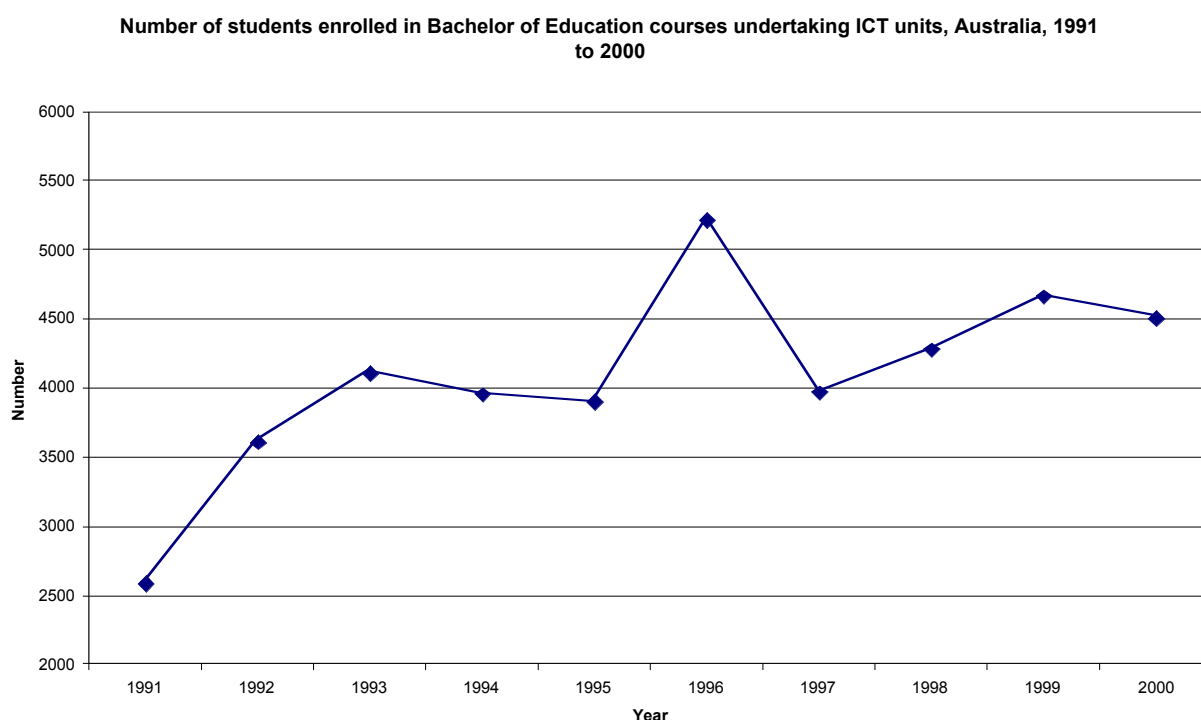
Chart 13



Trends in participation in ICT subjects in Bachelor of Education courses

Participation in ICT subjects, as shown in Chart 14, was somewhat different, with enrolments rising over the period.

Chart 14



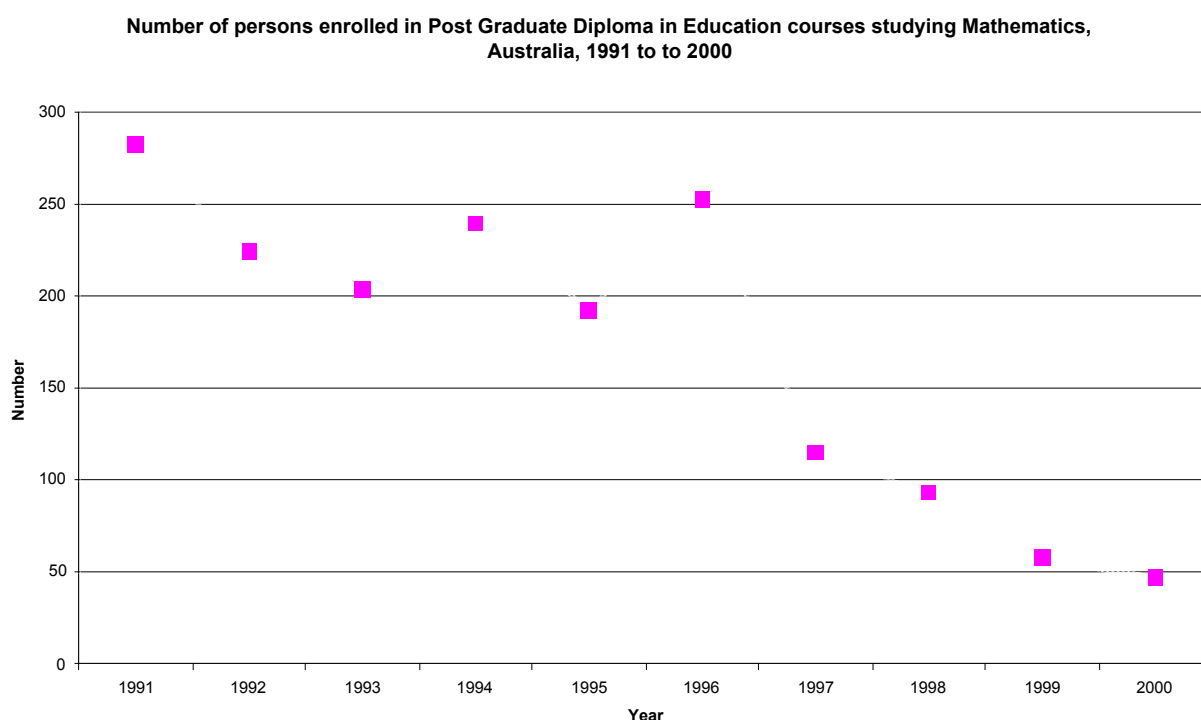
An average of 4083 students undertaking Bachelor of Education degrees were enrolled in ICT subjects each year between 1991 and 2000. Between 1996 and 2000 4531 students were enrolled in ICT subjects each year, compared to an average of 3,634 students per year between 1991 and 1995. Average annual enrolments were 24.6 per cent higher in the latter period than in the earlier part of the decade.

Supply of Mathematics, Science and ICT teachers from Post Graduate Diplomas of Education

Students in Bachelor of Education courses study subject as well as curriculum matter. In contrast students in Post Graduate Diplomas of Education have specialised in discipline areas in their initial degree which enable them to teach in those subject areas. However they are required to study subject related curriculum matters in the Diploma course to facilitate teaching in those subjects where they already hold specialist qualifications.

Trends in participation in Mathematics subjects in Post Graduate Diploma of Education courses

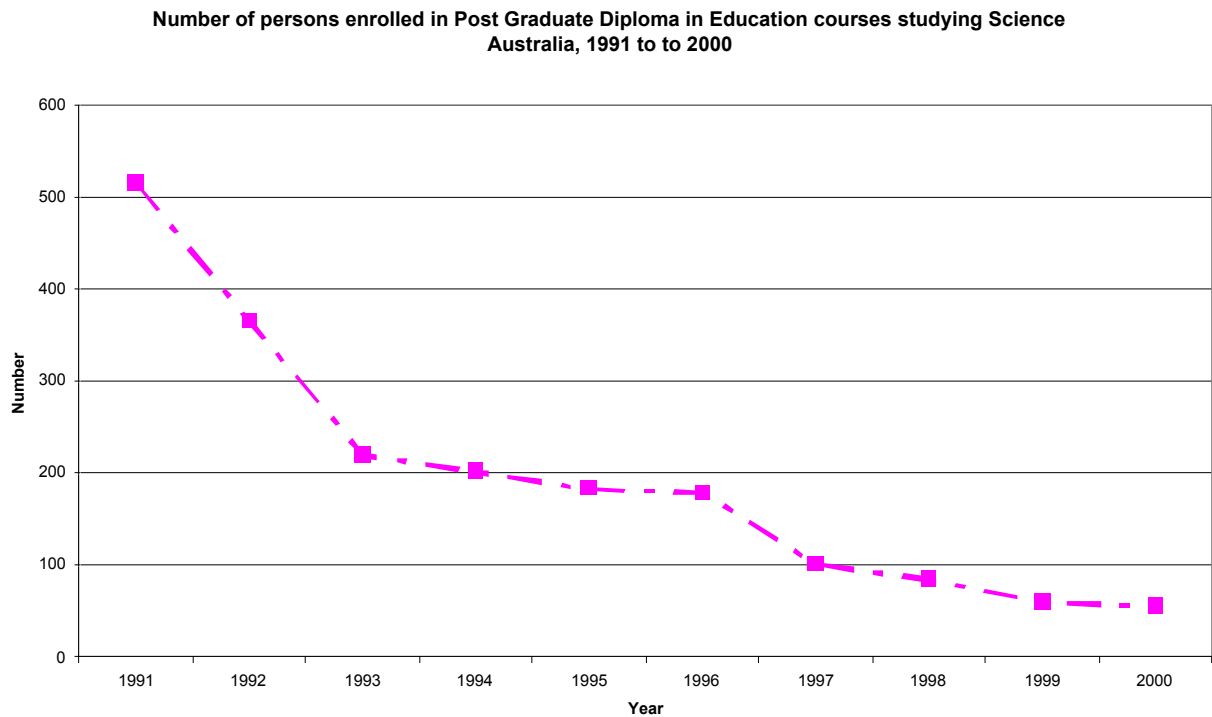
Chart 15 presents the number of persons enrolled in Mathematics subjects while studying a Post Graduate Diplomas of Education between 1991 and 2000.

Chart 15

The data indicate that supply from this source has been declining in the past decade. An average of 170 students per year were enrolled in Mathematics subjects between 1991 and 2000. An average of 228 students were enrolled between 1991 and 1995, compared to an average of 113 students per year between 1996 and 2000. Average annual enrolments in the second half of the decade were therefore 50 per cent lower than in the first part of the decade.

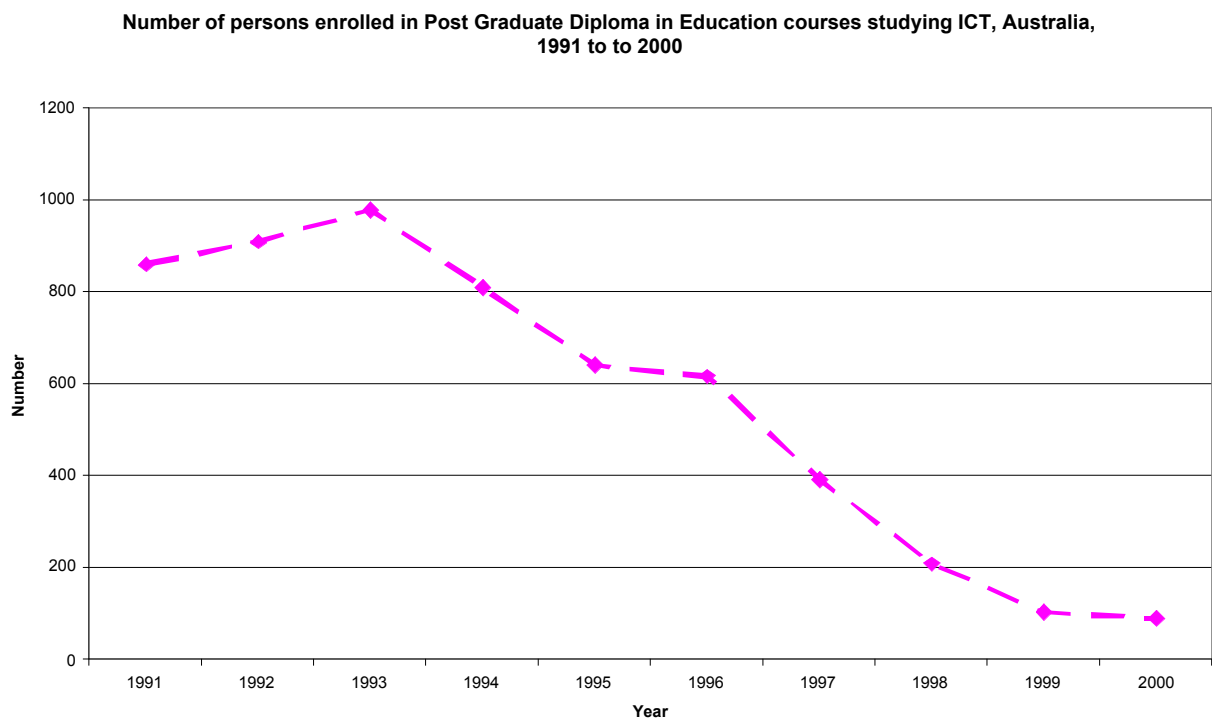
Trends in participation in Science subjects in Post Graduate Diploma of Education courses

Participation in Science subjects in Post Graduate Diploma of Education courses also fell between 1991 and 2000. An average of 197 students per year were enrolled in Science subjects between 1991 and 2000. However, while between 1991 and 1995 an average of 297 students were enrolled in Sciences subjects, an average of 97 students per year participated between 1996 and 2000. Average annual enrolments in the second half of the decade were therefore 67.5 per cent lower than in the first part of the decade. Chart 16 highlights the fall in enrolments in Science subjects in Post Graduate Diplomas of Education.

Chart 16

Trends in participation in ICT subjects in Post Graduate Diploma of Education courses

Trends in enrolments in ICT subjects are shown in Chart 17. Enrolments in ICT subjects in Post Graduate Diploma of Education courses follow a similar pattern to enrolments in Bachelor of Education courses, falling in the second part of the decade to 2000.

Chart 17

An average of 562 students per year were enrolled in ICT subjects between 1991 and 2000. Between 1991 and 1995 an average of 840 persons were enrolled in ICT subjects compared to an average per year of 284 persons between 1996 and 2000. Average annual enrolments in the second half of the decade were therefore 66.2 per cent lower than in the period from 1991 to 1995.

Preliminary data from the 2001 Graduate Careers Council of Australia (GCCA) Graduate Destination Survey (GDS)

Table 2 indicates the numbers of engineering, science and mathematics graduates who enter teaching soon after graduation. The GDS survey data suggest males are more likely than females to study in these areas (with the exception of general and life sciences). However as females are more likely than males to take up teaching, the numbers working full time in schools or at teacher training shortly after graduation are roughly the same for both genders. General/life sciences is an exception. Larger numbers of females graduated from courses such as biology, human movement, and general life sciences than males and a number of these are now working in schools or doing teacher training.

Table 2
Numbers of Engineering, Science and Mathematics graduates working full-time in schools or in teacher training

	Education	Engineering/ Surveying	Computer Science	Maths	Gen/Life Sciences	Phys Science	Vet Science
Female graduates in schools or teacher training	2,997	0	6	14	200	17	0
Total female graduates	5,228	530	720	181	3,326	590	108
Male graduates in schools or teacher training	754	4	9	14	105	18	0
Total male graduates	1,269	2,828	2,332	275	2,085	735	51

Note:

- 1) Data refers to bachelor degree graduates in first full-time employment.
- 2) Data was obtained through a survey of graduates, not a census and may not be fully representative of graduation destinations, especially considered by discipline
- 3) The education industry is only a proxy for teaching.

Tables 3 and 4 show the relative destination of engineering, science and mathematics graduates. Only a small proportion of survey respondents appear to have entered teaching or teacher studies. However, a large proportion of mathematic and science graduates are doing other studies and some of these graduates may later go onto teaching or teacher training. Engineering and surveying, computer science and vet science graduates are concentrated in the private sector.

Table 3**Female Engineering, Science, Mathematics and Education Graduates by destination (%)**

Destination	Education	Engineering Surveying	Computer Science	Maths	Gen/Life Sciences	Phys Science	Vet Science
Govt employed	1	13	6	12	7	5	4
Private sector employed	3	55	46	27	15	19	78
Health	2	0	1	1	4	2	0
Schools	54	0	1	4	2	1	0
Higher education	1	1	2	2	3	2	0
Other education	2	0	2	1	0	1	0
Total education	58	1	4	6	5	4	0
Non-profit	1	0	0	0	1	0	0
Other employment	1	1	1	1	1	1	0
Seeking FT employment ¹	12	10	16	9	13	12	7
Not seeking FT employment	10	2	4	4	6	5	5
Teacher Training	3	0	0	4	4	2	0
Total studying	9	15	19	34	46	51	5
Not available	3	2	3	6	3	2	2
Total percentage	100	100	100	100	100	100	100
Total number	5,228	530	720	181	3,326	590	108

Note:

- 1) Not working and seeking full-time work or part-time employed and seeking full-time work
 2) Not working and seeking part-time work, or working part-time and not seeking full-time work

Table 4**Male Engineering, Science, Maths and Education graduates by destination (%)**

Destination	Education	Engineering Surveying	Computer Science	Maths	Gen/Life Sciences	Phys Science	Vet Science
Govt employed	4	14	7	8	9	5	0
Private sector employed	4	54	47	24	15	24	84
Health	1	0	1	1	2	1	2
Schools	57	0	0	1	1	1	0
Higher education	3	1	3	2	2	1	4
Other education	3	0	1	1	0	0	0
Total education	62	1	5	3	4	2	4
Non-profit	0	0	0	0	1	0	0
Other employment	1	1	2	1	1	0	0
Seeking FT employment ¹	12	11	14	11	14	8	6
Not seeking FT employment ²	6	2	2	4	5	4	0
Teacher Training	3	0	0	4	4	2	0
Total studying	8	15	20	47	48	54	0
Not available	3	2	3	2	3	1	4
Total percentage	100	100	100	100	100	100	100
Total number	1,269	2,828	2,332	275	2,085	735	51

Note:

- 1) Not working and seeking full-time work or part-time employed and seeking full-time work
 2) Not working and seeking part-time work, or working part-time and not seeking full-time work

Summary and Conclusions

The data presented above indicate that:

- School level data point to declining enrolments in Year 12 Mathematics and Science subjects, although ICT enrolments appear to be strengthening. As noted earlier this data should be treated with considerable caution. Nonetheless, recent trends in enrolments in

Year 12 Mathematics and Science subjects raise concerns about the extent of future supply of teachers in these specialisations.

