

Victorian Teacher Supply and Demand Report 2012 and 2013

September 2015



Victorian Teacher Supply and Demand Report

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Acronyms

ABS	Australian Bureau of Statistics
ACEQA	Australian Children’s Education and Care Quality Authority
ACER	Australian Council for Educational Research
AGS	Australian Graduate Survey
AITSL	Australian Institute for Teaching and School Leadership
ASCED	Australian Standard Classification of Education
ATAR	Australian Tertiary Admission Rank
CECV	Catholic Education Commission Victoria
CEET	Centre for the Economics of Education and Training
CEQ	Course Experience Questionnaire
COAG	Council of Australian Governments
CRT	Casual Relief Teacher
CSP	Commonwealth Supported Place
DEECD	Department of Education and Early Childhood Development (Victoria)
DET	Department of Education and Training (Commonwealth Government)
DFV	Difficult-to-fill vacancy
DoE	Department of Education (Commonwealth Government)
EFTSL	Estimated full-time student load
ENTER	Equivalent National Tertiary Entry Ranking
FDC	Family Day Care
FTE	Full-time equivalent
GCA	Graduate Careers Australia
GDS	Graduate Destination Survey
GFC	Global Financial Crisis
GTS	Good Teaching Scale
HPE	Health and Physical Education
IHC	In-Home Care
ITE	Initial Teacher Education
ISV	Independent Schools Victoria
KLA	Key Learning Area
LDC	Long Day Care
LGA	Local Government Area
LOTE	Languages other than English
LTEWS	Longitudinal Teacher Education and Workforce Study
LWOP	Leave Without Pay
NCVER	National Centre for Vocational Education Research
NPUAECE	National Partnership for Universal Access to Early Childhood Education
NSSC	The National Schools Statistics Collection (ABS)
NTWD	National Teaching Workforce Dataset
OCC	Occasional Care
OSHC	Outside School Hours Care
OSI	Overall Satisfaction Item
PREQ	Postgraduate Research Experience Questionnaire

PST	Pre-service Teacher
RTO	Registered Training Organisation
SES	Socioeconomic status
SiAS	Staff in Australia's Schools survey
SOSE	Studies of Society and the Environment
TAFE	Technical and Further Education
TQNP	Teacher Quality National Partnership
VAC	Vacation Care
VCE	Victorian Certificate of Education
VET	Vocational Education and Training
VIT	Victorian Institute of Teaching
VTAC	Victorian Tertiary Admissions Centre

Overview

Teacher workforce 2012–13

- Teacher supply and demand were broadly in balance in Victoria.
- More teachers were training online, with interstate providers.
- The part-time workforce was growing in all sectors.
- Eighty per cent of first year out teachers were on short-term contracts.
- Almost all Early Childhood teachers were female. Among Primary school teachers 80 per cent were female and among Secondary school teachers 60 per cent were female.
- Half the all teachers were under 40 years of age.
- Currently, there is a general oversupply of Secondary school teachers, but in some subject areas such as Mathematics, Physics and LOTE there are shortages.
- Difficult-to-fill vacancies were at their lowest level ever, although there were some difficulties with Mathematics in a small number of regions.
- There was a high level of satisfaction among teacher graduates with their training.
- Around 20 per cent of teachers who were qualified to teach were not available to teach.
- More providers were offering two-year postgraduate teaching courses, rather than one year courses.

Teacher supply and demand forecasts 2014–2020

- Enrolments in kindergarten are forecast to rise from 72,941 in 2013 to 90,009 in 2020, or three per cent per year.
- The total number of kindergarten teachers is forecast to increase 40.3 per cent by 2020. The forecasts may be affected by the introduction of child-to-educator ratio of 11:1 in all funded kindergarten services from 2016.
- The potential number of new graduate teachers available for teaching in Early Childhood is difficult to ascertain because most graduates have dual qualifications—Early Childhood and Primary. Thus projecting shortages/surpluses of kindergarten teachers is highly speculative.
- Primary school enrolments are forecast to increase from 482,586 in 2013 to 573,073 in 2020, or 2.7 per cent a year.
- By 2020, demand (job openings for new entrants) for Primary school teachers will be 2,500 per year. Victorian trained teachers may not be sufficient to meet demand. To a certain extent this will be affected by the net interstate and net overseas migration of teachers to Victoria, and Victorians graduating with an interstate provider. Changes in the average student-to-teacher ratio may affect demand.
- Secondary school enrolments will increase from 2017. Overall numbers will grow from 387,635 students in 2013 to 421,313 students in 2020.
- Demand for Secondary school teachers is forecast to increase from 36,521 to 40,355 in 2020. Most growth will be in the Catholic and independent sectors.
- Special school enrolments have increased 43.3 per cent from 2006 to 2013. On these trends, enrolments are forecast to increase by 49.7 per cent from 2013 to 2020; and demand for Special education teachers is expected to grow by 33.8 per cent. These forecasts need validation.
- Further research is needed to better understand the teaching preferences of dual qualified Early Childhood and Primary school teachers, the numbers of Victorians undertaking interstate or online qualifications, and how the supply and demand for teachers may vary by locality.

Executive summary

This report provides forecasts of the supply and demand for teachers in Victoria from 2014 to 2020. The teaching workforce includes all teachers from K to 12. This is the tenth in the series of such reports, the first of which was released in 2001. Unlike previous reports, this one includes a section on Early Childhood and has more extensive analysis of the future demand for teachers in the state.

The report provides:

- A description of the current teacher workforce in Early Childhood and in Primary, Secondary and Special schools in the government, Catholic and independent sectors.
- An analysis of the supply of teacher graduates including enrolments, completions and graduate destinations of students in initial teacher education courses.
- An analysis of the demand for teachers including the drivers of growth in demand, net replacement needs and job openings for new entrants.
- An assessment of the balance between supply and demand for teachers to 2020.

Early Childhood participation and workforce in Victoria

Numbers of children

In 2013, about 73,000 children were enrolled in government-funded kindergarten programs. Most of these children were aged three (30 per cent) or four (70 per cent). About 98 per cent of children participated in a kindergarten program in the year before starting school and almost all received 15 hours per week of quality Early Childhood education.

About 60 per cent of children attended a stand-alone kindergarten (government 13 per cent and non-government 47 per cent) and 36 per cent attended a preschool program within a long day care service. Most non-government kindergartens were community-run.

Teachers

The number of teachers in government-funded kindergarten programs increased from 2,610 in 2011 to 3,333 in 2013. This has been due to increase in enrolments and increase in kindergarten program hours from 10.75 to 15 per week. Almost all kindergarten teachers are female.

School teacher workforce in Victoria

Growth

More teachers were working in Victoria in 2013 than in 2012, particularly in the non-government sectors. The employment of teachers in 2013 was 76,365—45,122 in government schools, 17,037 in Catholic schools and 14,206 in independent schools. Most of the increase in employment was at the Primary level. Fewer teachers were employed at the Secondary level in the government sector in 2013 than in 2012.

From 2006 to 2013, teacher numbers in government, Catholic and independent schools increased at an average annual rate of 0.5, 2.5 and 2.5 per cent, respectively.

Student-to-teacher ratios

Since the early 1980s, the student-to-teacher ratio in Primary schools has been gradually declining. In 2013, the ratio was 13.7, 12.6 and 10.7 in the government, Catholic and independent sectors, respectively. More recently, and particularly in the government sector, the rate of decline in the ratio has slowed.

In Secondary schools the trends in the ratio varies significantly across the three sectors. While in the government sector the ratio peaked at 12.1 in 1998, in the Catholic and independent sectors there has been a continuing steady decline. In 2013 the ratio was 11.1, 10.7 and 8.0 in the government, Catholic and independent sectors, respectively.

Gender

About 80 per cent of Primary school teachers in 2013 were female. Females were also in a majority in Secondary schools—having increased from 55 per cent in 2000 to 60 per cent in 2013. The continuing feminisation of the teacher workforce has the potential to impact the supply in the future in subject areas traditionally associated with male teachers such as Mathematics, Physics and Computing/IT.

Age

As the retirement of the baby boomer generation gathers pace, their positions are being taken up by younger teachers. This is altering the age profile of teachers, with half the workforce aged 40 years or younger in 2013 compared to about a third a decade ago.

Time fraction

The proportion of teachers working part-time has continued to increase. In 2013, the proportion working part-time in government schools was 24 per cent and in the other two sectors 30 per cent. Older teachers are more likely to work part-time than younger teachers—in government schools almost half of all teachers aged 60 or older worked part-time compared to less than 20 per cent of those aged 35 years or younger. Part-time employment is more common in Primary schools than in Secondary schools.

Temporary contracts

About 18 per cent of teachers in the government sector and 20 per cent in the Catholic sector were employed on fixed-term contracts in 2013. Almost four out of every five teachers in their first year were on a fixed-term contract. More teachers in Primary schools were on fixed-term contracts than in Secondary schools.

The August 2013 census showed more than 7,000 teachers working as Casual Relief Teachers (CRT) in government schools, which is a decline of almost 1,000 from 2010.

Difficult-to-fill vacancies

Difficult-to-fill vacancies (as a proportion of total vacancies) were at about four per cent in 2013. They were much lower in Primary schools (1.1 per cent) than in Secondary schools (4.6 per cent) or Special schools (12.6 per cent). Local Government Areas (LGAs) with difficult-to-fill vacancies remain predominately in the north-west and east of the state. Vacancies for Mathematics teachers are the most difficult-to-fill in terms of subject area.

Leave

In government schools teachers took, on average, 11 days of sick or carer's leave in 2013, up from 9 days in 2011. The increase may be partly a result of the introduction of new reporting rules that came into force in 2010 and the removal of ten days cap on carer's leave.

Teacher supply

There were 103,193 fully registered teachers in Victoria in 2013, a one per cent increase on the previous year.

Providers and courses

The VIT approved 94 Initial Teacher Education (ITE) programs in 2013.

Applications

First preferences for undergraduate teacher education courses in Victoria have been about 6,000 for over a decade.

An increasing number of students are enrolling in online teaching courses. It is likely to become increasingly difficult to rely solely on the state-based institutions to forecast the supply of teachers in the state.

Enrolments

Final year enrolments have increased from an average of 4,500 (2004–2009) to nearly 6,000 in 2013. There were over 430 final year enrolments in Early Childhood teaching courses, over 3,200 final year enrolments in Primary teaching courses and over 3,400 final year enrolments in Secondary teaching courses. About 15 per cent of enrolments are in courses leading to dual qualifications.

Projecting the number of graduates emerging from the system has been complicated by the changes in the structure of postgraduate teacher training courses from one to two years and the significant increases in offers in undergraduate courses.

At the Secondary level, enrolments have increased in some key learning areas such as Science (e.g. Biology and Chemistry), in Health and Physical Education and in SOSE. Enrolments in LOTE have also seen some growth. Enrolments in Mathematics, English and Physics are relatively stable but there has been some decline in Arts and Technology.

Final year Special education enrolments increased significantly between 2008 and 2011 but have plateaued to about 130 per year since then.

Growth

The supply of new qualified teachers is expected to grow over the next few years. About 6,000 new teachers are expected to be available in 2014 (500 Early Childhood, 3,260 Primary and 3,240 Secondary). About 15 per cent of these will be dual qualified in Early Childhood and Primary teaching. The supply of new teachers is expected to increase to about 7,000 by 2018 (660 Early Childhood, 3,910 Primary and 3,660 Secondary).

Student perceptions of course quality

Surveys of students on course satisfaction indicate high levels of satisfaction with teaching courses—around 80 per cent on one measure.

Graduate destinations

The graduate destination data show that 70–80 per cent of graduates from undergraduate teaching courses working as teachers four months after course completion compared to 60–65 per cent of graduates from postgraduate courses.

A small but increasing number of graduates employed in Victorian government schools have interstate qualifications.

Forecasts of enrolments and the demand for teachers

This research developed new models to forecast student enrolments and the demand for teachers at the state-wide level. The forecasts for local areas, not produced in this report, may vary significantly from the state-wide forecasts.

Forecasts of enrolments

Forecasting teacher demand requires knowing the future pattern of student enrolments. Various time series methods were used to forecast student enrolments. A number of factors were taken into account in developing these models. These included the numbers of young people by age in the population; the labour force participation rate of women aged 20 to 49 years; the net migration to Victoria of young people; the full-time employment rate of young people aged 15 to 19 years who are not in full-time education; and the real gross disposable income per capita in Australia.

Early Childhood

The single biggest factor driving enrolments in kindergartens is the number of children aged three to six years in the population, which increased by 2.2 per cent per year from 2006 to 2013. According to the latest ABS projections, the number of children in this age group is expected to continue increasing, albeit at a slightly slower rate of two per cent per year until 2020. Population increases, government policy and changes in parents' attitudes towards early childhood education means that enrolments in kindergarten will increase from 72,941 in 2013 to 90,009 in 2020. This represents an average increase of 3.3 per cent per year.

Primary

The rapid increase in Primary school enrolments since 2010 has been a result of the increased birth rate in Victoria since 2006. Enrolments increased by about 1.1 per cent per year from 2006 to 2013, but they are forecast to increase by 2.7 per cent per year from 2013 to 2020. Since 2010 the number of children in Primary schools has increased by 6.1 per cent to a total of 482,586 in 2013. Enrolments are forecast to increase to 573,073 by 2020.

Secondary

Secondary school enrolments increased by 0.4 per cent per year from 2006 to 2013. In 2013, there were 387,635 students in Secondary schools compared to 375,896 in 2006, an increase of only 11,739 students. The raising of the school leaving to 17 in 2010 has resulted in increased enrolments in Years 11 and 12, especially in government schools. The increases in Primary school enrolments will begin to have an impact on Secondary school enrolments from about 2017. Enrolments are forecast to increase by 1.2 per cent per year from 2013 to 2020. In 2020, the Secondary school population is forecast to reach 421,313 students.

Special schools

Special schools have seen a tremendous growth in enrolments in recent years, with numbers increasing from about 8,335 in 2006 to 11,950 in 2013. In percentage terms this represents growth of 43.4 per cent. If these trends were to continue, enrolments will reach 17,886 by 2020, an increase of 49.7 per cent on the level in 2013. These forecasts need to be validated.

Language schools and centres

The numbers of children in Language schools varies significantly from one year to the next, which makes modelling future enrolments difficult. There were 196 more students in Language schools in 2006 than in 2013. Enrolments in Language schools are forecast to be 1,416 by 2020.

Participation rates

The rate of participation in schooling among the population aged 5–19 years has generally been increasing since 1981. The rate is affected by the economic cycle and also by government policies such as that of the minimum school leaving age. The

rate of participation increased from 79.8 per cent in 1981 to 85.1 per cent in 2013. It is forecast to increase to 87.4 per cent by 2020.

Forecasts of enrolments by sector

Sectoral analyses show a drift in enrolments away from the government sector, particularly at the Secondary level. Enrolment shares in the three sectors are affected by the changes in the real disposable income per capita in the state. A potentially more important factor affecting the changes in the shares is in the level of government funding going to non-government schools.

The share of enrolments in the government sector declined from 64.7 per cent in 2006 to 62.8 per cent in 2013. The resulting gains were shared almost equally between the Catholic and independent sectors. The share of the government is expected to decline to 61.7 per cent by 2020. A slowing economy may slow this decline.

Forecasts of demand for teachers

Early Childhood

The number of teachers employed in Early Childhood increased from 1,995 in 2006 to 3,333 in 2013. The main factors behind the rising demand have been the increase in the birth rate in Victoria and the change in the kindergarten program hours from 10.75 to 15 per week. From 2016, the introduction of the child-to-educator ratio of 11:1 in all funded kindergarten services is further likely to affect the demand for teachers. Without factoring in this policy change, the demand for kindergarten teachers is forecast to increase by 40.3 per cent to 4,678 by 2020. The average number of children to teachers, which is not the same as the child to educator ratio, fell substantially, from 29.3 in 2006 to 21.8 in 2013. The rate of decline in the average is predicted to moderate over the next seven years to 19.2 by 2020.¹

Primary

The total number of teachers in Primary schools increased from 32,696 in 2006 to 36,883 in 2013. In 2020, the demand for teachers is forecast to be 46,097, an increase of 9,214 from the level in 2013.

Teacher numbers in Primary schools are affected by the changes in the student-to-teacher ratio. In each sector the ratio has been declining since the early 1980s, although the rate of decline has slowed more recently. The ratio has always been lower in the independent sector than in the other two sectors. Until 2002 the ratio was lower in the government sector than in the Catholic sector, but since then it has been lower in the Catholic sector. In 2013, the ratio was 13.7, 12.6 and 10.7 in the government, Catholic and independent sectors and by 2020 it is forecast to be 13.3, 11.7 and 10.1, respectively.

Secondary

Teacher numbers in Secondary schools increased more slowly than in Primary schools. There were 1,206 more teachers employed in 2013 than in 2006, but in government Secondary schools employment fell between 2006 and 2013. The demand for Secondary school teachers is forecast to increase from 36,521 in 2013 to 40,355 in 2020. Most of the growth in demand is expected in the non-government sectors. As the increase in enrolments in Primary schools flows into enrolments in Secondary schools, the demand for teachers in Secondary schools will increase in the post-2020 period.

The demand for teachers in Secondary schools is also affected by the changes in the student-to-teacher ratios. The ratio in government Secondary schools peaked at 12.1 in 1998. Since 2007 it has however started trending up. It is forecast to continue increasing, albeit at a slower rate, to 11.8 in 2020. In contrast, in the non-government sectors the ratio has been declining consistently, although since 2007 the rate of decline in the Catholic sector has slowed. In 2020, the ratio is forecast to be 10.9 and 7.7 in the Catholic and independent sectors, respectively.

Special schools

The numbers of teachers in Special schools increased 23.2 per cent from 2006 to 2013. In 2020, the demand is forecast to be 3,073, an increase of 33.8 per cent over the level in 2013.

Job openings for new entrants to teaching

More than half of all job openings for new entrants to teaching will be a result of net replacement needs. Net replacement is a larger factor in job openings for new entrants at the Secondary than at the Primary or kindergarten levels. For instance, only 27.9 per cent of job openings for new entrants at the kindergarten level are expected as a result of net replacement needs, with all other job openings due to growth in demand. In contrast, 71.2 per cent of job openings for new entrants at the Secondary level are expected as a result of net replacement needs. The number of job openings for new entrants will vary from year to year. In aggregate, the total numbers of job openings to 2020 are estimated to be 1,866 for kindergarten teachers; 19,164 for Primary school teachers; 14,857 for Secondary school teachers; 1,439, for Special school teachers; and 162 for teachers in Language schools.

¹ From 2016 every kindergarten will be required to have 1 educator for 11 children. Educators include teacher and qualified assistants.

Overview of supply and demand for teachers

Teacher supply is disaggregated by level and qualification. Assessing the number of dual qualified teachers who choose between Early Childhood and Primary teaching is complicated because of a paucity of data on these choices. Data are also lacking on the numbers of preservice teachers in Victoria studying online with an interstate provider and about the qualifications (Primary/Secondary) of interstate and overseas teachers migrating to Victoria.

Local area supply and demand may vary significantly from the state-wide forecasts of supply and demand.

Early Childhood

The potential number of new graduate teachers available for teaching in Early Childhood is difficult to ascertain because most graduates from early childhood courses also complete a primary teaching qualification and there is little information available on their career preferences. Thus projecting shortages/surpluses of Early Childhood teachers is highly speculative.

Primary

The supply of Primary school teachers from Victorian ITE providers may be insufficient to fill the job openings for new entrants into teaching from 2014 to 2020. Job openings for new entrants are forecast to average about 2,500 per year. The level of shortage will depend on the numbers of graduates with a dual qualification in Early Childhood and Primary and Primary and Secondary who choose to teach at the Primary level, the number of Victorians graduating with interstate providers and net migration of teachers to Victoria.

Secondary

Currently there is an oversupply of Secondary school teachers, although the supply may be insufficient to meet demand in key subject areas such as Technology, Mathematics, Physics and LOTE. As the surge in Primary school enrolments flows into Secondary schools, the demand for Secondary teachers will increase from 2017.

1. Introduction

This report provides forecasts of the supply and demand for teachers in Victoria from 2014 to 2020. The teaching workforce includes all teachers from K to 12. This is the tenth in the series of such reports, the first of which was released in 2001. Unlike previous reports, the current report includes a section on the Early Childhood sector and analysis of the future demand for teachers in the state in more detail.

The report aims to provide information to assist workforce planning for a range of education sector organisations, including teacher education institutions. It provides information on:

The national trends in the supply and demand for teachers

The composition of the Victorian teaching service in government, Catholic and independent sectors

The supply and demand for teachers from 2014 to 2020.

1.1 Data and methodology

The information presented in this report has been drawn from a range of primary sources (Table 1.1). Some data, such as those from the ABS, VTAC and DET are largely drawn from publicly available data. Where this is the case, links to the source material are provided in the notes to relevant tables and charts. Other sector data have been provided directly from administrative records by the Victorian Department of Education and Training and the Catholic Education Commission of Victoria. Data from initial teacher education (ITE) courses have been sourced from the publicly available Higher Education Statistics and directly from ITE providers in Victoria.

Table 1.1: Primary data sources and data description

Source	Data
ABS	National Schools Statistics Collection (Schools, Australia, 4221.0)
VTAC	Course indices and selection data archive
DET	Higher Education Statistics
GCA	Australian Graduate Survey
CECV	Customised payroll and administrative data
DEECD	Customised payroll and administrative data
	Casual Relief Teacher Recruitment Census
	Teacher Recruitment Difficulty Census
ITE Providers	Enrolment and graduation data
	Secondary subject methods data
	Practicum data

The Department of Education and Early Childhood Development (DEECD) changed to the Department of Education and Training (DET) in 2015. In the text, the Department is referred to as DEECD, as this was the Department's name in 2012-13. Source material before 2015 is cited as DEECD in tables, figures and footnotes.

The supply and demand projections provided in this report are based on a different approach to that used in previous editions. The methodology and results are discussed in Chapter 6.

1.2 Factors impacting on supply and demand

The education sector workforce is impacted by multiple and complex interactions between factors such as:

- State and national government policy and budget allocations.
- Fluctuations in population, including births and immigration.
- Classroom sizes and student-to-teacher ratio.
- Child-to-educator ratio in Early Childhood education and care settings.
- School size, geographic and socioeconomic location.
- Growth in the Early Childhood teaching workforce.
- Status of teaching as a career and teacher salary and conditions.
- Changes in school autonomy.
- Changes in the higher education sector impacting ITE courses.
- Workforce demographics.
- Entry requirements for ITE courses.
- Limited availability of teachers in some subjects (for example LOTE, physics).

Government policy may have implications in a variety of areas impacting the teacher workforce. For example, in 2009 all governments committed to The National Partnership on Youth Attainment and Transitions,² one goal of which was to increase the proportion of young people completing their Year 12 or equivalent qualification. This National Partnership operated from 2010 to 2013 and during that time the national apparent retention rates³ from Years 7/8 – Year 12 increased from 78 per cent to 81.6 per cent, and increased in Victoria from 81.1 per cent to 83.7 per cent.⁴ Increased participation rates at Years 11–12 have implications for the numbers and preparation of teachers at those levels.

The Gonski review advocated substantial reform in school funding arrangements and levels.⁵ It recommended that all public recurrent funding for schooling, whether provided by the Commonwealth government or State and Territory governments, be based on a new resource standard that would apply to students in all government and non-government sectors. It also recommended increasing governments' recurrent funding by \$5 billion, or 15 per cent, to commence implementing the new approach from 2014 onwards. The review was commissioned by the former Labour government, which had not completed implementation negotiations with all school authorities when it lost office in 2013. The Coalition government initially committed to the general directions of school funding reform, as set out in the *Australian Education Act 2013*,⁶ and will fund schools using a Schooling Resource Standard. This funding model, however, is likely to cease from 2017 to 2018 onwards.

Fully introduced in 2012, there are currently no caps on student places in Australian universities (with the exception of Medicine): government funding is now provided for all enrolled domestic bachelor degree students. Postgraduate ITE courses are still capped. In the 2014–15, federal budget changes were announced to the funding of higher education. From 2016 the government intends (subject to legislation) that the cap on the maximum student contribution amount will be removed for Commonwealth Supported Places (CSP). The current maximum student contribution for education courses is \$6,044 per student Estimated Full-time Student Load (EFTSL) per year. In addition, the contribution to Education courses by the Australian Government will fall from \$9,974⁷ to \$9,033.⁸ It is not yet clear to what extent the new system (which is likely to result in more enrolments) and the possible higher cost to students of higher education (which may result in fewer enrolments) will actually have on the overall pool of graduating teachers.

A Teacher Education Ministerial Advisory Group has been established by the Commonwealth Government to provide advice on:

- Pedagogical approaches – the ways teachers teach their students, and the different ways teaching and learning can occur.
- Subject content – how well teachers understand the content of the subjects they are teaching.
- Professional experience – the opportunity for preservice teachers to put theory into practice through quality in-school learning experiences.

This Advisory Group has provided 38 recommendations, which seek to achieve improvements in both the content and delivery of initial teacher education courses in Australia. The *Action Now: Classroom Ready Teachers Report* and the responses are likely to have implications for teacher education and teacher supply⁹.

1.3 Recent initiatives addressing workforce trends

The Victorian government has continued and initiated a number of measures aimed at improving teacher supply and capacity and the quality of teaching and learning during 2012 and 2013. Those measures concerned at least in part with supply are briefly described below, with an indication of the number of participants. In addition, the *Education and Training Reform Amendment (Registration of Early Childhood Teachers and the Victorian Institute of Teaching) Act 2014* was passed by the Victorian Parliament on 11 March 2014. The Act expands the scope of the VIT to cover Early Childhood teachers, who will require registration from 30 September 2015.

1.4 State government-funded initiatives

Scholarship to attain or upgrade Early Childhood qualification: Since 2010, 2,022 Early Childhood professionals have been offered Victorian Government scholarships to upgrade or attain an Early Childhood qualification.

² For information on the National Partnership on Youth Attainment and Transitions in Victoria, see www.education.vic.gov.au/about/programs/partnerships/pages/parternationalyouth.aspx

³ The rate is termed 'apparent' because it is based on aggregate enrolments at the beginning and end of Secondary school rather than tracing individual students.

⁴ ABS (2014c), NSSC Table 64a.

⁵ Gonski, D. (Chair) (2011).

⁶ Australian Education Act 2013 available from: www.comlaw.gov.au/Details/C2013A00067

⁷ DIICSRTE (2014).

⁸ DoE (2014) Public universities (website) www.education.gov.au/public-universities

⁹ The Action Now: Classroom Ready Teachers Report and responses can be found on the Teacher Education Ministerial Advisory Group website: www.studentsfirst.gov.au/teacher-education-ministerial-advisory-group

Early Childhood Employment Incentives, hard-to-staff locations: Incentives have been offered for 244 hard-to-staff locations, resulting in 126 appointments.

Science Graduate Scholarship: encourages graduates who have completed a Science degree to undertake a teaching qualification and enter the teaching profession.¹⁰ One hundred and one Science Graduate scholarships were awarded in 2012, 97 scholarships in 2013 and 108 scholarships in 2014.

Teaching Scholarship Scheme: provides final-year student teachers with financial incentives and employment opportunities in schools with difficult-to-fill vacancies.¹¹ In 2012, 100 final year students were supported through this program and 55 in 2013.

Student Teacher Practicum Scheme: encourages student teachers to undertake their practicum in rural locations or outer metropolitan areas by providing financial support. In 2012, 271 student teachers were supported through this program and 115 in 2013.

Teach For Australia (TFA): is an alternative pathway into teaching for high achieving graduates from all degree disciplines. The *Teach For Australia* organisation and the ITE course provided by the University of Melbourne are funded by the Australian Government. Participants are recruited to teach in educationally disadvantaged Secondary schools while completing a Postgraduate Diploma in Teaching. DEECD employed 24 participants in 2012 and 40 participants in 2013.

Refresher Courses for Teachers Returning to Government Schools: assists qualified teachers wishing to update/refresh their knowledge before returning to teach in government schools: 239 teachers utilised this program in 2012. The program was not offered in 2013.

International Teacher Program Refresher Program: assists overseas-trained teachers to increase their understanding of teaching in Victorian government schools. In 2012, 34 teachers utilised this program. The program was not offered in 2013.

Special Education Scholarship Program: enables current teachers to obtain Special education qualifications. Seventeen teachers were supported through this program in 2013.

Special Education – Autism Scholarships: enables current teachers to obtain Special education qualifications specifically in Autism education. Twenty-five scholarships were awarded in 2012 and a final 25 in 2013.

1.5 National Partnerships initiatives in Victoria

As part of the Council of Australian Governments' (COAG) national agenda, a National Partnership Agreement on Improving Teacher Quality (TQNP) supported a range of reforms from 2008–09 to 2012–13, which underpinned other national initiatives to improve schooling. TQNP included within its ambit support for innovative programs, ones that would (a) attract the best entrants to teaching, and (b) place teachers to minimise skill shortages and enhance retention. DEECD obtained TQNP funding from 2008 to 2012 to implement a number of programs with direct relevance to these objectives. These were:

Career Change Program: enables non-teaching professionals to undertake a teacher education course while employed as a supervised trainee teacher. Twenty-four participants were recruited into the program for the final intake in 2012.

Graduate Pathways: provides assistance for graduates in priority degree disciplines to undertake education training and financial incentives to attract them to government schools upon becoming qualified. The final intake of 49 participants was in 2012.

Graduate Retention Incentive Program: provides financial incentives over four years to retain high quality teacher graduates appointed to hard-to-staff rural schools. The final 60 participants were recruited to the program in 2012.

Special Education Scholarships: enables current teachers and those returning to the profession to obtain Special education qualifications. In 2012, 106 Special Education scholarships were provided.

Indigenous Scholarships: provide indigenous people with financial assistance to undertake teacher education courses. Target groups include VCE students, students in the final year of teacher training, and current employees seeking to qualify as teachers. The target to support 30 Indigenous people was reached in 2013.

The National Quality Framework (NQF) for preschools (kindergartens), long day care, family day care and outside school hours care services commenced on 1 January 2012. The NQF aimed to raise quality and drive continuous improvement and consistency in Australian education and care services. The NQF sets out minimum qualification requirements for educators working in children's education and care services.

The National Partnership Agreement on Universal Access to Early Childhood Education was endorsed by the Council of Australian Governments (COAG) on 19 April 2013. The Agreement aims to maintain a minimum of 15 hours universal access to quality Early Childhood education programs for children in the year before school to the end of 2014, with a focus on improved participation by vulnerable and disadvantaged children.

¹⁰ Science Graduate Scholarship details available at: www.education.vic.gov.au/about/careers/teaching/Pages/scholarshipscience.aspx

¹¹ Lists of priority schools, rural schools and applicable hard-to-staff subjects are available at: www.education.vic.gov.au/about/careers/teaching/pages/scholarships.aspx

1.6 National data

The national focus on collecting and understanding education workforce data established through COAG’s National Education reforms continued to develop over the two years following the 2010-11 supply and demand report. A second National Early Childhood Education and Care (ECEC) Workforce Census was carried out in 2013 (following the inaugural 2010 census) and the schools workforce sample survey – the Staff in Australia’s Schools (SIAS) survey – was conducted by the Australian Council for Educational Research (ACER) for the third time in 2013 (following surveys in 2007 and 2010). Comparative data from both surveys are included in this report.

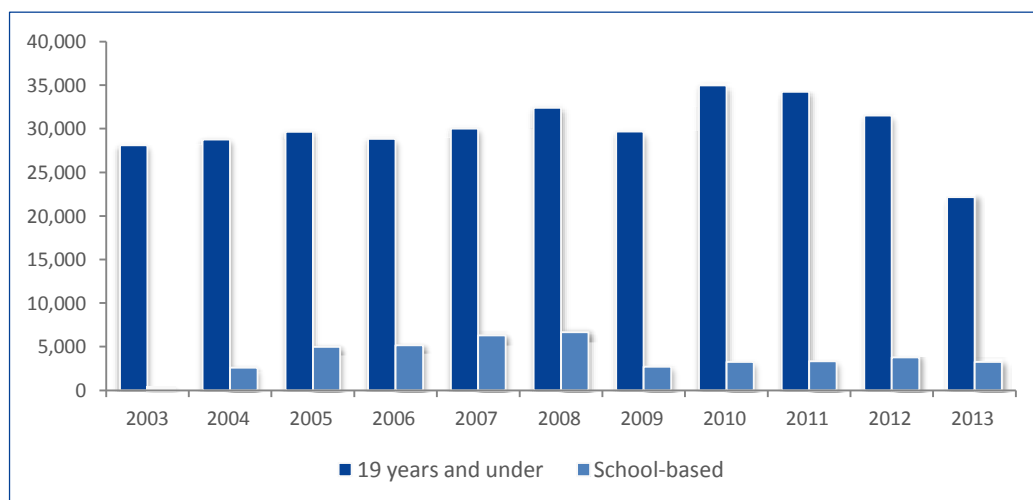
The National Teaching Workforce Dataset (NTWD) project was established in 2011 to oversee the collection and compilation of teacher workforce data at national level. The NTWD data and project reports are expected to be published in 2014. The Longitudinal Teacher Education and Workforce Study (LTEWS), an NTWD project, investigated the career progression of graduate teachers from teacher education into teaching employment in 2012 and the first half of 2013 and tracked their perceptions of the relevance and effectiveness of their teacher education programs.

1.7 Vocational Education and Training

This section provides a brief overview of the national and Victorian data available on supply and demand in the Vocational Education and Training (VET) sector. The VET sector is considerably more diverse than the school sector: training is provided by schools, technical colleges, technical and further education (TAFE) institutes, universities, enterprises, community adult education providers, private providers, professional associations, industry associations and equipment and/or product manufacturers or suppliers.¹² In addition, training is provided across a larger age group, with nearly half of all commencements aged over 25 years on average.

The most recent NCVET figures available for Victoria for school-aged participants are presented in Figure 1.1. (Table 1.2 provides the same participant numbers and participants as a proportion of total commencements). The 2013 figures are estimates and suggest a significant drop in commencements for the ‘19 and under’ age group, and a declining trend in commencements since 2010. The 2013 fall in commencements is mirrored in all age groups, with the overall 2013 figure 30 per cent below the 2012 figure. School-based VET courses fell sharply in 2009 but have since grown slowly numerically and proportionally, although numbers fell in 2013.

Figure 1.1: VET apprentice and trainee commencements, 19 years and under and school-based, Victoria, 2003–2013



Source: Apprentices and trainees 2013 – annual, NCVET, 2014, Victoria, Table 3. www.ncver.edu.au/wps/portal/vetdataportal

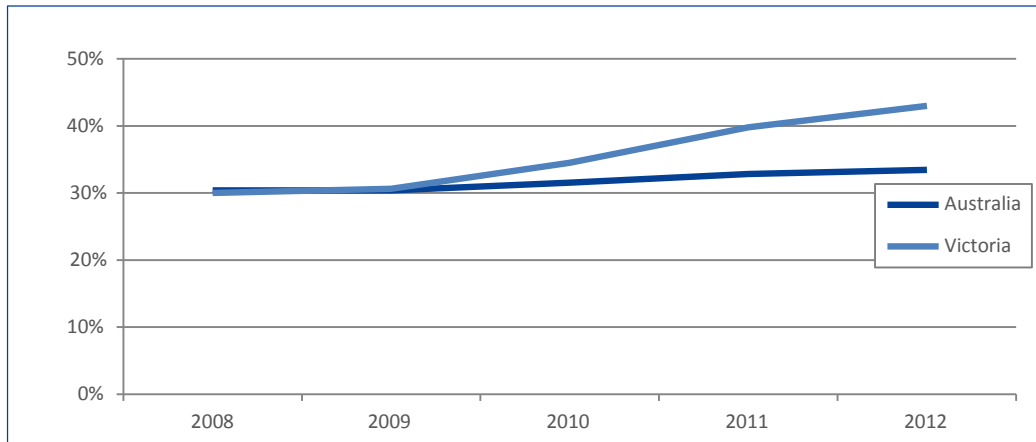
Table 1.2: VET apprentice and trainee commencements, 19 years and under and school-based, Victoria, 2003–2013

VET commencements	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
19 years and under	28,120	28,769	29,641	28,838	30,010	32,392	29,698	34,969	34,240	31,510	22,143
% of all commencements	29.5%	36.3%	37.1%	38.5%	41.9%	43.1%	40.9%	40.9%	35.5%	34.2%	34.3%
School-based	363	2,594	4,989	5,174	6,316	6,656	2,715	3,261	3,330	3,767	3,265
% of all commencements	0.4%	3.3%	6.2%	6.9%	8.8%	8.9%	3.7%	3.8%	3.4%	4.1%	5.1%

Source: Apprentices and trainees 2013 – annual, NCVET, 2014, Victoria, Table 3. Figure 1.2 shows the participation rate of 15–19 year olds in Victoria and in Australia. The proportion of 15–19 year olds participating in VET in Victoria has increased from about 30 per cent in 2009 to 43 per cent in 2012. The rise in participation has been higher in Victoria than in Australia as a whole.

¹² NCVET (2013).

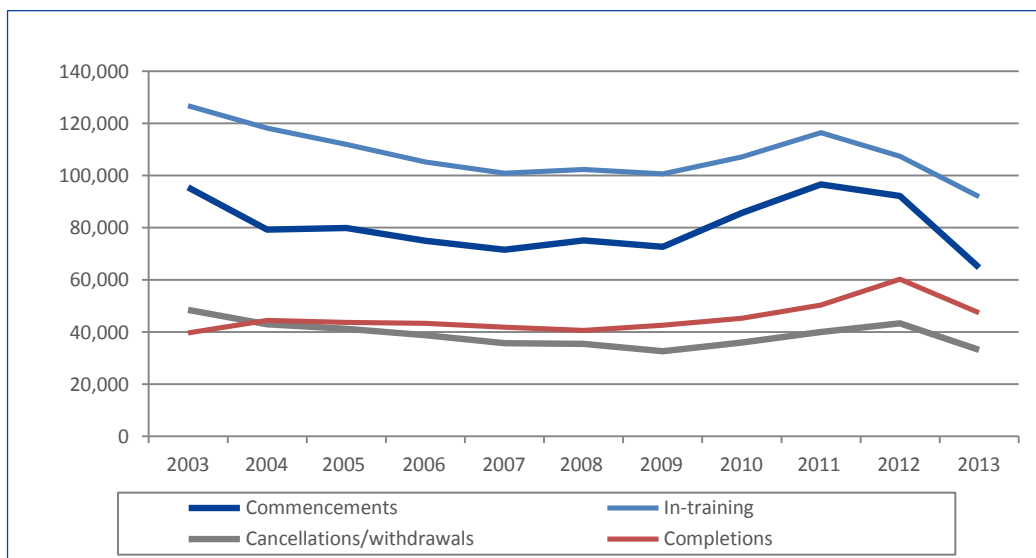
Figure 1.2: Participation rate in VET among population aged 15–19 years, Victoria, 2008–2012



Source: 2008–2012 National VET Provider Collection; ABS, Australian Demographic Statistics, Sep 2012, cat. No. 3101.0 (NCVER 2013), Victoria, Table 2.

Figure 1.3 shows overall VET participation figures for Victoria from 2003–2013, including annual commencements, withdrawals, completions, and those in ongoing training. The figures suggest that just over half of all commencements result in a completion. There is a high incidence of cancellations and withdrawals.

Figure 1.3: VET apprentice and trainee contract status (commencements, in-training, withdrawals and completions), Victoria, 2003–2013



Source: Apprentices and trainees 2013 – annual, data tables, NCVER, 2014, Victoria, Table 1. www.ncver.edu.au/wps/portal/vetdataportal

Data on the VET workforce are not collected on a regular basis, although some data on workforces in Victorian TAFE’s and other education entities is provided in the Victorian Public Sector Commissions’ *State of the Public Sector in Victoria* report series¹³.

¹³ www.vpsc.vic.gov.au/resources/state-of-the-public-sector-in-victoria/

2. Early Childhood education workforce in Victoria

Main points:

- ABS data show a rise in the number of children aged three, four and five in Victoria, from about 60,000 at each age in 2004–2007 to about 70,000 at each age from 2011–2013.
- The majority of four year kindergarten programs receive government funding to provide 15 hours of kindergarten a week for children in the year before they start school (four year kindergarten).
- Attendance levels at government-funded kindergarten programs have remained about the same over the last three years however teacher numbers have risen from 2,600 in 2011 to 3,300 in 2013. This is due primarily to the rise in average program hours and the requirement from 2012 for a qualified teacher to be present.
- The kindergarten workforce is highly feminised: over 99 per cent of kindergarten teachers in funded programs are female.

2.1 Introduction

The Early Childhood workforce is diverse and, in its entirety, includes employees in childcare, education, child protection, and health. Children up to six years old can be cared for and educated in childcare. There are four main types of childcare in Victoria:

- Private childcare centres
- Community childcare centres (not-for-profit)
- Family day care (up to four preschool children cared for in the carer's home)
- In-home care (children cared for in their own home, for example, by a nanny or au pair).

This chapter is primarily concerned with formal Early Childhood education programs for preschool children in the year (or two years) prior to entering school. Formal programs, usually known as kindergarten in Victoria, may take place in settings such as private or community long day care centres, stand-alone kindergartens, or a kindergarten attached to a school. Kindergarten services include but are not limited to those funded by the Victorian government (see next section). The various services involved in the Early Childhood workforce are categorised in Table 2.1, based on data provided in the 2013 National Early Childhood Education and Care (ECEC) Workforce Census.¹⁴

Table 2.1: Children attending and staff employed in Early Childhood services, 2013

Service type	Children attending care 2013 (a)		Staff 2013	
	Victoria	Australia	Victoria	Australia
Long day care (LDC)	130,674	585,069	17,490	75,646
Family day care (FDC)	46,879	134,036	4,114	14,054
In-home care (IHC)	1,731	5,730	447	1,809
Occasional care (OCC)	2,886	7,257	339	872
Outside school hours care (OSHC)	61,095	261,110	4,102	18,086
Vacation care (VAC)	26,911	147,371	2,729	15,737
Preschool (kindergarten)	76,977 (c)	280,908 (b)	6,840	26,952
Total			36,061	153,155

Source: 2013 National ECEC Workforce Census, State tables 1.2.1, 1.2.3, 3.1.1 and 3.1.3. ABS (2014) 4240.0

Note: Weighted data, indicative only. (a) Data includes double counting where children attend more than one service type. (b) This figure is for children attending preschool (ABS 2014b, p.5). The number of children enrolled was 288,052 (p. 3). (c) This figure includes attendance data for all kindergarten services, including services that do not receive Victorian government funding for kindergarten.

2.2 Kindergarten programs

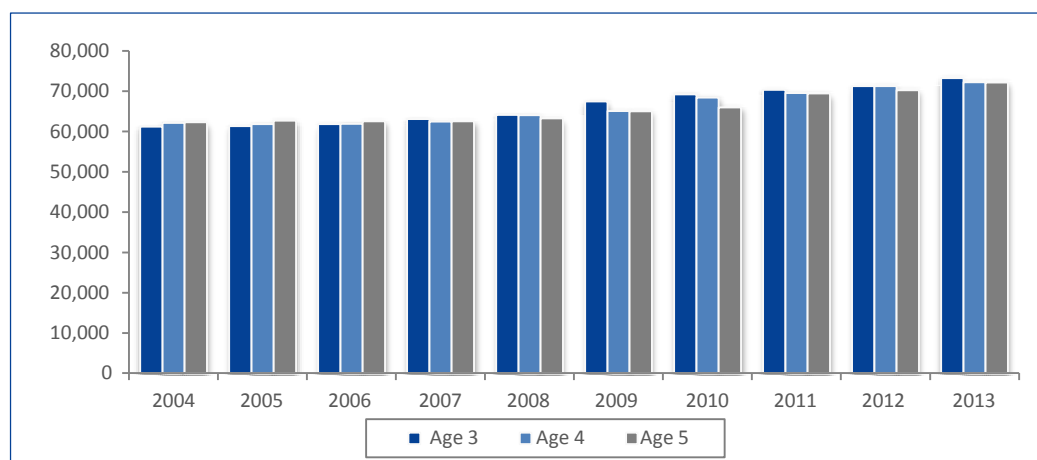
Kindergarten programs in Victoria are primarily aimed at children in the year prior to the start of formal schooling (generally known as four year kindergarten). Three year kindergarten programs are also available. To attend a government school in Victoria, a child must be five years of age by 30 April of the year they start school. All children aged six must attend school. Unlike school, attendance at kindergarten is not compulsory, although most children attend in the year before starting

¹⁴ SRC (2014). See also ABS (2014b).

school. Early childhood education is well recognised as being critical for the cognitive and social development of children.¹⁵ The National Partnership Agreement on Early Childhood Education provides for all children in the year before school to have access to a quality Early Childhood program for a minimum of 15 hours a week, 40 weeks a year, or 600 hours per year.¹⁶ In 2013, COAG endorsed the new National Partnership Agreement on Universal Access to Early Childhood Education (NP UAECE), which funds universal access to Early Childhood education programs until the end of 2014.¹⁷

Figure 2.1 shows the estimated population of children aged three to five years in Victoria. In 2012 and 2013, the population of each age group exceeded 70,000 individuals. A child is eligible for the 15 hour funded kindergarten program from the beginning of the year in which they turn four by 30 April. As enrolment data is collected in June of each year, children attending kindergarten programs can be either four or five years of age. Approximately 70,000 children were eligible to attend the funded program in 2012 and in 2013.

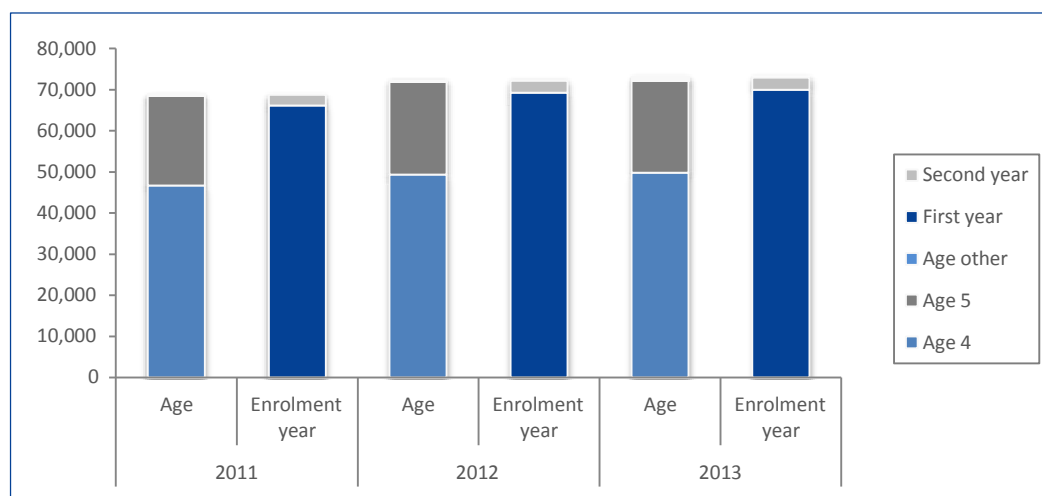
Figure 2.1: Population of children aged three, four and five years, Victoria, 2004–2013



Source: *Australian Demographic Statistics 2014*, Table 52 Estimated Resident Population by Single Year of Age, Victoria, ABS Cat no.3101.0. [www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Sep 2013?OpenDocument](http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Sep%202013?OpenDocument)

Figure 2.2 show the enrolment in government-funded kindergarten programs in Victoria from 2011 to 2013. Overall participation rates are high: in 2012 an estimated 98 per cent of eligible children participated in a kindergarten program in Victoria.¹⁸

Figure 2.2: Enrolments in funded kindergarten programs by age and year of enrolment, Victoria, 2011–2013



Source: DEECD Kindergarten program administrative data, 2014
 Note: includes only those children in Victorian government-funded kindergarten programs.

¹⁵ DEECD (2013), pp. 38–40.

¹⁶ COAG (2009), p. 5.

¹⁷ ABS (2014b), p. 10.

¹⁸ DEECD (2013), p. 38.

The 2013 ECEC workforce census data provide a breakdown of the types of preschool attended by children aged four and five in Victoria and Australia. Table 2.2 shows that about 36 per cent of children attended a preschool program within a long day care centre, 13 per cent attended a government kindergarten and 47 per cent attended a non-government kindergarten.

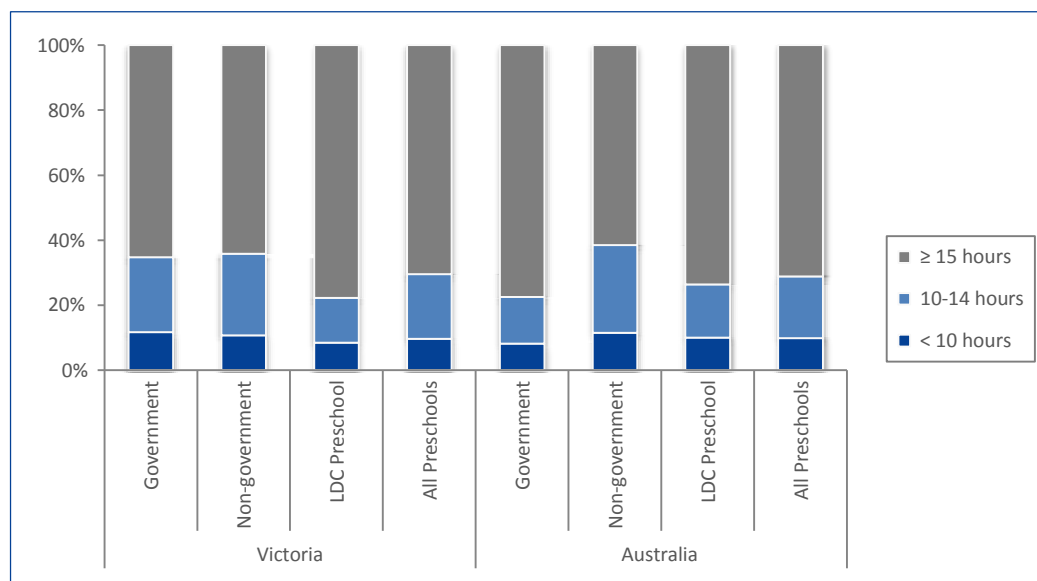
Table 2.2: Enrolments in preschool by provider type and sector, Victoria and Australia, 2013

Preschool (includes kindergartens not funded by the Victorian government)		Victoria	Australia
Government		9,973	60,420
<i>Non-government</i>	<i>Community</i>	32,985	76,797
	<i>Private for profit</i>	234	439
	<i>Independent schools</i>	2,752	8,684
	<i>Catholic schools</i>	0	6,703
Total Non-government		35,968	92,623
Multiple preschools attended		67	858
Total preschool		46,013	153,905
Preschool programs in long day care		27,920	117,620
Children across more than one provider type		3,049	9,385
Total children attending a preschool program		76,977	280,908

Source: ABS (2014) 4240.0 Preschool Education, Table 4. www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4240.02013?OpenDocument

Figure 2.3 and Table 2.3 shows the number of hours per week children attended preschool programs in Victoria and across Australia in 2013, based on the figures collected during the census week. Overall, about 70 per cent of children attended for 15 hours or more in the census week. A larger proportion of children in long day care (78 per cent) attended a preschool program for 15 hours or more. In 2013, about 10 per cent of children attending a preschool program did so for less than ten hours per week.

Figure 2.3: Distribution of attendance hours in preschools by provider type, Victoria and Australia, 2013



Source: ABS (2014) 4240.0 Preschool Education, Tables 4 and 22. www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4240.02013?OpenDocument
 Note: includes kindergartens not funded by the Victorian government.

Table 2.3: Distribution of hours of attendance in preschool by provider type, Victoria and Australia, 2013 (%)

	Victoria			Australia		
	< 10 hours	10–14 hours	≥ 15 hours	< 10 hours	10–14 hours	≥ 15 hours
Government	11.7	23.0	65.2	8.2	14.4	77.5
Non-government	10.7	25.1	64.1	11.5	26.9	61.3
LDC Preschool	8.5	13.7	77.7	10.1	16.3	73.6
All Preschools	9.7	19.8	70.4	9.8	19.0	71.1

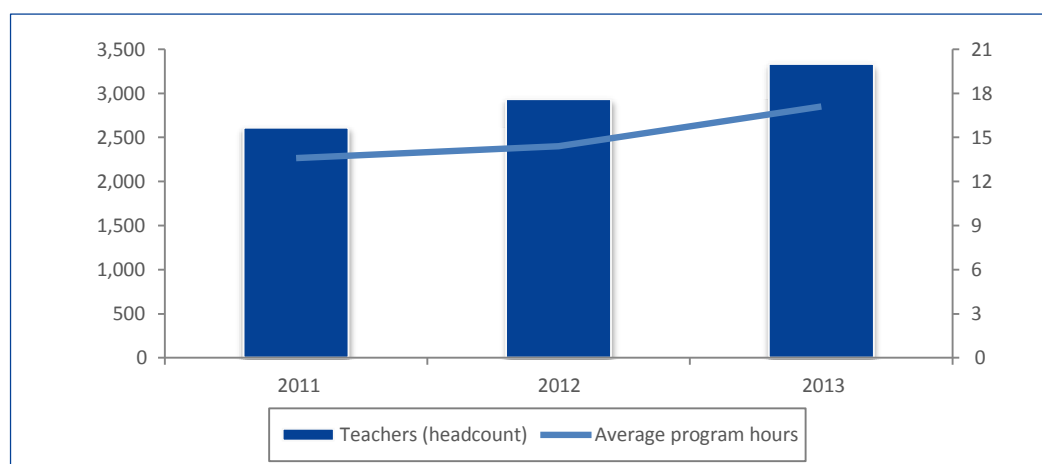
Source: ABS (2014) 4240.0 Preschool Education, Tables 4 and 22.

www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4240.02013?OpenDocument

Note: Each row for Victoria and Australia totals to 100 per cent (except where rounding affects the total). Children across more than one provider type and at multiple preschools are not shown separately but are included in the 'All Preschools' row. Includes kindergartens not funded by the Victorian government.

Figure 2.4 (and Table 2.4) shows the number of kindergarten teachers participating in Victorian government-funded kindergarten programs and the average funded program hours per week from 2011 to 2013. The rise in teacher numbers is linked primarily to the rise in average program hours and to the requirement that from 2012, every kindergarten must have a fully qualified Early Childhood teacher in attendance.

Figure 2.4: Teachers in funded kindergartens and program hours, 2011–2013



Source: DEECD Kindergarten program administrative data, 2014

Note: includes only those children in Victorian government-funded kindergarten programs.

Table 2.4: Teachers in funded kindergartens and program hours, 2011–2013

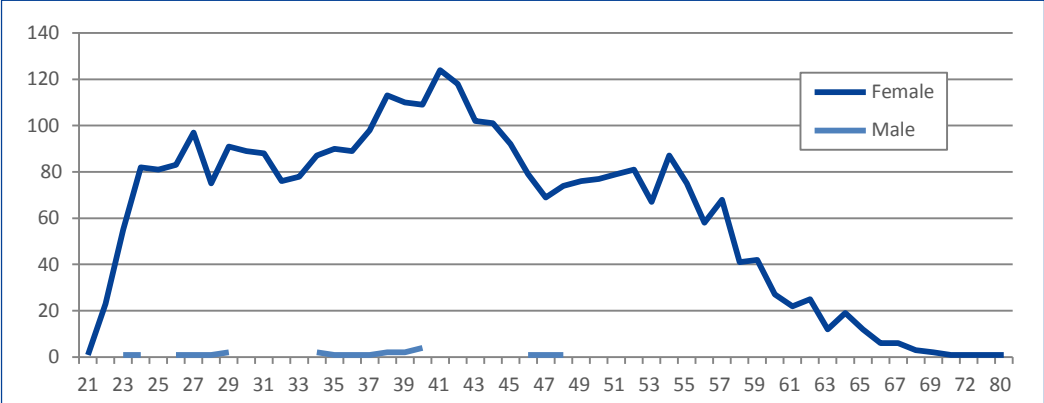
	2011	2012	2013
Teachers (headcount)	2,610	2,935	3,333
Teachers (FTE)			2,518
Average program hours per week	13.6	14.4	17.1

Source: DEECD kindergarten program administrative data, 2014

Note: includes only those children in Victorian government-funded kindergarten programs.

The Early Childhood workforce is highly feminised, with 99 per cent female kindergarten teachers. Figure 2.5 shows the age profile of kindergarten teachers in funded programs in 2013. Numbers are fairly balanced across age groups, peaking at ages 35–45.

Figure 2.5: Teachers in funded kindergartens by age and gender, 2013



Source: DEECD kindergarten program administrative data, 2014
 Note: includes only those children in Victorian government-funded kindergarten programs.

3. School workforce in Victoria

Main points:

- The school workforce continues to grow numerically overall in all sectors and proportionally in the non-government sector. The Primary level has shown high growth from 2012. The government sector has declined from 2012 at the Secondary level.
- The Primary level is predominantly female (80 per cent) and stable, the proportion of males at Secondary level (about 40 per cent) is in decline, although numerically there has been an increase.
- The proportion of younger teachers has grown while that of teachers in the 50–54 age group (Primary) and 45–54 age groups (Secondary) have declined markedly. There has been a slight rise in the proportion of older teachers (55 and over).
- In government schools, the principal class is aging, while among teachers there are proportionally fewer aged 35–50, narrowing the pool from which school leaders tend to be drawn.

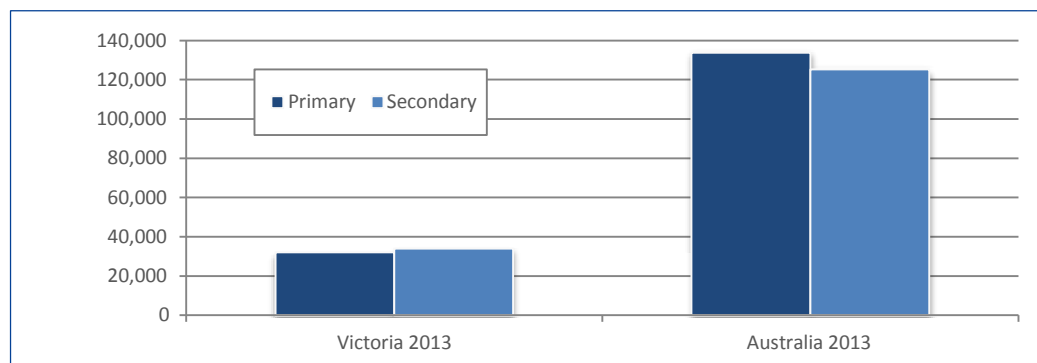
3.1 Introduction

This chapter provides a picture of the school workforce in Victoria. It describes its size and composition by gender and age and provides a comparison over time and across government and non-government sectors.

3.2 School staff numbers

On a full-time equivalent (FTE) basis, the paid school workforce in Australia includes more than 250,000 teaching staff, principals and other school leaders (Table 3.1), and over 93,000 specialist support staff and administrative and clerical staff.¹⁹ There were 261,585 FTE teachers in Australian schools in 2013, of which 66,038.5 FTE teachers (23.9 per cent) were in Victorian schools. Nationally, 52 per cent of teachers were in Primary schools. In Victoria there are currently fewer Primary teachers (49.2 per cent) than teachers at Secondary level (Figure 3.1).

Figure 3.1: Teachers in Primary and Secondary schools, Victoria and Australia, 2013 (FTE)



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Table 3.1: Teachers in Primary and Secondary schools, Victoria and Australia, 2013 (FTE)

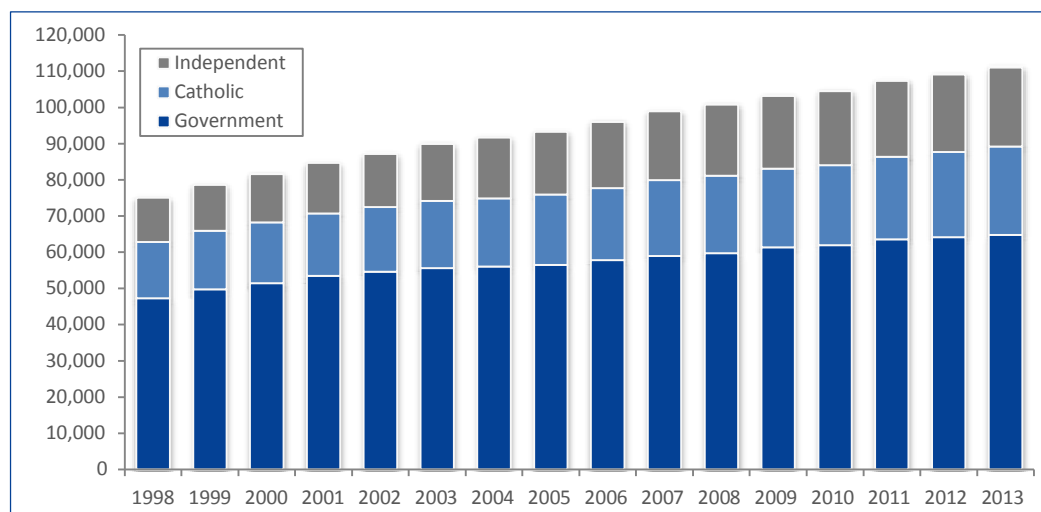
	Primary	Secondary	Total	% Primary
Victoria 2013	32,468.4	33,570.1	66,038.5	49.2
Australia 2013	136,017.4	125,567.6	261,585.0	52.0
% Victoria	23.9	26.7	25.2	

Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

¹⁹ ABS (2014c), NSSC Table 51a

Figure 3.2 (and Table 3.2) shows the number of staff in Victorian schools over the past 16 years. The headcount figures include teaching staff (including school leaders), specialist support staff, administrative and clerical staff, as well as building operations, general maintenance and other staff. The number of staff in Victorian schools has grown across all sectors. Growth in numbers has averaged about 2.2 per cent per year since 2003 and numbers have risen 24 per cent from 2003–2013.

Figure 3.2: In-school teaching staff by sector, Victoria, 1998–2013 (headcount)



Source: NSSC Table 50a: Number of In-school Staff, 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Staff numbers in government schools increased by 1.6 per cent per year on average and by 16 per cent overall in the 10 years to 2013. In Catholic schools numbers increased by 2.8 per cent per year and 29 per cent overall, and in independent schools by 3.7 per cent per year and 31 per cent overall. In the case of the Catholic and independent sectors, these increases were off a considerably lower base than in the government sector.

Overall proportions of school staff by sector have changed very little since 2007, with government schools about 58 per cent, Catholic schools 22 per cent and independent schools 20 per cent. The overall trend is for growth in all sectors, with the proportion of staff in government schools declining marginally.

Table 3.2: In-school staff by sector, Victoria, 1998–2013 (headcount)

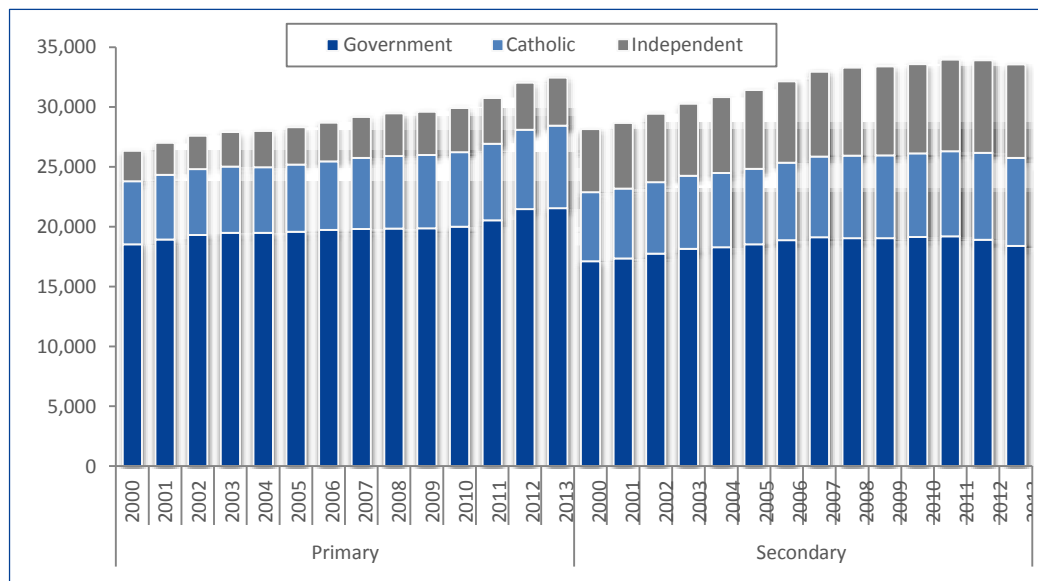
	Government	Catholic	Independent	All sectors
1998	47,333	15,542	12,208	75,083
1999	49,805	16,178	12,612	78,595
2000	51,426	16,813	13,388	81,627
2001	53,439	17,254	13,974	84,667
2002	54,631	17,877	14,672	87,180
2003	55,563	18,606	15,697	89,866
2004	56,001	18,896	16,725	91,622
2005	56,519	19,448	17,298	93,265
2006	57,807	19,869	18,277	95,953
2007	58,955	20,976	18,996	98,927
2008	59,743	21,386	19,614	100,743
2009	61,308	21,763	20,111	103,182
2010	61,926	22,161	20,427	104,514
2011	63,574	22,769	20,958	107,301
2012	64,130	23,553	21,345	109,028
2013	64,833	24,328	21,869	111,030

Source: NSSC Table 50a: Number of In-school Staff, 1999–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

3.3 Teaching workforce

Figure 3.3 (and Table 3.3) shows the number of full-time equivalent (FTE) teachers by sector and level. Staffing in government Primary schools increased from 2011 to 2013 but it decreased in Secondary schools.