- Enrolments in Mathematics, Science and ICT subjects in both Bachelor of Education and Graduate Diploma of Education courses have fallen over the period between 1991 and 2000.

Graduate destination survey data suggest that the supply of teachers in these areas is not strong.

5. Teacher Salaries

Introduction

This chapter draws together data concerning teachers salaries from Australian and international sources. The chapter commences by providing comparisons between Australian teaching salaries and teaching salaries in other Organisation for Economic Cooperation and Development (OECD) countries. We then compare teachers' salaries in Australia with salaries in other professions. Finally, we compare commencing salaries in Australia for graduates from teacher preparation courses to starting salaries for graduates in other disciplines.

The main data sources for issues discussed in this chapter include data from the OECD, Australian Bureau of Statistics (ABS) data on wages and salaries, and data drawn from student destination surveys, conducted by the Graduate Careers Council of Australia.

Broadly speaking, the data suggest that:

- Australian teachers salaries compare well with their OECD colleagues, in terms of commencing salaries and after 15 years of experience, although there is limited growth in Australian teachers earnings after 15 years experience;
- Australian teachers salaries compare reasonably well with earnings from other professions in Australia;
- Graduate commencing salaries for teaching graduates compare well with initial salaries from other disciplines.

International Comparison of Teacher Salaries

It is difficult to collect comparable information on teacher salaries across the globe because of difficulties in compiling comparable data from national systems based on diverse classification systems, and in converting earnings data to a common currency unit. However, the OECD has recently attempted to collect comparable information on this issue. Set out below are a comparison of Australia and the OECD countries teaching salaries, in both primary and secondary education. The data is divided into starting salaries and expected salaries after 15 years.

The data below were based on salaries from OECD countries in the year 2000. The data indicate that:

- Australia's teaching salaries were higher than the OECD mean in primary, lower secondary and upper secondary education.
- Australian teachers had the highest salary, in primary education, after 15 years experience (compared to lower secondary and upper secondary Australian salaries). Australia had the fifth highest salary in the OECD in this category and was significantly higher (30 per cent) than the OECD mean;
- While primary education teaching salaries compared quite well with other OECD countries, upper secondary salaries, while slightly above the OECD mean, did not rate as highly.

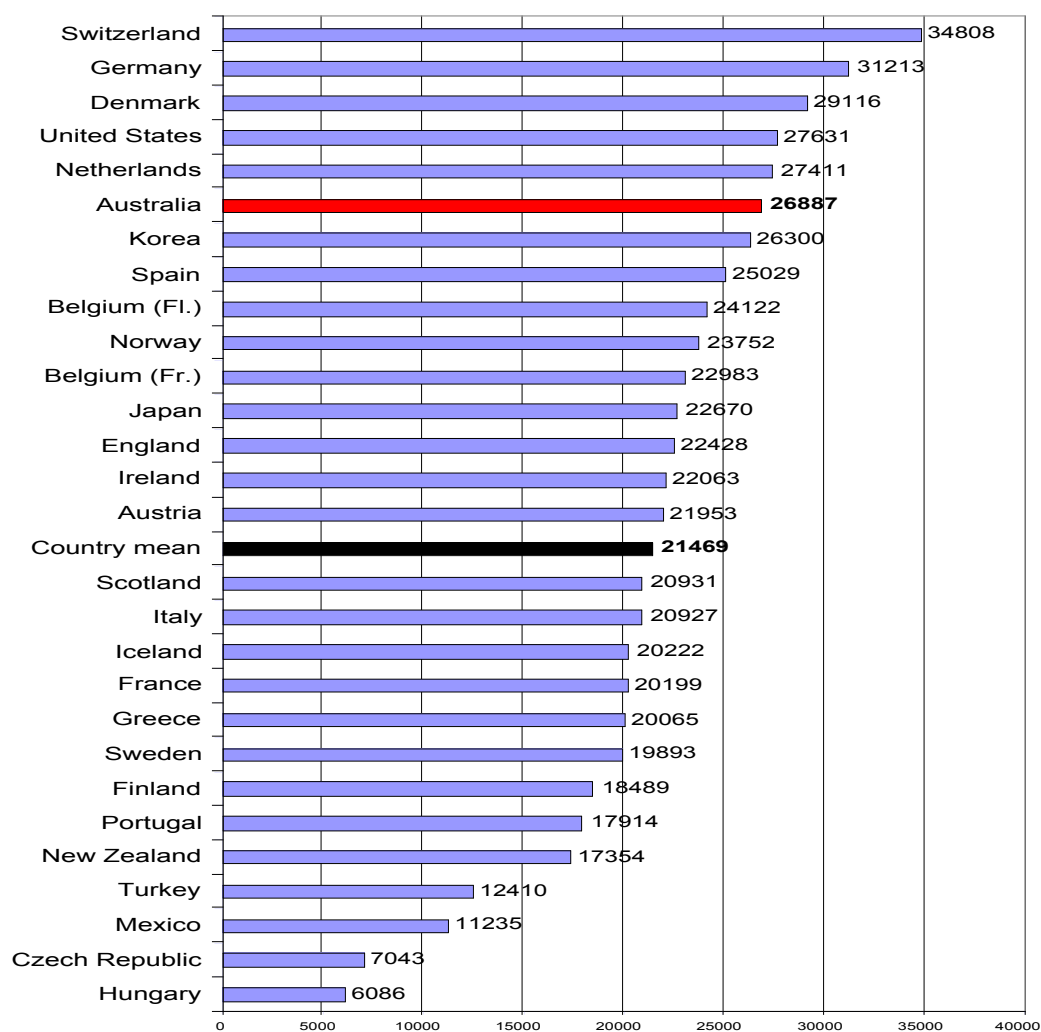
The charts provided below are based on salaries in US Dollars converted using (Purchasing Power Parities) PPPs. The OECD defined the method of converting US dollars using PPPs as equalising the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs are simply price relatives which show the ratio of the prices in national currencies of the same good or service in different countries.

Primary Education

Chart 1 compares starting salaries for teachers across OECD countries. Australia had the sixth highest starting salary in primary education in the OECD, behind Switzerland, Germany, Denmark, the United States and the Netherlands. Australia's salaries were approximately 25 per cent higher than the OECD mean.

Australia, had the sixth highest starting salary in primary education in the OECD behind Switzerland, Germany, Denmark, the United States and the Netherlands. Australia's salaries are approximately 25 per cent higher than the OECD mean.

Chart 1 Primary Education: Teachers' starting salary/minimum training – OECD Countries, 2000

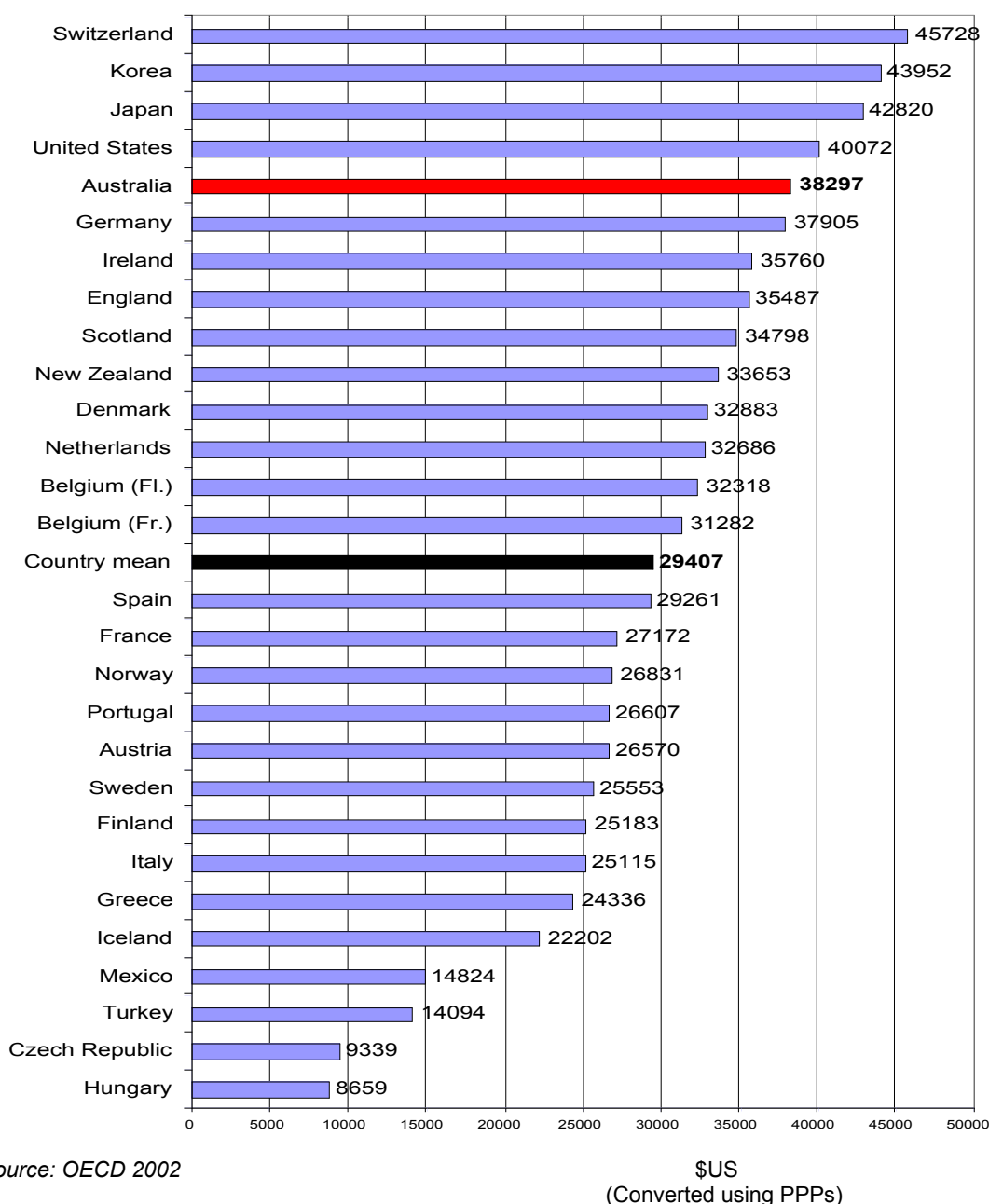


Source: OECD 2002

\$US
(Converted using PPPs)

As shown in Chart 2 below, after 15 years of work experience Australian primary teachers' salaries were the fifth highest in the OECD. Australia's teacher salaries were 30 per cent higher than the OECD mean. While Germany, Denmark and the Netherlands had higher starting salaries in primary education than Australia, these salaries fell to sixth, eleventh and twelfth highest salaries respectively, after 15 years.

Chart 2 Primary Education: Teachers salaries after 15 years experience/minimum training, OECD Countries, 2000²⁰



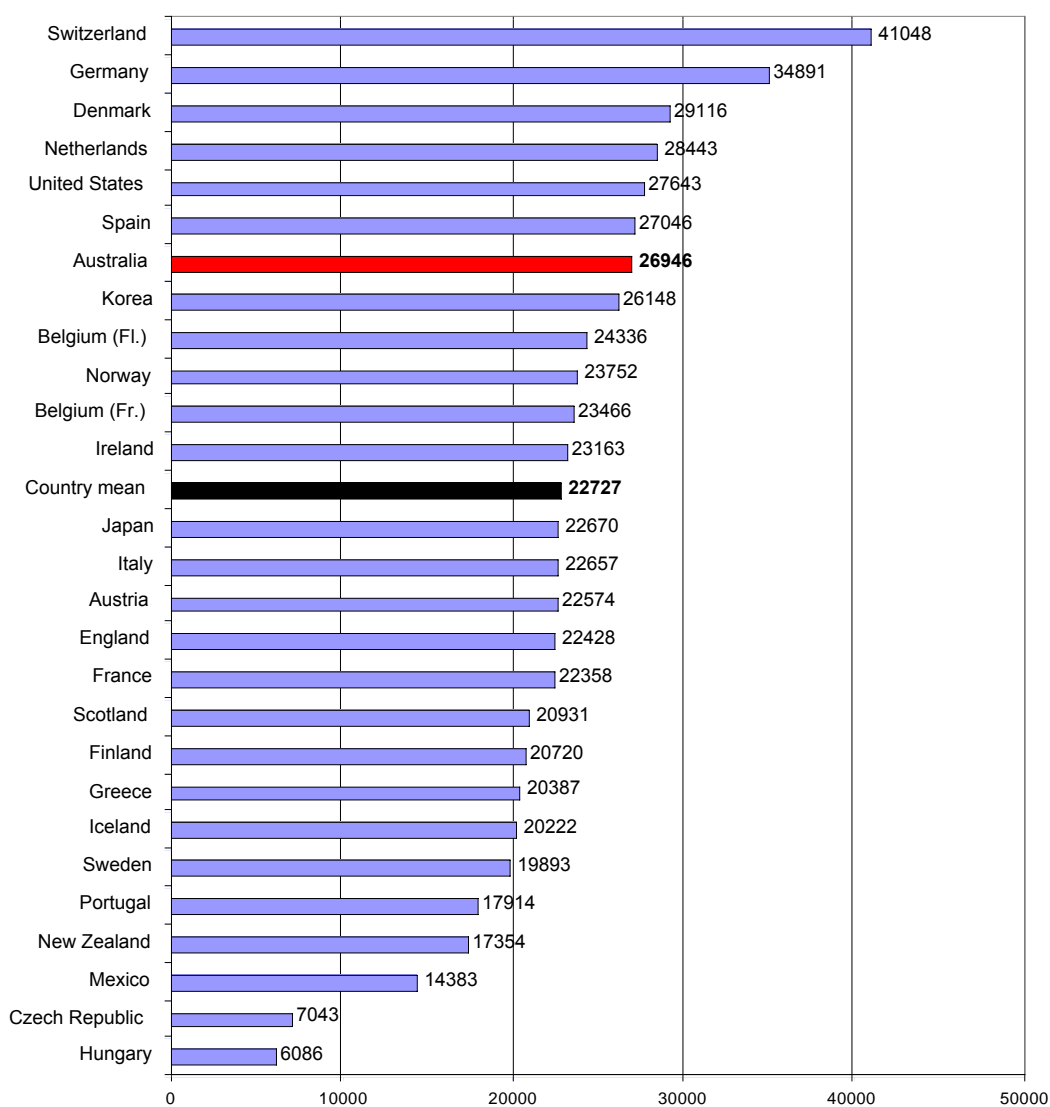
Source: OECD 2002

Secondary Education

Lower Secondary Education

Australia had the seventh highest starting teaching salary, in the OECD, in lower secondary education. Australia's starting salary in lower secondary education was approximately 19 per cent higher than the OECD mean.

Chart 3 Lower Secondary Education: Teachers' starting salary/minimum training – OECD Countries, 2000²¹



OECD 2002

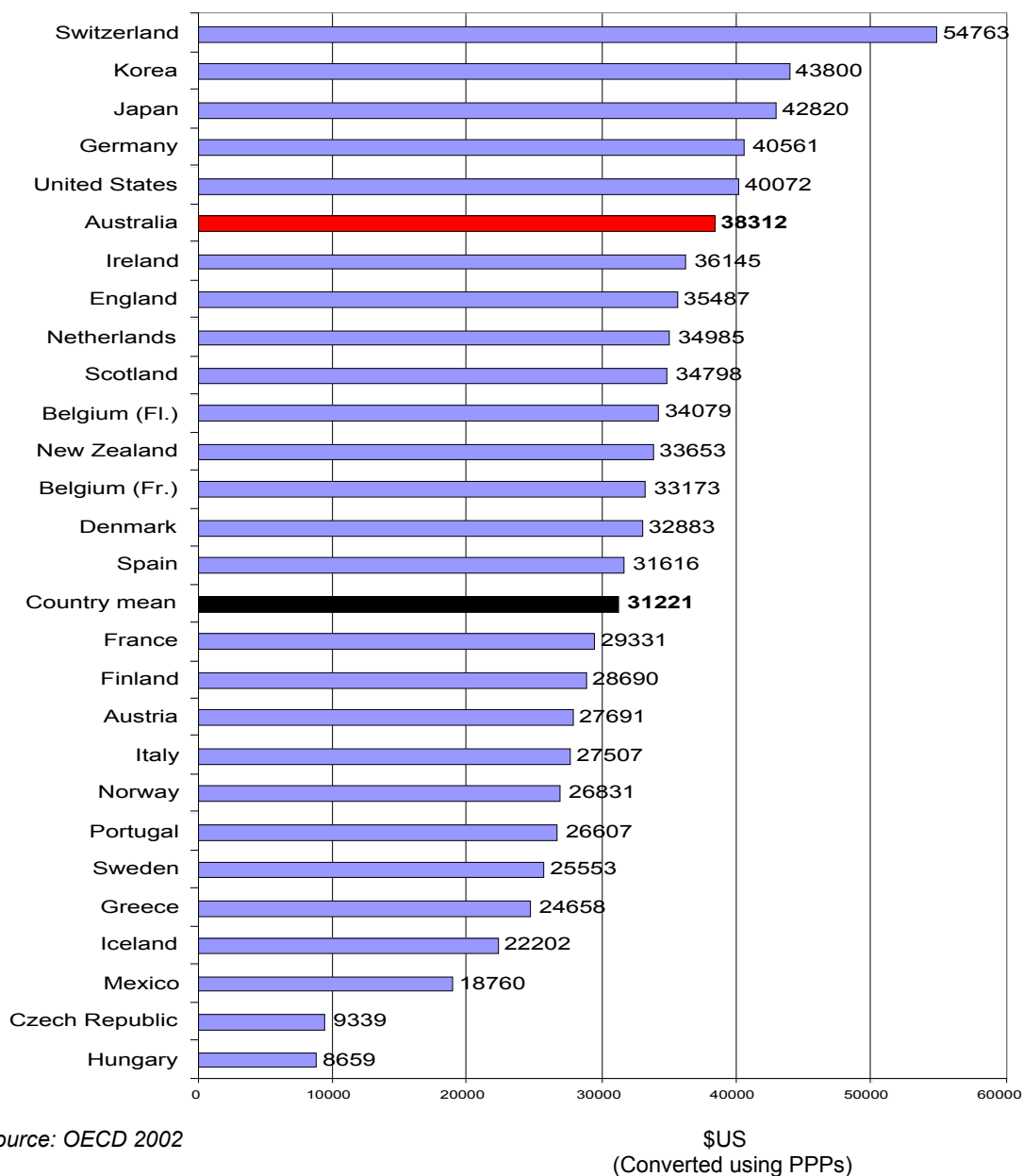
\$US
(Converted using PPPs)

Source:

²¹ Data not available on lower secondary education for Turkey

After 15 years of experience, Australian lower secondary teaching salaries were the sixth highest in the OECD, as shown in chart 4 below. Australia's teaching salaries after 15 years experience in lower secondary education were 22 per cent above than the OECD mean.