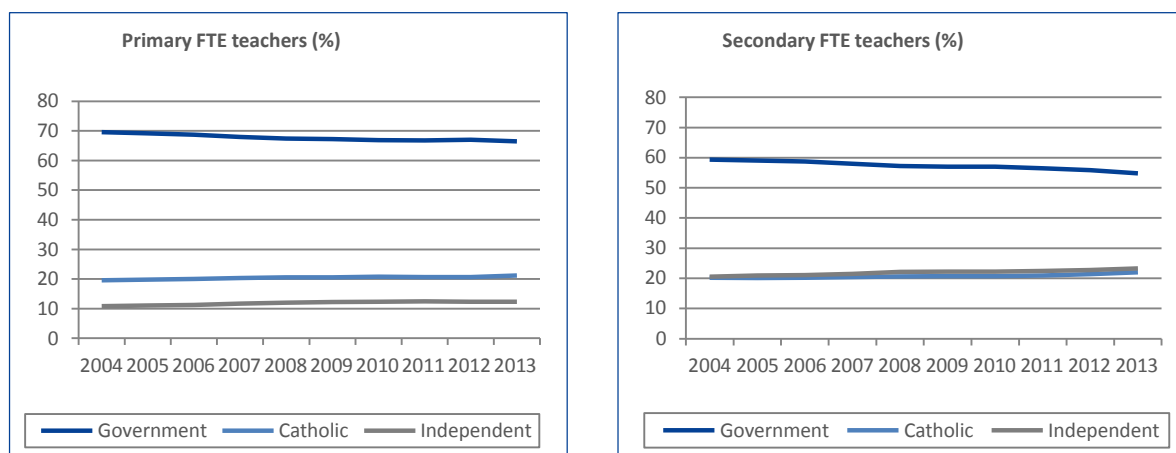
Figure 3.3: Teachers by sector and level, Victoria, 2000–2013 (FTE)



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Figure 3.4 shows the proportion of teachers in each sector. At the Primary level, the government sector currently accounts for about 66 per cent of teachers, the Catholic sector for 21 per cent and the independent sector for 12 per cent. The proportion of Primary teachers based in government schools has declined by about three percentage points in the last decade, with proportions in Catholic schools rising by about one percentage point and in independent schools by about two percentage points. At the Secondary level, the government sector has declined to 55 per cent of teachers, while the Catholic and independent sectors have about the same proportions (22 per cent and 23 per cent respectively). The last decade has seen the proportion of teachers in government schools decline by 4.5 percentage points, while the Catholic sector gained about 1.8 percentage points and the independent sector gained 2.7 percentage points. The independent sector proportion of Secondary teachers overtook that of the Catholic sector in 2004.

Figure 3.4: Distribution of teachers by sector, Primary and Secondary, Victoria, 1998–2013



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Table 3.3: Teachers by sector and level, Victoria, 2000–2013 (FTE)

		Government	Catholic	Independent
Primary	2000	18,526.2	5,277.9	2,532.3
	2001	18,933.5	5,407.9	2,661.2
	2002	19,301.0	5,510.9	2,795.6
	2003	19,509.2	5,520.6	2,905.9
	2004	19,491.0	5,497.1	3,025.3
	2005	19,591.4	5,608.7	3,123.9
	2006	19,732.8	5,733.8	3,233.4
	2007	19,822.3	5,940.6	3,415.1
	2008	19,858.3	6,068.6	3,539.6
	2009	19,889.1	6,096.1	3,614.4
	2010	20,004.8	6,229.6	3,693.0
	2011	20,556.7	6,372.3	3,834.3
	2012	21,472.9	6,629.6	3,943.2
	2013	21,566.2	6,893.6	4,008.6
Secondary	2000	17,134.2	5,767.0	5,252.5
	2001	17,370.7	5,814.1	5,487.7
	2002	17,772.8	5,950.7	5,732.0
	2003	18,155.4	6,115.9	6,001.9
	2004	18,292.1	6,219.6	6,322.6
	2005	18,549.8	6,303.0	6,570.9
	2006	18,875.4	6,491.3	6,786.4
	2007	19,120.9	6,745.2	7,092.5
	2008	19,056.2	6,877.2	7,354.5
	2009	19,046.1	6,914.9	7,429.8
	2010	19,150.6	6,978.4	7,462.7
	2011	19,200.8	7,122.8	7,634.0
	2012	18,923.8	7,255.8	7,732.4
	2013	18,393.9	7,373.9	7,802.3

Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

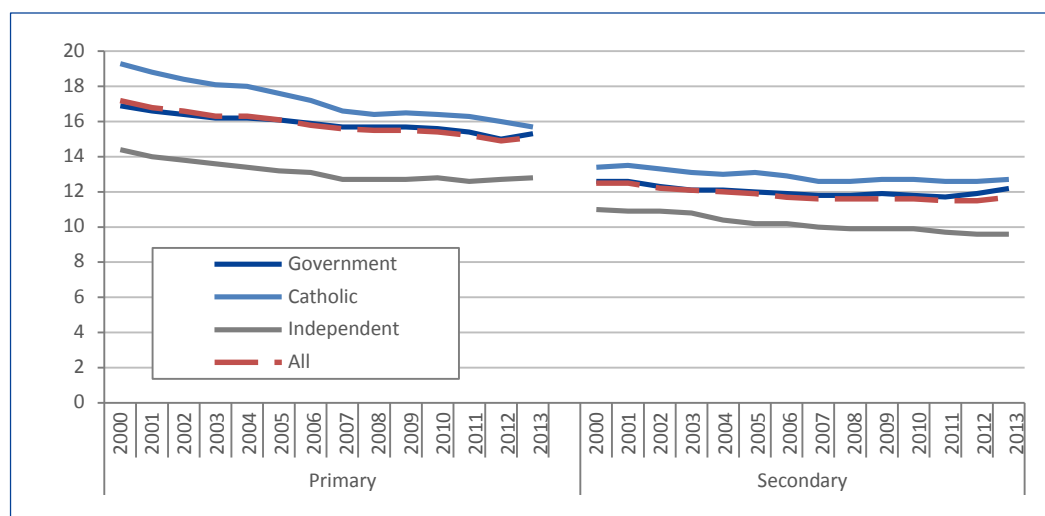
3.4 Student-to-teacher ratios

The student-to-teacher ratio is calculated on the number of FTE students in a school or system divided by the number of FTE teachers in that school or system. Figure 3.5 (and Table 3.4) shows the student-to-teacher ratio in Victoria by level and sector. In 2013 the Primary student-to-teacher ratio was 15.1, up from a low of 14.9 in 2012. The Catholic sector Primary ratio has been falling consistently and is slightly higher than the government ratio. The independent sector Primary ratio is lower than other sectors and has been stable at about 12.7 since 2007.

At the Secondary level, the Victorian student-to-teacher ratio was 11.7 in 2013. The government sector ratio rose slightly in 2012 and 2013, to 12.2. The Catholic sector Secondary ratio has remained stable at about 12.7 since 2007 and the independent sector ratio has decreased slightly, to 9.6.

Victorian 2013 ratios were below national averages at the Primary level. At the Secondary level, the Catholic sector ratio equalled the national average while the government and independent sectors, and the overall Victoria ratio, were below the national average.

Figure 3.5: Student-to-teacher ratios, Victoria, 2000–2013



Source: NSSC Table 53a: Students to teacher ratios, 1999–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Table 3.4: Student-to-teacher ratios, Victoria, 2004–2013

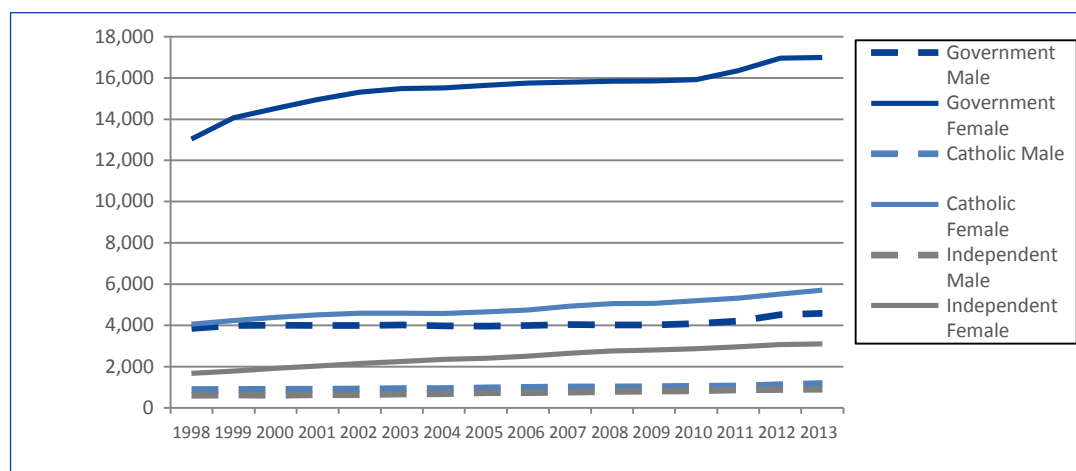
	Primary				Secondary			
	Govt	Cath	Ind	All	Govt	Cath	Ind	All
2004	16.2	18.0	13.4	16.3	12.1	13.0	10.4	12.0
2005	16.1	17.6	13.2	16.1	12.0	13.1	10.2	11.9
2006	15.9	17.2	13.1	15.8	11.9	12.9	10.2	11.7
2007	15.7	16.6	12.7	15.6	11.8	12.6	10.0	11.6
2008	15.7	16.4	12.7	15.5	11.8	12.6	9.9	11.6
2009	15.7	16.5	12.7	15.5	11.9	12.7	9.9	11.6
2010	15.6	16.4	12.8	15.4	11.8	12.7	9.9	11.6
2011	15.4	16.3	12.6	15.2	11.7	12.6	9.7	11.5
2012	15.0	16.0	12.7	14.9	11.9	12.6	9.6	11.5
2013	15.3	15.7	12.8	15.1	12.2	12.7	9.6	11.7

Source: NSSC Table 53a: Students to teacher ratios, 1999–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

3.5 Gender

Gender disparities in the teacher workforce are well known. Trends are clearest when disaggregated by Primary and Secondary levels. Figure 3.6 and Table 3.5 show that the actual number of male Primary teachers in all sectors in Victoria has been increasing by 1.4 per cent each year on average. From 2000–2010 the male Primary teaching population increased by 7.8 per cent. Growth in 2011 (3.3 per cent) and 2012 (6.0 per cent) was unusually high. In comparison, the female yearly growth rate has averaged 2.2 per cent, with an overall increase of 15.2 per cent from 2000–2010. Proportionally, the gender disparity at the Primary level has remained stable since 2000 at 80:20 in favour of females.

Figure 3.6: Teachers in Primary schools by gender and sector, Victoria, 1999–2013 (FTE)



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

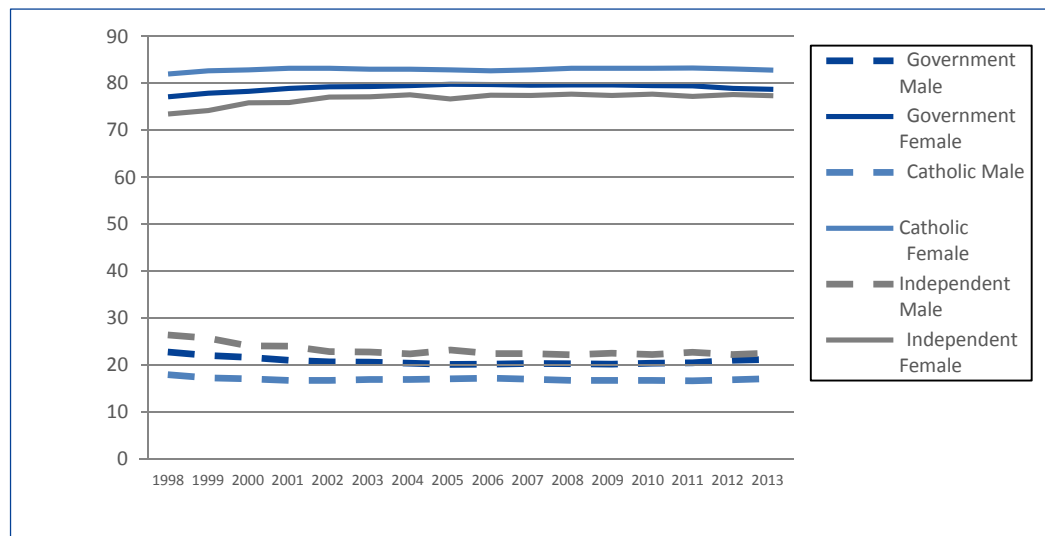
Table 3.5: Teachers in Primary schools by gender and sector, Victoria, 1999–2013 (FTE)

	Government		Catholic		Independent		All sectors	
	Male	Female	Male	Female	Male	Female	Male	Female
1999	3,983.1	14,076.4	884.1	4,224.3	614.8	1,771.3	5,482.0	20,072.0
2000	4,008.6	14,517.6	900.6	4,377.3	610.5	1,921.8	5,519.7	20,816.7
2001	3,985.1	14,948.4	906.4	4,501.5	639.5	2,021.7	5,531.0	21,471.6
2002	3,993.3	15,307.7	923.2	4,587.7	639.8	2,155.8	5,556.3	22,051.2
2003	4,024.7	15,484.5	935.3	4,585.3	662.2	2,243.7	5,622.2	22,313.5
2004	3,978.3	15,512.7	932.5	4,564.6	677.5	2,347.8	5,588.3	22,425.1
2005	3,951.8	15,639.6	958.9	4,649.8	726.6	2,397.3	5,637.3	22,686.7
2006	3,991.5	15,741.3	989.5	4,744.3	726.4	2,507.0	5,707.4	22,992.6
2007	4,031.4	15,790.9	1,013.0	4,927.6	768.4	2,646.7	5,812.8	23,365.2
2008	4,026.6	15,831.7	1,016.2	5,052.4	787.1	2,752.5	5,829.9	23,636.6
2009	4,027.6	15,861.5	1,021.2	5,074.9	814.2	2,800.2	5,863.0	23,736.6
2010	4,083.0	15,921.8	1,043.9	5,185.7	822.5	2,870.5	5,949.4	23,978.0
2011	4,211.0	16,345.7	1,061.5	5,310.8	872.2	2,962.1	6,144.7	24,618.6
2012	4,514.7	16,958.2	1,119.0	5,510.6	879.0	3,064.2	6,512.7	25,533.0
2013	4,578.4	16,987.8	1,183.9	5,709.7	906.0	3,102.6	6,668.3	25,800.1

Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Disaggregating the data by sector, at the Primary level Catholic schools have the lowest proportion of male teachers at 17 per cent, government schools have about 20 per cent and independent schools have about 22 per cent, on average (Figure 3.7 and Table 3.6). These proportions have remained stable for about 10 years, which suggests that the proportion of males at Primary level is stable at present. In comparison, males formed 15.4 per cent of the NSW government sector Primary workforce in 2014.²⁰

Figure 3.7: Proportion of Primary FTE teachers by gender and sector, Victoria 1998–2013



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Table 3.6: Gender distribution of Primary school teachers (FTE) by sector, Victoria, 1998–2013

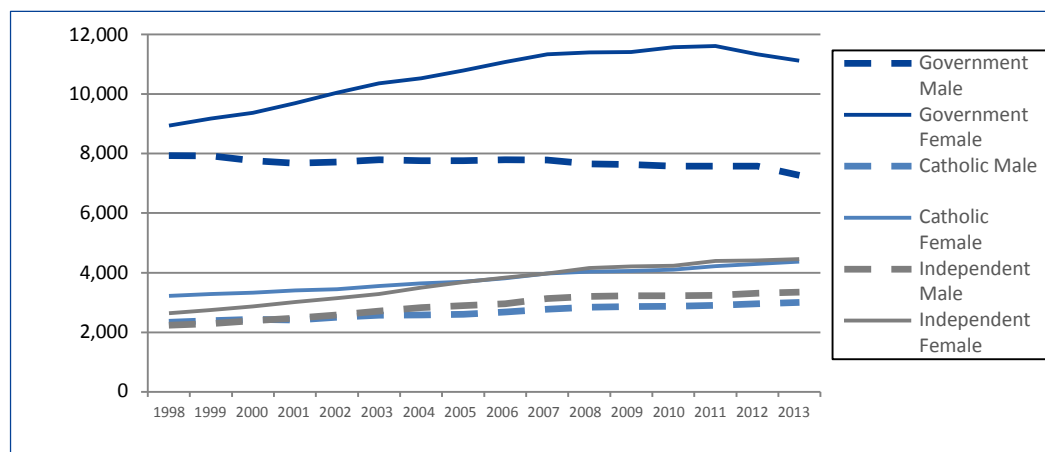
	Government		Catholic		Independent		All sectors	
	Male	Female	Male	Female	Male	Female	Male	Female
1998	22.8	77.2	18.0	82.0	26.5	73.5	22.2	77.8
1999	22.1	77.9	17.3	82.7	25.8	74.2	21.5	78.5
2000	21.6	78.4	17.1	82.9	24.1	75.9	21.0	79.0
2001	21.0	79.0	16.8	83.2	24.0	76.0	20.5	79.5
2002	20.7	79.3	16.8	83.2	22.9	77.1	20.1	79.9
2003	20.6	79.4	16.9	83.1	22.8	77.2	20.1	79.9
2004	20.4	79.6	17.0	83.0	22.4	77.6	19.9	80.1
2005	20.2	79.8	17.1	82.9	23.3	76.7	19.9	80.1
2006	20.2	79.8	17.3	82.7	22.5	77.5	19.9	80.1
2007	20.3	79.7	17.1	82.9	22.5	77.5	19.9	80.1
2008	20.3	79.7	16.7	83.3	22.2	77.8	19.8	80.2
2009	20.3	79.7	16.8	83.2	22.5	77.5	19.8	80.2
2010	20.4	79.6	16.8	83.2	22.3	77.7	19.9	80.1
2011	20.5	79.5	16.7	83.3	22.7	77.3	20.0	80.0
2012	21.0	79.0	16.9	83.1	22.3	77.7	20.3	79.7
2013	21.2	78.8	17.2	82.8	22.6	77.4	20.5	79.5

Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

²⁰ DEC (2014), p.7.

Figure 3.8 and Table 3.7 show the number of Secondary (FTE) teachers by gender and sector. Overall, the trend has been for increasing numbers with the exception of males in government schools, which shows a slight decline. The female Secondary teacher workforce in the government sector peaked in 2011 and in 2013 numbers had dropped below 2007 levels.

Figure 3.8: Teachers in Secondary schools by gender and sector, Victoria, 1998–2013 (FTE)



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

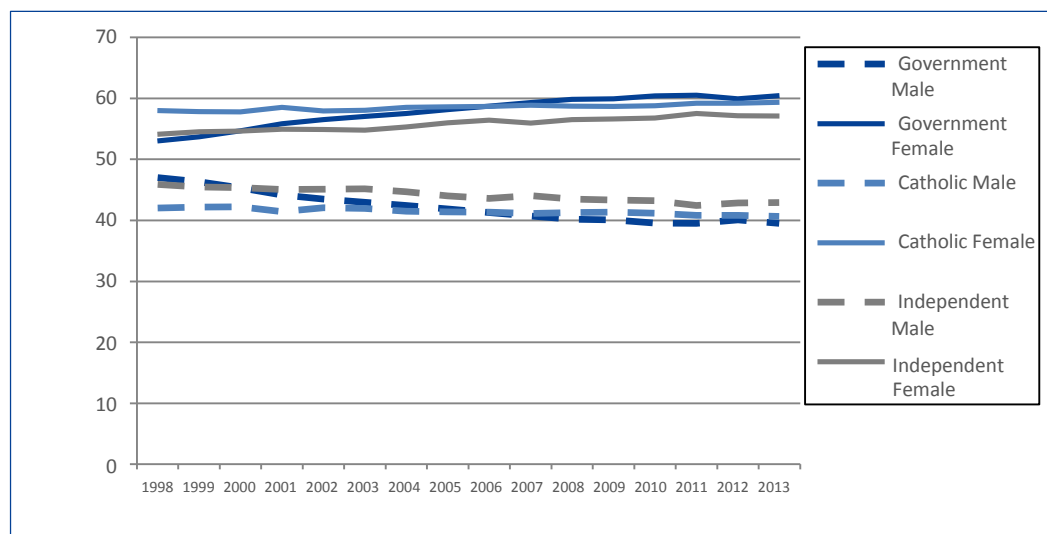
Table 3.7: Teachers in Secondary schools by gender and sector, Victoria, 1999–2013 (FTE)

	Government		Catholic		Independent		All sectors	
	Male	Female	Male	Female	Male	Female	Male	Female
1999	7,920.4	9,176.4	2,392.8	3,282.3	2,288.8	2,744.3	12,602.0	15,203.0
2000	7,762.1	9,372.1	2,434.8	3,332.2	2,383.2	2,869.3	12,580.1	15,573.6
2001	7,674.1	9,696.6	2,410.6	3,403.5	2,473.3	3,014.4	12,558.0	16,114.5
2002	7,724.7	10,048.1	2,503.8	3,446.9	2,586.3	3,145.7	12,814.8	16,640.7
2003	7,797.2	10,358.2	2,565.5	3,550.4	2,712.2	3,289.7	13,074.9	17,198.3
2004	7,765.9	10,526.2	2,581.6	3,638.0	2,826.2	3,496.4	13,173.7	17,660.6
2005	7,762.9	10,786.9	2,607.4	3,695.6	2,891.2	3,679.7	13,261.5	18,162.2
2006	7,795.1	11,080.3	2,683.1	3,808.2	2,956.6	3,829.8	13,434.8	18,718.3
2007	7,786.4	11,334.5	2,772.9	3,972.3	3,124.3	3,968.2	13,683.6	19,275.0
2008	7,659.1	11,397.1	2,839.4	4,037.8	3,199.5	4,155.0	13,698.0	19,589.9
2009	7,630.6	11,415.5	2,857.3	4,057.6	3,221.0	4,208.8	13,708.9	19,681.9
2010	7,578.4	11,572.2	2,875.2	4,103.2	3,226.1	4,236.6	13,679.7	19,912.0
2011	7,584.5	11,616.3	2,905.6	4,217.2	3,241.4	4,392.6	13,731.5	20,226.1
2012	7,582.3	11,341.5	2,960.2	4,295.6	3,313.9	4,418.5	13,856.4	20,055.6
2013	7,269.5	11,124.4	2,998.7	4,375.2	3,348.3	4,454.0	13,616.5	19,953.6

Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Figure 3.9 (and Table 3.8) presents the same data in terms of proportions. It is clear that the male population of Secondary teachers is in decline in all sectors and has been for many years. The decline is slow but constant, with the most noticeable fall in the government sector, which has moved from a proportion of 45 per cent of males in 2000 to 40 per cent in 2013.

Figure 3.9: Proportion of Secondary FTE teachers by gender and sector, Victoria 1998–2013



Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Table 3.8: Gender distribution of teachers (FTE) in Secondary schools by sector, Victoria, 1999–2013

	Government		Catholic		Independent		All sectors	
	Male	Female	Male	Female	Male	Female	Male	Female
1999	46.3	53.7	42.2	57.8	45.5	54.5	45.3	54.7
2000	45.3	54.7	42.2	57.8	45.4	54.6	44.7	55.3
2001	44.2	55.8	41.5	58.5	45.1	54.9	43.8	56.2
2002	43.5	56.5	42.1	57.9	45.1	54.9	43.5	56.5
2003	42.9	57.1	41.9	58.1	45.2	54.8	43.2	56.8
2004	42.5	57.5	41.5	58.5	44.7	55.3	42.7	57.3
2005	41.8	58.2	41.4	58.6	44.0	56.0	42.2	57.8
2006	41.3	58.7	41.3	58.7	43.6	56.4	41.8	58.2
2007	40.7	59.3	41.1	58.9	44.1	55.9	41.5	58.5
2008	40.2	59.8	41.3	58.7	43.5	56.5	41.2	58.8
2009	40.1	59.9	41.3	58.7	43.4	56.6	41.1	58.9
2010	39.6	60.4	41.2	58.8	43.2	56.8	40.7	59.3
2011	39.5	60.5	40.8	59.2	42.5	57.5	40.4	59.6
2012	40.1	59.9	40.8	59.2	42.9	57.1	40.9	59.1
2013	39.5	60.5	40.7	59.3	42.9	57.1	40.6	59.4

Source: NSSC Table 51a: In-school Staff (FTE), 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

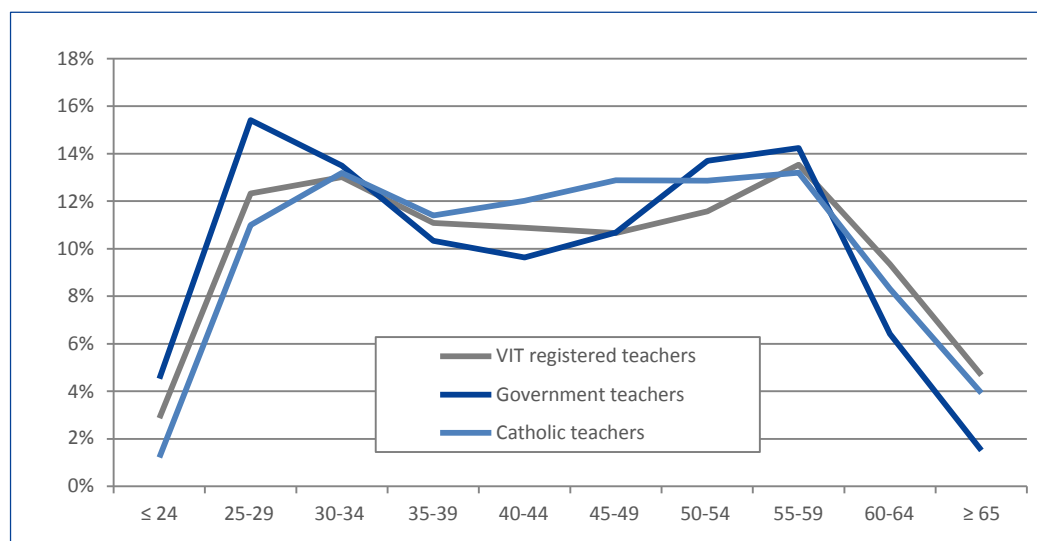
The Staff in Australia’s Schools (SiAS) survey 2013 Teacher Profiles report noted that 42.2 per cent of Secondary teachers across Australia were male. In comparison, the proportion of Mathematics teachers who were male was 51.6 per cent, the proportion of male Physics teachers was 76.5 per cent and Computing/IT was 59.9 per cent. In addition, male teachers in Mathematics and Physics are about four years older on average than their female counterparts: only about 20 per cent were aged 35 or below.²¹

²¹ Weldon et al. (2014), tables 3.4 and 3.6.

3.6 Age

The 2013 age profile of teachers in Victoria, shown in Figure 3.10, has been sourced from the government and Catholic sectors and VIT data for all teachers²². The government sector currently has a higher proportion of young teachers: 19.9 per cent aged 29 or under compared to 12.2 per cent of Catholic teachers and 15.2 per cent of teachers registered with the VIT. Overall, the age groups are quite balanced across sectors, with each five-year group between 30 and 59 representing about 10–13 per cent of the teacher population (see Table 3.9).

Figure 3.10: Age profile of registered teachers, government and Catholic schools, Victoria, 2013



Source: DEECD, Performance and Evaluation Division, Customised data set, 2014; CECV, 2014; *VIT Annual Report 2012–2013* [www.vit.vic.edu.au/SiteCollectionDocuments/PDF/AnnualReport/Victorian Institute of Teaching Annual Report 2012-13.pdf](http://www.vit.vic.edu.au/SiteCollectionDocuments/PDF/AnnualReport/Victorian%20Institute%20of%20Teaching%20Annual%20Report%202012-13.pdf)
 Note: All teachers are included in these figures, including principal class.

Table 3.9: Age profile of registered teachers, government and Catholic schools, Victoria, 2013 (%)

	VIT registered teachers	Government teachers	Catholic teachers
≤ 24	2.9	4.5	1.2
25–29	12.3	15.4	11.0
30–34	13.0	13.5	13.2
35–39	11.1	10.3	11.4
40–44	10.9	9.6	12.0
45–49	10.7	10.7	12.9
50–54	11.6	13.7	12.9
55–59	13.5	14.2	13.2
60–64	9.4	6.4	8.3
≥ 65	4.7	1.5	3.9

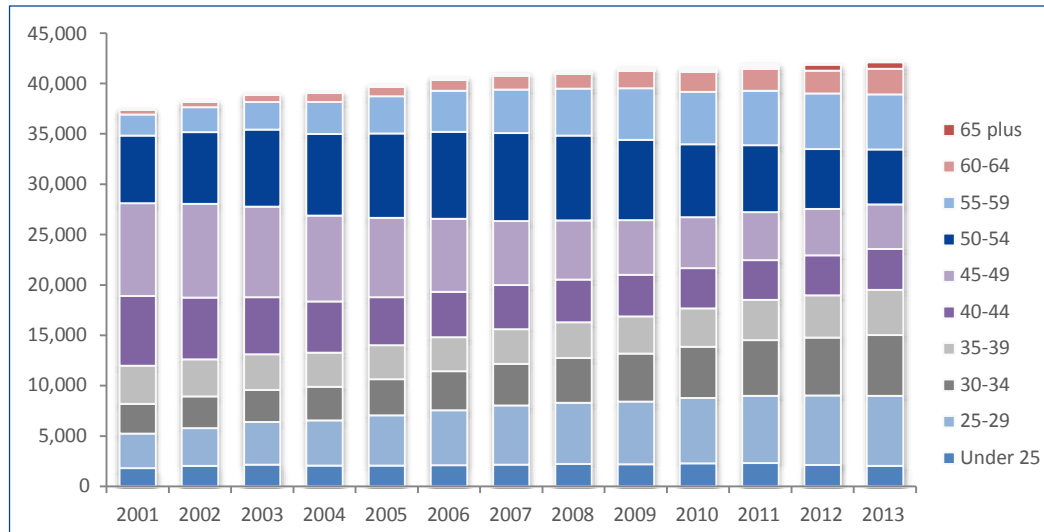
Source: DEECD, Performance and Evaluation Division, Customised data set, 2014; CECV, 2014; *VIT Annual Report 2012–2013* [www.vit.vic.edu.au/SiteCollectionDocuments/PDF/AnnualReport/Victorian Institute of Teaching Annual Report 2012-13.pdf](http://www.vit.vic.edu.au/SiteCollectionDocuments/PDF/AnnualReport/Victorian%20Institute%20of%20Teaching%20Annual%20Report%202012-13.pdf)
 Note: All teachers are included in these figures, including principal class.

Figure 3.11 presents an overview of the proportion of the teaching population in government schools by age group (not including the principal class). The under-30 group have been fairly stable at about 20 per cent since 2008. There has been a marked increase in the proportion aged 30–34. Just under half of the teacher workforce is under 40 (about 46 per cent), compared to one third of the workforce a decade ago.

The proportions of those aged 40–54 have now been in decline for over a decade. At the other end, the proportion of teachers aged 55 and over has been increasing: from less than 10 per cent a decade ago, these teachers now represent just over 20 per cent of all teachers in 2013. From about 2009, this increase has been driven by the group aged 60 years or older.

²² Data for age profiles for teachers in independent schools was not available.

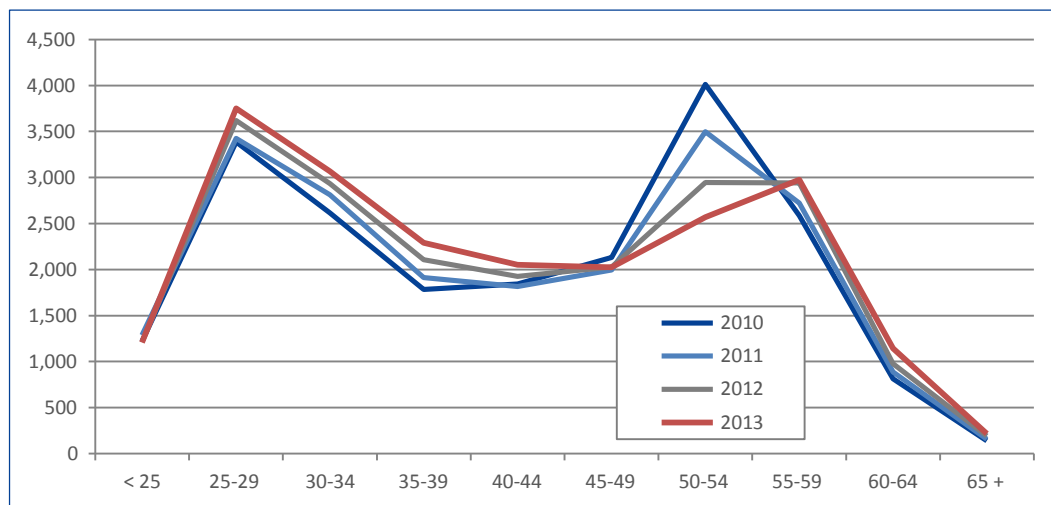
Figure 3.11: Teachers in government schools by age 2001–2013 (headcount)



Source: DEECD, Performance and Evaluation Division, Customised data set, 2014
 Note: Government figures include the following classes of teacher: Graduate, Accomplished, Expert, Leading and Paraprofessional.

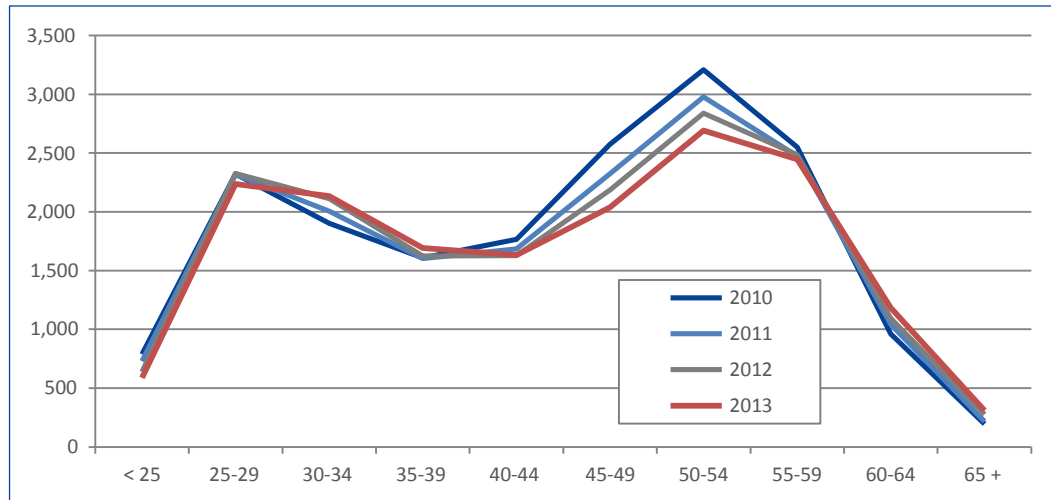
Figure 3.12 and Figure 3.13 present the headcount of Primary and Secondary teachers by age group between 2010 and 2013. At the Primary level, proportions of teachers aged from 25–39 have increased by about one to two percentage points each year, while the proportion in the 50–54 age group has fallen markedly, from 20 per cent in 2010 to 12 per cent in 2013. There has been a slight increase in teachers aged 55 and over. The Secondary level shows a similar increase in the younger age groups and decrease in the 50–54 age group, though not quite as prominent as at the Primary level. There has also been an increase in teachers aged over 60 at Secondary level.

Figure 3.12: Teachers in government Primary schools by age, 2010–2013 (headcount)



Source: DEECD, Performance and Evaluation Division, Customised data set, 2014
 Note: Government figures include the following classes of teacher: Graduate, Accomplished, Expert, Leading, and Paraprofessional.

Figure 3.13: Teachers in government Secondary schools by age, 2010–2013 (headcount)

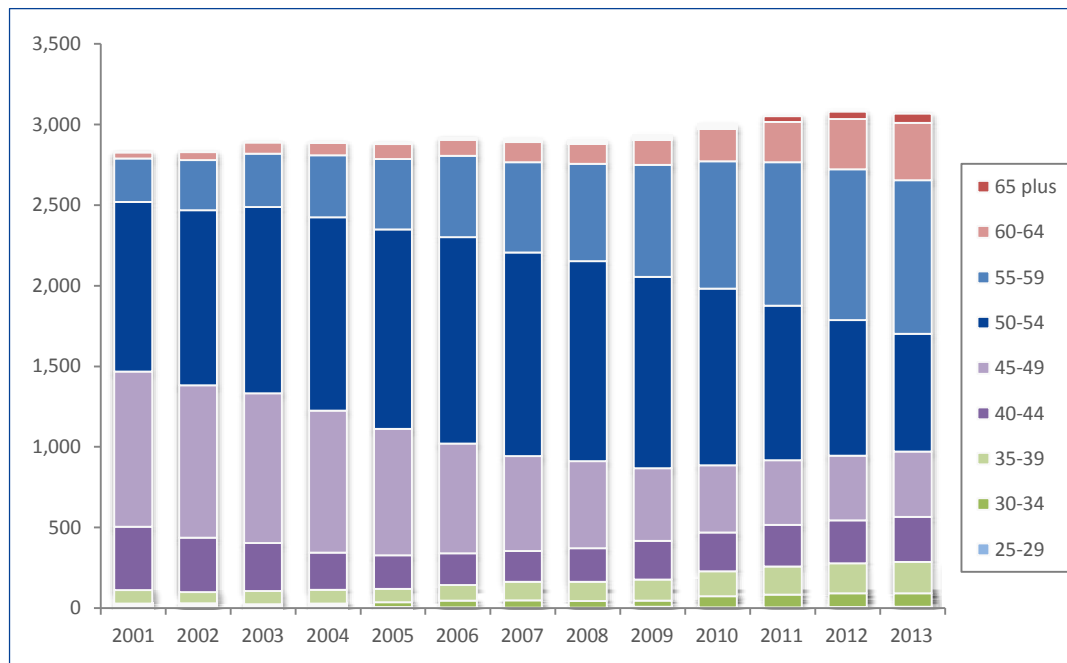


Source: DEECD, Performance and Evaluation Division, Customised data set, 2014

Note: Government figures include the following classes of teacher: Graduate, Accomplished, Expert, Leading, and Paraprofessional.

The ‘principal class’ classification in the Victorian government sector includes those with higher levels of responsibility: most commonly those in principal and deputy principal positions. The aging of this group has been a clear trend for over a decade: in 2001, about 12 per cent of principal class employees were 55 or over. In 2013 that number had grown to about 45 per cent (Figure 3.14). In contrast, those aged 45–54 formed a clear majority (about 70 per cent) in 2001, and have now fallen under 40 per cent in 2013.

Figure 3.14: Principal class in government schools by age, 2001–2013 (headcount)



Source: DEECD, Performance and Evaluation Division, Customised data set, 2014

4. Supply

Main points:

- First preference applications for undergraduate courses have been at about 6,000 for over a decade.
- Final year enrolments have increased from an average of 4,500 (2004–2009) to nearly 6,000 in 2013.
- Technology, Mathematics and Physics have shown little or no growth in numbers over the last decade, and growth in LOTE has been minimal.
- About 75 per cent of graduates of undergraduate teaching courses were employed as teachers within four months of graduation compared with 65 per cent of graduates of postgraduate courses.
- Graduates rate their ITE courses very highly overall.
- Around 20 per cent of teachers who are qualified are assumed to be unavailable to teach, based on available evidence. The numbers of interstate-qualified Victorians, overseas and interstate migrants are uncertain and the estimates provided of those available to teach are conservative.

4.1 Introduction

There were 103,193 fully registered teachers in Victoria in June 2013, a one per cent increase on 2012 figures (102,645). A further 12,517 teachers had provisional registration and 2,087 had permission to teach, leading to a current pool of 117,797 persons able to teach in Victoria.²³

4.2 Overview: ITE courses and student demographics

The AITSL Initial Teacher Education (ITE) Data Report notes that, as of January 2013, there were over 400 accredited ITE programs offered across Australia. As of June 2013, there were 94 ITE programs approved by the VIT.²⁴

Victoria has the highest number of metropolitan campuses (18, compared to NSW with 12, WA and SA with seven), and 11 separate providers (there are also 11 in NSW, six in Queensland and WA). In regional Victoria there are ten campuses and five providers (compared to 12 campuses and six providers in NSW, ten campuses and six providers in Queensland).²⁵

Entry to ITE courses is at the discretion of the provider and there are a range of options, including through Secondary education, tertiary education, Vocational Education and Training (VET) and mature entry. ITE courses include both undergraduate and graduate programs. From 2012, the number of places available in undergraduate courses is also a decision for the provider, following the uncapping of Commonwealth Supported Places (CSPs).

Entrants to ITE courses can come directly from Secondary education (into an undergraduate course) or after undertaking tertiary education (a postgraduate course). Some entrants come from the workplace, often as mature age entrants (course types vary). In 2012, 76 per cent of commencing students were female and 80 per cent were full-time; 50 per cent of undergraduate entrants were under the age of 20; 42 per cent of graduate entrants were aged 20–24; and 22 per cent were aged 25–29. In all course types, 15 per cent of entrants were aged 30–39 and nine per cent were aged 40 or over.²⁶

The AITSL 2014 report notes an increase in the external mode of attendance, which is defined as electronic-based, online and correspondence (as opposed to internal or classroom-based). In 2012, 22 per cent of Australia-wide commencements were in the external mode, up from 18 per cent in 2011.²⁷

The rise of online courses complicates the monitoring of teacher supply at the state level. Data currently collected link students to the location to their ITE provider. The location of the student is not known. According to the AITSL 2014 report, 6,698 students were studying an external mode course in 2012. An unknown proportion of these students each year will be based in Victoria.

Table 4.1 indicates the providers based outside Victoria with nationally accredited external mode ITE courses. The courses are predominantly for Primary and Primary combined with Early Childhood teaching.

²³ VIT (2013), p.7 (Table 2).

²⁴ Ibid. p.9 (Table 6).

²⁵ AITSL (2013), p.9.

²⁶ AITSL (2014), Table 5a, Table 7.

²⁷ AITSL (2014), Table 5a and glossary.

Table 4.1: Interstate course providers with external mode ITE courses, 2012

Provider	Qualification	Schooling level
Central Queensland University	Graduate Diploma	Primary, Secondary
Charles Darwin University	Bachelor of Education, Graduate Diploma	Primary, Secondary
Curtin University of Technology	Bachelor of Education	Early Childhood, Primary
Edith Cowan University	Bachelor of Education	Early Childhood, Primary
Griffith University	Master of Teaching	Early Childhood, Primary
University of Southern Queensland	Bachelor of Education	Early Childhood
University of Tasmania	Bachelor of Education, Master of Teaching	Early Childhood, Primary, Secondary

Source: National database of accredited programs, AITSL. www.aitsl.edu.au/initial-teacher-education/accredited-programs-list

4.3 Participation in initial teacher education programs

The Victorian Tertiary Admissions Centre (VTAC) administers application processes for entry into tertiary courses for all universities, TAFEs and independent colleges, for both school leavers (Year 12) and older applicants. VTAC provides publicly accessible data on preferred courses, offers and acceptances, for both undergraduate and graduate teaching ITE courses. VTAC data do not include students directly admitted to courses by providers.²⁸

Figure 4.1 shows the number of first preferences for teaching courses in Victoria. Applicants can list several courses, in different subjects and/or at different institutions, in order of preference. Therefore, this figure provides an indication of the number of applicants who have listed a teaching course as their first preference, indicating that they are particularly interested in a career in teaching. This figure does not capture all those who have indicated an interest in a teaching course. Those who included a teaching course as a second, third, or lower preference (but not as a first preference) are not included.

First preferences for undergraduate teaching courses, which are predominantly applications by Year 12 students or school leavers, have numbered around 6,000 for some years, or about 11.5 per cent of the Year 12 population in Victoria. Applications rose from less than 5,000 in 2001 to 6,420 in 2004; then declined steadily to 5,778 in 2009. There was a dramatic increase to 6,514 in 2010 and this level has been approximately maintained through until 2013.

First preferences for graduate teaching courses rose quite dramatically from 3,442 in 2001 to 5,729 in 2004 then declined from 2005 until 2008. Since 2010, the number of applications has been stable, ranging from 4,468 to 4,874. This pattern of changes coincides with the introduction, first at the University of Melbourne and later at other universities, of Master of Teaching programs, which, in the case of the University of Melbourne, have completely replaced undergraduate programs. This makes the separate interpretation of postgraduate and undergraduate application, enrolment and enrolment figures over this period difficult. The discussion that follows refers to total applications, offers and enrolments (postgraduate and undergraduate).

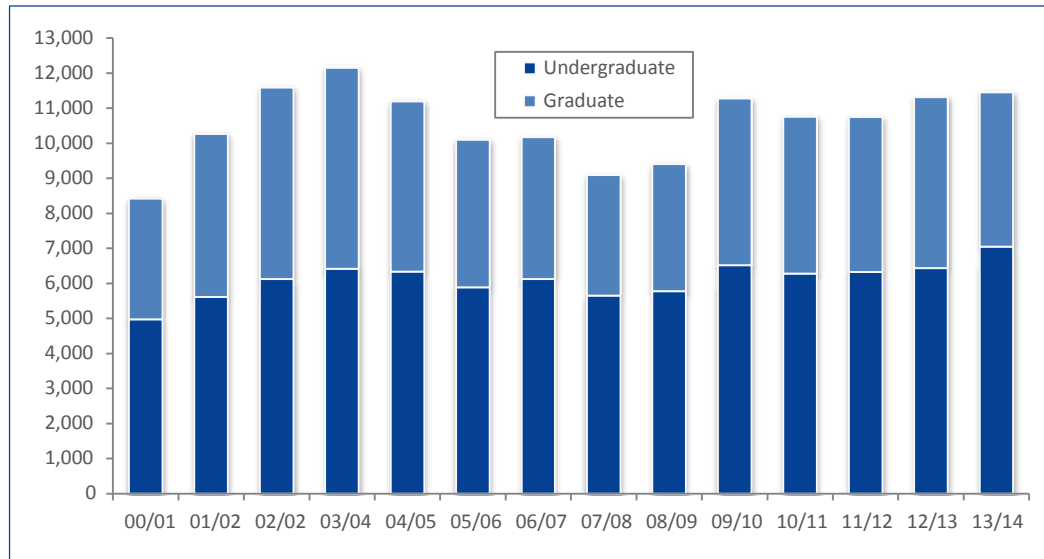
Overall, the number of first preferences for teaching courses has risen in recent years from a low of 9,000 in 2008²⁹ to an average of about 11,000 per year in the last four years, slightly lower than the peak of over 12,000 in 2004. This suggests that, on the whole, the proportion of university entrants whose first preference is a teaching course, has shown little growth.

The most dramatic change over this time has been in the number of offers made as a proportion of the number of first preferences. In 2003, 11,587 first preferences were received and 5,258 offers made. From 2004 until 2013 the number of first preferences has remained reasonably steady, dipping below 10,000 in 2007 and 2008, but otherwise remaining around 10,000 to 12,000. In this time the number of offers has almost doubled, with particularly strong increases from 2009 (6,688) to 2013 (9,702). More dramatically, the number of offers, expressed as a percentage of first preferences, has increased steadily from 45 per cent in 2003 to 86 per cent in 2013. The rate of increase has been accelerating, with the greatest rate of increase occurring in the last three years—from 70 per cent in 2010 to 86 per cent in 2013.

²⁸ Data provided by ITE providers for the purposes of this report indicates that VTAC data underestimate total enrolments.

²⁹ The year 2008 refers to financial year 2007-08.

Figure 4.1: First preferences for ITE courses, Victoria, 2000–2014

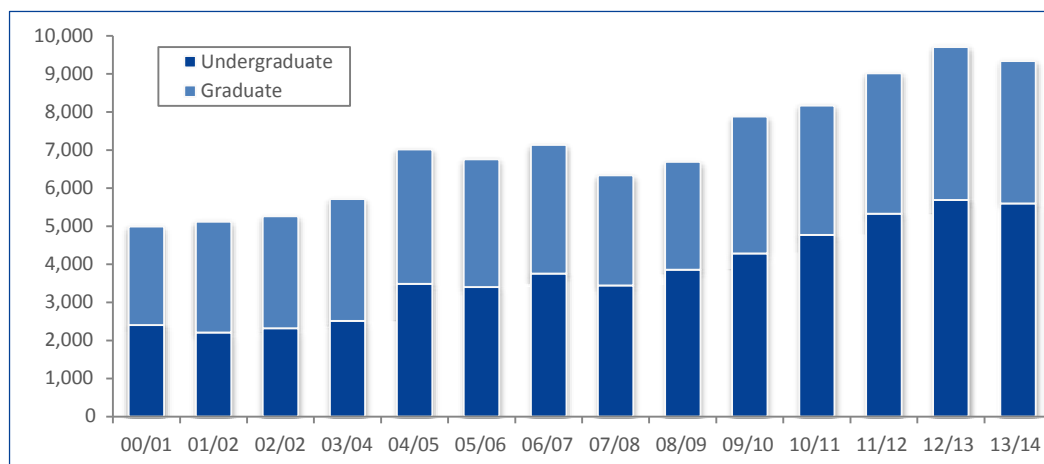


Source: VTAC Course indices and selection data archive, 2000–2014 www.vtac.edu.au/reports/

Figure 4.2 shows strong growth in offers, particularly for undergraduate courses, which grew at a rate of over 11 per cent per year from 2009 to 2012. There was a substantial decline in 2008 compared to the previous three years in both undergraduate and graduate offers. A reason for the increase in 2009 was the announcement in 2008 of the removal of caps on undergraduate Commonwealth Supported Places (CSPs). Graduate offers experienced a high growth of 27 per cent in 2010, a decline of six per cent in 2011 followed by growth of nearly nine per cent in 2012 and 2013. Graduate offers declined slightly in 2014. In total, almost 10,000 offers were made in 2013 (9,702), 53 per cent more than in 2008 and 23 per cent more than in 2010.

As only first preferences for teaching courses are detailed in Figure 4.1, the full potential pool of persons interested in a teaching course (those whose preference for a teaching course was second, third or lower on their list of course applications) is not known. If first preferences are taken as a guide to the size of the pool, it appears that offers are being made to a higher proportion of that pool over time. Undergraduate offers as a proportion were less than 40 per cent of first preferences from 2002 to 2004. By 2007, the proportion of undergraduate offers had risen to over 60 per cent, then to 76 per cent in 2011 and 88 per cent in 2013. Graduate offers, by contrast, have been consistently higher, regularly above 70–80 per cent.

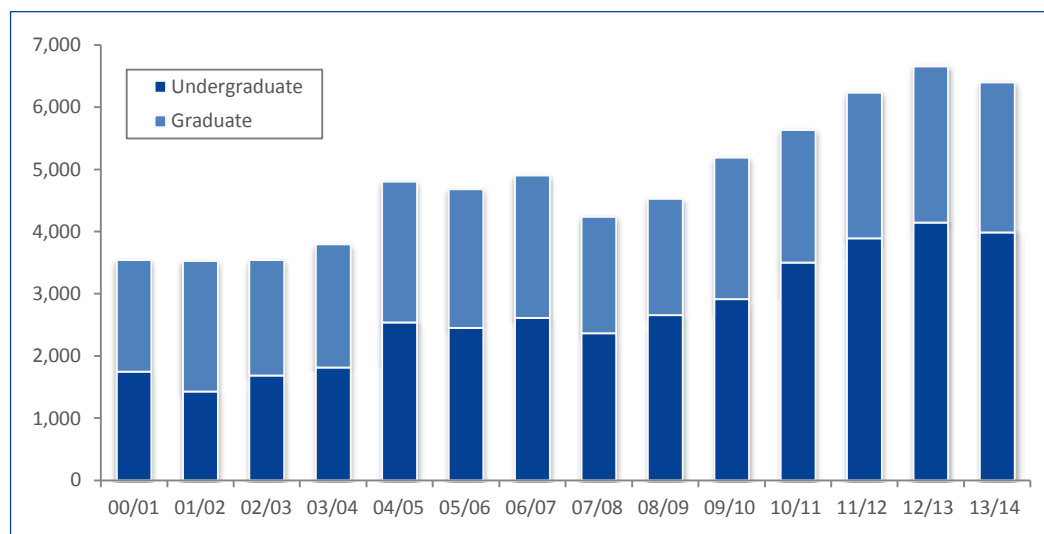
Figure 4.2: Offers in ITE courses, Victoria, 2001–2014



Source: VTAC Course indices and selection data archive, 2001–2014 www.vtac.edu.au/reports/

Figure 4.3 shows the number of acceptances for ITE courses made through VTAC³⁰. Proportionally, acceptances have been between 68–72 per cent of offers for undergraduate courses, and 61–72 per cent for graduate courses. The recent increase in the number of acceptances is clear: in 2011 there were 5,629 enrolments; in 2013 that number had increased to 6,653. Acceptances declined slightly in 2014, although they were still higher than in any year except 2013.

Figure 4.3: Acceptances for ITE courses, Victoria 2001–2014



Source: VTAC Course indices and selection data archive, 2001–2014 www.vtac.edu.au/reports/

Table 4.2: First preferences, offers and acceptances in ITE courses, Victoria, 2001–2014

	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
First preferences														
Undergrad	4,972	5,617	6,122	6,420	6,331	5,890	6,122	5,653	5,778	6,514	6,283	6,330	6,439	7,049
Postgrad	3,442	4,644	5,465	5,729	4,859	4,206	4,045	3,437	3,622	4,763	4,468	4,412	4,874	4,395
All	8,414	10,261	11,587	12,149	11,190	10,096	10,167	9,090	9,400	11,277	10,751	10,742	11,313	11,444
% Undergrad	59.1%	54.7%	52.8%	52.8%	56.6%	58.3%	60.2%	62.2%	61.5%	57.8%	58.4%	58.9%	56.9%	61.6%
Offers														
Undergrad	2,401	2,208	2,318	2,510	3,483	3,398	3,750	3,445	3,856	4,279	4,772	5,323	5,684	5,593
Postgrad	2,585	2,903	2,940	3,200	3,529	3,358	3,385	2,890	2,832	3,597	3,397	3,688	4,018	3,741
All	4,986	5,111	5,258	5,710	7,012	6,756	7,135	6,335	6,688	7,876	8,169	9,011	9,702	9,334
% Undergrad	48.2%	43.2%	44.1%	44.0%	49.7%	50.3%	52.6%	54.4%	57.7%	54.3%	58.4%	59.1%	58.6%	59.9%
Acceptances														
Undergrad	1,747	1,430	1,688	1,816	2,541	2,453	2,613	2,362	2,660	2,915	3,502	3,893	4,144	3,983
Postgrad	1,795	2,098	1,852	1,976	2,260	2,228	2,289	1,872	1,863	2,273	2,127	2,338	2,509	2,414
All	3,542	3,528	3,540	3,792	4,801	4,681	4,902	4,234	4,523	5,188	5,629	6,231	6,653	6,397
% Undergrad	49.3%	40.5%	47.7%	47.9%	52.9%	52.4%	53.3%	55.8%	58.8%	56.2%	62.2%	62.5%	62.3%	62.3%

Source: VTAC Course indices and selection data archive, 2001–2014 www.vtac.edu.au/reports/

4.4 Enrolment in Victorian ITE courses

ITE enrolment data was also collected directly from all ITE course providers in Victoria, for the years 2012–2014. This data differs from that sourced from VTAC and presented in earlier tables. It is sourced at a different point of time so is not directly comparable, and it is likely to include enrolments processed in other years, and directly by providers. The data are presented in Figure 4.4 as a continuation of the data previously obtained from course providers by the VIT. For all years the first bar represents undergraduate first year enrolments. From 2004 to 2010 the second bar represents all postgraduate enrolments.

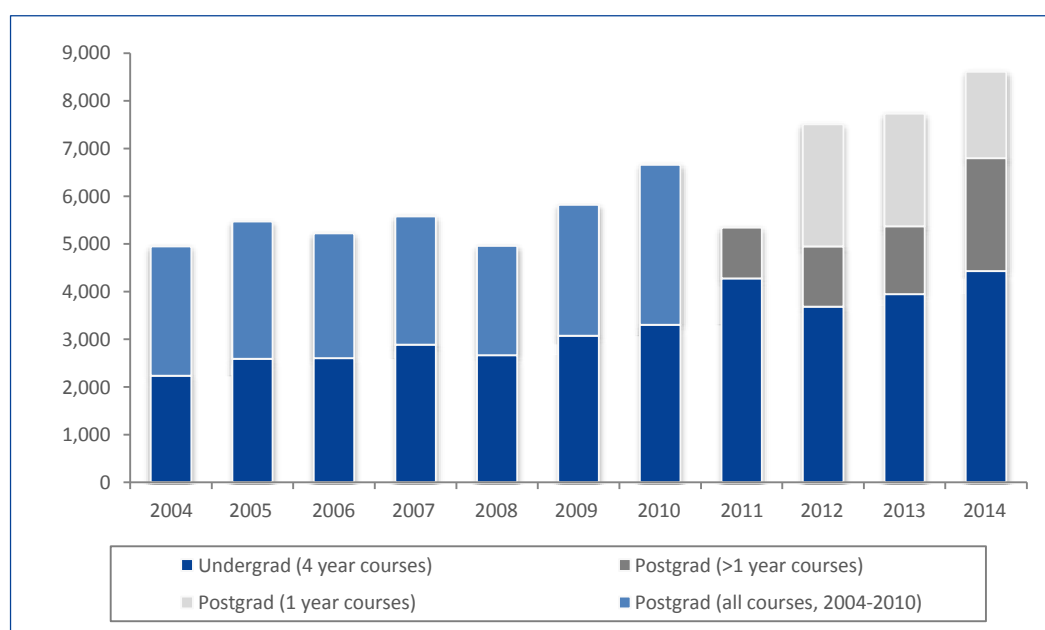
³⁰ Providers are able to enrol students directly: any such enrolments are not included in this data.

In 2011, VIT reporting changed and the second bar represents only enrolments in postgraduate courses longer than one year. One year postgraduate courses were not represented in the 2011 figures, as they were included only in the final year enrolment figures.

In this report, the postgraduate figures from 2012–2014 have been represented by two bars. The first is comparable to 2011 as it represents enrolments in postgraduate courses longer than one year. The top bar represents enrolments in one year courses, and together, the two bars represent all postgraduate enrolments for a given year. In this way, the 2004–2010 time series for all postgraduate course enrolments can be readily compared with those of 2012–2014.

In addition, providers outside Victoria were asked for details of any persons based in Victoria undertaking accredited distance ITE courses in 2013 and 2014. Requests were made to providers with accredited courses as listed by AITSL (as shown in Table 4.1).³¹ Not all providers external to Victoria responded so these additional figures are not included in the tables and charts below. Figures provided indicate that over 250 preservice teachers are currently studying in Victoria with an external provider.³² The majority are undertaking a bachelor degree in Primary education (over 180) and a further 40 are undertaking a bachelor degree in Early Childhood. These figures are likely to be a considerable underestimate of Victorian enrolments in distance ITE courses.

Figure 4.4: First year enrolments in ITE courses, Victoria, 2004–2014



Source: ACER customised data collection from Victorian course providers, 2014; VIT data set 2004–2011

Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

Table 4.3: First year enrolments in ITE courses, Victoria, 2004–2014

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Undergrad	2,234	2,589	2,602	2,885	2,665	3,070	3,301	4,272	3,684	3,934	4,350
								1,067	1,360	1,485	2,405
									2,561	2,361	1,813
Total Postgrad	2,707	2,880	2,619	2,688	2,293	2,748	3,351		3,920	3,846	4,218
Total	4,941	5,469	5,221	5,573	4,958	5,818	6,652		7,605	7,780	8,568

Source: ACER customised data collection from Victorian course providers, 2014; VIT data set 2004–2011

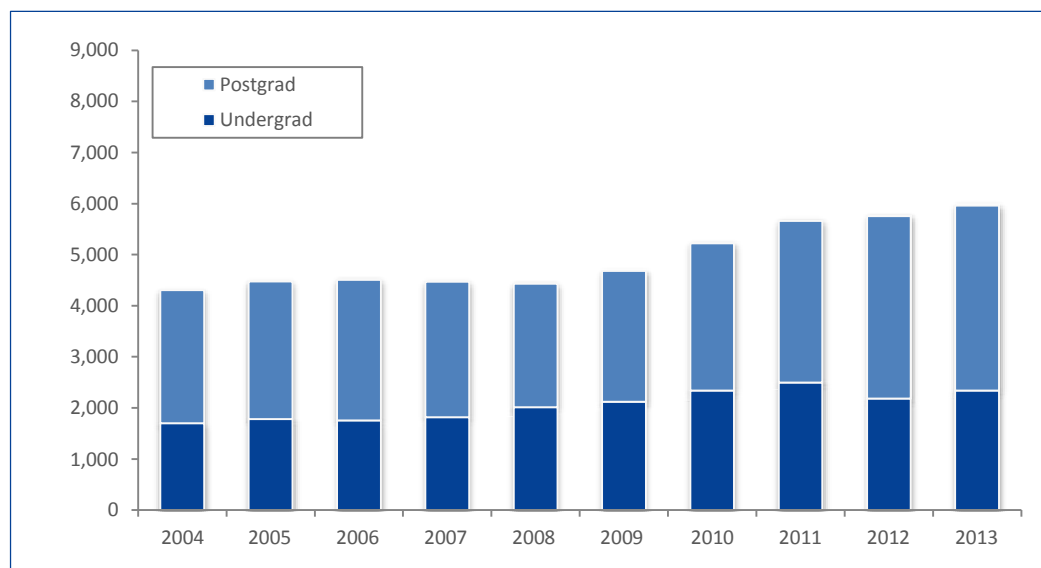
Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Two Victorian providers did not return enrolment data, so course enrolments at Early Childhood and Primary levels are underestimates. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

³¹ Based on the AITSL accredited programs list (2014). Available from: www.aitsl.edu.au/initial-teacher-education/accredited-programs-list

³² For commercial-in-confidence reasons, the enrolment figures provided by individual ITE providers are not disaggregated.

Figure 4.5 (and Table 4.4) shows overall final year enrolments in graduate and undergraduate ITE courses for Victorian providers, 2004 to 2013. There has been considerable growth since 2009, totalling nearly 30 per cent in the five years to 2013 and rising from about 4,500 persons annually from 2004 to 2008 to over 6,000 persons in 2013.

Figure 4.5: Final year enrolments in ITE courses, Victoria, 2004–2013



Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

Table 4.4: Final year enrolments in ITE courses, Victoria, 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Undergrad	1,702	1,781	1,754	1,816	2,013	2,119	2,338	2,497	2,167	2,335
Postgrad	2,607	2,692	2,753	2,653	2,417	2,562	2,885	3,165	3,639	3,695
Total	4,309	4,473	4,507	4,469	4,430	4,681	5,223	5,662	5,806	6,030
% Growth	7.1%	3.8%	0.8%	-0.8%	-0.9%	5.7%	11.6%	8.4%	2.5%	3.9%

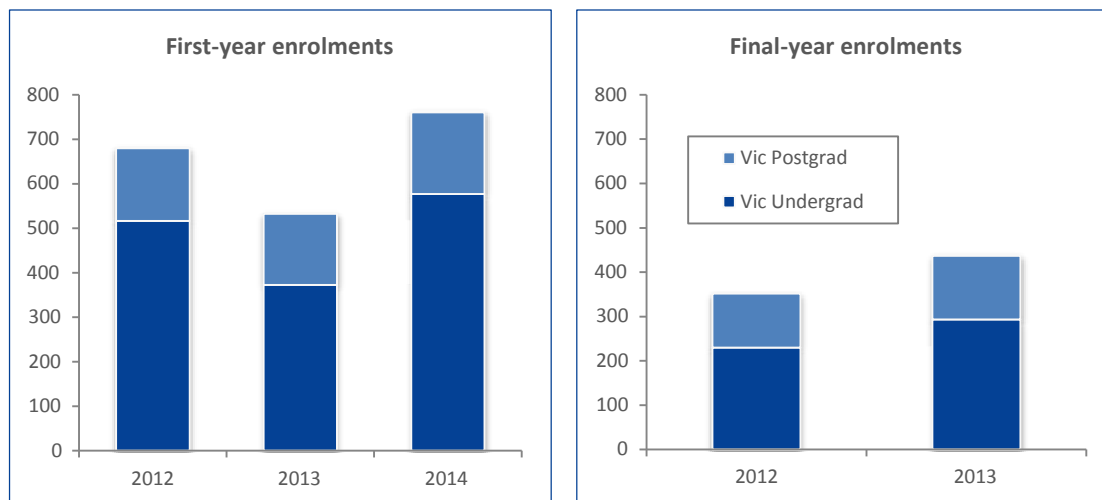
Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

The next section provides a disaggregation of first and final year enrolments in graduate and undergraduate courses by the schooling level that individuals will be qualified to teach upon graduation. Data are available for the years 2012–2014 for first year enrolments. First year enrolment figures include enrolments in one-year graduate courses as well as longer graduate courses. Figures for 2014 may be underestimates as these figures do not include courses that start mid-year. Final year postgraduate enrolment data are indicative only. This is due primarily to postgraduate courses longer than one year: many of these courses are 1.5 years in length. In addition, several two-year masters courses (included in the first year enrolments) allow students to exit at an earlier time point with a diploma.

4.5 Enrolment in Early Childhood courses

Figure 4.6 provides a breakdown of students enrolled in courses that lead to a qualification in Early Childhood (kindergarten) teaching. The majority of courses and enrolments (65 per cent) in Early Childhood are four-year bachelor degrees. Overall first year enrolments fell by 22 per cent from 2012 to 2013 and increased by 43 per cent from 2013 to 2014 (see Table 4.5). Final year enrolments (for undergraduate courses begun in 2009 and 2010 respectively) are considerably lower than current first year enrolments. From 2012 to 2013 there was a 24 per cent increase in final year enrolments overall.