Chart 4 Lower Secondary Education: Teachers salaries after 15 years experience/minimum training, OECD Countries, 2000

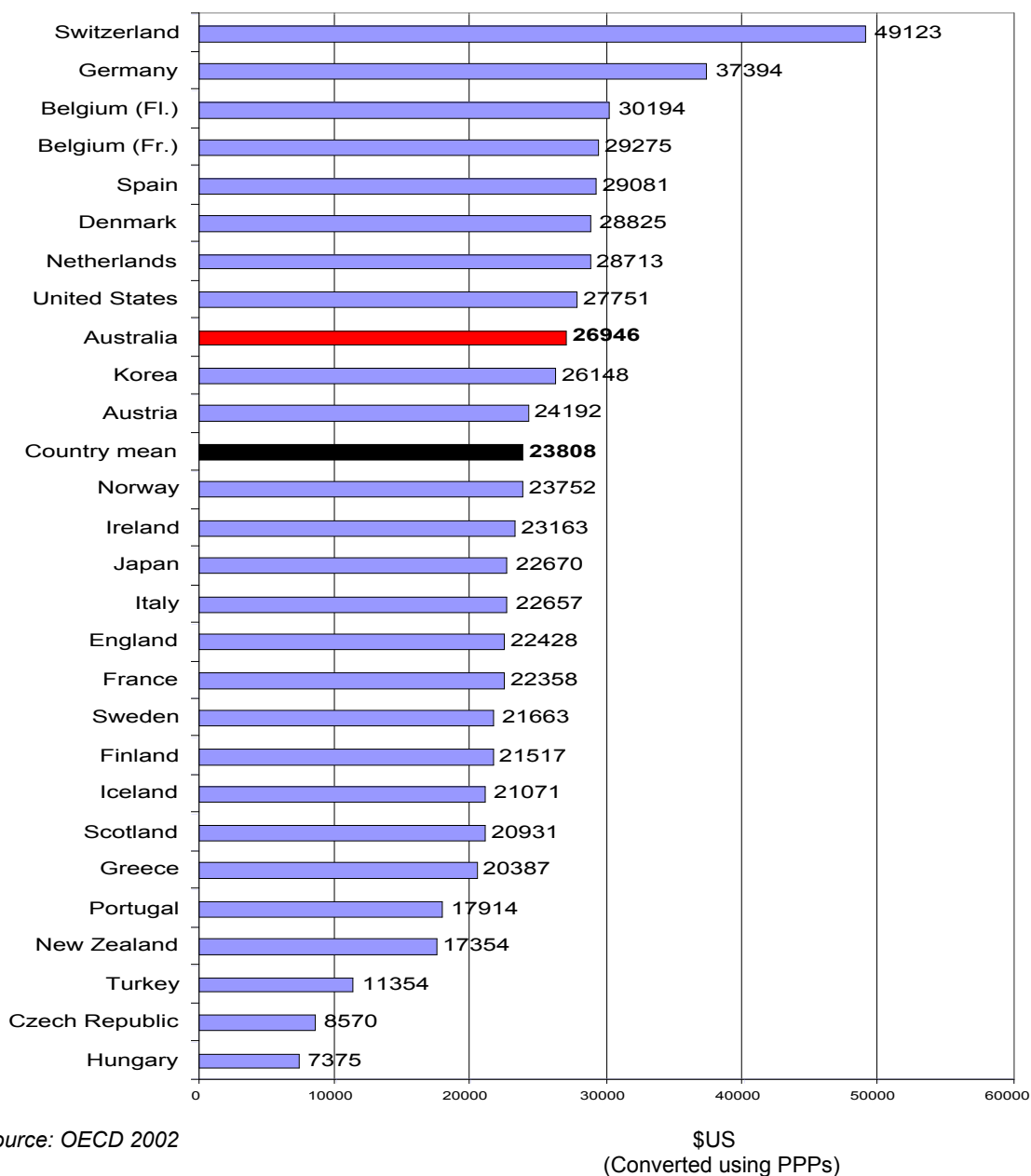


Source: OECD 2002

Upper Secondary Education

Australia's teaching starting salaries in upper secondary education were the ninth highest in the OECD. These starting salaries are closer to the OECD mean, being only 11 per cent higher.

Chart 5 Upper Secondary Education: Teachers' starting salary/minimum training – OECD Countries, 2000²²



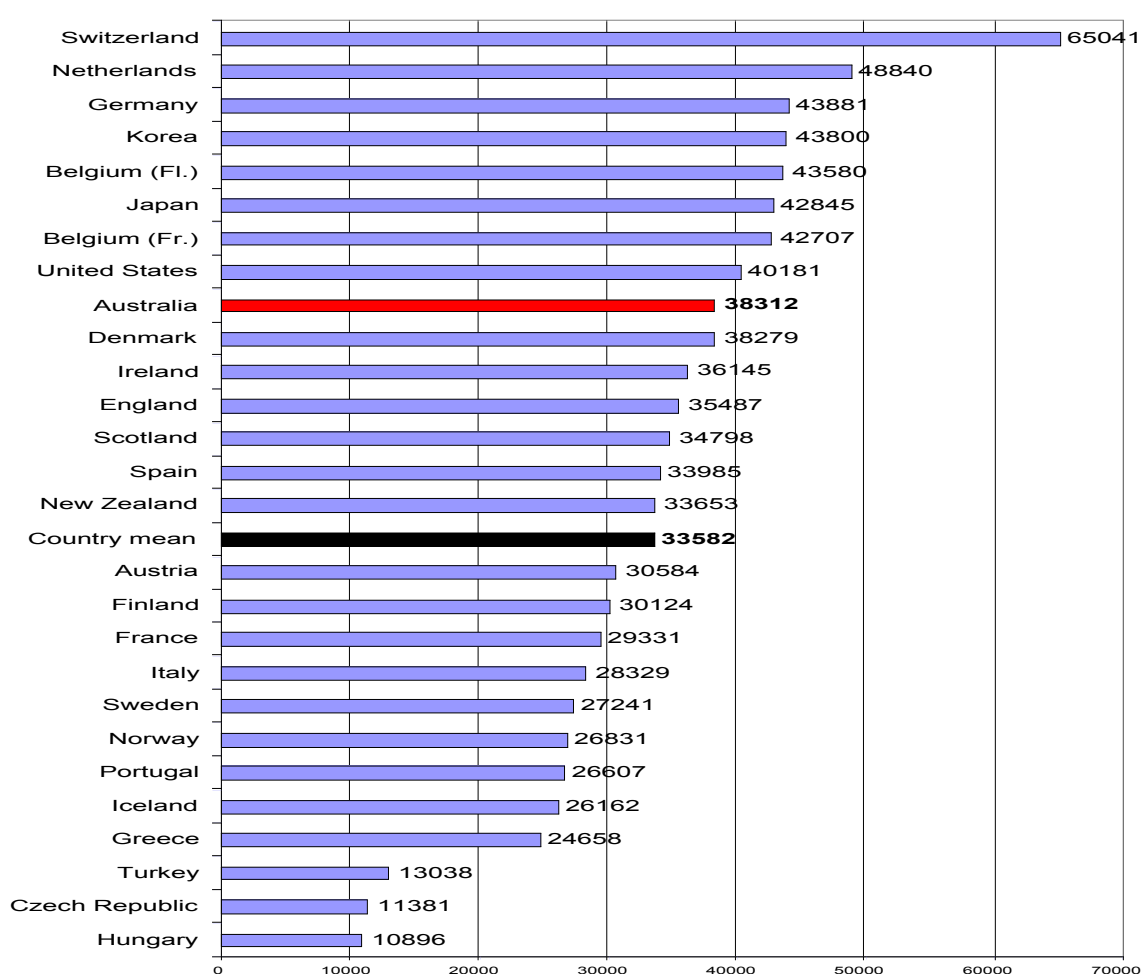
Upper secondary teacher salaries after 15 years experience were also the ninth highest in the OECD. Australia's upper secondary teaching salaries were 14 per cent higher than the OECD mean.

²² Data not available on upper secondary education for Mexico

Australia and some other OECD countries do not categorise secondary education into lower and upper secondary education. Therefore, Australia's lower and upper secondary teaching salaries (US\$26,946 for the starting salary and US\$38312 for the salary after 15 years experience/minimum training) remain unchanged. The teaching salaries in the majority of OECD countries increase from lower to upper secondary education, particularly after 15 years experience/minimum training.

In terms of salary after 15 years experience/minimum training, Australia for the reasons explained above, moves from the sixth highest salary in lower secondary education (see *chart 4*) to ninth highest in upper secondary education (see *chart 5*), compared to other OECD countries (despite the actual fixed \$US remaining the same).

Chart 6 Upper Secondary Education: Teachers' salaries after 15 years experience/minimum training, OECD Countries, 2000



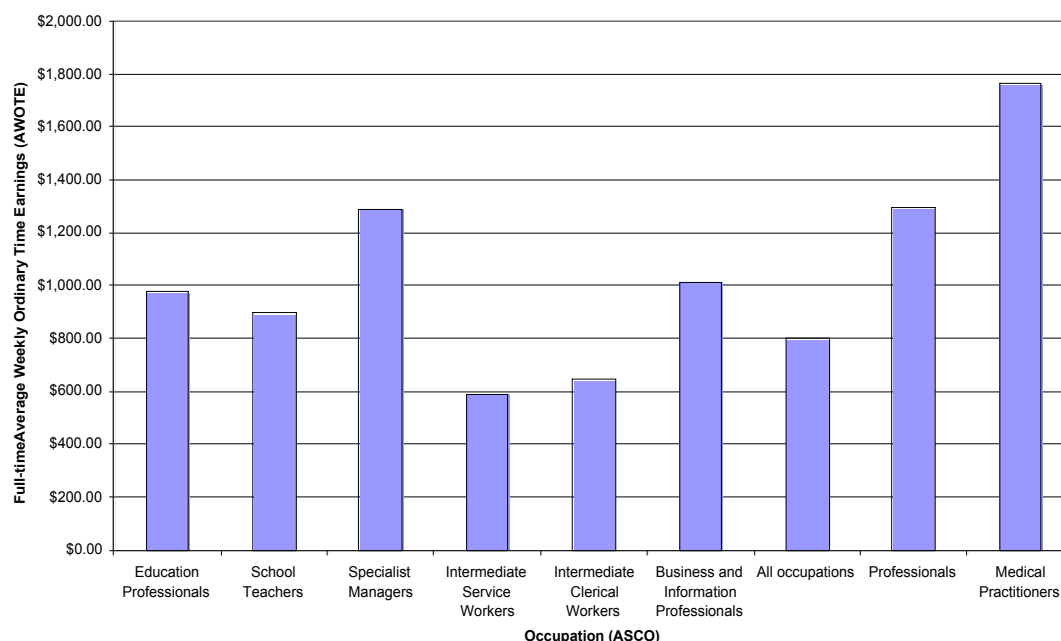
Australian Teacher Salaries in Comparison with Earnings in other Occupations.

Data from the ABS provides a comparison of school teachers salaries with salaries from other occupations.

As can be seen from chart 7, Full-time Average Weekly Ordinary Time Earnings (AWOTE) for all occupations was \$799.30 in May 2000. For professionals it was \$1293.92, although this figure was bolstered significantly by medical practitioners (\$1765.00).

The full-time AWOTE for education professionals was \$976.33. Of this, the full-time AWOTE for school teachers, encompassing pre-primary school teachers, primary school teachers, secondary school teachers and special education teachers, was \$897.00.

Chart 7 Full-time Average Weekly Ordinary Time Earnings by selected occupations



Source: ABS, Survey of Earnings and Hours, May 2000

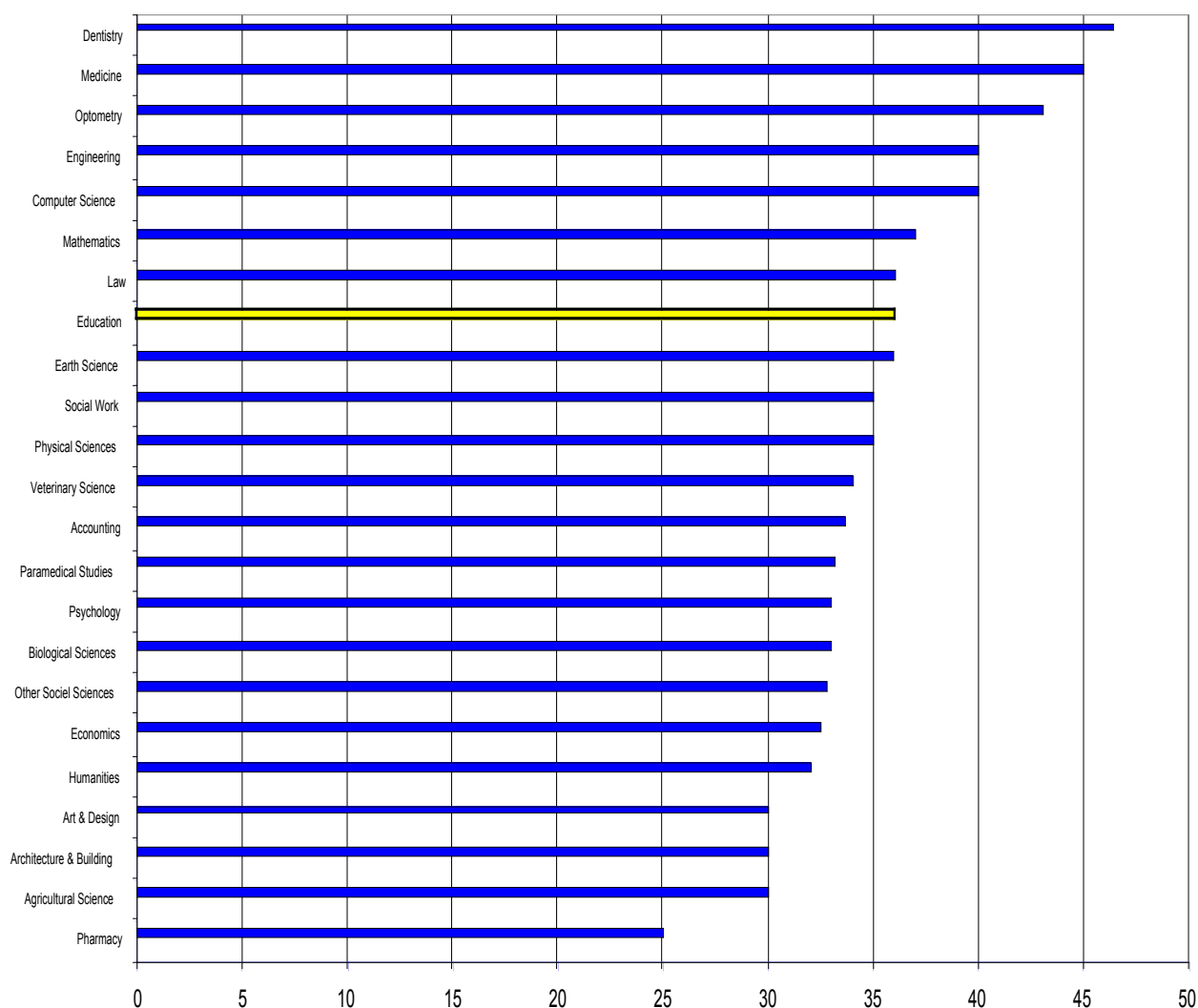
Graduate starting salaries

This section draws heavily on data from the Graduate Careers Council of Australia's graduate destination survey, in terms of data on initial salaries received by employed graduates who responded to the survey.

Survey responses suggest that education graduates fare relatively well by comparison with graduates from other fields of study in terms of commencing salaries. The relative standing of education graduates has remained stable over time, and has improved somewhat compared to graduates from other fields of study in recent years.

Over the long run, between 1977 and 2001, commencing salaries for education graduates were the 8th highest among the 20 fields of study for which the Graduate Careers Council collects survey data. More recently, between 1996 and 2001 Education graduates commencing salaries rated in the top 6-8 fields of study and improved from 8th ranking in 1996 to 6th ranking in 2001.

The next chart provides data on graduate commencing salaries in 2001.