Figure 4.6: First and final year enrolments in Early Childhood teaching courses, Victoria, 2012–2014



Source: ACER customised data collection from Victorian course providers, 2014

Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

4.6 Enrolment in Primary ITE courses

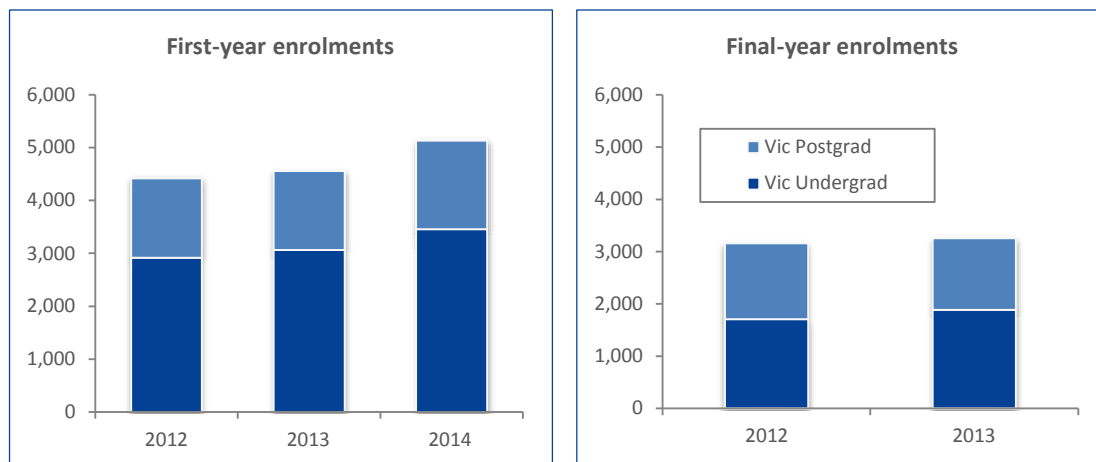
Undergraduate ITE courses that lead to a qualification in Primary teaching are the most widely offered course in teacher education in Victoria, with ten providers in 2012 rising to 11 providers with the commencement of courses at Swinburne University in 2013. Postgraduate Primary ITE courses are available from ten providers. In addition, six Australian institutions located outside Victoria offer a Primary ITE course online.³³ It is not known how many of these have Victorian-based enrolments.

Figure 4.7 provides a breakdown of students enrolled in Victorian courses that lead to a qualification in Primary teaching (see also Table 4.5). Four-year bachelor degrees have the highest proportion of enrolments at about 67 per cent, although there is a considerable number of one and two-year courses available for graduates. Undergraduate degree first year enrolments grew by 4.9 per cent in 2013 and 12.9 per cent in 2014. Postgraduate course enrolments fell by 0.3 per cent in 2013 and grew by 12.3 per cent in 2014. Overall, Primary ITE enrolments grew by 3.1 per cent in 2013 and 12.7 per cent in 2014.

Overall attrition rates (all providers) for Primary undergraduate degrees differ across years. In 2012 and 2013 the overall attrition rate from the first year to the second year of a Primary degree was 8.6 per cent. The rate is higher between the second and third years, at about 13 per cent, with a further 6 per cent attrition between the third and fourth years. Based on these rates, the indicative overall attrition rate for undergraduate Primary ITE degrees is currently about 25 per cent. The proportion of undergraduate enrolments in the final year of the course accounted for 58 per cent of final year enrolments in 2013. Based on final year enrolments shown in Figure 4.7, about 3,100 new Primary teachers will qualify in 2013 and 3,200 in 2014.

³³ Based on the AITSL accredited programs list (2014). Available from: <http://www.aitsl.edu.au/initial-teacher-education/accredited-programs-list>

Figure 4.7: First and final year enrolments in Primary ITE courses, Victoria, 2012–2014

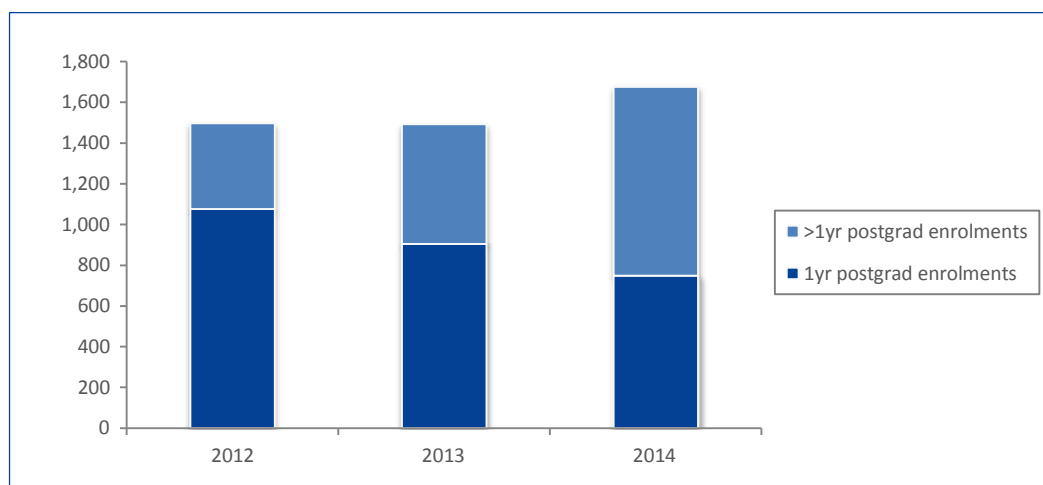


Source: ACER customised data collection from Victorian course providers, 2014

Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

Postgraduate Primary ITE courses of one year duration have decreased overall, with falls in enrolments numbers of 16 per cent and 17 per cent in 2013 and 2014, as shown in Figure 4.8. Concurrently, postgraduate Primary courses of 1.5 or two years' duration have grown, with large proportional increases in enrolments of 39 per cent and 58 per cent in 2013 and 2014 respectively. The proportion of one-year course enrolments has decreased from 72 per cent in 2012 to 61 per cent in 2013, and from 2014 is now below (45 per cent) postgraduate courses of longer duration.

Figure 4.8: First year enrolments in postgraduate Primary ITE courses by length of course, Victoria, 2012–2014



Source: ACER customised data collection from Victorian course providers, 2014

Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

The fall in one-year course enrolments is due to Monash University and Federation University, which have both decreased one-year course offerings. Other providers such as Deakin University, La Trobe University, RMIT University and Victoria University have maintained or grown enrolments in one-year Primary courses over the same timeframe.

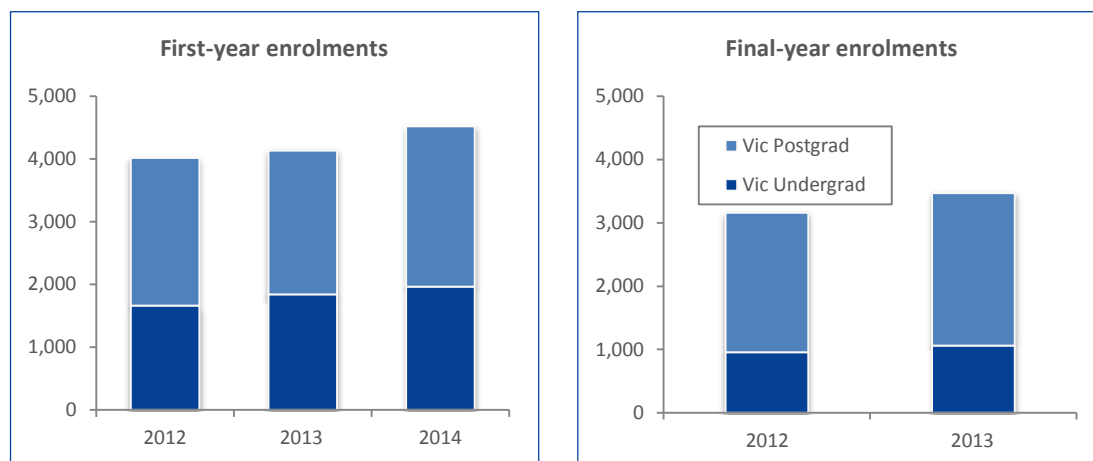
4.7 Enrolment in Secondary ITE courses

There are eight providers of undergraduate and eight providers of postgraduate Secondary ITE courses in Victoria. A further three Australian institutions offer Secondary ITE courses by distance (not included in the figures presented). Figure 4.9 provides a breakdown of students enrolled in Victorian courses leading to a qualification to teach in Secondary schools (see Table 4.5). Postgraduate degrees are slightly more common at Secondary level with about 56 per cent of enrolments in 2014, down from 58 per cent in 2012. Undergraduate degree first year enrolments grew by 10.8 per cent in 2013 and 6.4 per cent in 2014. Postgraduate course enrolments fell by 2.6 per cent in 2013 and grew by 11.8 per cent in 2014. Overall, Secondary ITE enrolments grew by three per cent in 2013 and 9.4 per cent in 2014.

As noted for Primary undergraduate courses, the overall attrition rates (all providers) for Secondary undergraduate degrees differ across years. In 2012 the overall attrition rate from the first year to the second year of a Secondary degree was 15.7 per cent; in 2013 it was 12.6 per cent. The rate is lower between the second and third years, at about 9.4 per cent, with a

further 5.5 per cent attrition between the third and fourth years. Based on these rates, the indicative overall attrition rate for undergraduate Secondary ITE degrees is currently about 26 per cent. The proportion of undergraduate enrolments in the final year of the course accounted for 30 per cent of all final year enrolments. Based on final year enrolments shown in Figure 4.9, about 3,100 new Secondary teachers will qualify in 2013 and 3,460 in 2014.

Figure 4.9: First and final year enrolments in Secondary ITE teaching courses, Victoria, 2012–2014

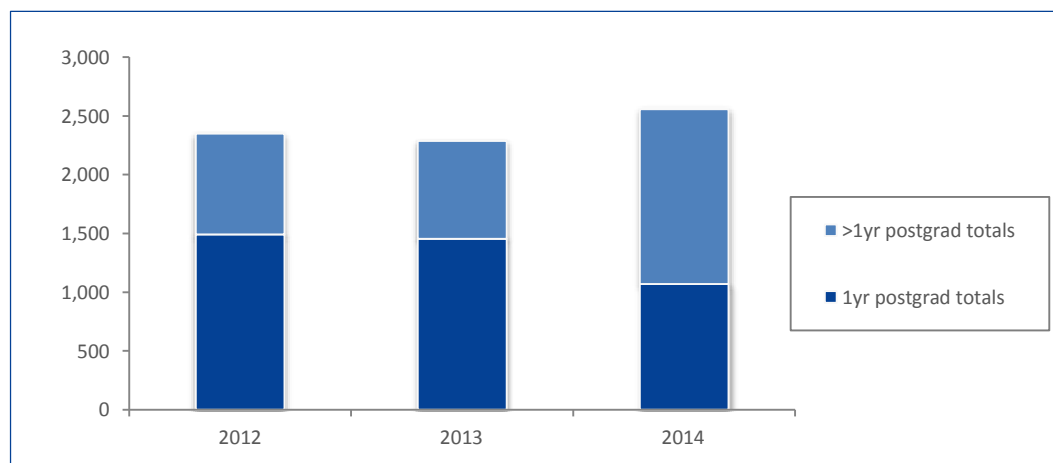


Source: ACER customised data collection from Victorian course providers, 2014
 Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

Figure 4.10 shows that enrolments in postgraduate Secondary ITE courses of one year duration have decreased overall, with falls of 2.5 per cent and 26 per cent in 2013 and 2014, respectively. Enrolments in courses of 1.5 to two years’ duration also fell in 2013, by 2.7 per cent. However, they rose sharply in 2014, by 78.5 per cent. One year course enrolments were the majority in 2012 and 2013 (64 per cent) and previously, but became the minority for the first time in 2014 (42 per cent).

As was the case with Primary postgraduate courses, the fall in one-year course enrolments was due to courses changes at two universities, while the others maintained or increased enrolments.

Figure 4.10: First year enrolments in postgraduate Secondary ITE courses by length of course, Victoria, 2012–2014



Source: ACER customised data collection from Victorian course providers, 2014
 Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

Table 4.5: First and final year enrolments in Early Childhood, Primary and Secondary ITE courses, Victoria, 2012–2014

	First year enrolments		Final year enrolments		
Early Childhood Courses					
Vic Undergrad	516.1	383.8	609.7	229.6	293.0
Vic Postgrad	163.3	159.5	183.5	122.0	144.0
Vic Total	679.4	532.3	760.2	351.6	436.0
Primary ITE Courses					
Vic Undergrad	2,919.1	3,062.7	3,456.6	1,692.6	1,885.4
Vic Postgrad	1,497.7	1,492.5	1,676.2	1,453.5	1,367.3
Vic Total	4,416.8	4,555.2	5,132.8	3,146.1	3,252.7
Secondary ITE Courses					
Vic Undergrad	1,665.7	1,846.2	1,964.3	957.7	1,061.0
Vic Postgrad	2,348.8	2,287.8	2,557.5	2,202.9	2,408.9
Vic Total	4,014.5	4,134.0	4,521.8	3,160.6	3,469.9

Source: ACER customised data collection from Victorian course providers, 2014

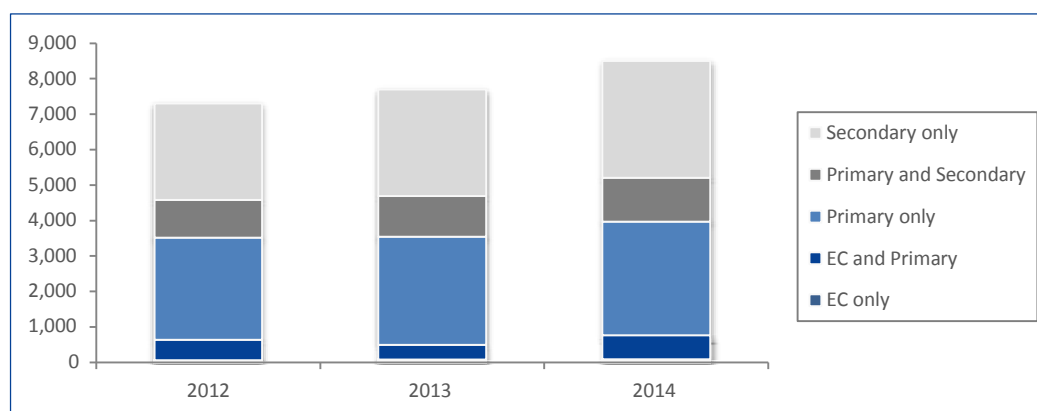
Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

4.8 Overall first year enrolments in ITE courses by qualification

The figures presented above for Early Childhood, Primary and Secondary enrolments are the total for each qualification level. This overestimates the number of persons, as courses leading to a qualification at two levels means that some persons are counted in more than one group. Figure 4.11 shows overall first year enrolment (in undergraduate and postgraduate courses) by persons, by the level at which their course will qualify them to teach. The figures are based on first year enrolments so should be considered indicative only. For example, as well as differing attrition rates, some four-year Primary courses offer an additional Secondary pathway in third year, resulting in a dual qualification not captured in the figures presented here.

It is clear that single Primary or Secondary qualifications are most common and each represent about 38–39 per cent of enrolments. About 15 per cent of enrolments are for dual qualifications in Primary and Secondary teaching. These courses vary widely in their coverage and include P–10 and P–12 and 6–10 courses. Qualifications in Early Childhood and Primary total about eight per cent of enrolments and only Early Childhood courses account for about one per cent. These proportions have remained constant from 2012 to 2014.

Figure 4.11: First year enrolments in ITE courses by field, Victoria, 2012–2014



Source: ACER customised data collection from Victorian course providers, 2014

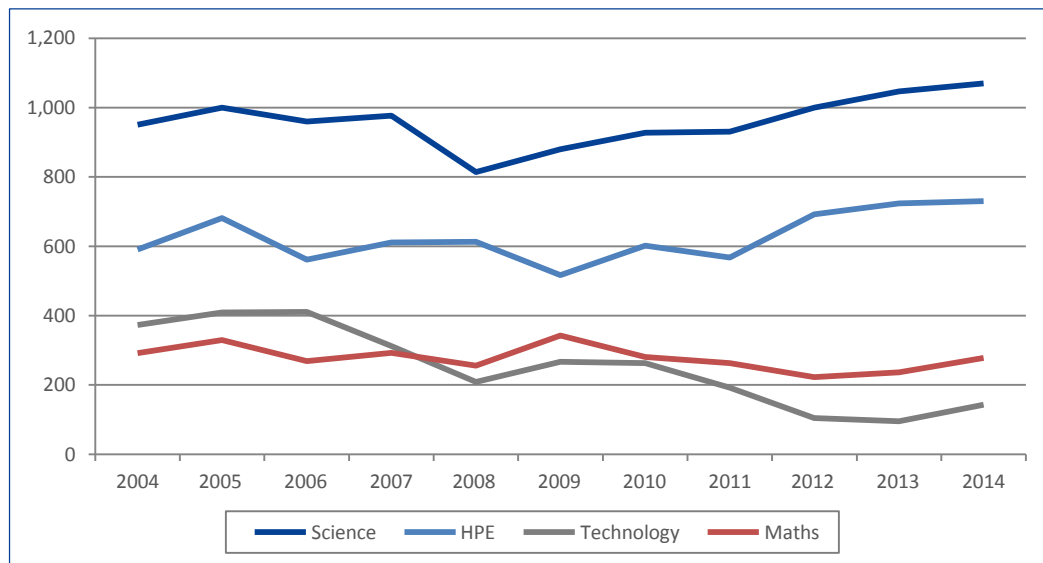
Note: Victorian providers include only campuses in Victoria and the Albury-Wodonga campus of Charles Sturt University. Data from 2014 may be an underestimate as it may not include some courses that start later in the year.

4.9 Final year enrolments in Secondary ITE courses by Key Learning Area

Figure 4.12 and Figure 4.13 (and Table 4.6) provide indicative final year ITE enrolments by Key Learning Areas (KLA). The figures overestimate available numbers as many students enrol in two KLAs. In addition, as noted above, about 15 per cent of total enrolments in recent years are for dual qualifications (Early Childhood and Primary, or Primary and Secondary). Registration data do not allow disaggregation by subject so it is not possible to gauge the extent to which qualified teachers in different subjects choose to register, look for, or are successful in finding work as a teacher.

Figure 4.12 shows enrolment numbers for Victorian-based Secondary ITE providers in the areas of Science, Health and Physical Education (HPE), Technology and Mathematics. Science and HPE show rising trends over the past few years. Mathematics has shown some decline since 2009 and Technology has been in decline since peaking above 400 in 2006, dipping below 200 for the first time in 2011.

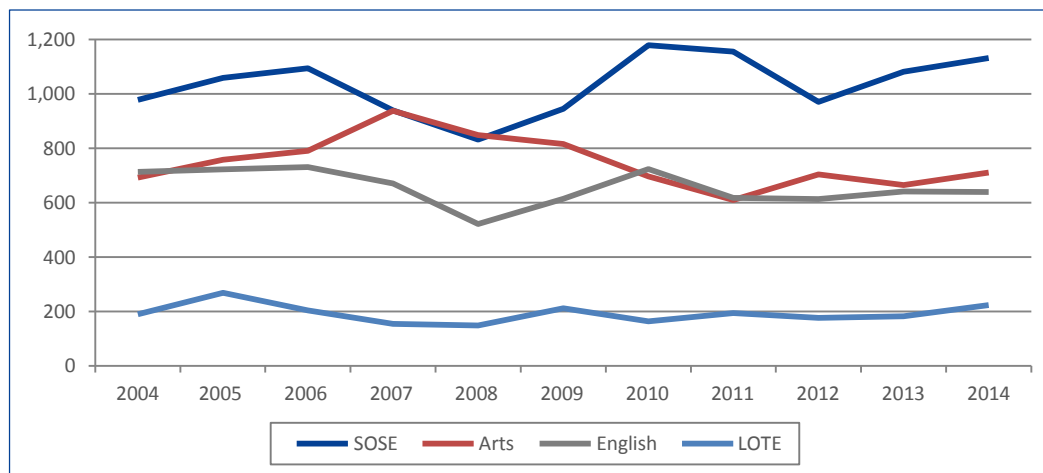
Figure 4.12: Final year enrolments of ITE students in Health and Physical Education, Mathematics, Science and Technology, Victoria, 2004–2014



Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

Figure 4.13 shows enrolment numbers for Studies of Society and Environment (SOSE), Arts, English and Languages other than English (LOTE). SOSE dipped in 2008 but otherwise remains the most popular learning area with 1,000 or more enrolments each year. The Arts have been in decline since peaking in 2007. However, enrolments have shown a rising trend since a low of 609 in 2011 (the lowest number since 499 in 2001). LOTE has remained fairly stable, averaging about 192 enrolments per year since 2004. English also remains fairly stable after dropping below 600 enrolments in 2008.

Figure 4.13: Final year enrolments of ITE students in Studies of Society and the Environment, Arts, English and Languages other than English, Victoria, 2004–2014



Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

Table 4.6: Final year enrolments by Key Learning Area, Victoria, 2004–2014

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
SOSE	978	1,058	1,094	939	831	945	1,179	1,155	970	1,081	1,131
Science	951	1,000	960	977	814	880	928	931	1,000	1,047	1,070
Arts	692	758	791	938	848	815	696	609	703	664	711
English	713	722	731	670	521	614	723	618	613	641	639
HPE	591	681	561	611	613	517	602	568	692	724	730
Maths	292	330	269	293	256	343	281	263	223	236	278
Technology	373	409	411	312	209	267	263	192	104	95	143
LOTE	190	268	204	154	148	212	163	194	176	182	223
Unknown	3	8	8	6	6	15	29	25	76	45	52
Total	4,783	5,234	5,029	4,900	4,246	4,608	4,864	4,555	4,557	4,715	4,977

Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

Enrolments fluctuate from year to year and there is no discernible pattern on a yearly basis. Table 4.7 indicates average annual growth from 2005 to 2014 and 2009 to 2014. Growth has generally averaged between one and two per cent over the ten-year period across all KLAs apart from English and Technology. The Arts have dropped about two per cent per year on average since 2009.

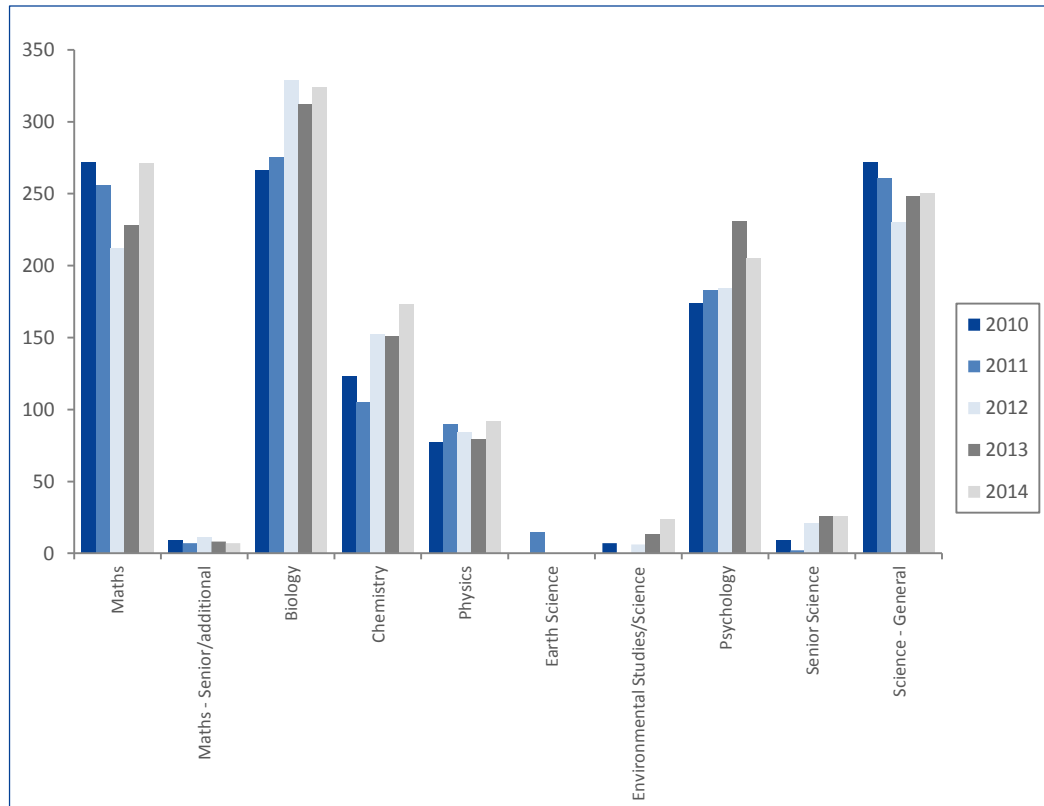
Table 4.7: Growth rates by Key Learning Area, Victoria, 2005–2014 (%)

	Growth 2005–2014	Growth 2009–2014
SOSE	2.2	6.1
Science	1.4	4.7
Arts	0.9	-2.3
English	-0.4	4.1
HPE	2.9	3.7
Maths	0.9	3.0
Technology	-5.2	-0.8
LOTE	4.5	9.3

Source: ACER customised data collection from course providers, 2014

Figure 4.14 provides a breakdown of subjects within the Mathematics and Science KLAs. Mathematics has shown some fluctuation between 200–270 individuals. Biology and Chemistry have both shown growth in the last three years. Biology enrolments have increased above 300 while Chemistry enrolments have reached 150. Psychology has also shown growth in 2014. Physics enrolments have remained fairly stable at about 80 individuals. Earth Science has had no individual enrolled since 2011.

Figure 4.14: Final year ITE enrolments in Mathematics and Science, Victoria, 2010–2014

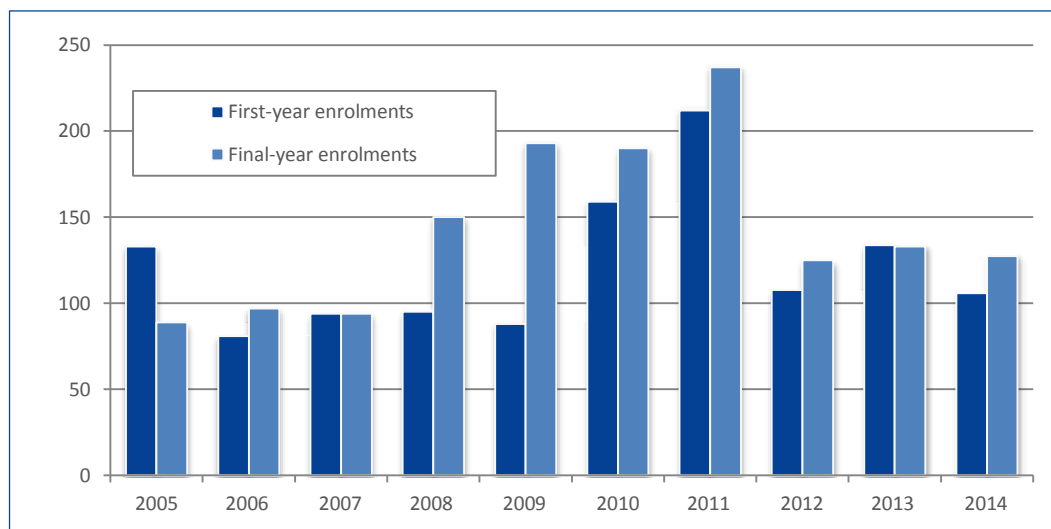


Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

4.10 Enrolments in Special education pathways

Figure 4.15 shows first and final year enrolments in Special education pathways. In some undergraduate courses, students can choose the Special needs pathway during the course, and this accounts for final year enrolment figures that are higher than the first year enrolments in some years.

Figure 4.15: First and final year enrolments in Special education courses, Victoria, 2005–2014



Source: ACER customised data collection from course providers, 2014; VIT data set 2004–2011

4.11 Undergraduate selection criteria

Entry to graduate courses requires the successful completion of an undergraduate degree. Undergraduate courses generally have a variety of means by which applicants are selected for offer. Table 4.8 provides some detail about undergraduate ITE course requirements over the last four years. The data available from VTAC are generally aggregated and the ATAR data available should be read with some caution, for several reasons. Firstly, these figures refer only to offers made to Year 12

applicants with ATARs earned in the current year. Although this is the largest cohort considered for selection, the proportion of total offers made on the basis of a current ATAR has been declining. The actual number of courses basing selection on ATAR has declined from 33 of 54 (61 per cent) in 2010 to 37 of 73 (51 per cent) in 2013.

Each university that admits applicants on the basis of ATAR scores is required to report a clearly-in ATAR. All applicants with ATARs above this score gain admission, but some applicants with ATARs below the clearly-in ATAR may be admitted.

VTAC data show that the reported clearly-in ATAR is in many cases not indicative of the student cohort. The typical figure for offers below the stated clearly-in ATAR (the median) has increased from nine per cent in 2010 and 2011 to 26 per cent in 2012 and 29 per cent in 2013. Of the total offers made, the known proportion of applicants who enter courses with a current ATAR at (or above) the clearly-in score has been below 30 per cent since 2011.

Table 4.8: Criteria for selection into undergraduate courses, Victoria, 2010–2013

Undergraduate course selection		2010	2011	2012	2013
Criteria for selection (number of courses) ¹	RC (Range of Criteria)	10	10	10	16
	N/A (low numbers)	11	6	6	20
	ATAR	33	33	44	37
	Total	54	49	60	73
Reported clearly-in ATAR scores (all applicants above this ATAR receive an offer)	Median	68.15	69.0	67.1	65.25
	Per cent of offers made to applicants on the basis of an ATAR below the reported clearly-in	8.6%	8.8%	26.4%	29.4%
Per cent of offers made to applicants who have an ATAR above the quoted clearly-in	Per cent of total offers	39.6%	29.1%	28.2%	23.6%
	Per cent of all Year 12 offers ²	69.0%	56.0%	68.7%	51.8%

Source: VTAC Course indices and selection data archive, 2010 to 2013 www.vtac.edu.au/reports/

Notes: 1. 'RC' means that a range of criteria is used when making an offer to applicants. ATAR figures are not provided for courses with this designation attached. 'N/A' (Not applicable) is used where course entrant numbers are too small to calculate.

2. The data included in this table do not reflect the full range of undergraduate applications. They include VCE (or interstate equivalent) students and IB students studying in Victoria, who were eligible for and received an ENTER/ATAR (or current equivalent) required for entry in the indicated year. They do not include adult applicants or applicants with previous Year 12 or tertiary results.

4.12 The Practicum

Professional experience is a vital part of all teacher education programs but there is some diversity in the way in which it is scheduled. Often, where strong university-school partnerships have been developed, preservice teachers (PSTs) may spend substantial numbers of days in schools, over and above that required by their university or by the Victorian Institute of Teaching for registration. The data reported in this section do not take account of these extra days. They were obtained by surveying all universities about the amount of time that PSTs were required to spend in schools as part of their program.

The data are incomplete in some respects. Two universities did not provide the information sought, and from other universities there were small amounts of data missing. Several had courses on the books for which there were no 2013 enrolments. Data on these courses are not included. Some two-year courses had enrolments for only one year (the first). Presumably data would be available for both years of the course in 2014. Similarly, some newly established four-year courses did not have data for the final two years. As well, some courses that prepared for both Primary and Early Childhood placements, with placements in preschool and childcare centres as well as schools, did not distinguish clearly between schools and centres in their reporting. In this report, all placements have been reported as schools, although a small but unknown proportion will have been centres.

For these reasons the data need to be seen as best estimates at the time of reporting. They provide the best available quantitative profile of the Practicum in 2013, but do not constitute a complete census.

This report focuses on three key quantitative measures:

- The number of days allocated to PSTs to spend on planning and observation in schools prior to their full participation in teaching practice (this is often referred to as a preliminary visit)
- The number of distinct school placements students are required to complete in each year of their program
- The total number of days they are required to spend in school placements over the duration of their program.

4.13 Planning and observation, and number of placements

Table 4.9 focuses on planning and observation. In one-year programs, very little time is allocated, and in 10 of 14 programs' reporting (representing 82 per cent of PSTs), no time is allocated. Significantly more time is allocated to planning and observation in two- and four-year programs.

Table 4.10 reports the number of school placements allocated to pre-service teachers in each of the years of their programs. In one-year programs, nearly all programs (86 per cent of programs representing 87 per cent of PSTs) require either two or three placements. A similar pattern is evident across two- and four-year programs, with the exception of the two-year program with ten placements in its first year.

4.14 Number of placement days

Table 4.11 reports the total days of placements required to be undertaken, broken down according to the program length (one, two or four years) and the year within the program (first, second, third and fourth, where available). Some variation occurs in the ways in which days are distributed across program years. Part of this is attributable to necessary structural elements. For example, in some double degree programs, the first year is largely or entirely devoted to disciplinary studies, and the education component of the program only commences in second year.

The requirements of all programs are sufficient to meet registration requirements, but many are in excess of the required minimum. There is a trend towards stronger, enduring school-university partnerships, whereby PSTs spend longer periods of time in smaller numbers of schools, but this trend is not distinguishable from these summary data.

4.15 Supervision

The data reported above illustrate the magnitude of the supervision load required of Victorian teachers. If every placement day is supervised by a teacher, the total number of supervision days reported in Table 4.11 is 314,856. If we consider 45 days supervising PSTs as a reasonable maximum to expect of any teacher, this would require that a minimum of 6,996 of the 40,965 teachers employed in Victorian schools in 2013 be involved in supervising/mentoring PSTs. If, on average, supervising teachers participated in two of each three placement periods, the number of teachers required would rise to approximately 10,500.

University officers providing data for this survey were asked two questions to indicate how difficult it is to place PSTs in schools, and whether it has become more difficult over the past few years. Fifteen responses were provided, and these are summarised in the box below.

Which of the following statements best describes your current situation with regard to the placement of preservice teachers in schools for extended teaching practice?

We have no problem finding sufficient appropriate school placements	1 respondent
We have some difficulty finding sufficient appropriate school placements	7 respondents
We have great difficulty finding sufficient appropriate school placements	7 respondents
We have been unable to find sufficient appropriate school placements	0 respondents

Compared to three years ago, is it more or less difficult for you to find a sufficient number of appropriate school placements for your preservice teachers?

It is now significantly more difficult to find sufficient appropriate school placements	7 respondents
It is now somewhat more difficult to find sufficient appropriate school placements	7 respondents
It is now equally difficult to find sufficient appropriate school placements	1 respondent
It is now easier to find sufficient appropriate school placements	1 respondent

From these responses, it appears that obtaining the required number of school placements is difficult for universities to achieve, and becoming more difficult. The number of responses does not warrant breakdowns by course type.

Table 4.9: Number of practicum days allocated to planning and observation, Victoria, 2013

Primary (including Early Childhood)											
One-year programs	No. of planning days	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
Year 1	0	4	501	6	673			10	1,174	71.4	81.9
	2			1	56			1	56	7.1	3.9
	4	1	35					1	35	7.1	2.4
	15			1	69			1	69	7.1	4.8
	20	1	99					1	99	7.1	6.9
Two-year programs	No. of planning days	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
Year 1	0	2	97	3	67	2	20	7	184	63.6	21.1
	1					1	44	1	44	9.1	5.1
	2			1	444			1	444	9.1	51.0
	4	1	174					1	174	9.1	20.0
	8	1	24					1	24	9.1	2.8
Year 2	0	1	16	2	212	2	16	5	244	55.6	54.3
	1					1	28	1	28	11.1	6.2
	4	1	157					1	157	11.1	35.0
	5	1	9					1	9	11.1	2.0
	15			1	11			1	11	11.1	2.4
Four-year programs	No. of planning days	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
Year 1	0	17	2,108	13	675	2	158	32	2,941	86.5	85.3
	10	2	279	1	81	2	148	5	508	13.5	14.7
Year 2	0	15	1,597	11	425	2	145	28	2,167	90.3	92.1
	8	1	28			1	17	2	45	6.5	1.9
	10					1	142	1	142	3.2	6.0
Year 3	0	19	1,536	13	419	4	219	36	2,174	100	100
Year 4	0	19	1,249	13	289	4	185	36	1,723	100	100

Source: ACER customised data collection from course providers, 2014

Table 4.10: Number of practicum placements allocated per preservice teacher, Victoria, 2013

	No. of placements	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
One-year programs											
Year 1	1			1	117			1	117	7.1	8.2
	2	3	338	5	413			8	751	57.1	52.4
	3	3	297	1	199			4	496	28.6	34.6
	4			1	69			1	69	7.1	4.8
Two-year programs											
Year 1	1			1	22	1	4	2	26	20.0	3.1
	2	3	232	2	482	1	16	6	730	60.0	88.4
	3	1	63					1	63	10.0	7.6
	10			1	7			1	7	10.0	0.8
Year 2	0			1	210			1	210	12.5	49.9
	1	2	25	1	2	2	16	5	43	62.5	10.2
	2	1	157					1	157	12.5	37.3
	6			1	11			1	11	12.5	2.6
Four-year programs											
Year 1	0			5	184			5	184	15.6	5.5
	1	9	1,860	2	149	4	306	15	2,315	46.9	68.8
	2	8	496	4	369			12	865	37.5	25.7
Year 2	1	5	466	13	469	3	304	21	1,239	60.0	47.4
	2	14	1,375					14	1,375	40.0	52.6
Year 3	1	4	251	11	317	2	133	17	701	53.1	33.2
	2	12	1,221	1	86	1	86	14	1,393	43.8	65.9
	3	1	19					1	19	3.1	0.9
Year 4	1	5	256	2	122			7	378	20.0	21.9
	2	13	888	9	111	3	185	25	1,184	71.4	68.7
	3	1	105	2	56			3	161	8.6	9.3

Source: ACER customised data collection from course providers, 2014

Table 4.11: Number of practicum placement days allocated per preservice teacher, Victoria, 2013

Primary (including Early Childhood)											
One-year programs	No. of placements	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
Year 1	45	3	364	7	599			10	963	71.4	67.2
	49	1	35					1	35	7.1	2.4
	60	2	236	1	199			3	435	21.4	30.4
Two-year programs	No. of placements	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
Year 1	15					1	44	1	44	9.1	5.1
	20	1	34	1	22			2	56	18.2	6.4
	35	1	24			1	16	2	40	18.2	4.6
	45			1	38			1	38	9.1	4.4
	51	1	174					1	174	9.1	20.0
	60	1	63	2	451	1	4	4	518	36.4	59.5
Year 2	0			1	210			1	210	11.1	46.8
	15			2	13	1	6	3	19	33.3	4.2
	25					2	38	2	38	22.2	8.5
	40	1	9					1	9	11.1	2.0
	45	1	16					1	16	11.1	3.6
	48	1	157					1	157	11.1	35.0
Four-year programs	No. of placements	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	No. of programs	No. of PSTs	% of programs	% of PSTs
Year 1	0			5	184			5	184	15.6	5.5
	5	5	791	1	68			6	859	18.8	25.5
	9	1	575					1	575	3.1	17.1
	10	3	494	5	450	2	148	10	1,092	31.3	32.5
	15	2	59					2	59	6.3	1.8
	16	4	269					4	269	12.5	8.0
	20					2	158	2	158	6.3	4.7
	30	2	168					2	168	6.3	5.0
Year 2	10	5	669	5	263			10	932	28.6	35.7
	30	5	365					5	365	14.3	14.0

	Primary (including Early Childhood)			Secondary			Primary/Secondary		All		
	40	2	36				2	36	5.7	1.4	
Year 3	15			9	259	2	133	11	392	34.4	18.6
	20	7	691	2	58			9	749	28.1	35.4
	25	1	43					1	43	3.1	2.0
	30	4	234			1	86	5	320	15.6	15.1
	32	1	371					1	371	3.1	17.6
	35	4	152					4	152	12.5	7.2
	40			1	86			1	86	3.1	4.1
Year 4	10	1	182					1	182	2.9	10.6
	15	2	86					2	86	5.9	5.0
	30	6	307					6	307	17.6	17.8
	40	9	674	2	84	3	185	14	943	41.2	54.7
	45			6	146			6	146	17.6	8.5
	50			5	59			5	59	14.7	3.4

Source: ACER customised data collection from course providers, 2014

4.16 The Australian Graduate Survey

The Australian Graduate Survey (AGS) has been conducted annually since 1974. The current iteration combines three separate surveys: the Graduate Destination Survey (GDS), the Course Experience Questionnaire (CEQ), and the Postgraduate Research Experience Questionnaire (PREQ).³⁴ Results from the GDS and CEQ surveys for graduates from Early Childhood programs and ITE programs are considered here.

The CEQ collects data about graduates' perceptions of their experience of study at the institution they attended. The survey is conducted four months after course completion and its core elements consist of the Good Teaching Scale (GTS) and the Generic Skills Scale (GSS), each with six questions, and a single question Overall Satisfaction Item (OSI).³⁵ All responses are on a five-point Likert-type scale (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree), fully labelled from 2010. This and other changes in the conduct of the CEQ from 2010 preclude direct comparison with earlier iterations. The mean percentage scores provided below reflect the mean distribution of responses indicating 'agree' or 'strongly agree'.

The CEQ is a census survey, however response rates make it a sample of the graduate population: the national response rate in 2012 was 53.7 per cent and in 2011 was 53.5 per cent. The following charts and tables provide a breakdown of responses³⁶ to the three parts of the CEQ by Early Childhood courses, Primary ITE courses and Secondary ITE courses³⁷, at the national level and for Victoria, further disaggregated by degree type (undergraduate and postgraduate³⁸).

Institutions included in the Victorian sample response are shown in Table 4.12. When disaggregated by course level and institution, it is clear that some response rates were very low. Therefore, the results provided at state level should be treated with caution as they are not weighted and may not be fully representative. Tables are provided in each section indicating the number of respondents from which the mean has been drawn.

Table 4.12: Institutions at which CEQ was completed for Early Childhood and/or ITE courses, Victoria, 2010–2013

Institution	Years
University of Ballarat / Federation University	2010–2013
Australian Catholic University (Victoria)	2010–2013
Victoria University	2010–2013
La Trobe University	2010–2013
Deakin University	2010–2013
RMIT	2010–2013
Monash University	2010–2013
University of Melbourne	2010–2013
Tabor College Victoria	2013
Swinburne University ¹	N/A

Note: 1. Swinburne University ITE courses commenced in 2012 and there have been no graduations to 2013.

4.17 Course quality: Early Childhood

Figure 4.16 shows the results of the Course Experience Questionnaire (CEQ) for the Good Teaching Scale (GTS) for graduates of Early Childhood courses, for Victoria and Australia, and by postgraduate and undergraduate course types. The Good Teaching Scale (GTS) averages the percentages of responses indicating agreement (Agree, Strongly agree) to six questions about graduate perceptions of the quality of teaching during the course. The results show a rising trend in agreement (indicating a more positive appraisal of teaching quality) over the past four years, and slightly higher levels of agreement for postgraduate courses than for undergraduate courses.

³⁴ For details on the AGS methodology and results, see: Graduate Careers Australia (2013a).

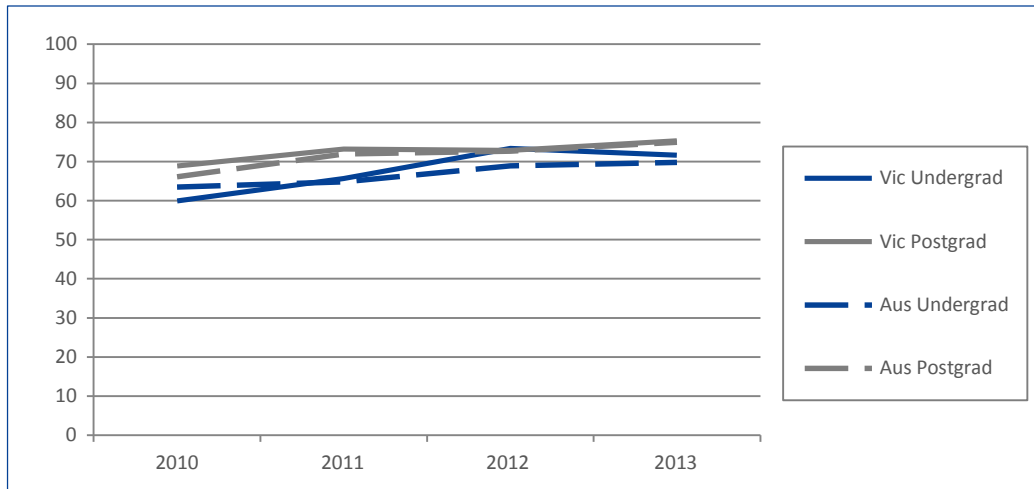
³⁵ For details on the CEQ methodology and results, see: Graduate Careers Australia (2013b).

³⁶ Results are based on responses from domestic and international students.

³⁷ Course type is based on ASCED field of education codes for Early Childhood, Primary and Secondary education courses (70101, 70103 and 70105, respectively).

³⁸ Here undergraduate courses include bachelor pass, bachelor honours, bachelor graduate entry and advanced diploma/diploma and postgraduate courses include graduate certificate, graduate diploma and master by coursework.

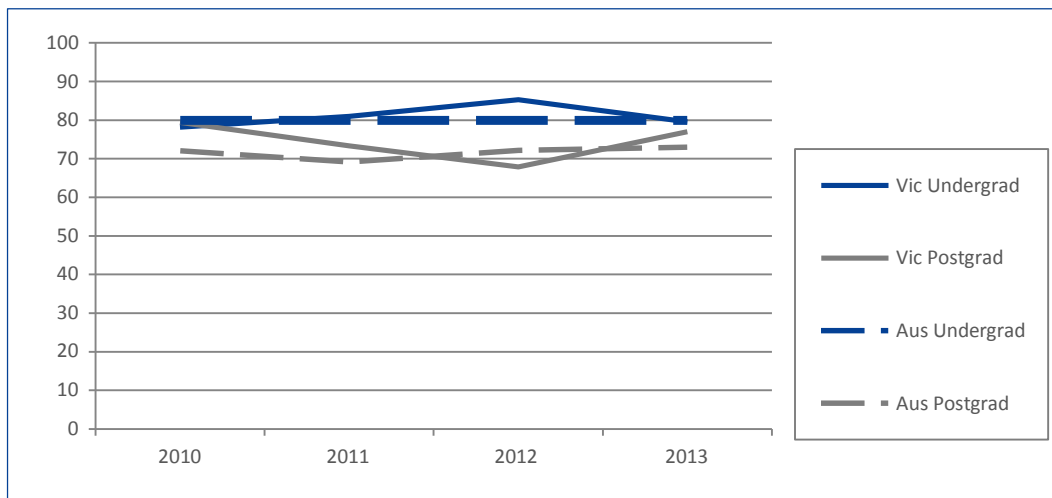
Figure 4.16: CEQ GTS means (% Agree, Strongly agree) for Early Childhood courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Figure 4.17 shows the results of the CEQ for the Generic Skills Scale (GSS) for graduates of Early Childhood courses, for Victoria and Australia, and by postgraduate and undergraduate course types. A high proportion of respondents agreed that their course improved their generic skills (teamwork, analytic and problem-solving skills, written communication, planning work and confidence in tackling unfamiliar problems). Undergraduate courses averaged slightly higher scores than postgraduate courses, although this may be a reflection of the age and greater experience of postgraduate students, and the shorter length of the course, rather than of the quality of the course. Postgraduate course agreements declined somewhat to 2012 and rose in 2013, while undergraduate agreement declined slightly in 2013.

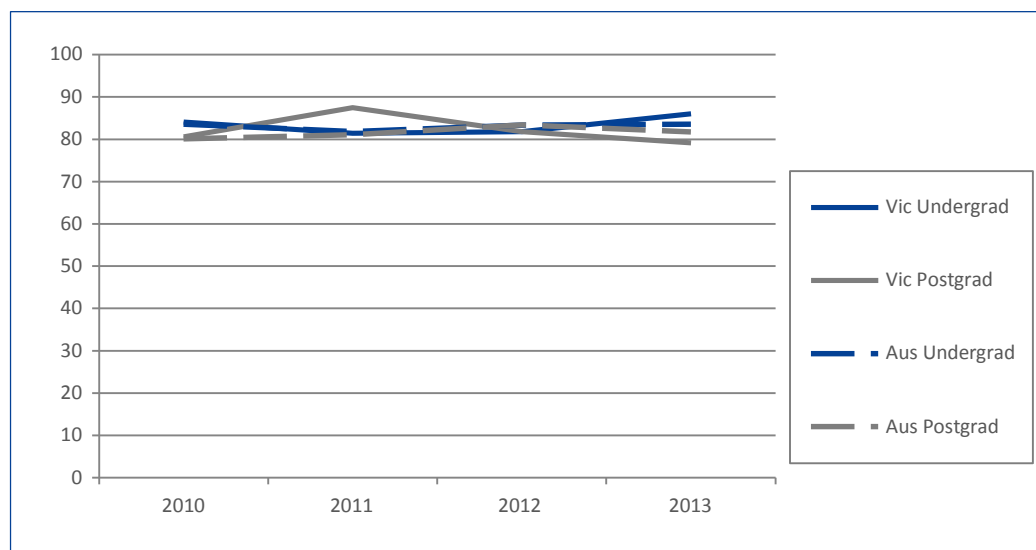
Figure 4.17: CEQ GSS means (% Agree, Strongly agree) for Early Childhood courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

The single overall satisfaction item presented in Figure 4.18 (overall I was satisfied with the quality of this course) shows high rates of agreement, at 80 per cent or above. There was no appreciable difference between undergraduate and postgraduate courses, or between Victorian and Australia-wide ITE Early Childhood courses. Victorian postgraduate course agreement levels showed some decline between 2011 and 2013.

Figure 4.18: CEQ OSI means (% Agree, Strongly agree) for Early Childhood courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Table 4.13: CEQ GTS, GSS and OSI means (% Agree, Strongly agree) for Early Childhood courses, Victoria and Australia, 2010–2013

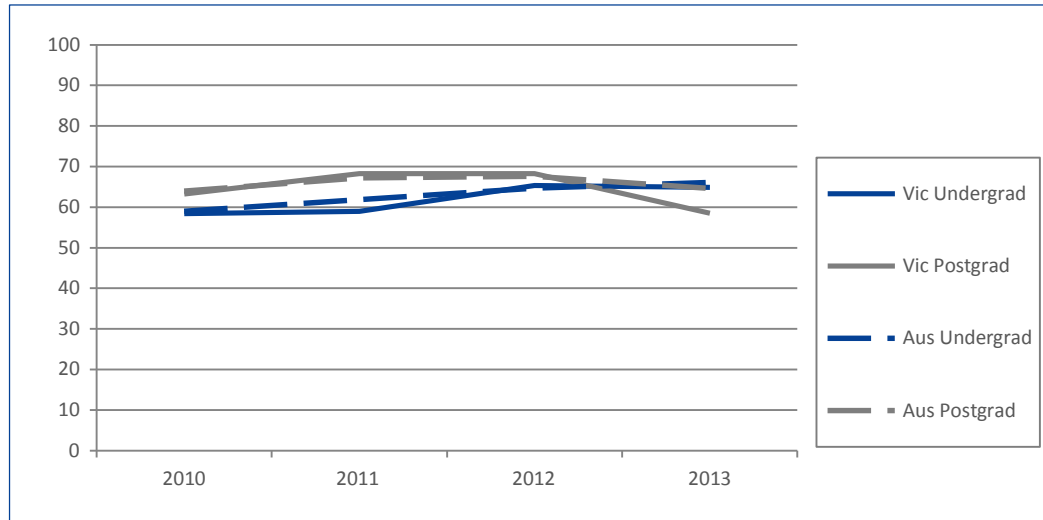
	2010		2011		2012		2013	
	Mean %	N	Mean %	N	Mean %	N	Mean %	N
Early Childhood, CEQ Good Teaching Scale								
Vic Undergrad	59.9	139	65.7	172	73.3	173	71.7	257
Vic Postgrad	68.8	69	73.2	72	72.9	98	75.3	159
Aus Undergrad	63.5	1,110	64.8	1,178	68.9	1,066	69.8	1,187
Aus Postgrad	66.1	263	72.0	381	72.6	447	74.9	469
Early Childhood, CEQ Generic Skills Scale								
Vic Undergrad	78.2	139	80.9	172	85.2	173	79.6	256
Vic Postgrad	79.4	69	73.4	72	67.8	99	77.0	159
Aus Undergrad	79.9	1,109	78.8	1,178	81.1	1,066	79.6	1,184
Aus Postgrad	72.1	263	69.1	381	72.1	448	73.0	469
Early Childhood, CEQ Overall Satisfaction Item								
Vic Undergrad	84.1	138	81.4	172	81.8	170	86.0	265
Vic Postgrad	80.6	67	87.5	72	81.8	99	79.1	158
Aus Undergrad	83.6	1,108	81.8	1,177	83.3	1,061	83.6	1,195
Aus Postgrad	80.1	261	81.1	380	83.4	447	81.8	466

Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

4.18 Course quality: Primary

Figure 4.19 shows the results of the CEQ Good Teaching Scale (GTS) for graduates of Primary ITE courses. Averaging responses to the six questions about teaching quality showed that about 65 per cent of respondents agreed or strongly agreed with the statements. Perceptions of teaching quality were slightly higher for postgraduate degrees from 2010–2012. Victorian postgraduate agreement dropped slightly in 2013.

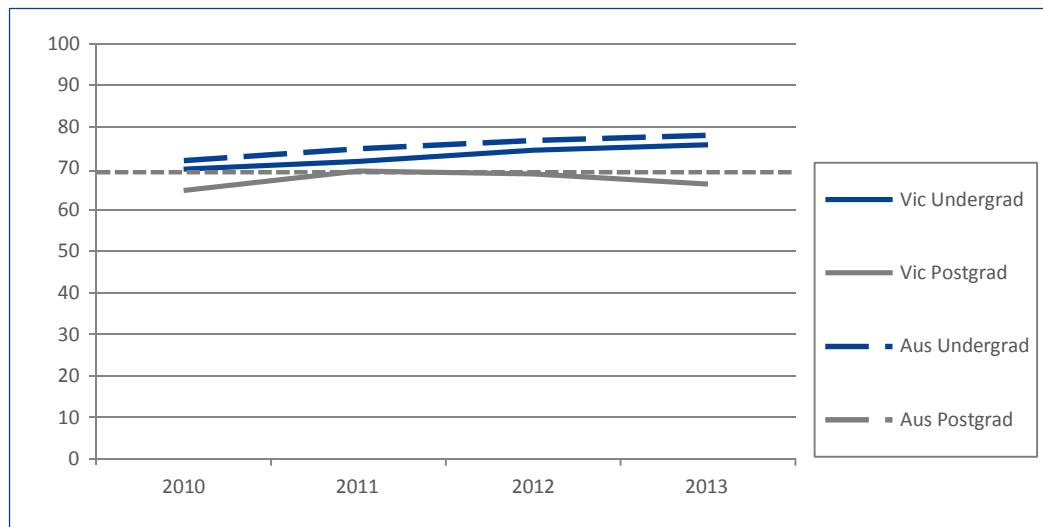
Figure 4.19: CEQ GTS means (% Agree, Strongly agree) for Primary ITE courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Figure 4.20 shows the results of the CEQ Generic Skills Scale (GSS) for graduates of Primary ITE courses. As was the case in Early Childhood, Primary undergraduate courses received slightly higher scores, having an upward trend to 2013.

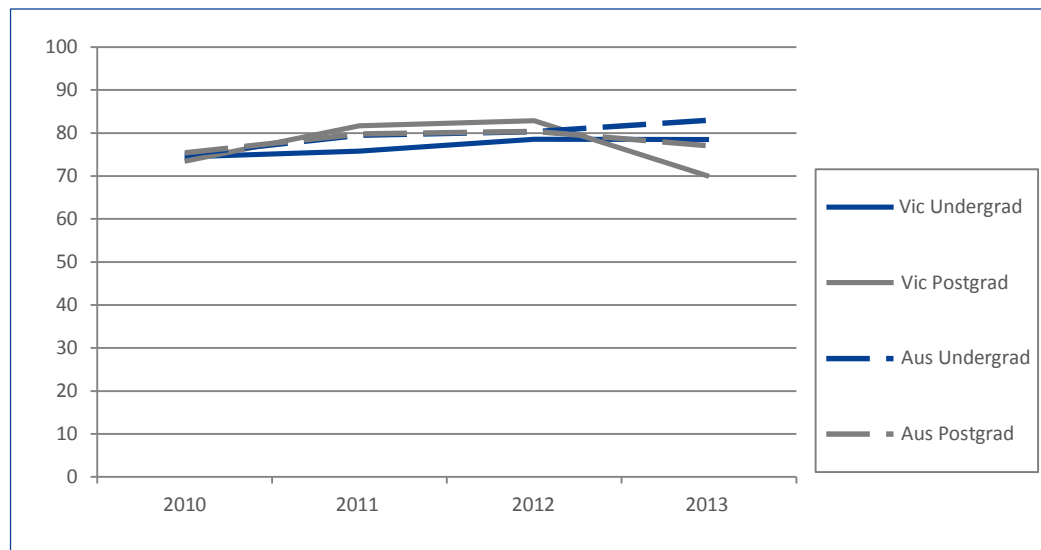
Figure 4.20: CEQ GSS means (% Agree, Strongly agree) for Primary ITE courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Figure 4.21 shows agreement with the overall satisfaction item for Primary ITE courses. Postgraduate agreement levels dropped over ten percentage points in 2013.

Figure 4.21: CEQ OSI means (% Agree, Strongly agree) for Primary ITE courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Table 4.14: CEQ GTS, GSS and OSI means (% Agree, Strongly agree) for Primary ITE courses, Victoria and Australia, 2010–2013

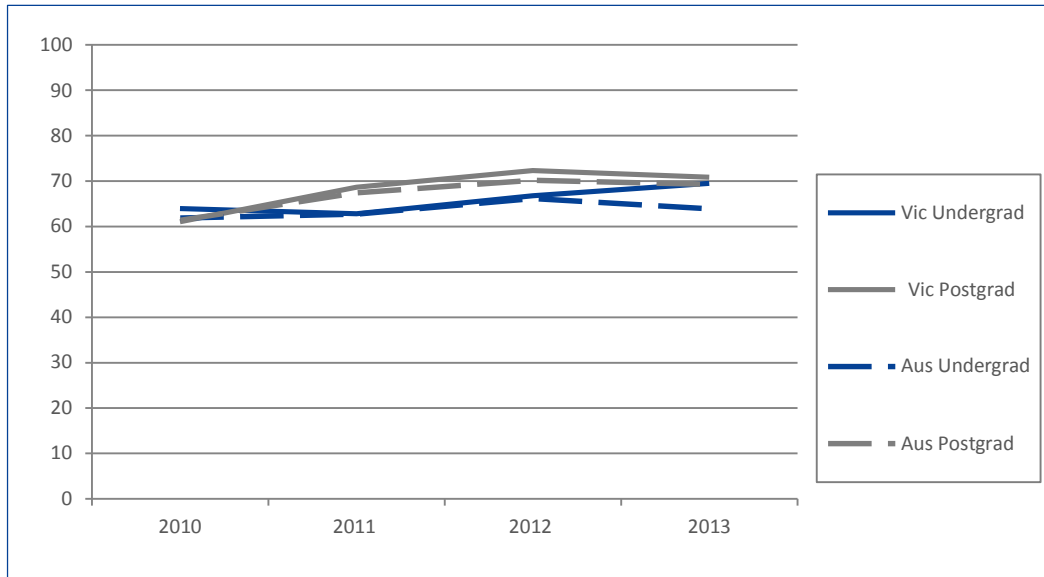
	2010		2011		2012		2013	
Agree/Strongly agree	Mean %	N	Mean %	N	Mean %	N	Mean %	N
Primary, CEQ Good Teaching Scale								
Vic Undergrad	58.4	715	59.0	630	65.4	472	64.8	454
Vic Postgrad	63.2	339	68.3	350	68.2	451	58.5	435
Aus Undergrad	59.0	2,496	61.8	2,530	64.7	2,244	66.1	2,322
Aus Postgrad	64.0	1,095	67.2	1,174	67.6	1,318	64.6	1,266
Primary, CEQ Generic Skills Scale								
Vic Undergrad	69.8	715	71.6	628	74.4	472	75.6	452
Vic Postgrad	64.6	339	69.4	350	68.7	450	66.2	434
Aus Undergrad	71.9	2,496	74.7	2,527	76.7	2,246	77.9	2,318
Aus Postgrad	68.9	1,094	68.6	1,173	69.8	1,316	69.0	1,263
Primary, CEQ Overall Satisfaction Item								
Vic Undergrad	74.5	713	75.8	628	78.6	472	78.5	461
Vic Postgrad	73.5	339	81.7	350	82.9	450	69.9	432
Aus Undergrad	75.0	2,487	79.5	2,527	80.3	2,254	83.0	2,329
Aus Postgrad	75.4	1,095	79.8	1,170	80.4	1,317	77.0	1,258

Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

4.19 Course quality: Secondary

Figure 4.22 shows the results of the CEQ GTS for graduates of Secondary ITE courses. Undergraduate agreement levels were slightly lower than postgraduate in 2011-12. Both course types showed a slight upward trend overall.

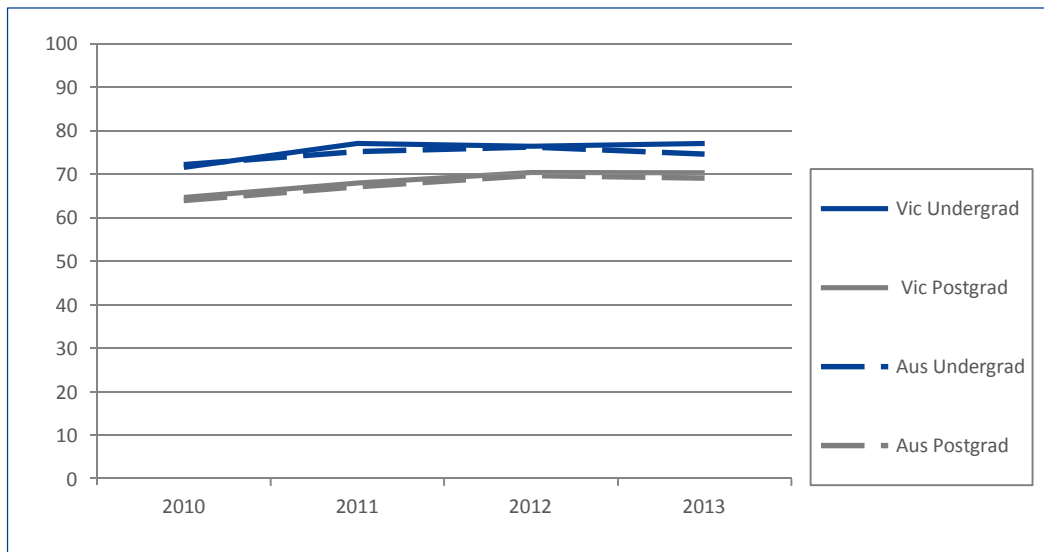
Figure 4.22: CEQ GTS means (% Agree, Strongly agree) for Secondary ITE courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Figure 4.23 shows the results of the CEQ GSS for graduates of Secondary ITE courses. Undergraduate courses tended to receive agreement scores about eight percentage points higher than graduate courses at Secondary level. Graduate courses showed a slight upwards trend.

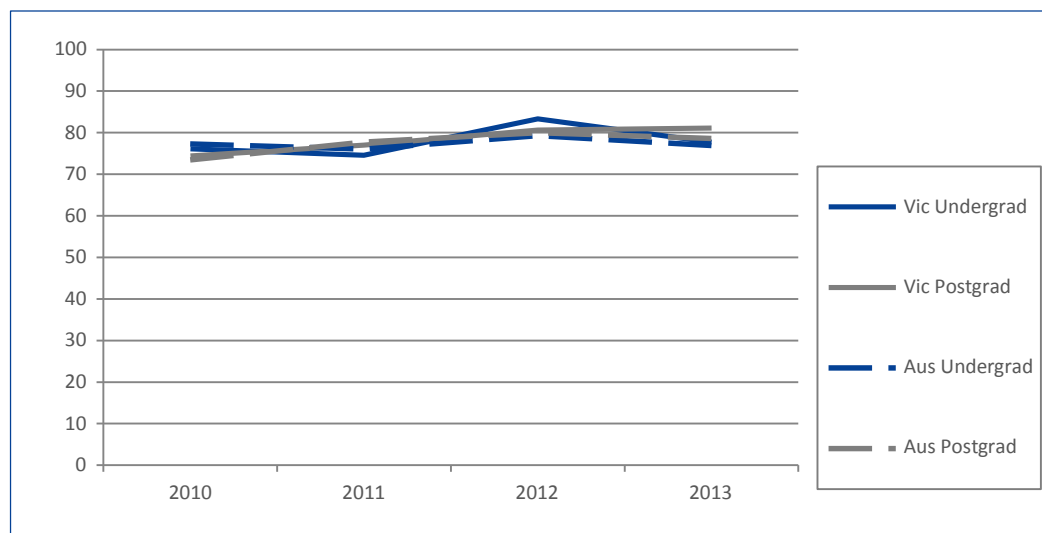
Figure 4.23: CEQ GSS means (% Agree, Strongly agree) for Secondary ITE courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Figure 4.24 shows overall satisfaction agreement levels for Secondary ITE courses. Overall, there was no difference between course types and both showed a slight upwards trend.

Figure 4.24: CEQ OSI means (% Agree, Strongly agree) for Secondary ITE courses, Victoria and Australia, 2010–2013



Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

Table 4.15: CEQ GTS, GSS and OSI means (% Agree, Strongly agree) for Secondary ITE courses, Victoria and Australia, 2010–2013

	2010		2011		2012		2013	
Agree/Strongly agree	Mean %	N	Mean %	N	Mean %	N	Mean %	N
Secondary, CEQ Good Teaching Scale								
Vic Undergrad	63.9	210	62.8	176	66.8	110	69.5	177
Vic Postgrad	61.1	755	68.7	590	72.3	700	70.9	1,294
Aus Undergrad	61.9	1,181	62.7	1,092	66.2	1,112	63.9	1,079
Aus Postgrad	61.4	1,782	67.4	1,826	70.2	1,864	69.2	2,385
Secondary, CEQ Generic Skills Scale								
Vic Undergrad	71.6	210	77.1	176	76.5	108	77.1	175
Vic Postgrad	64.7	754	68.0	589	70.5	698	70.3	1,289
Aus Undergrad	72.2	1,181	75.3	1,095	76.3	1,110	74.7	1,077
Aus Postgrad	64.0	1,777	67.1	1,823	69.8	1,861	69.2	2,379
Secondary, CEQ Overall Satisfaction Item								
Vic Undergrad	76.1	205	74.6	173	83.3	108	77.7	175
Vic Postgrad	74.4	747	77.0	591	80.7	698	81.1	1,304
Aus Undergrad	77.3	1,175	76.1	1,094	79.3	1,111	76.9	1,077
Aus Postgrad	73.4	1,771	77.8	1,822	80.0	1,863	78.6	2,395

Source: Graduate Careers Council, Australian Graduate Survey (Customised dataset)

4.20 Other ITE course impact data

The Staff in Australia's Schools (SiAS) 2013 survey contains data that can be analysed for differences by course type. Table 4.16 presents data on early career teachers' (five or fewer years' teaching experience) perceptions of the helpfulness of their ITE course in six selected areas, for Primary and Secondary teachers across Australia, by course type. The SiAS data does not clearly distinguish any course type as being more helpful than others overall. A higher proportion of teachers who had completed a masters level courses to teach in Secondary schools found the courses were helpful or very helpful. At Primary level slightly higher proportions of masters graduates considered the course helpful in 'teaching a unit of work' but bachelor courses had higher proportions in 'teaching a wide range of students' and 'managing class activities'.