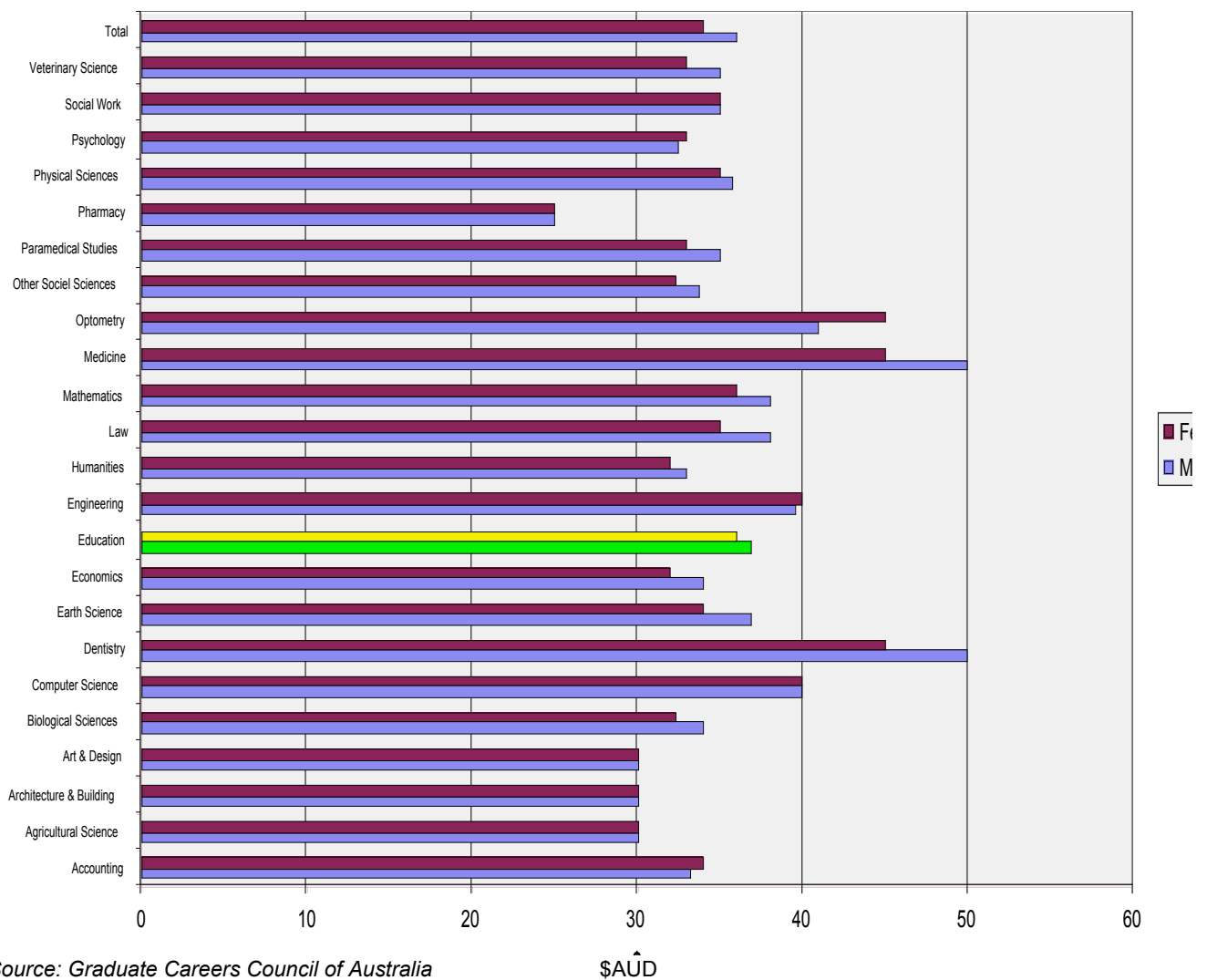
Chart 8 Graduate commencing salaries, Australia, 2001, by field of study

Source: Graduate Careers Council of Australia; Annual Salary (\$AUD)

Commencing salaries for all fields of study averaged \$35,150 per year. The average commencing salary of education graduates was exceeded by only a few fields of study, including dentistry, law and optometry.

Over the period from 1991 to 2001 education graduates commencing salaries have consistently been above the average for all graduates. At the same time, education graduates commencing salaries have also improved relative to national Average Weekly Earnings over the period from 1990 to 2001.

The following chart compares average commencing salaries by gender and field of study. The data indicate that male graduates commencing salaries commonly exceed those of female graduates.

Chart 9 Commencing salaries, by gender and field of study, 2001

Both male and female Education graduates average commencing salaries are above the average for all fields of study. Average male commencing salaries for all fields of study were \$35,930, compared to \$36,900 for male education graduates. Male commencing salaries in Education were exceeded in only a few disciplines including law, dentistry and medicine.

Average female graduates commencing salaries for all fields of study were \$34,895 compared to \$36,000 for female education graduates. As was the case for males, female commencing salaries in education were again exceeded in only a few disciplines including law, dentistry and medicine.

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**Demand and Supply of
Primary and Secondary School Teachers in Australia**

Part G

Literature Review

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An Analysis of the Literature

Introduction

In this chapter we have reviewed articles which relate to supply of and demand for teachers. The chapter provides a discussion of relevant recent Australian and international research on these issues. A list of papers included in the literature survey and brief summaries of these papers is at Attachment A to this report.

There have been a number of recent Australian papers on these issues. Key Australian papers include the Victorian Auditor-Generals' report on supply and demand of teachers in Victoria, and the Vinson and Ramsey reports on related topics in New South Wales. There have also been important contributions from the Council of Deans of Education and academic and private researchers. From an international perspective, major papers by the Organisation for Economic Cooperation and Development (OECD) and the United Nations Education and Science Organisation (UNESCO) have recently been published. In addition a number of individual academics have published papers on these issues from their own national perspective.

The topics discussed by the authors whose work we have reviewed have been broad in scope, and a wide range of research methodologies were used to underpin their analysis.

Against this background we have attempted to focus discussion in this chapter around three major themes:

- Section 1: Teacher Supply and Demand in the OECD – techniques for assessing shortages and the extent of these shortages.
- Section 2: Attracting and Retaining High Quality Teachers in the Education Profession
- Section 3: Policy Tools to Improve the Supply of Teachers.

While this list of themes is not exhaustive, we have grouped the reviews in such a way in order to assist the reader.

Methodology for the Literature Review

Electronic databases such as ProQuest 5000, JSTOR and OCLC ECO (Electronic Collections Online) were searched using the following terms:

teach* supply AND demand
teach* retention
teach* shortage
teach* attract

General searches were also conducted on the internet using www.yahoo.com.au and provided links to the websites of education agencies and associations. The Commonwealth Department of Education Science and Training (DEST) and the Australian National University (ANU) libraries also provided references.

In general, studies from the last few years on issues relating to teacher supply and demand (such as teacher quality, teacher attrition and teacher motivation) were sought. However, older studies were included if they were a commonly referenced article on the topic.

Section 1

Teacher Supply and Demand– techniques for assessing shortages and the extent of these shortages, in the OECD and Australia.

In Section 1 of this literature review, the following is discussed:

- - Techniques used to assess the supply and demand of teachers
- - Factors Influencing teacher shortages
- - the nature and extent of teachers shortages in the OECD.

'The analysis of teacher shortages is not straightforward...measuring the extent of a shortage is difficult, and no agreed measure presently exists at international level. This is partly because "teacher shortage" raises quality as well as quantity issues.' (OECD 2002)

Techniques Used to Assess the Supply and Demand of Teachers

Assessing the supply and demand of teachers involves an analysis of complicated relationships between different variables to gain insight on the expected number of teachers employed throughout a period and the number of teachers required in the future.

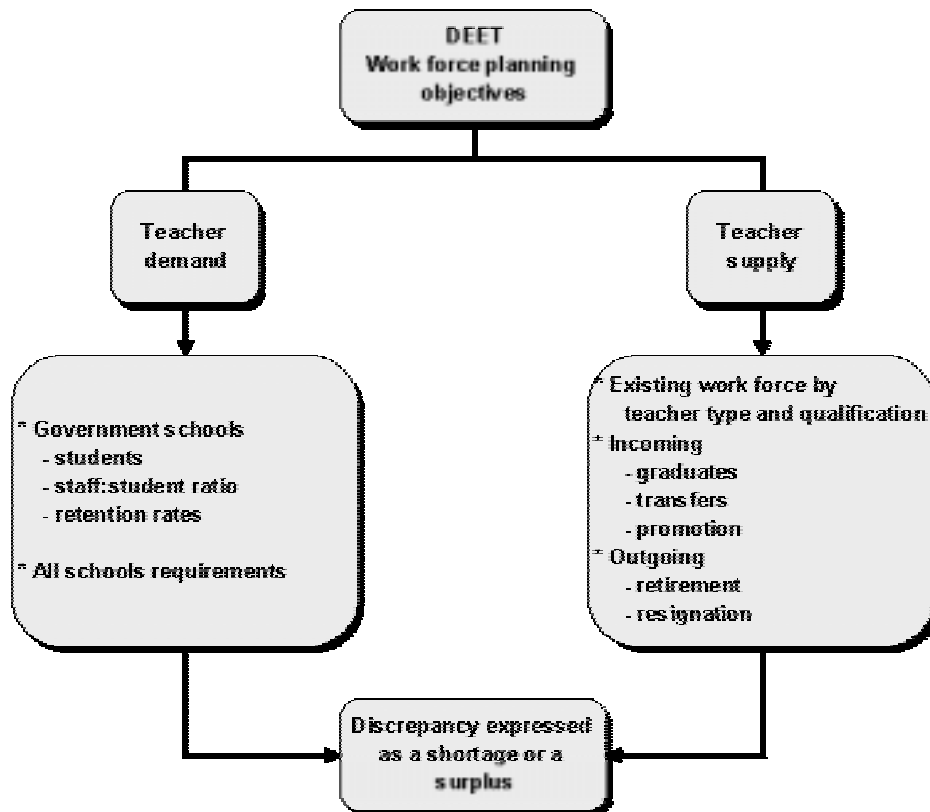
Various types of techniques are used to assess the supply and demand of teachers. These techniques often require data from education institutions, government agencies and education bodies to provide insights into the supply of teachers (through data on teacher education student enrolments and course completions).

Models can then be developed to map the relationship of the factors contributing to teacher supply and demand which may result in either teacher surpluses, teacher shortages or an equilibrium (which rarely occurs).

Figure 1 is an example of a supply and demand model developed by the Victorian Auditor-General's Office used to generate teacher work force planning objectives.

Models and projections on teacher supply and demand do not attempt to make exact predictions of teacher shortages or surpluses but attempt to provide some understanding of the expected teaching environment in the future. This information then informs governments and education institutions in order to anticipate any potential education issues that may be combated with supply and demand policies.

Figure 1 Process for forecasting teacher supply and demand



Source: Victorian Auditor-General's Office.

Galbraith (1999) in his paper *Forecasting Teacher Supply and Demand: Searching for Shangri-la _ or chasing rainbows* states that while the search for exact solutions is sometimes futile, this does not mean that results of value cannot be achieved. Furthermore, he states that the management of the supply and demand problem can be improved through better insights into the complex relationships that exist between variables. He also believes that while all studies refer to supply and demand, technical modelling projections have focused on demand issues, with supply being treated as if universities could produce the necessary number of graduates on call if only these numbers were predicted¹.

Preston (2000) (Australia) made projections (which are referred to later in this paper) in her paper *Teacher Supply and Demand to 2005: Projections and Context* commissioned by the Australian Council of Deans of Education. Preston's model is based on 'projections' not 'forecasts' or 'predictions'².

Preston (2000) writes that her model is comprehensive in that all the relevant factors are fully taken into account on both the supply side and demand side including:

- fully incorporating the non-government as well as government sectors in student enrolment projections, teacher numbers and other factors;

¹ Galbraith, P (1999) *Forecasting Teacher Supply and Demand: Searching for Shangri-la or chasing rainbows?* (Flaxton: Post Pressed).

² Preston, B (2000) *Teacher Supply and Demand to 2005*.

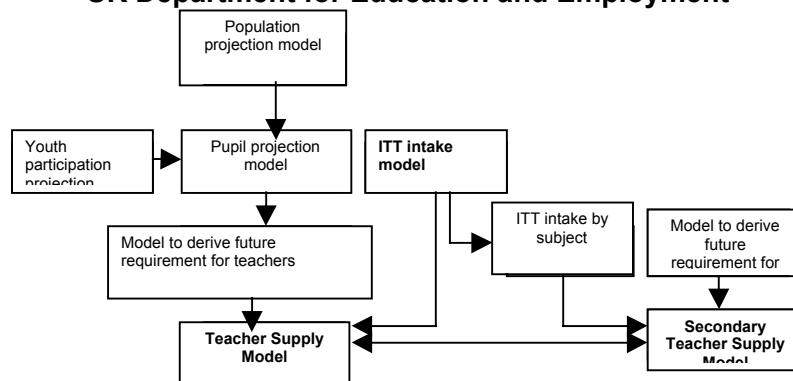
- estimating actual teacher numbers, not full-time equivalents;
- in estimating net separation rates, taking account of unavailability after a period of casual or limited term employment, and leave not accounted for in pupil-teacher ratios, as well as formal resignations and retirements; returnees and re-entrants are also taken account of under net separations;
- accounting realistically for graduates from previous years who had been unable to gain teaching positions;
- ensuring that the supply and demand figures are provided on a comparable basis, and explicitly comparing them;
- providing findings of shortfalls or surpluses as numbers (of graduates) and percentages of other totals (total teacher numbers, total supply, total demand, and supply as a percentage of demand) that are relevant to those who may use the findings.

The UK Department for Education and Employment (now the Department for Education and Skills) based their teacher supply and demand projections on three main models described below³:

- The Teacher Supply Model (TSM) (*see figure 2*) – this model takes into account the movements of teachers into and out of nursery, primary and secondary schools, projects these movements in each future year and derives the totals of teachers in service in England and Wales by phase, sex and age.
- The Initial Teacher Training (ITT) Intake Model – this model estimated required ITT intake from the numbers of completers that the TSM indicates are needed to maintain supply.
- The Secondary Teacher Supply Model breaks down the Teacher Supply Model for secondary teacher numbers and movements in secondary schools by main subject of highest qualifications. For nursery/primary schools, future supply is projected by age and sex alone.

³ Department for Education and Employment (DFEE) (1998) Teacher Supply and Demand Modelling: A technical description.

**Figure 3: Teacher supply and demand model:
UK Department for Education and Employment**



Source: UK Department for Education and Employment (1998)

Assumptions of a number of variables are often made in supply and demand modelling. For example the TSM used by the UK Department of Education and Employment will indicate how many teachers are required to complete ITT if assumptions about the demand for teachers in future years are made. Similarly, if the numbers completing ITT are assumed to be fixed, the model can indicate the overall likelihood of obtaining a position for those seeking to enter the teaching profession⁴.

Collaborating data on the supply and demand of teachers has been reported as being difficult in many pieces of literature, in Australia and globally. Many agencies are involved in collecting data on both teacher supply and demand, including education institutions, government agencies and external education bodies which make projections.

Ballantyne et al (2001) (Australia) write that 'Teacher education is a large and complicated enterprise in Australia. These complexities lead to data management difficulties at the level of the faculty or school, the institution, DETYA, and other external agencies. Each of those stakeholders may have, from time to time, a need for data of adequate quality and appropriate detail to inform policy-useful labour market analyses. There has been a lack of such quality data that is also accessible and credible to all parties.'⁵

Internationally comparable data on some aspects of teaching are either non-existent or inadequate. The aspects of teaching which tend to be most difficult to collect international data on include direct measures of the qualification of the existing teaching force, in-service teacher training programmes, total teachers' workloads, class sizes, the competitiveness of teachers' employment conditions, teacher learning achievement, and the participation of teachers in the school-level decision-making process⁶. Wilson and Pearson (1993) (United States) point to another difficulty in collecting relevant data. They believe that the data most widely available on teacher shortages are *vacancy rates* which do not take into account 'hidden' or 'suppressed'

⁴ Department for Education and Employment (DFEE) (1998) *ibid*.

⁵ Ballantyne R, Blaine J D, Preston, B (2001) *Teacher Education Courses and Completions: Initial Teacher Education Courses and 1999, 2000, and 2001 Completions* (DETYA).

⁶ Siniscalco M (2002) *A Statistical Profile of the Teaching Profession*

shortages. This study described these shortages as staff without relevant qualifications teaching in specialist subjects which may underestimate the problem⁷.

Some of the authors from the literature reviewed believe that the way in which the data is analysed on teacher supply and demand, may misinterpret the extent of teacher shortages. For example, it is widely reported in the United States that in the next ten years the country will need to hire two million new teachers to meet rising enrolment demand and to replace an ageing teaching force⁸. However, Feistritzer (1998) believes that this figure does not take into account the number of teachers who are already qualified and return to the profession⁹. Feistritzer (1998) believes that there is a widespread interest in the teaching career and that *'...to claim that there is a teacher shortage is simply wrong – there isn't one, and there won't be anytime soon'*.

As the literature on the topic shows, there is no universal method used to assess teacher supply and demand. There are many models, projection methods and theories which can be used to provide an analysis of the current or expected future teacher environment but these do not ever claim to be entirely accurate.

⁷ Wilson A & Pearson R (1993) 'The Problems of Teacher Shortages' *Education Economics*, Vol 1 No 1 1993.

⁸ Recruiting New Teachers, RNT (2002) *US Teacher Shortages*, located at <http://www.rnt.org/facts/index.html> [online] viewed on 2 December 2002.

⁹ E. Feistritzer (1998) 'The Truth Behind the 'Teacher Shortage' originally published in the Wall Street Journal, January 28, 1998 located at <http://www.ncei.com/WSJ-12898.htm> [online] viewed on 2 December 2002.

Nature and Extent of Teacher Shortages in the OECD

What is happening in other OECD Countries?

OECD countries vary in their experience of the demand for, and supply of teachers. However, the overall trend is similar to the experience of Australia. The OECD publication *Education Policy Analysis 2002* makes the following observations:

- In half of OECD countries, a majority of 15-year olds attend a school whose principal thinks that student learning is hindered at least “a little” by a teacher shortage/inadequacy.
- In certain countries, although by no means all, it is becoming harder to fill teaching posts.
- Attrition rates from the teaching profession vary widely across countries. In some, the majority of people leaving teaching are retiring; in others only a small minority.
- Teaching workforces are ageing across the OECD. In some OECD countries, over 40 per cent of teachers are in their 50s.
- In almost all countries, teacher salaries fell relative to national income per head during the late 1990s¹⁰.

Factors Which May Influence Teacher Shortages

The factors influencing teacher shortages, vary considerably between countries. The most common themes are a lack of interest in teaching as a career, the ageing of the teaching workforce, increases in secondary school student enrolments, a lack of teachers in key subject areas and the recruitment of teachers abroad.

The audit of the Victorian teacher labour market¹¹ found, for example, that the overall demand of teachers is driven by demographic factors, government budget considerations, educational policies and practices, school class sizes, school retention rates and student-teacher ratios set by the government. The audit suggested that the specific factors that may affect the supply of qualified teachers include:

- Relative financial and non-financial rewards of teaching compared with alternative occupations;
- Job opportunities inside and outside of teaching and the ease of obtaining a preferred job;
- Limits on the number of teacher education places on offer within universities;
- Rate of net migration of teachers;
- Costs of acquiring teaching qualifications;
- Impact of various leave entitlements; and
- Relative working conditions¹².

¹⁰ OECD (2002) *Education Policy Analysis 2002*

¹¹ Cameron J W (2001) *Teacher Work Force Planning* (Victoria: Auditor General).

¹² Cameron J W et al (2001) *op cit*.

The Ageing of the Teacher Workforce

In some OECD countries the workforce is ageing, which is expected to have an impact on the supply of teachers. The ageing of the workforce is a result of the baby boomers reaching retirement age and there is evidence that this may place pressure on teacher supply.

The recent report by the Victorian Auditor General in Victoria estimated that 45 per cent of the State government teaching work force would progressively reach retirement age over the next ten year period. This audit found that the Victorian teacher labour market is likely to be in shortage over this period unless there is a substantial increase in new entrants to the profession.¹³ While the expected retirements in each State and Territory vary, Australia appears to have a relatively low rate of attrition due to retirements in comparison to other OECD countries such as Japan¹⁴.

Research in Canada, the United States and Europe have suggested that the ageing of the teaching workforce is expected to have significant impact on teacher supply in those countries. The Canadian Teachers Federation (CTF)¹⁵ report, from their analysis of French districts, that 'teachers reaching retirement age' was the most significant factor impacting on teacher shortages in the next five years. In the UK, it is projected that 45 per cent of teachers would reach retirement age over the next 15 years¹⁶.

According to the data available, a little over one-fifth of the teaching population, on average in Europe, will be close to or have reached retirement age in the next ten years. Several countries are thus faced with the task of gradually – or sometimes suddenly – replacing a large proportion of their practising teachers. The shortage of qualified staff and the unattractiveness of the profession with which some education systems are now having to cope, also seem to bear witness to the urgency and importance of finding solutions to the problem. Special attention will therefore have to be paid to the potential for recruiting new entrants into the profession and, by the same token, ensuring the means are found to attract prospective teachers into initial training (Eurydice)¹⁷

Increase in Student Enrolments

Many OECD countries, including Australia, are facing increases in student enrolments due to expected increases in the school age populations of 15 – 19 year olds (see *Chart 1*). The OECD report *Education Policy Analysis 2002* states that 'it is generally in upper secondary education that the recruitment challenges implied by an ageing teacher force are likely to be most marked (OECD 2002).

Australia is expecting a small increase in the school-age population of 15 – 19 year olds, which will only slightly add to the pressure on any teacher shortages. The lack of interest in teaching as a career (particularly in Key Learning Subject areas) is a greater factor in influencing teacher shortages.

¹³ Cameron J W et al (2001) *ibid*.

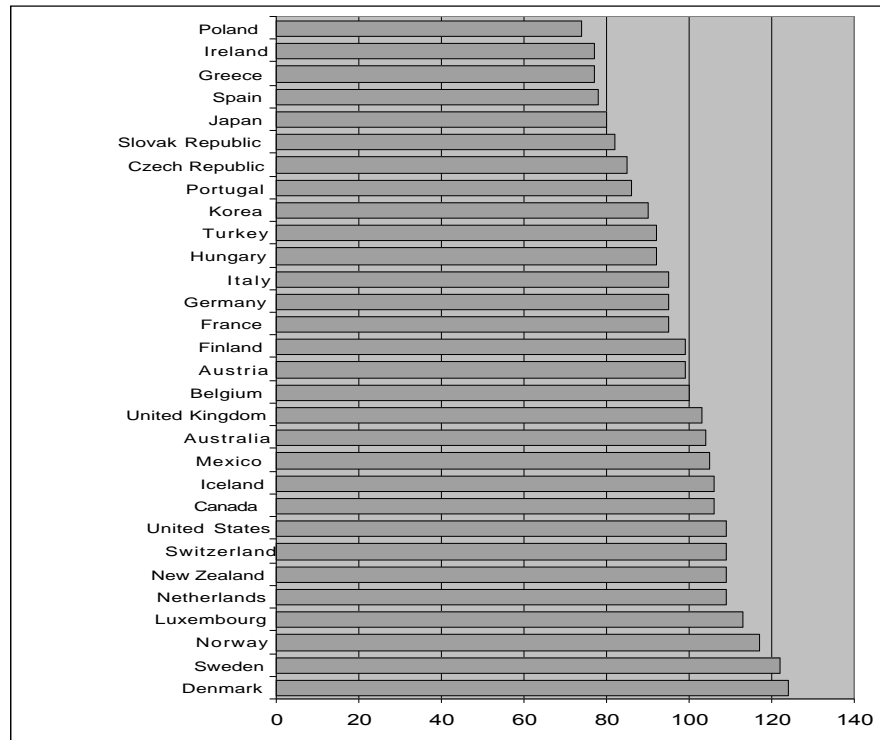
¹⁴ OECD (2002a) *Education Policy Analysis 2002*

¹⁵ Canadian Teachers' Federation (CTF) (2000) 'Teachers Supply and Demand Survey 2000 – 2005: Analysis of results for French districts' in *Economics Services Bulletin* October 2000

¹⁶ Johnson (2001)

¹⁷ Eurydice (2002) 'The Teaching Profession in Europe : profile, occupational content and key issues' *General and Methodological Framework of the Study*

Chart 1 Expected changes in the school-age population from 2000 to 2010 (2000 =100) ages 15 - 10



Source: Education at a Glance 2001.

Decline in the attractiveness of teaching as a career

The literature we have reviewed suggested that there is commonly, both in Australia and the OECD, a lack of interest in teaching as a career. Reasons for this lack of interest included the status of teaching in society, a decline in relative teaching salaries and as a result a decline in students' perceptions of the teaching profession.

Many OECD countries are finding that there is a decline in the amount of graduates interested in teaching as a career. For example, the Canadian Teachers' Federation found in their analysis of French districts that a lack of interest in teaching as a career was seen as the fourth most significant factor impacting on teacher shortages over the next five years¹⁸. The decline in the attractiveness of teaching may also be associated with the decline of teachers' salaries relative to those of other occupations, in the OECD generally. For example, an 'imperfect' measure of the decline in the attractiveness of teaching as a career is the ratio of teacher salaries to GDP per capita¹⁹. All OECD countries (except Greece and New Zealand) experienced a decline in teacher salaries relative to GDP per capita. An OECD publication concludes '*...that the attractiveness of the profession, as far as the salary dimension is concerned, has declined substantially in the most recent years*'.²⁰

¹⁸ CTF (2000) op cit.

¹⁹ OECD (2001) op cit.

²⁰ OECD 2001 op.cit.

The attractiveness of the profession is also impacted by other factors, such as the perceived decline in status of teaching in the public eye and working conditions. The Canadian Teachers' Federation found in their analysis of French districts that a lack of interest in teaching as a career was seen as the fourth most significant factor impacting on teacher shortages over the next five years.²¹

Lack of Teachers in Key Learning Areas

The literature reveals a wide spread concern for the lack of supply of teachers in certain subject areas including physics, chemistry, mathematics, Language Other Than English (LOTE) and Information and Communication Technology (ICT) in Australia. These subject areas are referred to as 'difficult-to-staff' in the bulk of the domestic and international literature.

The literature revealed that there are shortfalls in the number of teacher education course completions in these key subject areas. A recent Australian report on this issue reports that there are low frequencies of teacher education course completions with specialisations in senior physics (4 per cent), senior chemistry (6 per cent), senior mathematics (7 per cent), secondary information technology (4 per cent) and secondary LOTE subjects (8 per cent)²². These findings were confirmed by Cameron et al in the recent audit of the teacher labour market in Victoria. The audit demonstrated that LOTE, technology, physics, mathematics and computer studies have the lowest number of expected graduate teachers per vacancy.²³

Recruitment of Australian Teachers Abroad

Considering that there is evidence of supply problems abroad, other countries are addressing their short term supply shortages by recruiting teachers from overseas, including Australia.

The activities of these overseas recruiters draws attention to teacher shortages in other English-speaking countries which are likely to have an effect on Australian teacher supply and demand in two ways, via the recruitment of Australian teachers by overseas countries and via the drying up of recruitment opportunities abroad²⁴.

Rural and Remote Teachers.

The literature suggests that a greater focus on attracting high quality teachers to rural and remote areas is needed. Mathews, Carr and Hudson (2001) conducted an overview of the literature on teaching in rural and remote areas.

An evaluation of the Rural Professional Education Program (RPEP)²⁵ indicated a number of concerns associated with living and working in rural locations. These concerns may detract teaching graduates from working in rural or remote locations. Similarly, a study by Higgins (1995) of beginning teachers appointed to rural schools in Queensland and New South Wales

²¹ CTFb (2000)

²² Ballaynte R, Blaine D and Preston B (2001) *Teacher Education Courses and Completions: Initial teacher education courses and 1999, 2000 and 2001 completions* (Canberra: DETYA).

²³ Cameron J W et al. op cit.

²⁴ McCollow, J (2001) *Teacher Supply and Demand in Queensland* see Australian Education Union (2001) *Teacher Supply and Demand in the States and Territories*

²⁵ Lloyd and Mathews (1998) see Mathews C, Carr L, Hudson M (2001) 'Graduate Teachers in Rural and Remote SA Schools – "A Year of Firsts"' South Australian Chapter, the Australian College of Education

identified a ranged of problems faced by teachers including isolations, housing and access to professional development.

The problems teachers face in rural and remote regions are similar across many OECD countries. For example in the United States, about half of the nation's public schools are considered to be in rural and small town areas, yet employ 40 per cent of the nation's public school teachers. The National Education Association (NEA) of the United States made a number of findings in September 1998 on teaching in rural schools. These findings were that:

- teachers in rural schools are generally younger and less well educated, and receive lower pay and benefits than their non-rural counterparts;
- rural school teachers are less likely to be first-time teachers;
- thirty per cent of rural schools have inadequate buildings; and
- rural schools have lower rates of internet access and use of telecommunications to access information, keep records, and communicate with parents²⁶.

²⁶ North Central Regional Educational Laboratory (NCREL) 'Issues of Supply and Demand: Recruiting and Retaining – Quality Teachers' *the School Development Outreach Project*, 1999 located at http://www.ncrel.org/policy/pubs/html/recruit/recrt_0.htm [online]

Section 2

Attracting and Retaining High Quality Teachers in the Education Profession and Related Issues

Section 2, provides an overview of the literature on various issues relating to attracting and retaining quality teachers. The literature reveals an intense debate on factors that contribute to quality teaching practices including teacher motivation, teacher skill levels and its impact on student achievement, class sizes and the professional development of teachers.

For the purpose of this literature review on teacher supply and demand, an explanation of factors influencing teaching quality is fundamental to an understanding of the literature on teaching shortages. Teacher shortages are frequently viewed as impacting adversely on the quality of teaching and an understanding of the factors influencing quality teaching will provide an introduction to these related issues.

Who is Choosing Teaching as a Profession?

Who becomes a teacher and why?

The main reasons for choosing teaching as a career, in most of the literature reviewed, fell into three main areas:

1. altruistic reasons: these reasons dealt with seeing teaching as socially worthwhile and important job, a desire to help children succeed, and a desire to help society improve;
2. intrinsic reasons: these reasons cover aspects of the job activity itself, such as the activity of teaching children, and an interest in using their subject matter knowledge and expertise; and
3. extrinsic reasons: these reasons covered aspects of the job which are not inherent in the work itself such as holidays, level of pay, and status²⁷.

The common theme from the literature on motivations for becoming a teacher was based on intrinsic reasoning such as a desire for the feeling of personal achievement and the satisfaction of working with children. However, some studies focused on the extrinsic reasoning and found a relationship between graduates' choosing teaching as a career and relative wages.

A leading UK study of factors motivating and demotivating prospective and practicing teachers found, for example, that the most common reasons for choosing a career in teaching were job satisfaction and working with children. The reasons rated as least important included working hours, holidays, salaries and security (Spear, Gould & Lee 2000)²⁸.

These results were similar to those reported by Reid and Caudwell (1997) who surveyed over 450 secondary teaching trainees attending Postgraduate Certificate in Education (PGCE) courses in five English Universities. Around 96 per cent of students rated 'enjoying working with

²⁷ C Kyriacou and M Coulthard (2000) *Undergraduates' views of teaching as a career choice* in Journal of Education for Teaching, July 2000

²⁸ M Spear, K Gould and B Lee (2000) *Who would be a teacher? A review of factors motivating and demotivating prospective and practicing teachers* (NFER).

children' and 'feeling that teaching would bring high job satisfaction' as important or very important reasons for wanting to become a teacher (see *Chart 1*).²⁹

Kyriacou and Coulthard (2000) suggested that most of the research on the motivation to teach has focused on views expressed by student teachers. The study by Kyriacou and Coulthard (2000) was designed to compare the views held by three groups of undergraduates:

1. those who are, have, and are currently seriously considering teaching as a career;
2. those who are undecided , and
3. those who have never considered, and are currently not considering, teaching as a career.³⁰

The results showed that students considered teaching likely to offer the following:

- working with children
- a job that contributes to society
- a job that gives responsibility
- a job where I care for others
- a secure job
- a career that provides intellectual changes³¹

The above studies suggested that salary did not have a significant impact on the decision to choose teaching as a career. However, there have been studies that have found potential teachers to be motivated by salary. Dolton (1990) investigated how important relative earnings and personal non-pecuniary factors were in the UK graduates' decision to become a teacher³².

The results of the study suggest that relative earnings in teaching and non-teaching occupations have a marked effect of graduates' choices. More specifically, the study found that the lower the relative wages in teaching, the less likely a graduate is to choose that career. This study was conducted using 1980 cohort data and is older than the UK studies mentioned earlier, but, the findings remain significant.

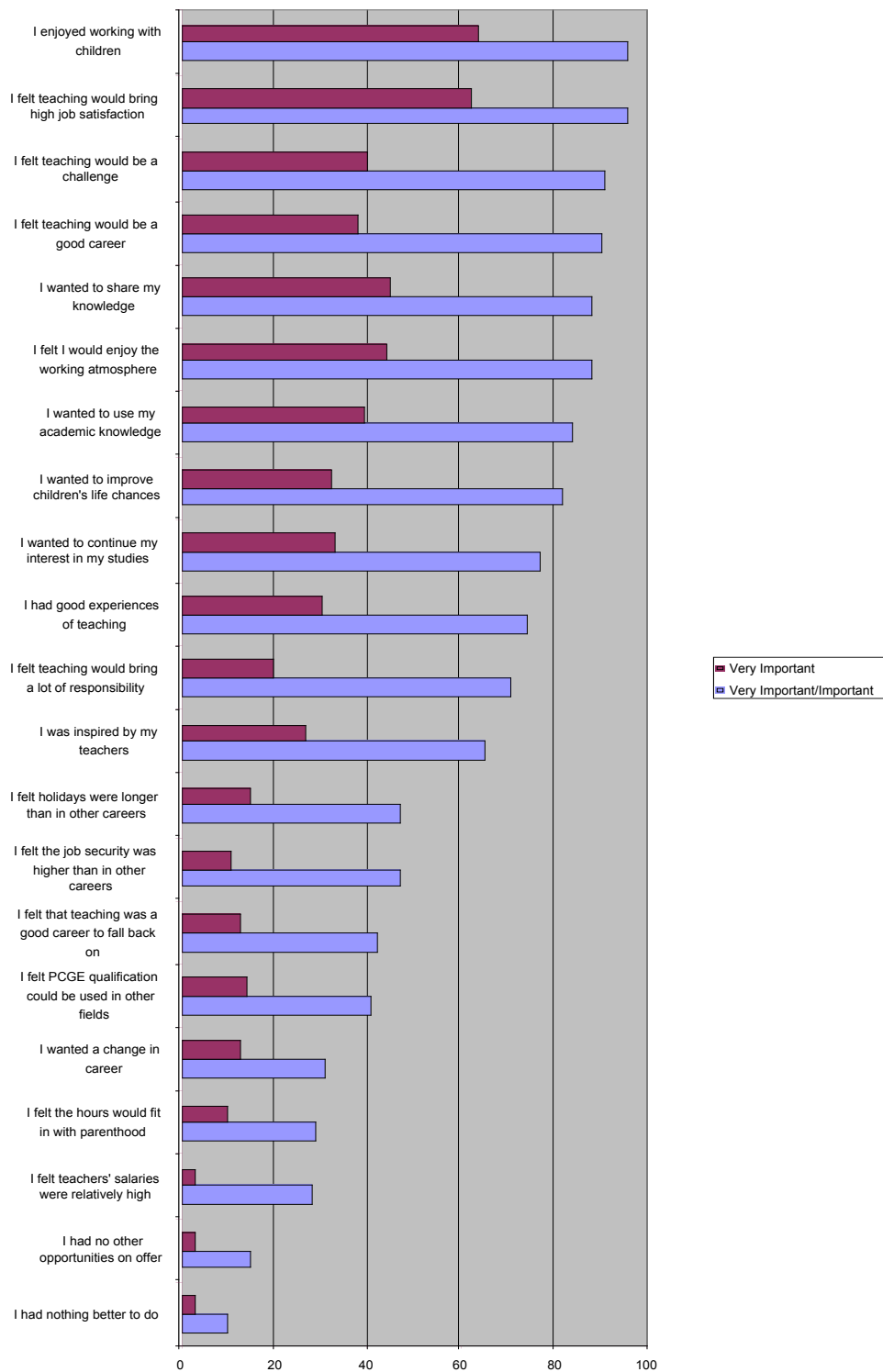
²⁹ I Reid and J Caudwell (1997) *Why did secondary PGCE students choose teaching as a career?* in Research in Education, Issue 58 (Manchester University Press: Manchester)

³⁰ Kyriacou and Coulthard (2000) op. cit.