Table 4.16: Early career teachers' perceptions of ITE courses by level of highest qualification, Australia, 2013

Early career teachers (up to 5 years of teaching experience)—perceptions of ITE course, by highest education course (SiAS 2013)			Teaching wide range of students	Teaching unit of work	Skills in classroom communication	Evaluate, improve own teaching	Managing class activities	Use of student assessment information
			%	%	%	%	%	%
Primary	Masters	Helpful/ Very helpful	36.9	86.5	64.3	72.8	30.1	48.5
		Of some help	58.9	13.0	27.5	26.6	65.9	42.5
		Not helpful	4.2	0.5	8.1	0.7	4.0	9.0
		Total	100	100	100	100	100	100
	Grad Dip	Helpful/ Very helpful	35.7	75.3	64.4	71.0	58.2	44.7
		Of some help	48.2	22.6	29.7	25.6	32.6	43.8
		Not helpful	16.1	2.1	5.9	3.4	9.2	11.5
		Total	100	100	100	100	100	100
	Bachelor	Helpful/ Very helpful	51.8	74.9	57.8	71.5	53.7	49.0
		Of some help	40.0	22.0	35.2	23.7	33.9	37.1
		Not helpful	8.2	3.1	6.9	4.8	12.4	13.9
		Total	100	100	100	100	100	100
Secondary	Masters	Helpful/ Very helpful	47.2	81.9	65.3	78.8	50.7	49.4
		Of some help	39.6	17.3	32.8	18.2	34.0	33.1
		Not helpful	13.3	0.8	1.9	3.0	15.3	17.4
		Total	100	100	100	100	100	100
	Grad Dip	Helpful/ Very helpful	40.3	72.0	63.1	68.5	48.3	41.9
		Of some help	45.9	22.1	27.2	24.3	34.5	38.2
		Not helpful	13.8	5.8	9.7	7.2	17.3	19.9
		Total	100	100	100	100	100	100
	Bachelor	Helpful/ Very helpful	45.0	74.9	60.8	68.9	50.0	46.4
		Of some help	41.7	21.7	30.5	24.3	37.7	36.4
		Not helpful	13.3	3.4	8.7	6.9	12.3	17.2
		Total	100	100	100	100	100	100

Source: SiAS 2013 Teacher survey dataset (original analysis)

Note: Data are presented for Australia and should be treated with caution due to fairly high standard errors (Victorian data are not presented as the sample size for individual states does not allow for disaggregation to this level).

4.21 Graduate destinations

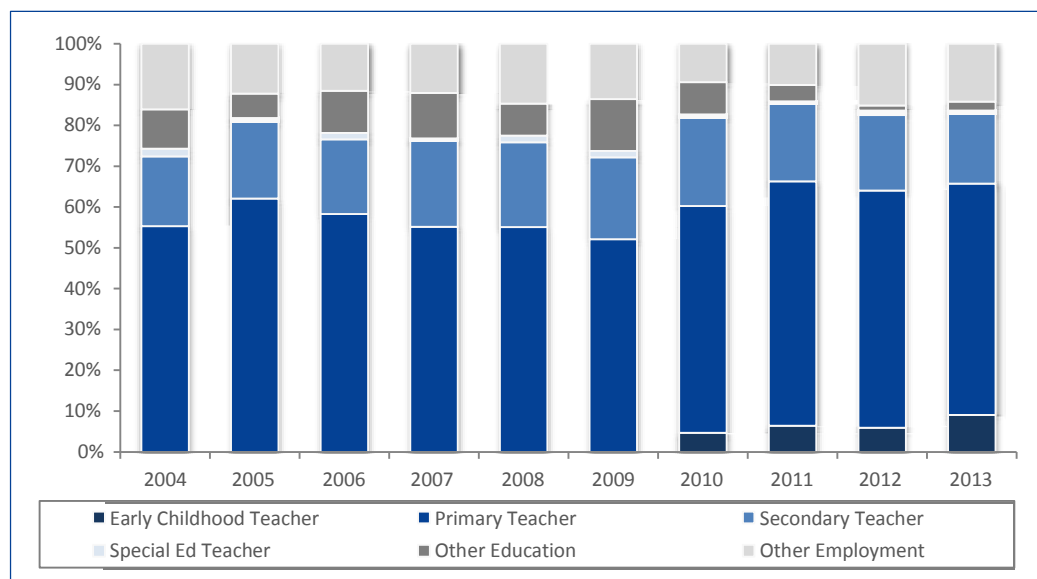
The Graduate Destinations Survey (GDS) collects data regarding the immediate (four months) post-study activities of new graduates.³⁹ Overall response rates tend to be about 50–60 per cent. However, response rates specifically for Victorian graduates of ITE courses are not evenly distributed across courses. Because of the low response rates, care should be taken in interpreting these results.

Figure 4.25 shows the destinations of graduates of undergraduate courses, and Figure 4.26 shows the destinations of graduates of postgraduate courses. From 2010, data have been further disaggregated to show the proportion of Early Childhood teachers. Prior to 2010, the Early Childhood teachers were included in the 'Other Education' group.

³⁹ Graduate Careers Australia (2013a), p.1.

It is clear that, at least for respondents four months or so after completing their course, those who have completed an undergraduate course are more likely to be working as a teacher. Between 70–80 per cent of undergraduates are teaching compared to 60–65 per cent of postgraduates, across the ten-year period from 2004–2013.⁴⁰

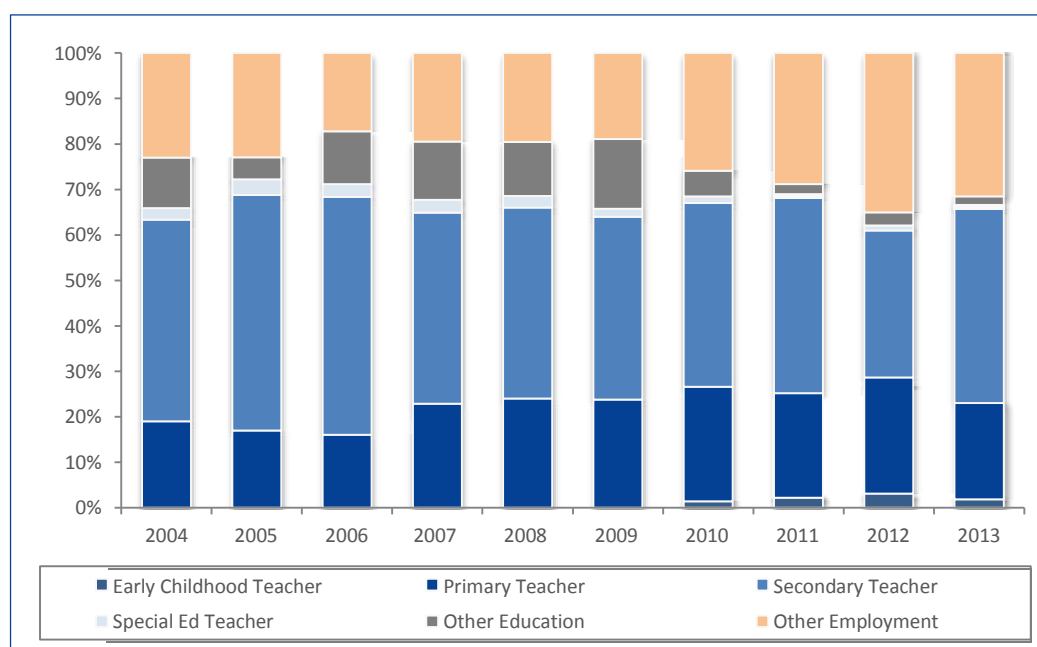
Figure 4.25: Destinations of graduates from undergraduate teaching courses, Victoria, 2004–2013



Source: Graduate Careers Council, Australian Graduate Survey (Victorian customised dataset)

The proportion of postgraduate completers in employment other than education has increased from 2007–2009 figures of about 20 per cent to over 30 per cent in 2012–13.

Figure 4.26: Destinations of graduates from postgraduate teaching courses, Victoria, 2004–2013



Source: Graduate Careers Council, Australian Graduate Survey (Victorian customised dataset)

⁴⁰ The 2010–2011 Teacher Supply and Demand Report noted that this trend reversed in 2010, with more graduates than undergraduates employed as teachers (p.26). This appears to have been due to an error in the analysis of 2010 data and should be discounted. A re-analysis of 2010 data for this report is in line with pre and post-2010 trends.

Table 4.17: Destinations of graduates from teaching courses, Victoria, 2004–2013

	2004%	2005%	2006%	2007%	2008%	2009%	2010 %	2011 %	2012 %	2013 %
Undergraduate Destinations										
Primary Teacher	55.3	62.1	58.3	55.2	55.1	52.1	55.5	59.9	58.1	56.7
Secondary Teacher	17.1	18.8	18.2	21.0	20.8	20.1	21.6	19.0	18.5	17.1
Special Ed Teacher	1.9	0.9	1.6	0.6	1.7	1.6	0.8	0.6	1.1	0.8
All teaching	74.3	81.8	78.2	76.8	77.5	73.8	77.9	79.5	77.7	74.6
Other Education	9.6	6.0	10.3	11.1	7.9	12.7	12.6	10.4	7.2	11.2
Other Employment	16.1	12.2	11.5	12.0	14.6	13.5	9.4	10.1	15.1	14.2
	100	100	100	100	100	100	100	100	100	100
Postgraduate Destinations										
Primary Teacher	19.0	17.0	16.1	22.8	24.0	23.7	25.2	23.0	25.5	21.2
Secondary Teacher	44.4	51.8	52.3	42.0	42.0	40.2	40.4	43.0	32.3	42.8
Special Ed Teacher	2.5	3.5	2.8	2.8	2.6	1.8	1.5	0.8	1.1	0.8
All teaching	65.9	72.3	71.2	67.7	68.6	65.8	67.1	66.8	58.9	64.8
Other Education	11.2	4.8	11.6	12.8	11.9	15.3	7.0	4.4	6.1	3.8
Other Employment	23.0	22.9	17.2	19.5	19.5	18.9	25.9	28.8	35.0	31.5
	100	100	100	100	100	100	100	100	100	100

Source: Graduate Careers Council, Australian Graduate Survey (Victorian customised dataset)

It is interesting, in this context, to note the results of a new question asked in SiAS 2013 about the type of initial teacher education undertaken by Primary and Secondary teachers. Overall, about 70 per cent of Primary teachers had undertaken an undergraduate ITE course and 30 per cent a graduate course, while the mix at Secondary level was about 50 per cent each. More recent graduates (five years or less) showed a rising trend in postgraduate ITE courses, as shown in Table 4.18, particularly at the Primary level, with a ten percentage point difference between those with five years or less experience (38 per cent undertook a graduate program) and those with more than five years' experience (28 per cent). The GDS data suggests that increasing proportions of graduates of postgraduate courses are not entering the teaching profession.

Table 4.18: Type of ITE course teachers completed by length of experience, Australia, 2013 (%)

Type of initial teacher education program	Primary		Secondary	
	Early career teachers	More than 5 years' experience	Early career teachers	More than 5 years' experience
A graduate program	38.1	28.4	55.2	50.0
An undergraduate program	61.9	71.6	44.8	50.0
	100	100	100	100

Source: SiAS 2013, Table 4.2 (p. 30)

4.22 Graduate teachers employed in government schools

DEECD collects information from government schools about the employment of graduate teachers in an annual census survey conducted in August (the Supplementary School Census). The 2012 survey had a 90 per cent response rate, so actual figures provided below must be considered approximate. The response rate is high so 2012 proportions should be considered reliable. The 2013 survey had a 100 per cent response rate. Some response fields are missing. Proportions, however, can be considered reliable.

Where possible, figures are presented by school level (Primary P–6 and Secondary 7–12). This has been done in recognition of the differences between the two levels, which apply to the majority of teaching staff through their working life. Where possible, teachers have been allocated to one level, based on their qualification or the school at which they are employed. In cases where their qualification is unknown or allows them to teach across both levels, and where they work at a combined school (for example, a Special school or a multi-campus college), teachers have been assigned to the 'Other' column.

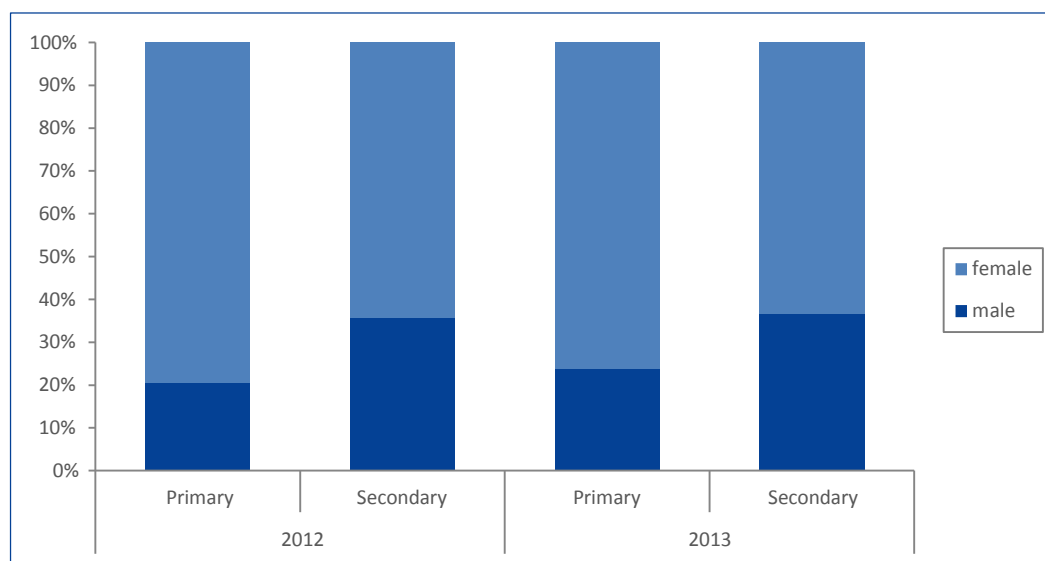
Table 4.19: Graduate teachers employed in government schools by school level, Victoria, 2012 and 2013 (headcount)

		Number of Graduates	Proportion of graduates%	All teachers	Graduates as proportion of all teachers %
2012	Primary	1,271	61.4	19,079	6.7
	Secondary	726	35.2	15,692	4.6
	Other	69	3.3	5,935	1.2
	Total	2,069	100	40,707	5.1
2013	Primary	1,392	60.8	19,325	7.2
	Secondary	798	34.9	15,499	5.1
	Other	99	4.3	6,203	1.6
	Total	2,289	100	41,027	5.6

Source: DEECD Supplementary School Census

Section 3.5 described the current gender balance in Primary and Secondary schools, on average, across all sectors. The female/male proportion at Primary level is currently stable at about 80 per cent female, 20 per cent male. The Secondary split is changing and is currently at about 60 per cent female, 40 per cent male (see Figure 3.9). The 2013 graduate intake in government schools shows a higher proportional intake of males in 2013 than in 2012, at both Primary and Secondary levels. The proportion of male teachers at Secondary level for both years is lower than in the current teacher population, suggesting that the proportion of male teachers is likely to continue to fall. The proportion of male graduates employed in Primary schools in 2013 is about four per cent higher than the proportion in the current teacher population.

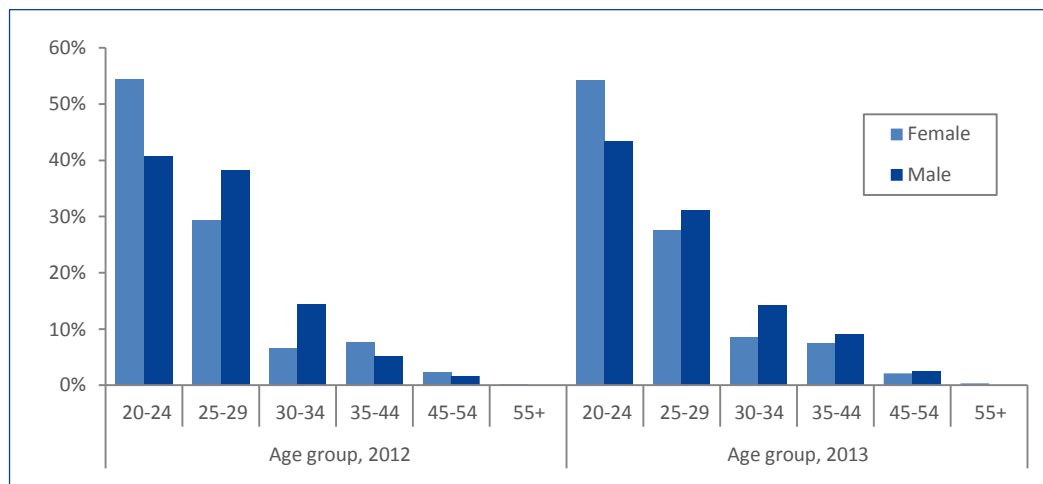
Figure 4.27: Proportion of graduate teachers in government schools by gender and level, Victoria, 2012–2013



Source: DEECD Supplementary School Census

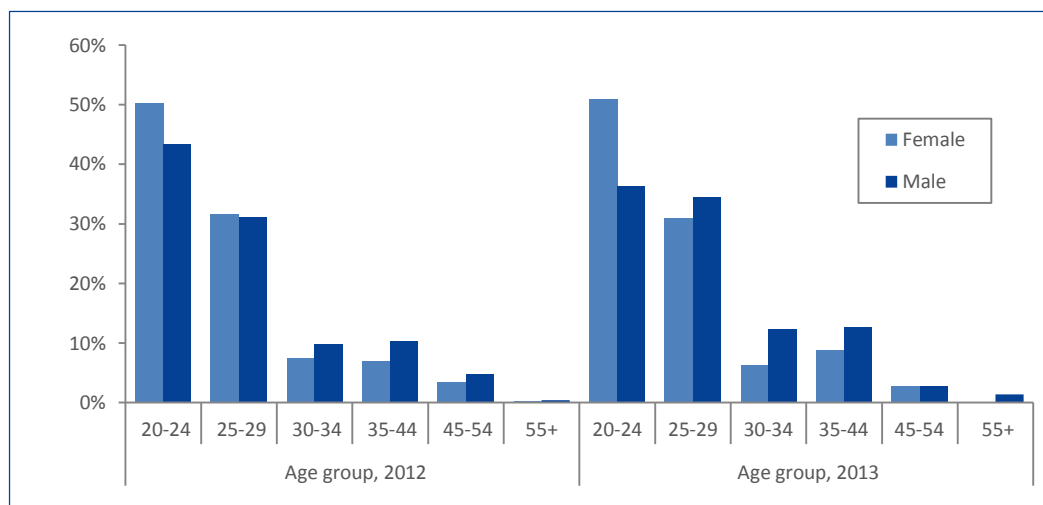
Figure 4.28 and Figure 4.29 (and Table 4.20) indicate the proportion of graduate teachers in government schools by school level, age group and gender. The figures show that male graduates at both Primary and Secondary level enter teaching at an older age, on average, than do females. In 2012, 16 per cent of female and 21 per cent of male graduates entering the profession were aged 30 or over. In 2013 18 per cent of female and 26 per cent of male graduates were aged 30 or over. At the Secondary level, 18 per cent of female graduates entering teaching in 2012 and 2013 were aged 30 or over, as were 25 per cent of male graduates in 2012 and 29 per cent in 2013.

Figure 4.28: Age distribution of graduate Primary school teachers in government schools by gender, Victoria, 2012 and 2013



Source: DEECD Supplementary School Census

Figure 4.29: Age distribution of graduate Secondary school teachers in government schools by gender, Victoria, 2012 and 2013



Source: DEECD Supplementary School Census

The data suggest a rising trend in the proportion of older entrants. SiAS 2013 data also shows a rise in the proportion of older teachers among teachers with five or fewer years of experience in comparison with 2010.⁴¹ The AITSL 2014 report notes that the majority of students commencing external mode (online) ITE courses in 2012 were 30 or over and studying part-time.⁴²

⁴¹ McKenzie, et al. (2014), Table 8.2, p. 87.

⁴² AITSL (2014), Table 6

Table 4.20: Age distribution of graduate teachers in government schools by gender and level, Victoria, 2012 and 2013

		2012		2013	
		Female%	Male%	Female%	Male%
Primary	20–24	54.4	40.6	54.2	43.4
	25–29	29.2	38.2	27.5	31.0
	30–34	6.5	14.3	8.5	14.2
	35–44	7.5	5.2	7.4	9.0
	45–54	2.3	1.6	2.1	2.4
	55+	0.1	0	0.3	0
	All	100	100	100	100
Secondary	20–24	50.2	43.5	51.0	36.3
	25–29	31.7	31.2	31.0	34.6
	30–34	7.4	9.9	6.3	12.3
	35–44	7.0	10.3	8.9	12.7
	45–54	3.5	4.7	2.8	2.7
	55+	0.2	0.4	0	1.4
	All	100	100	100	100

Source: DEECD Supplementary School Census

For the last three years, the highest proportion of new graduates entering government schools has been from Deakin University and this is primarily due to the high proportion of graduates employed by Primary schools (Table 4.21). At the Secondary level, Monash University provided the highest proportion in 2012 (18.5 per cent), and University of Melbourne in 2013 (23.2 per cent).

One item of interest in Table 4.21 is the proportion of new graduates with an interstate qualification. As discussed in sections 5.2 and 5.3 above, the number of students in Victoria undertaking an ITE online with an interstate provider is not currently known. The AITSL 2014 report notes that many students undertaking online courses are older and tend to be from regional backgrounds.⁴³ It seems likely that a reasonable proportion of new graduates with interstate qualifications are locals rather than interstate migrants. The 2012 Supplementary School Census data showed no difference in the proportions of interstate-qualified new graduates in metropolitan and regional areas.⁴⁴

⁴³ AITSL (2014), Table 6.

⁴⁴ From 1 January 2013, the DEECD regional structure of five non-metro and four metro regions was replaced with four regions combining metro and non-metro regions. As such, breakdowns by metropolitan and regional areas as supplied in the previous report are not possible and therefore not included here.

Table 4.21: Institutions where graduate teachers in government schools completed training by school level, Victoria, 2012 and 2013

		Primary%	Secondary%	Other%	Total%
2012	Deakin University	21.0	12.8	10.1	17.7
	Monash University	15.9	18.5	1.4	16.3
	La Trobe University	15.6	16.4	7.2	15.6
	University of Melbourne	12.3	16.6	10.1	13.8
	Victoria University	10.3	10.0	39.1	11.2
	Ballarat University	7.1	8.8	18.8	8.1
	RMIT University	6.8	6.2	5.8	6.5
	Interstate	6.2	4.8	0	5.5
	Australian Catholic University	3.8	2.7	2.9	3.4
	Overseas	0.9	3.2	4.3	1.8
	Holmesglen TAFE	0.1	0	0	0
	All	100	100	100	100
	2013	Deakin University	21.8	13.7	7.1
Monash University		15.4	19.0	3.0	16.1
La Trobe University		15.4	14.9	24.2	15.6
University of Melbourne		7.0	23.2	5.1	12.6
Victoria University		13.4	9.1	28.3	12.5
RMIT University		7.5	6.4	10.1	7.2
Ballarat University		6.8	6.5	12.1	6.9
Interstate		6.2	3.5	7.1	5.3
Australian Catholic University		4.7	1.8	1.0	3.5
Overseas		1.9	1.9	2.0	1.9
Holmesglen TAFE		0	0	0	0
All		100	100	100	100

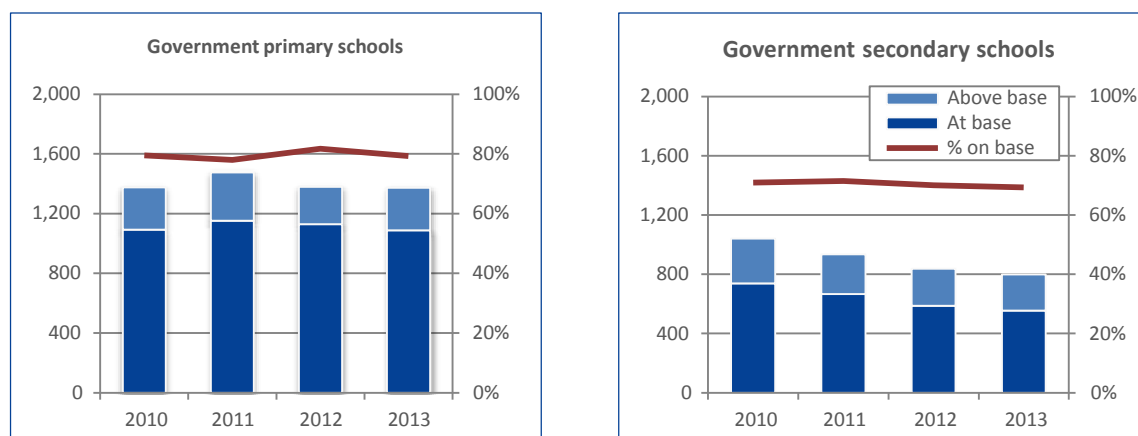
Source: DEECD Supplementary School Census

4.23 Teachers newly employed in government schools

An alternative measure of the employment of recent graduates in government schools is the proportion of teachers employed on the base classification (initial salary). This is a proxy measure as the base classification does not necessarily include only or all recent graduates. In addition, it is an FTE count so will underestimate actual numbers.

Figure 4.30 shows that the number of new employees at government Primary schools has been maintained at about 1,100 FTE positions across the four years 2010–2013. About 80 per cent of new employees are at the base classification. The picture is somewhat different at the Secondary level with new FTE employment figures falling by ten per cent in 2011 and 2012, and by five per cent in 2013. About 70 per cent of new employees are at the base classification.

Figure 4.30: New employees at base level in government schools, 2010–2013 (FTE and % of new employees)



Source: DEECD Data collection

Table 4.22: New employees at base level and above base level in government schools, 2010–2013, (FTE and % of new employees)

	At base	Above base	All	% on base
Primary				
2010	1,092.7	282.2	1,374.9	79.5
2011	1,151.8	324.9	1,476.6	78.0
2012	1,128.1	251.6	1,379.7	81.8
2013	1,087.6	284.6	1,372.3	79.3
Secondary				
2010	738.1	302.0	1,040.1	71.0
2011	667.6	266.2	933.7	71.5
2012	586.6	251.0	837.6	70.0
2013	553.7	245.6	799.3	69.3
Other				
2010	272.8	158.6	431.4	63.2
2011	306.7	117.0	423.6	72.4
2012	259.8	129.8	389.6	66.7
2013	287.4	111.2	398.6	72.1

Source: DEECD Data collection

4.24 Supply projections

There are several complex issues impacting upon the supply of teachers in Victoria. Issues such as competition for employees from other industries and the status of teaching are not considered here. The data do allow consideration of:

- Applications and offers
- First and final year enrolments over time
- Enrolments by schooling level (Primary/Secondary) 2012–2014
- Attrition
- Key learning area
- Registration and employment
- Teacher migration into Victoria.

Some data are indicative only, either because they cannot be disaggregated by schooling level or because cross-sectoral data is not available. In addition, there is no data on how many international students will remain in Australia after graduation. The number of students in Victoria graduating from distance education courses provided by interstate institutions is also not known.

Recent policy changes have been a further cause of uncertainty in teacher education graduation figures. The transition from one-year to two-year postgraduate courses is ongoing. In 2013, there was a fall in postgraduate enrolments at Primary and Secondary level while in 2014 there was considerable growth (see Table 4.5). Similar patterns are likely to continue over the

next few years as courses are modified. Undergraduate offers and acceptances have experienced high growth, due primarily to the uncapping of undergraduate CSPs in 2012, while first preferences to teaching courses are about the same as they were a decade ago. It is not clear that present rates of growth are sustainable, given the pool from which candidates are drawn does not seem to be showing the same levels of growth.

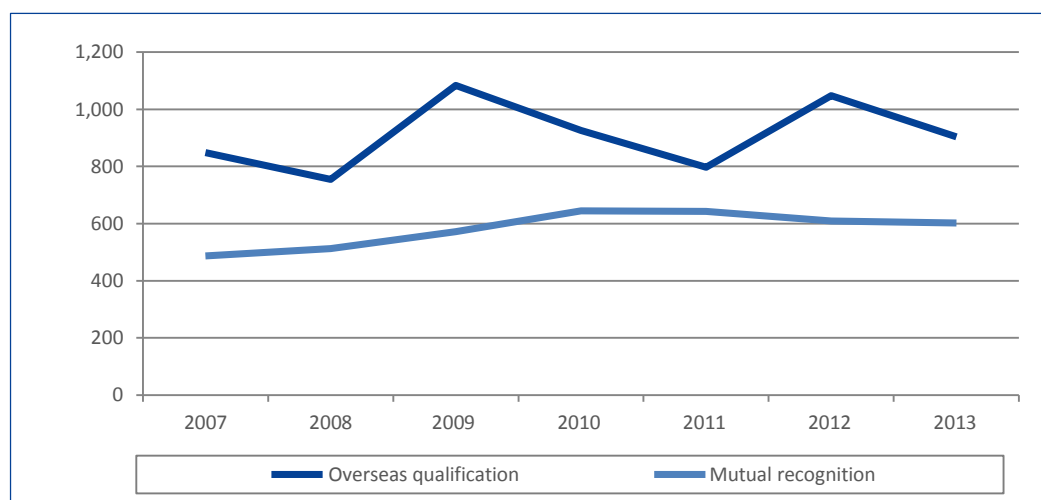
The 2014-15 Commonwealth budget has proposed lowering the amount provided to institutions per CSP, removing the cap on course fees and increasing the interest rates on student loans. The extent to which these changes will be legislated is not yet known and it is unclear to what extent such changes would impact on enrolments in ITE courses.

4.25 Annual supply from migration

The *VIT Annual Report* provides data on the number of new registrations of teachers in Victoria annually. Figure 4.31 shows newly registered teachers with an overseas qualification, and those who have come from interstate through the mutual recognition system. Reporting includes provisional and full registrations. Any new registrants included, however, are not likely to be new Victorian-based graduates as these are included in other categories reported by VIT and not shown here.⁴⁵

The number of overseas teachers registering each year shows some fluctuation. An approximate average based on the last seven years is 900 annually. Mutual recognition is predominantly likely to cover more experienced teachers moving from interstate, currently numbering about 600 annually. The VIT does not collect data on the level of qualification, so these figures cannot be disaggregated by Primary and Secondary qualifications.

Figure 4.31: Teacher registrations by type qualification recognition, Victoria, 2007–2013



Source: VIT Annual Reports 2008–2013

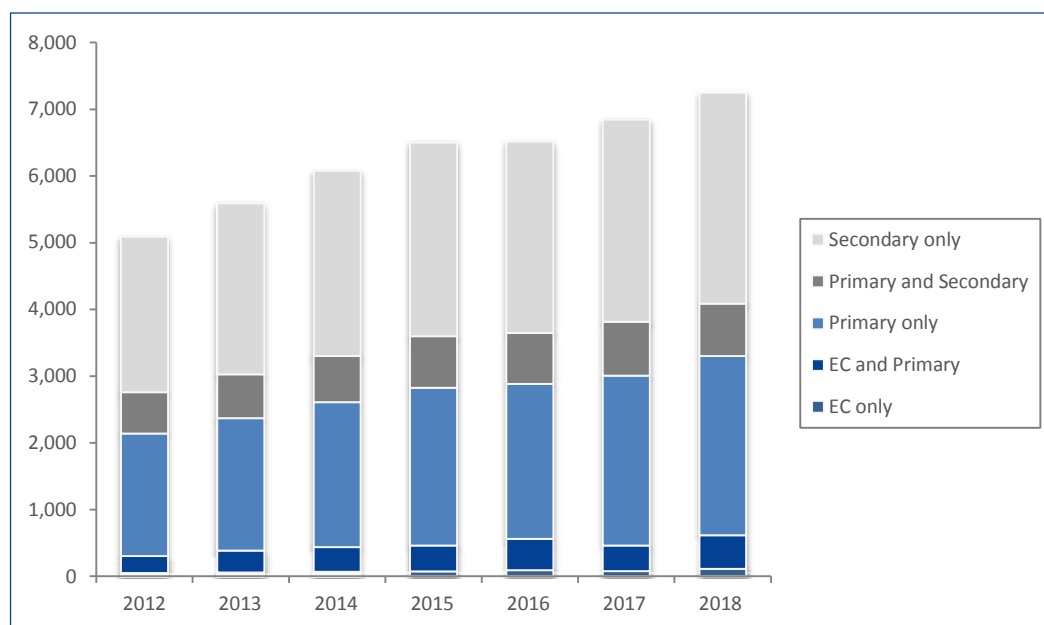
4.26 Supply by local qualification

For four-year undergraduate courses, it is possible to project graduate numbers out to 2018, based on known first year enrolments to 2014 and attrition rates, which overall are currently at about 30 per cent. Postgraduate course projections are considerably more uncertain as enrolments have fluctuated considerably in recent times and the intent of moving to two-year courses by 2015 may depress enrolments for some providers in the short term.