³¹ ibid.

³² P Dolton (1990) *The Economics of UK Teacher Supply: The Graduates Decision* in The Economic Journal 100 (conference 1990), 91 - 104

Chart 2 Percentage of secondary PCGE students indicating which reasons for wanting to become a teacher were 'very important' and 'important'



Source: Reid and Caudwell (1997)

What motivates teachers to stay in the profession?

The studies discussed above describe why graduates choose teaching as a career, so now it is important to discuss what motivates teachers to stay in the profession.

The literature on the satisfaction of teachers with their profession places significant emphasis on how the public perceive teaching and teacher satisfaction with their own professional development. For example, *the Independent Inquiry into the Provision of Public Education* in NSW study on teachers in their mid-career³³ found that teachers get most satisfaction from their own professional achievement, their students' progress, the support they get from other teachers and the desirability of the present location. In addition, the report found that the most outstanding negative item for teachers in terms of job satisfaction was the status of teachers in society, where 62 per cent of teachers surveyed were not at all satisfied. Chart 3 illustrates the results of the study. We note that issues around teachers' status in society were also raised as important concerns by teachers who participated in the national survey of teachers, and the case studies and focus groups which formed part of the suite of qualitative research, for this MCEETYA report.

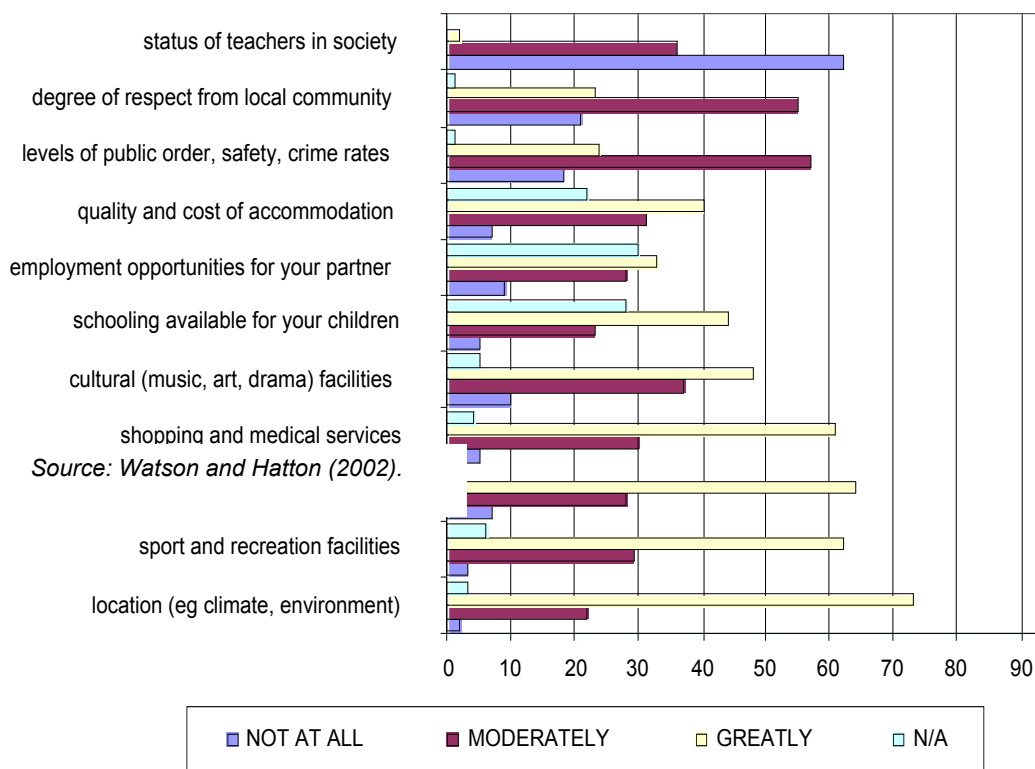
The professional development of teachers was identified above as a major factor in motivating teachers to remain in their career. The professional development of teachers is important for two reasons; firstly it provides career incentives for teachers (which may retain teachers) and secondly it contributes to the quality of teaching.

Vinson (2002), for example writes that 'a working concept of professional development must be broad enough to embrace teachers working with other teachers, within and across schools, to devise and evaluate new pedagogies, to identify gaps in teacher knowledge, to use their own, as well as external resources to fill those gaps, and to plan more effective learning'³⁴. Darling-Hammond and McLaughlin (1995) also believe that scope of teacher professional development needs to be broad and write that 'the policy problem for professional development in this era of reform extends beyond mere support for teachers' acquisition of new skills or knowledge. Professional development today also means providing occasions for teachers to reflect critically on their practice and to fashion new knowledge and beliefs about content, pedagogy, and learners'³⁵.

³³ Watson A & Hatton N (2002) 'NSW Independent Inquiry into the Provision of Public' Education: *Teachers in Mid-Career – professional perceptions and preferences*

³⁴ T Vinson (2002) NSW Public Education Inquiry first report (NSW: Public Education Inquiry).

³⁵ Darling-Hammond, L & McLaughlin, M (1995) *Policies that Support Professional Development in an Era of Reform* Phi Delta Kappan April 1995 (Bloomington).

Chart 3: General elements contributing to overall work satisfaction

McRae (2001) et al wrote in *PD 2000: A national mapping of school teacher professional development* commissioned by DETYA that it is difficult to improve the rationale for teacher professional development that was written in *Teachers' Learning*, the Commonwealth Schools Commissions In-Service Teacher Education Project more than a decade ago. The summary wrote that the rationale behind teacher professional development was:

- to ensure that teachers can respond professionally to economic, social, cultural, technological and scientific change through the development of personal and intellectual qualities;
- to respond to the demand for increased quality of educational outcomes by improving teachers' classroom capabilities, knowledge base and professional judgements;
- to support teachers in meeting their responsibility for learning in schools through their own pursuit of learning and excellence;
- to provide enabling conditions for teachers, employing authorities and other agencies to initiate creative approaches to emerging education issues;
- to recognise the professional status of the teacher and the consequent career long nature of the professional development process;
- to sustain the motivation, commitment and enthusiasm of teachers to enhance their self-esteem and sense of control over their professional lives by providing opportunities for teachers to reflect on, analyse and improve their own performance; and
- to allow teachers to develop new competencies and skills as they move from classroom positions to administrative or specialist positions, or to new teaching environments.

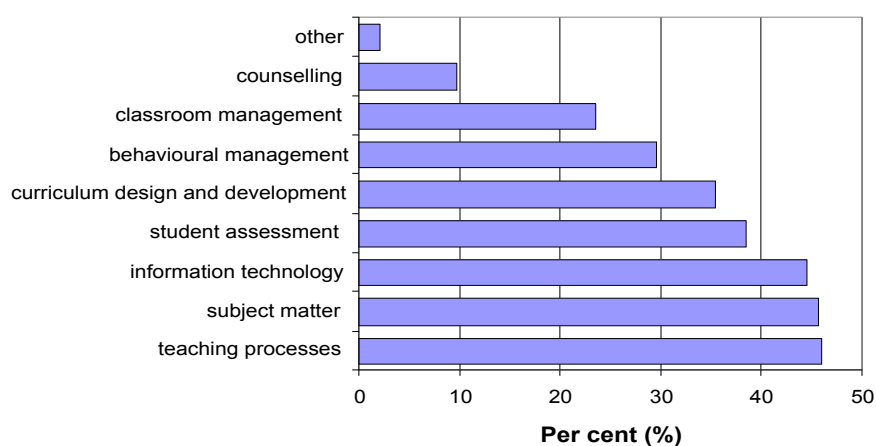
As part of their study, McRae et al (2001), interviewed a number of teachers, reviewed the relevant literature on professional development and conducted three surveys. The authors found that nearly 60 per cent of teacher who responded to their survey indicated that professional development had a 'very high priority' in their working lives. McRae et al (2001) believe that teachers are undertaking more professional development than a decade ago. The authors suggested that ICT remains the strongest area of self-defined needs for professional development for primary and secondary teachers. They also suggested that engagement in professional development increases with levels of experience and responsibility. Highly experienced teachers had significantly higher participation levels than those who had been teaching for four years or less³⁶.

A *National Survey of Teachers in Australian Schools* conducted by the Centre for Leadership and Management in Education (1999) also demonstrated the importance of ICT in classroom related in-service professional development activities³⁷. Of the teachers who responded to their survey 44.4 per cent undertook information technology classroom related in-service professional development activities (see *Chart 4*).

Watson and Hatton (2002) conducted a study on the work perceptions and preferences of mid-career primary and secondary teachers in the New South Wales public education system. This study of teachers in their mid-career found that a third of New South Wales teachers had not undertaken any formal study since their completing initial qualifications. Over a quarter of these mid-career teachers had completed a postgraduate Certificate or Diploma level award.

The top ranking reason given to study was that it enhanced a particular school role (see *chart 5*). One respondent commented that the Special Education Postgraduate Diploma provided more relevant hands on skills and had the greatest relevance and value to teaching practice.

Chart 4 Professional Development: Main areas of focus – classroom-related in-service activities

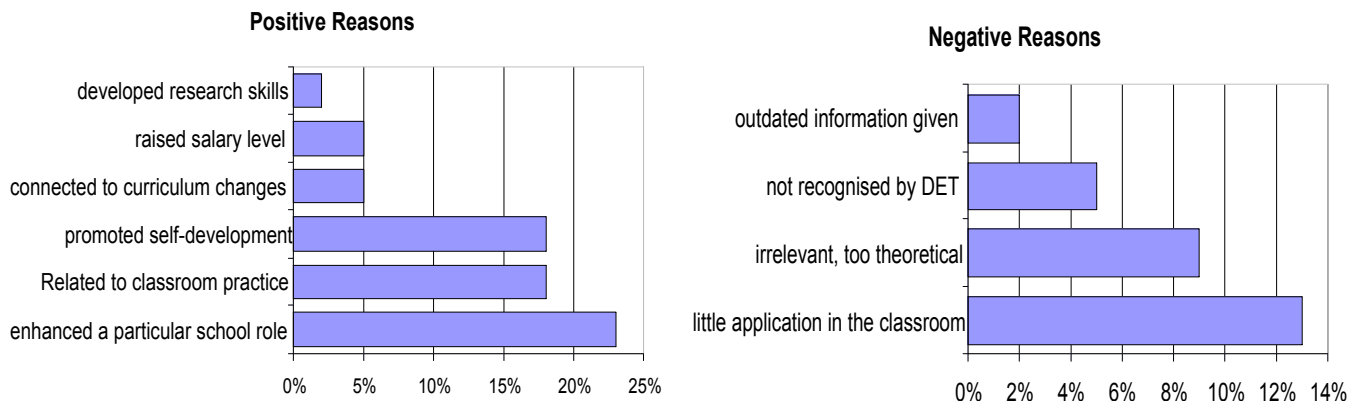


Source: Dempster et al (2000)

³⁶ 29. McRae D, Ainsworth G, Groves R, Rowland M, Zbar V (2001) *PD 2000 Australia: A National Mapping of School Teacher Professional Development* commissioned by the Commonwealth Department of Education Training and Youth Affairs.

³⁷ N Dempster, C Sim, D Beere & L Logan (2000) *Teachers in Australian Schools: A report from the 1999 National Survey – Final Report* commissioned by the Centre for leadership and Management in Education (Griffith University)

Chart:5: Reasons for the value given to further study - Australian primary and secondary mid-career teachers



Source: Watson and Hatton (2002)

Watson and Hatton (2002) also suggested that in a period when in-service opportunities have been curtailed, that better recognition of post initial teacher education courses is desirable. The authors also suggested that advanced status and pay should be seriously considered for persons with more advanced qualifications.

In his study of New South Wales public education, Vinson (2002) also made a number of recommendations concerning increasing teacher professionalism and to increase partnerships with the wider community. The first of these recommendations included, the creation of a staff development committee (for schools with more than 15 FTE teaching staff) consisting of the Principal, four teaching staff and a community representative.

Vinson (2002) further recommended an allocation of Professional Development Funds (estimated at 48 million per annum for New South Wales) to be administered by the Staff Development Committee. He suggested that the size of the per capita allocation should be \$800 for schools in major urban areas (Sydney – Newcastle – Wollongong) and \$1,200 for all other schools.

The literature reveals that potential teachers are generally motivated to enter teaching intrinsic reasons. Teachers in their mid-career appear to be motivated to remain the profession by their own professional development, by their students' progress, the support they get from other teachers and the desirability of the present location.

In recruiting high quality candidates into the teaching workforce, attention needs to be placed on recruitment strategies. It is important when designing recruitment campaigns for teachers that the campaign appeals to the right audience. Some research has taken place on this topic, including those studies mentioned above. One such study by Kyriacou and Coulthard (2000) had implications for future teacher recruitment campaigns. This study suggested that teacher recruitment campaigns need to focus on the factors that undergraduates who are undecided about teaching as a career, view as important in influencing their choice of career. For example, the authors wrote that while those who embark on teacher training courses often believe that *doing a job that will contribute to society* is an important factor in their career choice, those students who are undecided (and that advertising campaigns cater for) need to be

convinced that teaching will offer a *pleasant working environment*. While we have broadly covered the literature on the intrinsic factors that motivate teachers, the social and economic benefits of teaching require further discussion.

What makes teachers dissatisfied and leave the profession?

Work overload, poor pay and perceptions of how teachers are viewed by society were some of the demotivating factors identified by teachers in the literature reviewed.

Work Load

One of the major sources of teachers frustration identified, from the studies reviewed, was the administrative work load which accompanied a career in teaching. One of these studies suggested that '*administrative decisions appeared to undermine teachers' feelings of competence and efficacy*'³⁸. Similarly, a study of students who had withdrawn from a secondary PGCE course in the UK suggested that the main reason for the students' withdrawal was due to the mismatch between expectations and reality, especially in regard to workload³⁹.

Pay

Another factor, which many studies considered to be demotivating and which may lead to teachers leaving the profession, is the level of pay. The level of pay for teachers is an immensely debated topic. While many studies demonstrated that teachers choose a career in teaching for intrinsic reasons (Watson and Hatton 2002; Spear et al, 2001; Reid and Caudwell 1997), many other studies suggested that teachers are not remunerated sufficiently for their significant role in society. A general statement that can be made here is that although teachers may not be attracted to the profession on the basis of salary, the level of salary can influence their decision to follow a career in teaching or to move to another profession.

A number of studies investigated the effect "opportunity costs" had on a teacher's career choice. Opportunity cost can be defined as the salary a teacher would have earned had he or she pursued their best career alternative outside of teaching⁴⁰.

Murnane, Singer and Willet (1989) studied the relationship between teacher salary (and "opportunity costs") and the risk of leaving teaching. Their study, based on 5,100 'white' elementary and secondary school teachers in North Carolina public schools, found that the more a teacher earns, the more likely he or she is to stay in teaching. However, this study also found that the importance of salary, in predicting the likelihood that a teacher will leave teaching, diminished over time. Murnane et al (1989) endeavoured to explain the declining effect of salary on the risk of leaving teaching. They explained that switching occupations may become more difficult the longer one stays in teaching or that those whose career choices are most sensitive to salary tend to leave after only a few years in the classroom⁴¹.

³⁸ McLaughlin M, Pfeifer R S, Swanson-Owens D (1986) 'Why Teachers Won't Teach' Phi Delta Kappan Vol 67 No 6 pp. 420 - 426

³⁹ Chamber et al (2000) see Sharp C, Edmonds S and Benefield P (2002) *Recruitment to and Retention on Initial Teacher Training – A Systematic Review* (National Foundation for Educational Research).

⁴⁰ R Murnane, J Singer & J Willet J (1989) 'The Influences of Salaries and "Opportunity Costs" on Teachers' Career Choices: Evidence from North Carolina' in *Harvard Educational Review*, Harvard, Vol. 59 No.3 pp. 325 - 346

⁴¹ *ibid.*

Dolton and Van Der Klaauw (1999) conducted an econometric estimation which highlighted the importance of the wage and relative forgone earnings in turnover decisions. Similar to Murnane et al (1989), the results of this study suggest that (at a simplistic level) the higher the opportunity wage outside teaching the more likely teachers are to leave teaching for an alternative career. In addition, Dolton and Van Der Klaauw (1999) found that the higher the wage in teaching the less likely the teacher is to quit a teaching job for career or family reasons⁴².

Hanushek, Kain and Rivkin (2001) believe that the studies by Dolton and Van Der Klaauw (1999) and Murnane et al (1989) have potential problems due to the limited amount of information on working conditions that can be correlated with salary. They believe that teacher mobility is more strongly related to student characteristics than to salary differentials⁴³

Salary schemes are an important aspect of career structure⁴⁴. There is evidence in OECD countries that teacher attrition is higher in the early years of teaching. The OECD publication *Teacher Supply and Demand 2001* suggest that relative salaries for starting teachers are very relevant in the development of strategies seeking to retain young teachers in the profession.

Further research by the OECD⁴⁵ suggest that pay can influence:

- the decision to become a teacher;
- the decision to remain in teaching; and
- the decision to return to teaching after a career interruption.

This research discussed studies of the United Kingdom and the United States. One of these studies were by Dolton (1990) who found that graduates' choices in the United Kingdom were associated with relative earnings in teaching and non-teaching occupations⁴⁶.

Status of Teaching

The status of teaching is an important factor in both attracting and retaining teachers. Many papers have reported on teachers and potential teachers disappointment with the public opinion of the teaching profession. Teachers view their role in society as being very important. When teachers believe their status in society is not being viewed highly they do not feel as satisfied with their work.

Two of the reports reviewed had similar findings in terms of teacher's satisfaction with the status of teaching. As previously stated, in a report conducted by Watson and Hatton (2002) the most outstanding negative item for teachers in terms of job satisfaction was that status of teachers in society, where 62 per cent were not at all satisfied. This was similar to the finding of Spear et al (2000)⁴⁷ who found that the major factors of job dissatisfaction were work overload, poor pay and perceptions of how teachers are viewed by society.

⁴² P Dolton and Van Der Klaauw V (1999) op cit.

⁴³ E Hanushek, J Kain, S Rivkin, S (2001) 'Why Public Schools Lose Teachers' in Working Paper 8599, Cambridge, National Bureau of Economic research

⁴⁴ OECD (2001) *Teacher Demand and Supply: Improving Teaching Quality and Addressing Teacher Shortages*

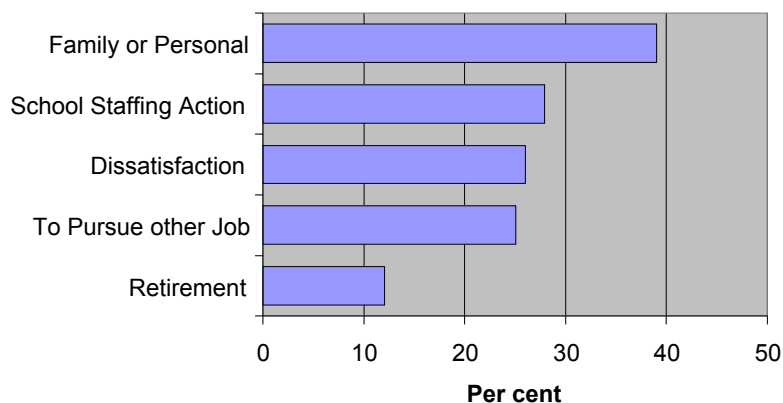
⁴⁵ OECD (2002) *Education Policy Analysis 2002*

⁴⁶ ibid.

⁴⁷ Spear et al (2000) op. cit.

Ingersoll (2002) found that teacher turnover can be largely attributed to job dissatisfaction – far more significant than the amount of turnover due to retirement. In his examination of US teachers Ingersoll (2002) reported that of all teachers leaving their jobs, about half report they are departing either due to job dissatisfaction or out of a desire to pursue a better job, another career, or to improve career opportunities in or out of education⁴⁸.

Chart 6 Reasons teachers give for turnover



Source: Ingersoll (2002)

'A number of teachers have recommended registration as a means of raising the status of teaching'⁴⁹

Professor Vinson⁵⁰ and Ramsey⁵¹ both support the creation of an Institute of Teachers. The 2001 OECD report on *Teacher Demand and Supply: Improving Teaching Quality and Addressing Teacher Shortages* recommends that teacher licensing be introduced throughout the OECD to discourage those who lack the necessary skills and to enhance the public image of the teaching career.

There is however a debate about whether increasing licensing requirements will discourage potential teachers from entering the profession. Hanushek & Pace (1995) found that increased course requirements and the prospect of taking an examination for certification depresses supply. Hanushek & Pace (1995) also writes that not even teachers earnings demonstrated as large of an impact on lessening supply as did teacher examinations for certification.⁵²

⁴⁸ Ingersoll R M (2002) *The teacher Shortage: A case of wrong diagnosis and wrong prescription* National Association of Secondary School Principals, NASSP Bulletin June 2002

⁴⁹ J Vinson *NSW Public Education Inquiry: First Report 2001* (Public Education Inquiry: NSW).

⁵⁰ Ibid.

⁵¹ Ramsey (2000) *Quality Matters: Revitalising Teaching – Critical Times, Critical Choices* report of the review of teacher education NSW.

⁵² E Hanushek & R Pace (1995) *Who Chooses to Teacher (and Why?)* in *Economics of Education Review* Vol 14 No 2

Career Break

The studies from Australia and the OECD generally, demonstrated a general trend in the form of the increasing feminisation of the teaching workforce⁵³. The percentage of women among teachers, in the OECD, continued to rise during the 1990's⁵⁴.

Dolton and Van Der Klaauw (1999) believe that it is important that women teachers are treated appropriately. Women teachers may leave their teaching job, not to change occupation, but temporarily for family reasons⁵⁵. It appears that women may be more likely to have a temporary break in their career. This may vary depending on the social class of the woman. Dolton and Van der Klaauw (1999) found that the more qualified and those from higher social classes, with lower opportunity costs of having children, the more likely they are to leave the labour force and quit for family reasons.

One of the important findings on this topic was that while women are an important asset to teaching, there appears to be evidence that women are not well represented in managerial positions. Despite the increasing feminisation of the teaching profession women are still appear to be underrepresented in management including in high-income countries such as Australia⁵⁶.

Can salary attract and retain the teachers needed today?

Remuneration is often revisited as a supply-side tool in order to attract and retain teachers, particular in those subject areas where the demand for qualified teachers is not meeting the supply.

Authors on public education reform in Australia have placed emphasis on the importance of relative salaries to retain young teachers and those in the 'difficult-to-staff subject areas. Ramsey (2000) recommended that a system of differentiated salaries and conditions be introduced to attract and retain high quality teachers in difficult-to-staff teaching subject areas and schools⁵⁷. The Australian Education Union (AEU) also recommends that '*beginning teacher salaries need to attract young people in teaching*⁵⁸'.

Some of the literature discusses the difficulty and designing effective remuneration policy to attract and retain graduates in high-demand subject areas. The General Teaching Council for England writes that some graduates are in particular demand in a graduate labour market and that special measures may be needed to encourage them to choose teaching over other careers. However they warn that this is a sensitive area as increases in remuneration to attract graduates in certain subject areas may demotivate those in other subject areas⁵⁹.

⁵³ N Dempster, C Sim, D Beere, L Lloyd (2000) Teachers in Australian Schools: A report from the 1999 National Survey – Final Report commissioned by the Centre for Leadership and Management in Education, Griffith University.

⁵⁴ M Siniscalco (2002) *A Statistical Profile of the Teaching Profession*

⁵⁵ Dolton P and Van Der Klaauw V (1999) *The Turnover of Teachers: A competing risks explanation*, in The Review of Economics and Statistics Vol 81 No 3 Pg 543 – 552.

⁵⁶ Siniscalco, M (2001) *A Statistical Profile of the Teaching Profession* (Paris: UNESCO).

⁵⁷ Ramsey (2000) op cit.

⁵⁸ Australian Education Union (2001) A National Teacher Shortage: A solution from the Australian Education Union

⁵⁹ General Teaching Council for England (2002) Ten – Point Plan to Address Concerns over Teacher Shortages, London, GTC

There is a possibility that the solution to the recruitment difficulty could precipitate a retention problem, particularly among teachers who enter the profession just before a new initiative is introduced. The greater the financial package, the more likely it is to demotivate those who narrowly miss out. There is also a practical difficulty associated with the notion of 'shortage subjects', in that measures have tended to target yesterday's shortage subjects and not tomorrow's, causing the list of shortage subjects to grow each year (General Teaching Council of Britain)'.

How do Teachers and Teaching Practices Impact on Student Achievement?

Teacher Quality and its Impact on Student Achievement?

'teacher quality is likely to be one of the most important determinants of student achievement' (OECD 2001: 5)

Much of the literature on teacher skill levels focuses on those subject areas where there are perceptions of supply problems. The recruitment difficulties in respect to Mathematics, Sciences and Information and Communication Technology (ICT) have been widely reported in the UK, US and Australia, as well as other OECD countries. It has been suggested that some teachers working in these subject areas are often not well qualified to teach in their subjects and are working out of the subject area for which their qualifications cater.

The reported lack of qualified teachers in subject areas where recruitment difficulties exist has led to a widespread debate on the impact this will have on student achievement and, as a consequence on the further supply of teachers in these areas. In his study of Californian High Schools, US author, Felter⁶⁰ (1999), found evidence that a shortage of qualified Mathematics teachers is associated with weak student achievement in mathematics. Felter's methodology involved an analysis of test scores in relation to teacher experience and education and student demographics.

The impact of recruitment difficulties in some teaching specialisations on teaching quality and student performance is difficult to measure. The OECD Programme for International Student Assessment (PISA) created an index for teacher shortages across OECD countries based on school principals' perceptions of the adequacy of teacher supply in their schools as well as the impact of perceived shortages on student performance. The index has a mean value of 0 for all OECD countries. Values below zero indicate a perceived higher than average shortage or inadequacy of teachers, hindering learning among 15-year-old students⁶¹.

⁶⁰ M Felter (1999) High school staff characteristics and mathematics test results, (California Department of Education)

⁶¹ PISA (2000) *Knowledge And Skills For Life - First result from PISA 2000* 30 October 2000 found at <http://www.pisa.oecd.org/knowledge/home/intro.htm>

Chart 7 Index of teacher shortage and performance on the combined reading literacy scale, by national quarters of the index
Figure 1a: Index of teacher shortage

Country	Index of teacher shortage ¹							
	All students		Bottom quarter		Middle half		Top quarter	
	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.	Mean index	S.E.
OECD Countries								
Australia	-0.18	(0.08)	-1.39	(0.04)	-0.16	(0.08)	Max	
Austria	0.53	(0.05)	-0.43	(0.08)	0.79	(0.04)	Max	
Belgium	0.25	(0.07)	-0.89	(0.08)	0.47	(0.07)	Max	
Canada	-0.01	(0.04)	-1.41	(0.03)	0.20	(0.04)	Max	
Czech Republic	0.51	(0.04)	-0.36	(0.06)	0.71	(0.04)	Max	
Denmark	0.31	(0.05)	-0.71	(0.04)	0.50	(0.05)	Max	
Finland	0.09	(0.06)	-0.88	(0.03)	0.13	(0.04)	Max	
France	m	m	m	m	m	m	m	m
Germany	-0.23	(0.06)	-1.47	(0.04)	-0.23	(0.04)	Max	
Greece	-0.73	(0.14)	-2.97	(0.15)	-0.52	(0.10)	Max	
Hungary	0.29	(0.08)	-1.04	(0.12)	0.61	(0.05)	Max	
Iceland	-0.39	(0.00)	-1.59	(0.00)	-0.47	(0.00)	Max	
Ireland	-0.06	(0.08)	-1.35	(0.11)	0.07	(0.07)	Max	
Italy	-0.28	(0.09)	-1.53	(0.07)	-0.30	(0.08)	Max	
Japan	-0.23	(0.07)	-1.51	(0.07)	-0.19	(0.09)	Max	
Korea	0.32	(0.06)	-0.90	(0.09)	0.62	(0.06)	Max	
Luxembourg	-0.10	(0.01)	-1.66	(0.00)	-0.14	(0.01)	c	c
Mexico	-0.53	(0.09)	-1.88	(0.08)	-0.60	(0.05)	0.94	(0.01)
New Zealand	-0.18	(0.07)	-1.42	(0.06)	-0.15	(0.07)	Max	
Norway	-0.32	(0.07)	-1.42	(0.07)	-0.41	(0.05)	0.92	(0.03)
Poland	0.30	(0.10)	-1.05	(0.20)	0.64	(0.05)	Max	
Portugal	0.03	(0.08)	-0.97	(0.03)	0.05	(0.10)	Max	
Spain	0.52	(0.06)	-0.59	(0.11)	0.85	(0.03)	Max	
Sweden	-0.25	(0.07)	-1.54	(0.06)	-0.21	(0.06)	Max	
Switzerland	0.35	(0.06)	-0.78	(0.07)	0.61	(0.05)	Max	
United Kingdom	-0.40	(0.07)	-1.71	(0.06)	-0.42	(0.06)	Max	
United States	0.20	(0.08)	-1.18	(0.09)	0.48	(0.07)	Max	
OECD total	-0.01	(0.03)	-1.32	(0.03)	0.14	(0.02)	Max	
OECD average	0.00	(0.01)	-1.24	(0.03)	0.12	(0.01)	Max	

The results of the PISA 2000 survey suggest that in the OECD generally, students perform worse in schools with shortages of teachers. The OECD concluded that, ‘...overall, there appears to be a modest negative relationship between a shortage of teachers and student performance in reading. As the shortages perceived by school principals increase, performance decreases, as might be expected. The highest reading scores are typically found among schools and students in the top quarter (where higher index values reflect little or no concern about a shortage or inadequacy of teacher)’⁶².

⁶² PISA 2000 op cit.

Figure 1b: Performance on the combined reading literacy scale

Country	Performance on the combined reading literacy scale						Change in the combined reading	
	Bottom quartile		Middle quartile		Top quartile			
	Mean score	S.E.	Mean score	S.E.	Mean score	S.E.	Change	S.E.
OECD Countries								
Australia	510	(5.8)	534	(5.3)	534	(6.9)	13.95	(3.23)
Austria	478	(10.2)	514	(4.4)	523	(7.4)	27.15	(7.81)
Belgium	501	(11.6)	543	(7.2)	542	(14.6)	23.01	(8.05)
Canada	531	(2.6)	536	(2.3)	535	(3.3)	2.11	(1.42)
Czech Republic	459	(11.2)	502	(4.4)	502	(10.5)	42.06	(11.26)
Denmark	485	(5.5)	497	(3.8)	505	(6.0)	9.29	(4.28)
Finland	544	(4.0)	548	(2.8)	546	(7.4)	1.23	(4.09)
France	m	m	m	m	m	m	m	m
Germany	424	(11.5)	498	(6.1)	522	(8.3)	42.31	(5.68)
Greece	476	(13.7)	458	(7.7)	504	(10.1)	2.61	(3.84)
Hungary	460	(10.5)	490	(6.2)	477	(11.7)	12.25	(5.77)
Iceland	504	(3.3)	503	(2.2)	517	(3.2)	5.25	(1.49)
Ireland	519	(7.9)	528	(4.6)	532	(7.2)	2.83	(3.65)
Italy	477	(9.3)	494	(6.4)	487	(8.8)	2.62	(5.05)
Japan	501	(10.7)	525	(8.0)	538	(8.9)	12.04	(4.47)
Korea	515	(7.8)	531	(4.6)	522	(6.0)	8.09	(4.33)
Luxembourg	467	(3.7)	422	(2.5)	473	(3.0)	-4.22	(1.45)
Mexico	411	(8.1)	430	(6.9)	419	(10.6)	3.90	(4.43)
New Zealand	512	(6.8)	529	(4.3)	550	(7.1)	12.66	(3.82)
Norway	501	(6.6)	506	(3.8)	506	(6.9)	4.47	(3.66)
Poland	447	(14.2)	487	(9.7)	496	(13.5)	7.75	(8.93)
Portugal	470	(9.0)	472	(6.7)	470	(11.7)	0.68	(6.11)
Spain	485	(5.3)	496	(4.4)	492	(6.1)	2.90	(3.41)
Sweden	511	(6.8)	513	(3.2)	527	(3.9)	7.88	(2.53)
Switzerland	479	(10.4)	497	(8.1)	503	(11.2)	18.74	(6.30)
United Kingdom	507	(7.3)	519	(5.4)	556	(7.5)	18.47	(3.49)
United States	488	(10.3)	510	(7.7)	513	(11.5)	13.54	(4.21)
OECD total	481	(3.2)	503	(2.3)	509	(3.6)	13.65	(1.39)
OECD average	488	(1.9)	502	(1.1)	510	(1.7)	9.36	(0.96)

The results for Australia are interesting. Australia school principals' surveyed as part of the PISA study suggested Australia was experiencing above OECD averages in respect to teacher shortages at the time of the OECD survey. However, Australia school principals believed students performed better than the OECD average from the bottom to top quartile of students. This result was similar in Iceland, Ireland, Japan, New Zealand, Norway and Sweden.

Many other studies across the western world have associated teacher quality with student achievement. A recent UK study by Hay McBer (2002)⁶³, using multi-variate modelling techniques to study the impact teachers had on achievement growth, found that over 30 per cent variance in pupil progress was due to the quality of teachers⁶⁴.

Darling-Hammond (2000) of Stanford University (US) also conducted a study on teacher quality and student achievement. One of the findings is particularly noteworthy. When aggregated at the state level in the United States, Darling-Hammond's analysis suggest teacher quality variables appear to be more strongly related to student achievement than class sizes, overall

⁶³ Hay McBer (2002) *Research into Teacher Effectiveness: A model of teacher effectiveness* Report commissioned by the Department for Education and Employment (London: DEE) cited by Fullarton and Lamb (2002) *Classroom and School Factors Affecting mathematics achievement*.

⁶⁴ S Fullarton & S Lamb (2002) *Classroom and School Factors Affecting Mathematics Achievement: a comparative study of Australia and the United States using TIMSS*.

spending levels, teacher salaries or such factors as the state-wide proportion of staff who are teachers⁶⁵.

The New South Wales Ramsey (2002) report cited the Darling-Hammond study and stated that while some care must be exercised when drawing implications from the context of American education, there is growing interest in teacher quality in New South Wales. Ramsey also states that '*Globally, there is increasing appreciation that inadequate attention has been given to the importance of raising teacher quality to improve student outcomes*'.

In contrast to this point of view, Fullarton and Lamb (2002) conducted a study of classroom and school factors affecting mathematics achievement. Fullarton and Lamb used data from the Third International Mathematics and Science Study (TIMSS) and focused on Australia and the United States. The authors found that there are strong classroom effects and modest school effects on Mathematics achievement but found that the effects of teachers are quite modest. The study claims to find that pupil management policies are most influential when

it comes to student achievement. For example, the authors believe that schools which group students according to their level of mathematics achievement (such as high performing students being grouped together in a class and low performing student in another) promote differences in student mathematics achievement. Fullarton and Lamb (2002) states that:

'[The] findings do not support the view of recent research, which argues that the differences in quality of teachers and teacher effectiveness account for much of the classroom variation in mathematics achievement. Rather they support an alternative explanation, that the types of pupil grouping practices that schools employ shape the classroom learning environments in ways that affect student achievement, and these kinds of differences more significantly influence classroom effects' (Fullarton and Lamb 2002).⁶⁶

Fullarton and Lamb (2002) make these findings with some caution. They note that they are not suggesting that the quality of teachers do not matter. However, they note that their study demonstrated that teachers in Australia enhance achievement by using traditional teaching approaches (for example, using traditional textbook-based teaching methods).

The literature illustrates that the relationship between teacher quality and student achievement is difficult to measure and that a variety of studies have provided competing results on the nature and importance of the relationship. This may be because of different cultural and learning environments in different countries, for example between the US and Australia, or may be due to the amount of variables that impact on student achievement making it difficult to measure.

The OECD (2002a) publication *Education Policy Analysis 2002* summarises the reason for a lack of concrete evidence on a relationship between teacher quality and student achievement.

⁶⁵ L Darling-Hammond (2000) *Teacher Quality and Student Achievement - A Review of State Policy Evidence* (Stanford University).

⁶⁶ Fullarton and Lamb (2002) op.cit.

A review of the literature indicated that a range of factors relating to teacher quality and teaching quality affects student performance. However, the literature also reveals the limitations of the information provided by the more measurable characteristics of teachers. Researchers have often found it hard to isolate the effect of characteristics such as subject-matter knowledge, qualifications, academic ability, pedagogical knowledge or teaching experience on student outcomes. The evidence predominately shows a positive impact of these teacher characteristics on student learning, but to a lesser research studies looking at individual school systems with relatively uniform teacher characteristics, are unable to observe sufficient variation in such factors to be able to measure the difference they make. In addition, for most of these characteristics, a “threshold effect” is likely to apply: teachers been expected. A possible explanation is that need a certain level of qualifications or experience to be effective, but further attainments beyond those levels may be progressively less important for student performance. (OECD 2002).

Class Sizes and Student Achievement

The international and domestic literature on class sizes varies in its recommendations. There appears to be some evidence in the US that smaller class sizes do have benefits for students who are disadvantaged, in lower grade levels and from low income families.

Lately it has been pointed out that smaller classes do make a difference in pre-primary and initial primary education and have had positive results for low-income and minority children in some countries. In general, the effect of class size should not be considered in isolation but in relations to changes in teaching methods and classroom organisation (Siniscalco 2001).

Some of the literature states that the greatest advantage of small class sizes is on the impact it has on teaching practice. Siniscalco (2001) writes in a UNESCO publication that smaller class sizes are valued because they allow students to receive more of the teachers attention⁶⁷. She writes that reduction in class sizes has been related to gains in achievement but there is no conclusive evidence that reducing class sizes is always the most effective policy option for improving students' achievement.

Such teaching practices include: effective whole class teaching; the need for fewer procedural interactions (eg asking for clarification); the use of probing or prompting when asking students questions; more homework and quieter classrooms.

One of the most long-lasting studies on class sizes was conducted in the US in Tennessee and is known as Project STAR, for Student/Teacher Achievement Ratio. Viadero (2002) writes that students who were in small classes early in their school careers maintained their academic edge, staying from six to 13 months ahead of their peers from larger classes during grades 4, 6, and 8 in math, reading and science⁶⁸.

Hanushek (1999) a renowned US academic on teacher quality and student achievement takes a different view. Hanushek argues that Project STAR in Tennessee does not support overall

⁶⁷ Siniscalco, M (2001) *A Statistical Profile of the Teaching Profession* (Paris: UNESCO).

⁶⁸ Viadero, D (1999) 'Tennessee Class Size Study Finds Long-Term Benefits' in *Education Week May 5 Vol 18* [On-Line] <http://www.edweek.org/ew/vol-18/34class.h18>

reductions in class size except perhaps at kindergarten. He argued that if smaller classes were valuable in each grade, the achievement gap in each grade would widen however the gap is consistent from kindergarten. He suggested that '*the inescapable conclusion is that smaller classes at best matter in kindergarten*⁶⁹'.

Hanushek (1999) believes that the move to reduce class sizes is misguided and writes:

'Existing evidence indicates that achievement for the typical student will be unaffected by instituting the types of class size reductions that have been recently proposed or undertaken. The most noticeable feature of policies to reduce overall class sizes will be a dramatic increase in the costs of schooling, an increase unaccompanied by achievement gains'.

Hanushek (1999) believes that the quality of the teacher is much more important than class size. Research by another US author, Linda Darling-Hammond (2000) on teacher quality and student achievement confirms Hanushek's findings and found that the benefits of smaller class sizes are most likely realized when accompanied by well-qualified teachers.

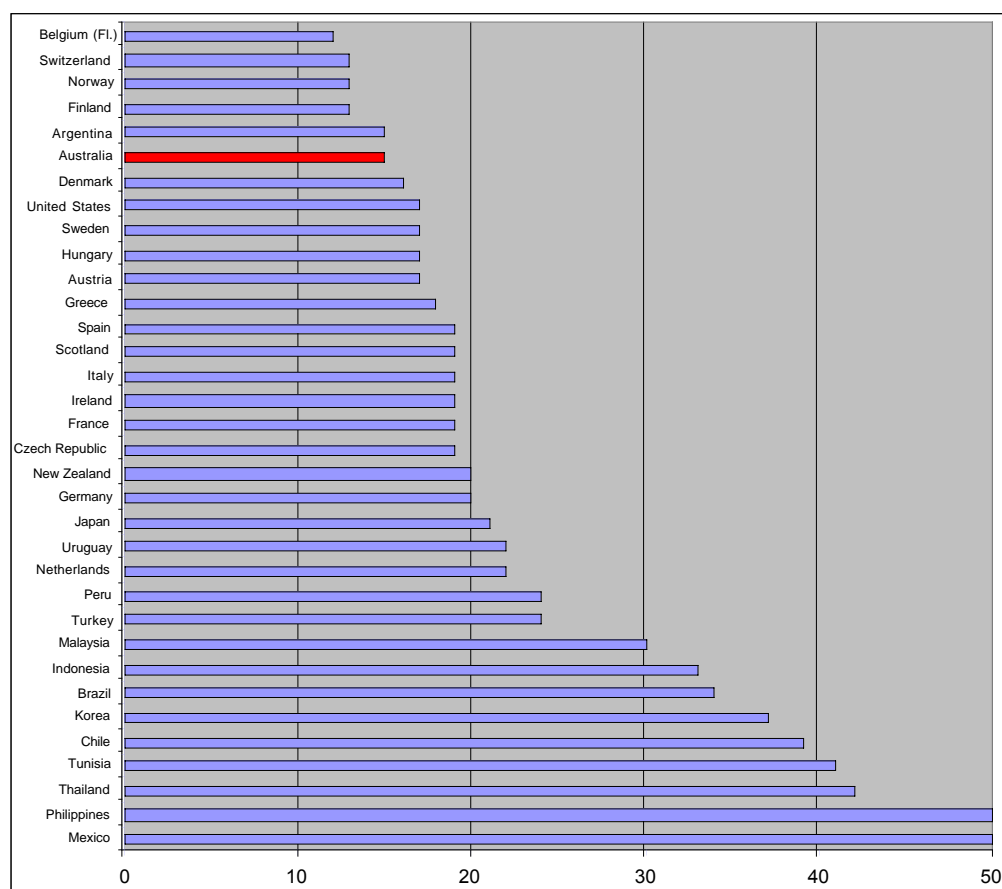
The literature on this issue is therefore somewhat inconclusive, France's Advisory Haut Conseil de l'Evaluation de l'Ecole, for example, delivered a report in March 2001 which claimed that smaller class sizes could have an effect in underprivileged areas, but only at primary level and only if the cut is drastic⁷⁰. Pre-primary class sizes in France fell from an average of 43.7 children in 1966 to 25.5 in 1999, while primary school class sizes fell from 28 to 22.3 as successive governments sought to cut sizes to improve performance. The report stated that primary classes would have to go well below 20 pupils for significant results to show and claims that this would be costly (300 million francs a year).

Class sizes in Australia are relatively small in lower secondary education (see *Chart 8*). Australia is estimated as having the fifth smallest lower secondary class sizes in comparison to other OECD countries (on average no more than 15 students per class) (Siniscalco 2001).

⁶⁹ Hanushek E (1998) 'The Evidence on Class Size' *Occasional Paper Number 98-1* University of Rochester, W. Allen Wallis Institute of Political Economy.

⁷⁰ OECD Observer (2001a) *Smaller classes in question*, March 30, 2001.

Chart 8 Estimated class sizes in lower secondary education, OECD Countries 1999, WEI Countries 1998



Source: Calculated from OECD, 2001 cited in Siniscalco 2001.

Overall, the literature on class sizes do not support across the board class size reductions as they are expensive and have not convincingly demonstrated that alone small class sizes will result in increases in student achievement (Hanushek 2000). What can be demonstrated from the literature, to some extent, is that in the US small class sizes can be beneficial in earlier years and are even more effective when coupled with quality teaching.

The question can be asked, if there is no conclusive evidence of the benefits of small class sizes on student performance in Australia, why is this policy tool often revisited? There are a number of benefits for teachers and educational administrators for small class sizes, including reduced administration and greater student/teacher interaction which make this policy attractive. The OECD has suggested that teachers who are faced with larger classes may become more dissatisfied and inclined to leave the profession which may result in the worsening of teacher supply problems (OECD 2002a). *Education Policy Analysis 2002* refers to a study that looked at this aspect and found that in the United States high schools with above-average class sizes were associated with a higher resignation rate of teachers⁷¹.

⁷¹ D Mont and D Rees (1996) *The influence of classroom characteristics on high school teacher turnover* Economic Inquiry Vol 34, pp. 152 – 167.

What can we conclude about the factors influencing teacher quality?

As an introduction to teacher supply and demand, the above section provided a detailed view of the factors that impact on teaching quality. There are common findings in a number of studies on the factors influencing the motivation to teach. Generally the motivating factor found in the literature to attract and retain teachers in the profession were 'working with children' and 'job satisfaction'. These studies demonstrate that intrinsic factors were more likely to attract teachers to the profession, rather than extrinsic reasoning, such as salary. Only one study demonstrated a relationship between relative wages and a graduates' decision in choosing teachers. These are crucial findings that will be covered when discussing how to attract and retain teachers (page ?) in order to alleviate teacher shortages.

Although, no universal conclusive evidence can be made about the impact of teaching quality on student achievement, some of the studies on the topic demonstrated that teaching quality has a greater impact on student achievement, than class sizes. These findings also inform the discussion on attracting and retaining teachers to the profession.

The prevailing issue, *whether teacher shortages will decrease teacher quality and impact on student achievement* was not able to be evaluated in the above section. The contradictions in this debate are emphasised by PISA data on skill shortages.

The PISA 2000 results suggested that even though Australian school principals' reported that at the time of the study has a higher than the OECD average teacher shortages, principals' perceived students performance to be higher than the OECD average.

The range of studies outlined above often have conflicting findings on this issue reflecting the many and varying factors in each country, which make conclusive evidence difficult. This leads into the next section, techniques used to assess the demand and supply of teachers.

Section 3

Policy Options to Improve the Supply of Teachers

This section will discuss the most common policy options (both supply and demand-side policies), discussed in the literature, for improving the supply of teachers. The OECD report on *Teacher Supply and Demand* write that policy tools on the demand side (i.e. reducing class sizes) are far less promising than policy tools on the supply side (i.e. policies improving the attractiveness of the teaching profession).

Supply-side Policies

The most common supply-side policies mentioned in the literature to improve the supply of teachers include:

- more emphasis on the induction of new teachers;
- alternative pathways to teaching;
- increasing the attractiveness of the teaching profession;
- attracting teachers to key subject areas;
- increasing the numbers of teachers being trained at university; and
- increasing the professional development of teachers.

The teacher supply problem is both a problem of quantity and quality (as illustrated earlier). In order to decrease the turnover of teachers and provide more support to teachers in early years, Ramsey suggests that more emphasis be placed on the induction of new teachers – through universities, the TAFE system and employers working together to create new induction programs and those who supervise induction should be professionally accredited⁷².

Another way to increase the supply of teachers is to offer alternative pathways into teaching. An example of a program which appeared to be successful was the US *Pathways to Teaching Careers Program* which aimed to increase the number of well-prepared fully certified teachers who took up teaching in difficult urban districts. Cleaveland and Villegas (2001) prepared fully certified teachers who took up teaching in difficult urban districts⁷³. Cleaveland and Villegas (2001) evaluated this program and found that the program surpassed its recruitment goals by 18 per cent. One of the strands the evaluation focused on was paraprofessionals and non-certified teachers where students were offered scholarships and support to obtain bachelors or masters degrees and full certification. The evaluation claimed to find that those who undertook the program:

- were more likely to complete the education programs than the national rate in tradition education programs;
- were more likely to remain in the urban district;
- were likely to remain in teaching for at least 3 years.

⁷² Ramsey (2000) op cit.

⁷³ Cleaveland B C & Villegas A M (2001) *Absence Unexcused: Ending Teacher Shortages in High Need Areas: Evaluating the Pathways to Teaching Careers Program* (The Urban Institute)

One of the major factors of teacher job dissatisfaction found in the literature was the status of teaching in the public eye. Supply-side policy tools need to aim at increasing the attractiveness of teaching as a profession.

As previously discussed evidence exists in the literature, that there are shortages across the globe in certain subject areas including Mathematics, Sciences, ICT and LOTE. Debate is still taking place as to the impacts these teacher shortages will have on student achievement, however, the fact still exists that teachers are needed in these areas and education policy across the nation is considering how to alleviate such shortages. The Victorian Department of Education, Employment and Training (DEET) introduced a retraining program to address the shortfall of qualified LOTE teachers⁷⁴. The program is available to government teachers with ongoing employment. The teachers are provided with study leave and DEET funds schools for casual relief teacher replacements. The program has not been evaluated at this stage and may be extended to other shortage subject areas if proven successful.

An alternative strategy suggested to increase the supply of teachers in key learning areas may be to require higher levels of skills in the key learning areas for all undergraduate students. This may increase the numbers of students who major or minor in these subjects and could help to meet the growing demand for such expertise in teaching and technical professions. As with many policies this may be met with a number of challenges including the impact it would have on undergraduate retention and attainment⁷⁵.

A number of other initiatives are underway in other states and territories, including scholarships and graduate programs to encourage potential teachers to enter the profession⁷⁶.

The literature demonstrated that short term solutions which may improve the situation in these subject areas have been implemented widely, including recruiting teachers from other countries and filling teacher shortages with teachers who do not have expertise in these subject areas. For example a study of teacher shortages in US conducted by the Canadian Teachers Federation reported that New York City recruited 23 Math and Science teachers from Austria in 2000, Kentucky allowed some districts to hire people with only a high school diploma as substitute teachers and South Carolina introduced a “troops to teachers” program which hired surplus military personnel to teach science and mathematics⁷⁷. These however, are not long term solutions and much research has demonstrated that this may impact on the quality of teaching.

In order to alleviate shortages in these key subject areas longer term solutions have been recommended in much of the literature – these long term solutions involve policy options that increase the attractiveness of completing a teacher education qualification and becoming a teacher in one of the key subject areas. In the UK, a 4000 pound ‘golden hello’ payment is offered on completion of induction to teachers of shortage subject areas (Johnson 2001)⁷⁸.

⁷⁴ Cameron J W (2001) op cit.

⁷⁵ Felter (1999) op cit.

⁷⁶ Cameron J W (2001) *ibid.*

⁷⁷ Canadian Teachers’ Federation (CTFb) (2000) *Teacher Shortages: A Global Phenomenon*

⁷⁸ Johnson M (2001) *Making Teacher Supply Boom-Proof* London, Institute of Public Policy Research

Demand-side Policies

Demand-side policy tools are not as widely implemented and have been reported to be not as effective as supply-side policy tools. Examples of these tools include reducing class sizes, tools to decrease teaching loads, the use of teaching assistants and other support staff and the structure of curriculum and educational programmes⁷⁹.

These policy tools are not as common as their benefits have not been widely evaluated or studied and the focus of improving teacher supply is largely on supply-side policies.

There are a number of supply-side and demand-side policies which have been or are being implemented across the OECD to increase the number of teachers attracted to the profession. However, introducing single-issue policies may not be the solution⁸⁰.

single-issue solutions (which are uniformly applied across a broad set of problems) ignore the complexities inherent in the issue of teacher quality. Clearly, just increasing teachers' salaries will not alter the basic conditions that prevent teachers from teaching. Just decreasing class sizes will not keep effective teachers from leaving the profession, if they continually confront parental apathy or intrusion. Just increasing opportunities for professional development will do little to make teachers effective, if a building administrator fails to manage the school in a fashion that supports instructional efforts....A comprehensive agenda of reform is necessary to structure the teaching profession for success (McLaughlin et al).

⁷⁹ OECD (2002) Education Policy Analysis 2002

⁸⁰ McLaughlin M W et al (1986) 'Why Teachers Won't Teach' *Phi Delta Kappan* Vol 67 No 6 February 1986.

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