Figure 4.32 presents the projections of overall graduation numbers by qualification type, to 2018. Table 4.23 provides the same figures, as well as the total qualified pool for each qualification level (Early Childhood, Primary and Secondary). Two assumptions have been used in determining these figures: first, that undergraduate attrition rates from first year to graduation will remain at the current rate of about 30 per cent, and; second, that the proportions of students graduating with dual qualification courses remains about the same as the 2012 and 2013 figures.

⁴⁵ The additional categories reported by VIT are Victorian qualification, Interstate qualification and Permission to teach. The Victorian and Interstate qualification categories would include the majority of newly qualified, provisionally registered graduates, but as the categories are not limited to provisional registrations and disaggregation is not available, these figures are not presented here.

Figure 4.32: Projected graduations from teaching courses by field, Victoria, 2012–2018



Source: ACER

Table 4.23: Projected graduations from teaching courses by field, Victoria, 2012–2018

Graduation numbers	Known				Projected		
	2012	2013	2014	2015	2016	2017	2018
Early Childhood only	51	59	70	74	92	78	111
Early Childhood and Primary	251	324	367	387	467	382	505
Primary only	1,836	1,987	2,171	2,367	2,323	2,549	2,684
Primary and Secondary	619	657	694	771	763	806	790
Secondary only	2,331	2,562	2,776	2,899	2,870	3,032	3,160
TOTAL	5,088	5,589	6,078	6,498	6,516	6,847	7,249
Early Childhood Pool	302	383	437	461	560	460	616
Primary Pool	2,706	2,968	3,232	3,525	3,553	3,737	3,979
Secondary Pool	2,950	3,219	3,470	3,670	3,633	3,838	3,950

Source: ACER

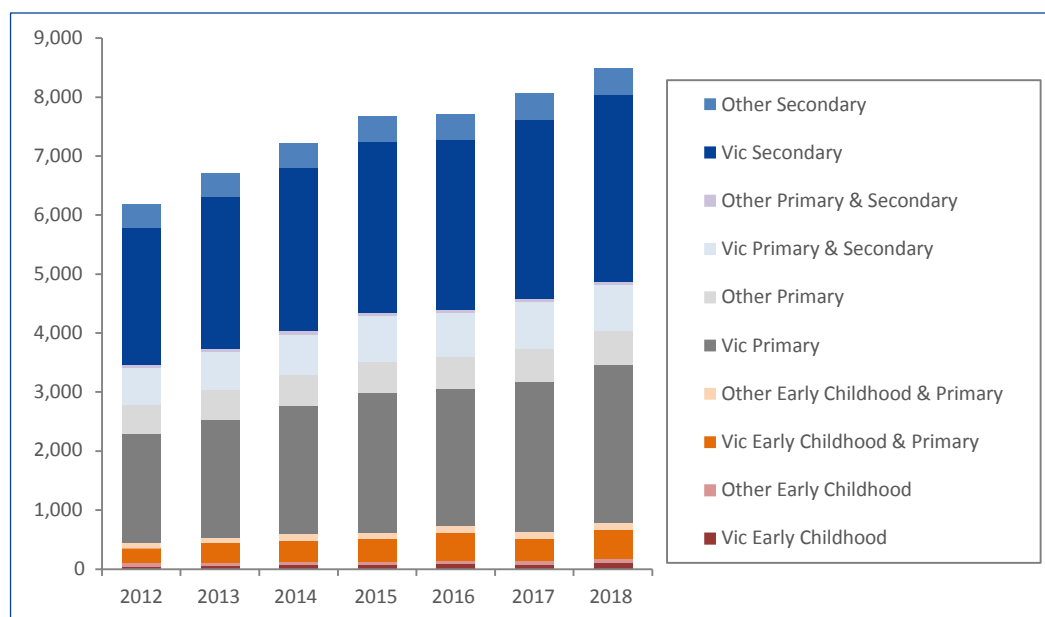
4.27 Supply by interstate qualification

Qualifications undertaken through online distance education courses is a growing area with a number of Victorian and interstate providers in the market. Available student data is linked to the location of the provider, not of the student, so the location of students undertaking online ITE courses is not known. AITSL 2014 data indicates that 6,698 students were studying an external mode course in 2012. This number is likely to have increased in 2013. It is reasonable to assume that, given the proportion of the Australian population resident in Victoria, the number of students located in Victoria and studying online courses is likely to be over 1,000 annually. This figure would include online enrolments with Victorian providers as well as interstate providers. The data available indicate that the majority of online courses are at the Early Childhood and Primary level.

4.28 Projected total Victorian supply by level qualified to teach

The supply figures presented in Figure 4.33 and Table 4.24 are the estimated overall annual supply of teachers new to Victoria, to 2018. These figures include estimations of the migration of overseas and interstate teachers, and Victorian teachers gaining qualifications through distance education with interstate providers.

Figure 4.33: Estimates of annual supply of new teachers by field, Victoria, 2012–2018



Source: ACER

Table 4.24: Estimates of annual supply of new teachers by field, Victoria, 2012–2018

Estimated graduation numbers	2012	2013	2014	2015	2016	2017	2018
Vic Early Childhood	51	59	70	74	92	78	111
Other Early Childhood	50	51	52	53	54	55	56
Vic Early Childhood and Primary	251	324	367	387	467	382	505
Other Early Childhood and Primary	100	102	104	106	108	110	113
Vic Primary	1,836	1,987	2,171	2,367	2,323	2,549	2,684
Other Primary	500	510	520	531	541	552	563
Vic Primary and Secondary	619	657	694	771	763	806	790
Other Primary and Secondary	50	51	52	53	54	55	56
Vic Secondary	2,331	2,562	2,776	2,899	2,870	3,032	3,160
Other Secondary	400	408	416	424	433	442	450
Total	6,188	6,711	7,223	7,665	7,706	8,062	8,488
Early Childhood Pool	452	536	593	620	722	626	784
Primary Pool	3,356	3,631	3,909	4,215	4,257	4,454	4,711
Secondary Pool	3,400	3,678	3,938	4,147	4,120	4,335	4,457

Source: ACER

4.29 Projected total available Victorian supply

Projecting the likely available supply involves a further element of estimation, for which there is little certain data. In previous reports, supply projections assumed that a proportion of teacher graduates (20 per cent) would not be available for employment in the teacher workforce.

The available data on the pool of newly qualified teachers looking for and obtaining employment includes VIT provisional registration figures and the Graduate Destinations Survey (GDS). GDS figures (see section 4.5.5) suggest that about 65 per cent of postgraduates and 75 per cent of undergraduates had teaching positions within four months of graduating, 2004–2013.

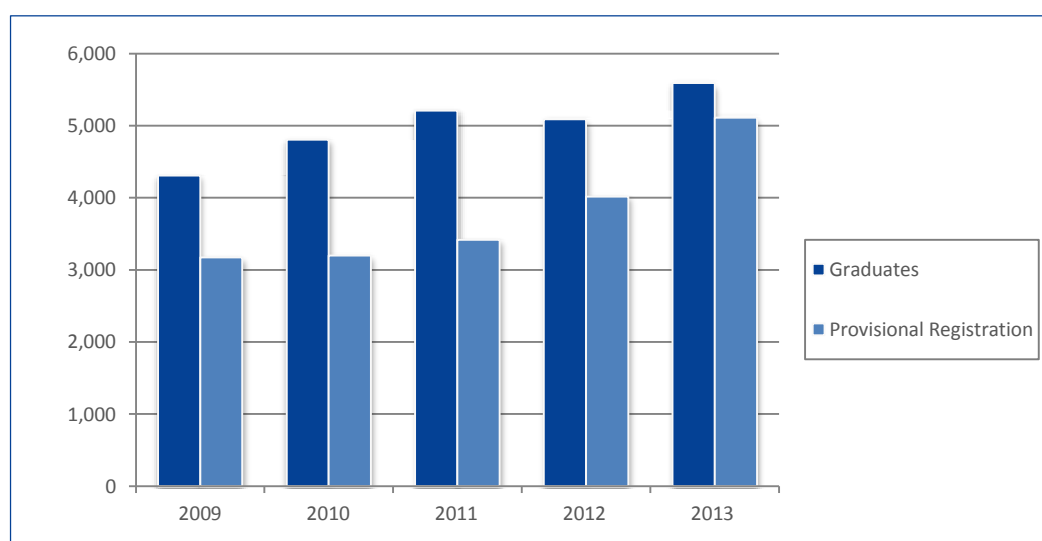
The GDS is a sample survey with relatively low rates of participation. There is a high probability that some graduates who are not captured in the survey figures are unlikely to be available to teach following graduation. Examples might be international students (about five per cent of graduates in total), many of whom will return to their own countries, and graduates who

choose to travel overseas. There is no data on the extent to which teachers with overseas qualifications obtain positions in Australian schools, or on the success of those migrating from interstate.

One issue in attempting to estimate the available pool of teachers is that, where supply is in surplus to demand, a proportion of graduates considered ‘unavailable’ may be unable to find employment in the teacher workforce, but would become available given an opportunity. Figure 4.34 does suggest that a significant proportion of new graduates are not available for teaching employment as they do not apply for provisional registration. The destinations of these graduates in terms of Early Childhood, Primary or Secondary schooling is unknown.

It is also the case, as indicated above, that a number of graduates are qualified at two levels (Early Childhood and Primary, or Primary and Secondary). No information exists on the proportion of these graduates available for work at each level.

Figure 4.34: Teacher graduate numbers and provisional registrations, Victoria, 2009–2013



Source: VIT Annual Reports 2009–2013; ACER customised data collection from course providers, 2014; VIT data set 2004–2011

A conservative estimate of supply therefore assumes that 20 per cent of Victorian graduates and about half the estimated interstate qualified Victorians; overseas and interstate migrants (graduate or experienced) may not be available for employment in a teaching position. As the GDS survey indicates, a proportion may obtain employment in the education sector. The resulting estimates are provided in Table 4.25, as the total number of individuals available, and the proportions potentially available in each pool (based on dual qualifications). Numbers provided for 2019 and 2020 assume the same numbers as those available in 2018.

Table 4.25: Estimates of teachers available for work, Victoria, 2014–2020

	2014	2015	2016	2017	2018	2019	2020
Total available	6,007	6,366	6,403	6,692	7,039	7,039	7,039
Early Childhood Pool	506	528	610	534	662	662	662
Primary Pool	3,262	3,510	3,546	3,707	3,915	3,915	3,915
Secondary Pool	3,244	3,414	3,393	3,567	3,667	3,667	3,667

Source: ACER

These are the numbers used in Chapter 7 against a consideration of likely demand to 2020. For the reasons indicated above, these figures are conservative and therefore likely to underestimate the available teacher supply.

5. Demand parameters

Main points:

- There has been considerable growth in student numbers in all sectors at Primary level, particularly since 2012.
- Growth at the Secondary level has slowed over the past few years and has declined in the government sector since 2010. Demand continues to move to the non-government sector.
- The overall attrition rate of government school teaching staff in ongoing positions is about five per cent per year.
- The proportion of teachers in part-time employment continues to increase in all sectors.
- About 18 per cent of teachers in the government sector and 20 per cent in the Catholic sector are employed on a fixed-term basis. The rate is higher for early career teachers (about 80 per cent of those in their first year) and for teachers in Primary schools (linked to higher rates of family leave at the Primary level)
- Difficult-to-fill vacancies in government schools are at their lowest recorded levels overall. 2012 recorded the lowest difficult-to-fill vacancies in all types of schools. Secondary schools and Special schools recorded a slight rise in 2013.
- Annual rates of sick and carer's leave for teachers in government schools increased by about two days to 11 days from 2011. The increase may be due to a new method of reporting introduced in 2010 and the removal of the ten day cap on carer's leave, also in 2010.
- The number of CRTs in government schools (during the August census) fell from over 8,000 in 2010 to under 7,000 in 2013. Over 60 per cent of CRTs work in Primary schools.
- About one-quarter of CRTs are looking for fixed-term or ongoing employment, up from one-fifth in 2011.

5.1 Introduction

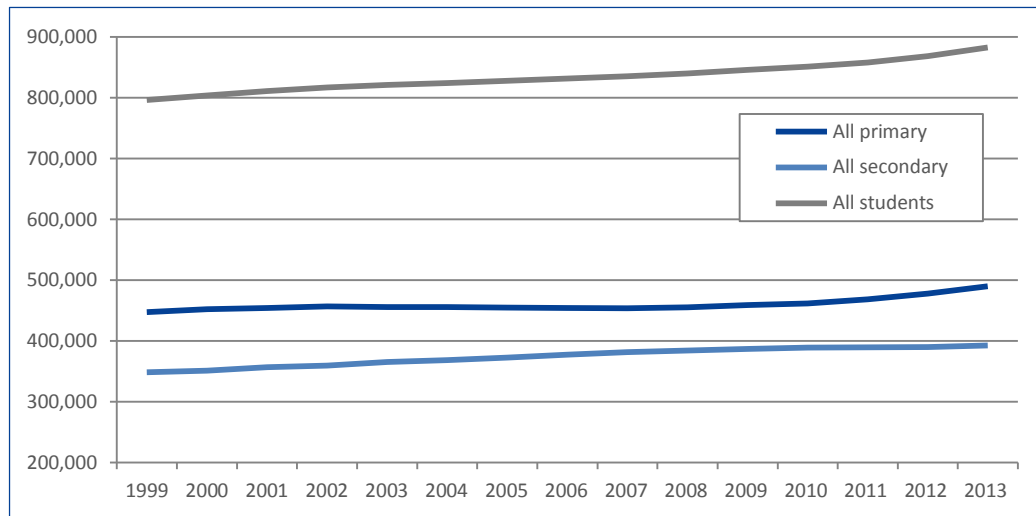
Victoria's school education system was made up of 2,226 schools at February 2013: 1,529 government schools, 486 Catholic schools and 211 independent schools. This chapter considers the areas that affect the demand for teachers across Primary and Secondary settings, including historical and current student numbers, workforce attrition, leave, time fraction, fixed-term employment and the casual workforce. This chapter provides background to inform Chapter 6, which forecasts growth in student numbers to 2020 and the resulting demand for teachers.

5.2 Trends in student numbers

Overall, student numbers in Victorian schools have risen steadily over the past 15 years (

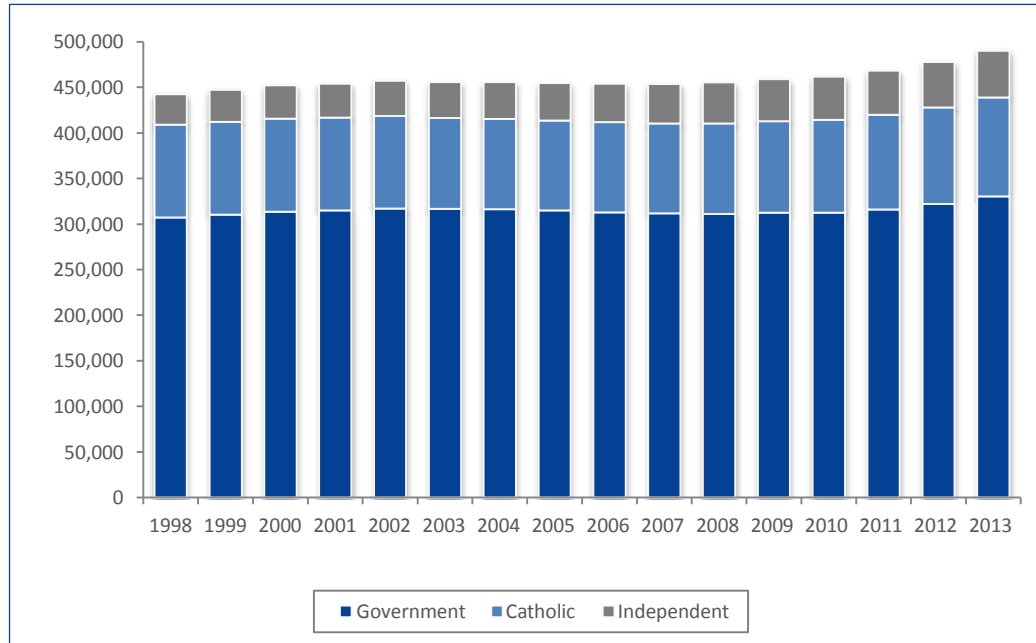
Figure 5.1 and Table 5.1). At the Primary level, student numbers overall fell slightly from 2003 and did not regain 2002 levels until 2009. Growth rates have risen sharply from below one percentage point in 2010 to 2.1 per cent in 2012 (Figure 5.2). In terms of actual student numbers, there were 2,948 additional FTE Primary students in 2010, 6,554 in 2011, 9,743 in 2012 and 12,093 in 2013. At Secondary level, student numbers have continued to grow overall, although the rate of growth has slowed to below one per cent annually in recent years.

Figure 5.1: All students, Victoria, 1999–2013 (FTE)



Source: NSSC Table 43a: FTE student numbers, 1998–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

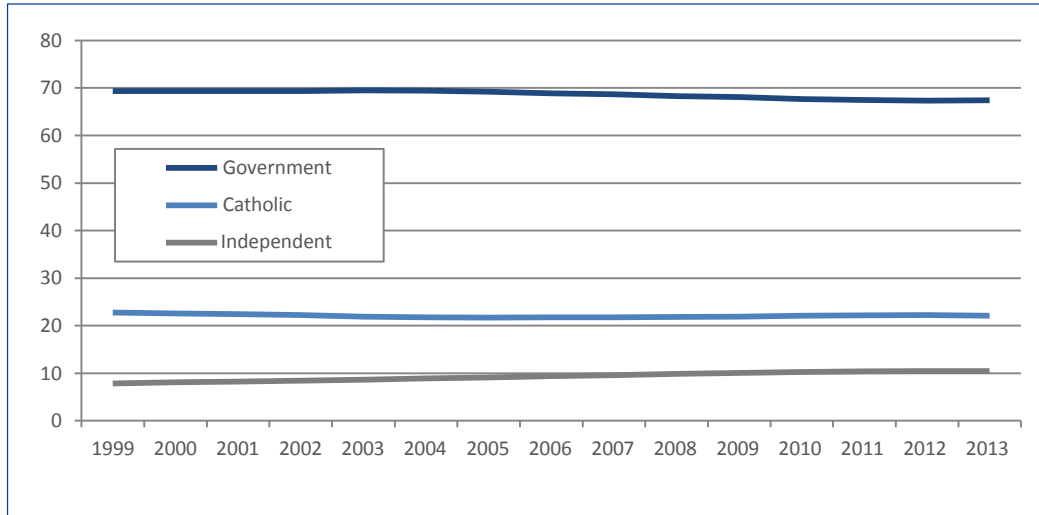
Figure 5.2: Students in Primary schools by sector, Victoria, 1998–2013 (FTE)



Source: NSSC Table 43a: FTE student numbers, 1998–2013, ABS 4221.0 Schools, Australia, 2012, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Figure 5.3 the proportion of Primary students at government schools remained at about 69.4 per cent until 2004 and has since dropped two percentage points to 67.4 per cent in 2013.

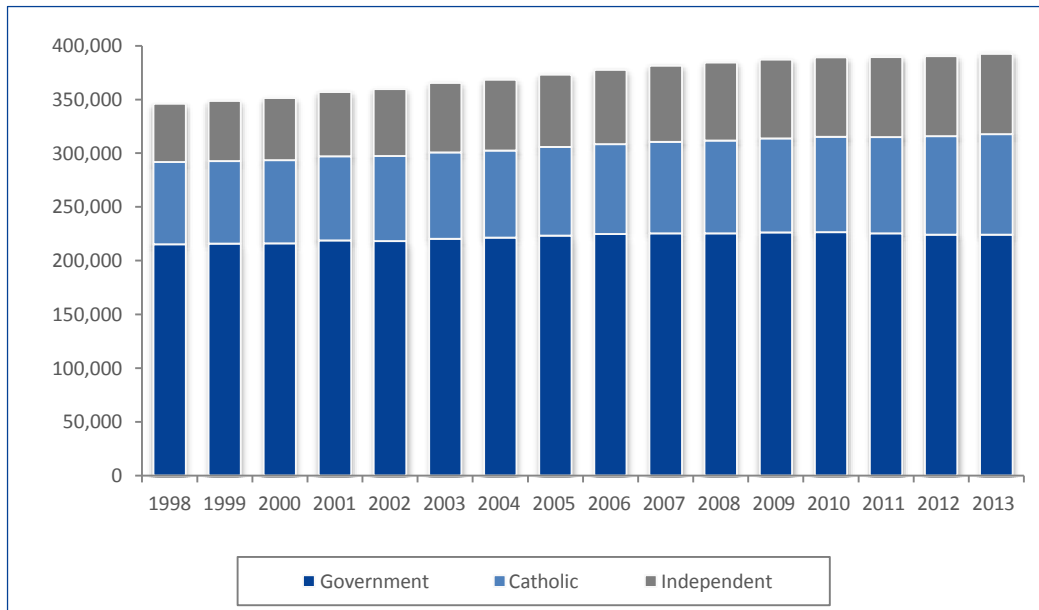
Figure 5.3: Shares of students in Primary schools by sector, Victoria, 1999–2013 (%)



Source: NSSC Table 43a: FTE student numbers, 1999–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

As noted above, student growth in the Secondary sector has been minimal over the last few years and in government schools numbers have declined slightly since 2010, as shown in Figure 5.4 and Table 5.1.

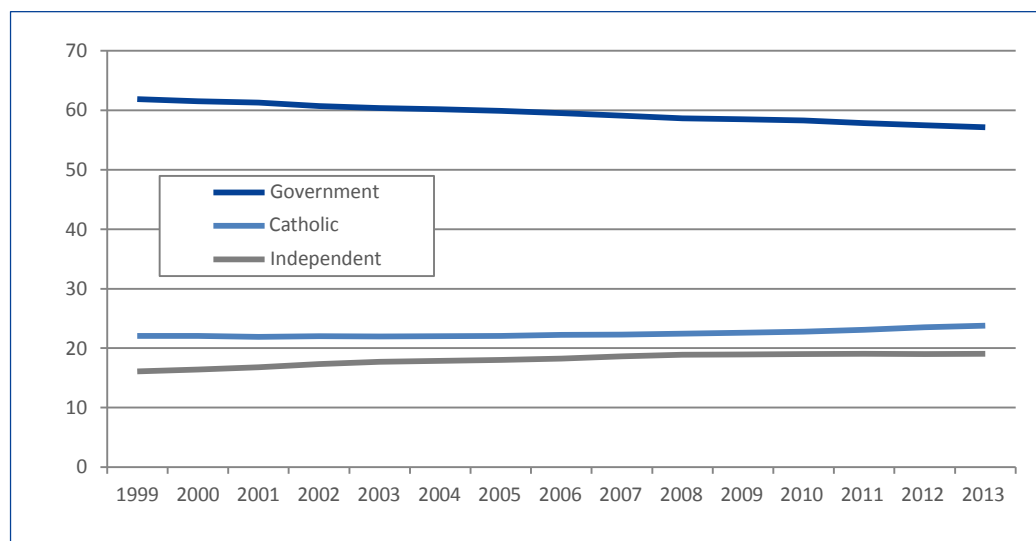
Figure 5.4: Students in Secondary schools by sector, Victoria, 1998–2013 (FTE)



Source: NSSC Table 43a: FTE student numbers, 1998–2013, ABS 4221.0 Schools, Australia, 2012, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Figure 5.5 shows that the proportion of Secondary students in the government sector has been in decline for many years, albeit at a slow rate. In the five years to 2013, the government sector has declined by 0.9 per cent, the Catholic sector has grown by 6.8 per cent and the independent sector by 2.1 per cent. Overall growth in student population at Secondary level has been 1.4 per cent.

Figure 5.5: Share of students in Secondary schools by sector, Victoria, 1999–2013 (%)



Source: NSSC Table 43a: FTE student numbers, 1999–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

Table 5.1: Students by level and sector, Victoria, 2004–2013 (FTE)

		Government	Catholic	Independent	All sectors
Primary	2004	316,367.0	99,031.4	40,392.9	455,791.3
	2005	314,980.5	98,554.6	41,332.7	454,867.8
	2006	312,967.2	98,759.4	42,384.5	454,111.1
	2007	311,659.5	98,709.5	43,464.4	453,833.4
	2008	311,022.9	99,416.9	44,908.1	455,347.9
	2009	312,362.9	100,492.8	45,929.0	458,784.7
	2010	312,597.1	101,913.1	47,222.5	461,732.7
	2011	315,941.0	103,861.3	48,484.7	468,287.0
	2012	321,985.3	106,130.9	49,914.1	478,030.3
	2013	330,486.9	108,392.0	51,243.9	490,122.8
Secondary	2004	221,603.6	81,022.9	65,863.2	368,489.7
	2005	223,280.1	82,385.2	67,311.2	372,976.5
	2006	224,678.8	83,909.6	68,927.5	377,515.9
	2007	225,482.7	85,111.0	70,972.2	381,565.9
	2008	225,421.7	86,381.5	72,753.8	384,557.0
	2009	226,321.8	87,474.2	73,354.1	387,150.1
	2010	226,630.0	88,640.0	73,849.0	389,119.0
	2011	225,271.1	89,895.9	74,218.0	389,385.0
	2012	224,325.2	91,710.5	74,254.3	390,290.0
	2013	224,295.2	93,411.5	74,866.8	392,573.5

Source: NSSC Table 43a: FTE student numbers, 1999–2013, ABS 4221.0 Schools, Australia, 2014
www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4221.02013?OpenDocument

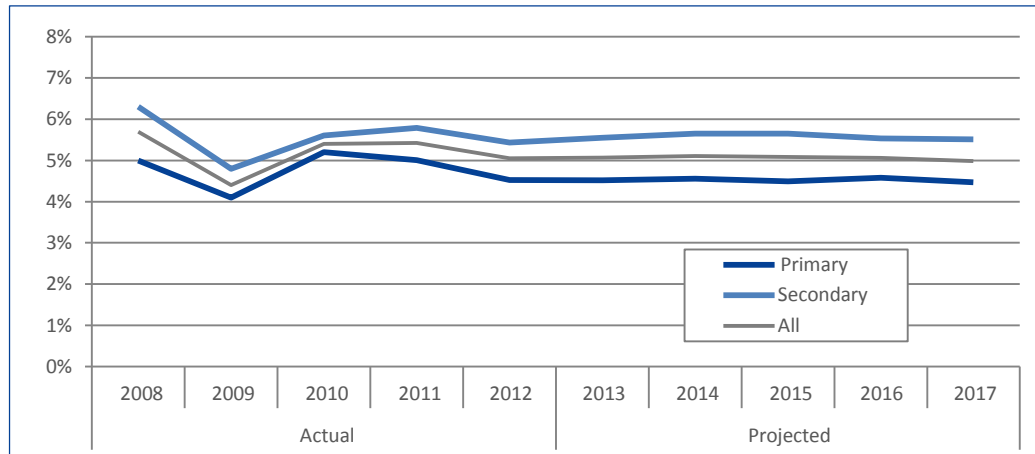
Note: These figures include ungraded Primary and Secondary students, which includes but is not limited to children in Special schools. Overseas full fee-paying students are also included.

5.3 Attrition of ongoing teachers in government schools

Attrition here is defined as teaching staff in ongoing positions who cease from the payroll and who are not re-employed in an ongoing position. This definition includes teaching staff in senior positions such as principal. It does not include teaching staff employed fixed-term (about 18 per cent of teaching staff in government schools). Two caveats should be taken into consideration. The first is that it is not known how many teachers leave the government sector to take up a position in a non-government school so, in terms of the entire pool of available teachers in Victoria, the attrition rate presented here is an overestimate. The second consideration is that the overall attrition rate is likely to mask variation by age, gender, and location.

Figure 5.6 shows that Primary schools have a slightly lower attrition rate for ongoing staff of about 4.5 per cent, while Secondary attrition is about one percentage point higher at 5.5 per cent. The data shown for 2008 to 2012 indicates there is likely to be small fluctuations year to year, but the projected attrition rates are likely to continue to average about five per cent. For further discussion and forecast to 2020 of net inflows and outflows of teachers see Chapter 6.

Figure 5.6: Teacher attrition rate from government schools by level, 2008–2012 (observed) and 2013–2017 (projected)



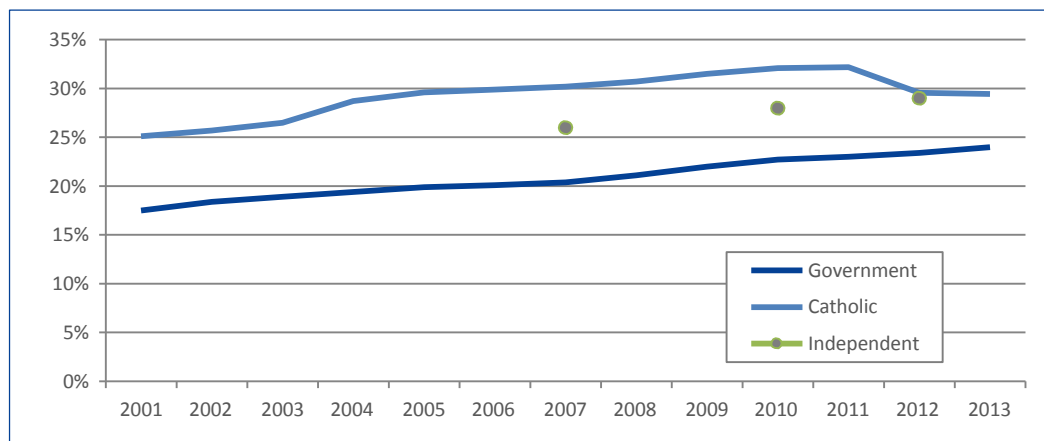
Source: DEECD, Performance and Evaluation Division Customised data set, 2014

5.4 Time fraction

As has been noted in previous reports, there is an ongoing trend for staff in the teaching workforce to work on a part-time basis. This has been encouraged by equal opportunity legislation in Victoria (1995 and 2010), as employees who have caring responsibilities for a person who is substantially dependent on them have the right to request flexible work arrangements. Commonwealth legislation from July 2013 may increase the number of part-time employees in future years.

As shown in Figure 5.7, the proportion of part-time teachers in the government sector in 2013 is nearly one-quarter (24 per cent), a rise of about five percentage points over a decade. In the Catholic sector, the 2013 proportion is higher at nearly 30 per cent, although this represents a fall from a peak of 32 per cent in 2011. A sample survey undertaken by Independent Schools Victoria provides indicative proportions of part-time teaching staff in independent schools of 26 per cent in 2007, rising to 29 per cent in 2012.

Figure 5.7: Proportion of teachers working part-time by sector, Victoria, 1992–2013



Source: DEECD, Performance and Evaluation Division Customised data set, 2014; CECV 2011, 2014; ISV 2013 HR Benchmarking Survey
 Note: Government figures include the following classes of teacher: Graduate, Accomplished, Expert, Leading, Paraprofessional, Principal class.

Independent figures were drawn from a sample of 118 independent schools (56 per cent) in 2012 and slightly fewer in 2007 and 2010. Figures are not weighted and are indicative only.

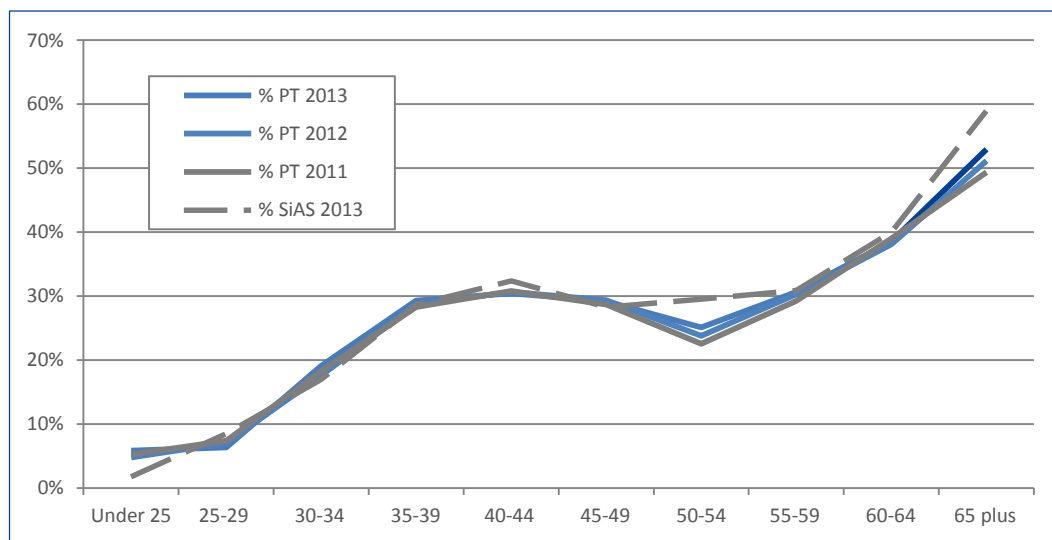
Given the continuing rise of the part-time workforce it is worth breaking down the proportion of teachers working part-time by gender and age. The overall proportion of female teachers working part-time in government schools in 2013 was 28 per cent compared with 14 per cent of males. Given the greater number of females overall, the proportions making up the 24 per cent of part-time teachers in 2013 was 20 per cent females and four per cent males.

Disaggregated by schooling level, 21 per cent of teachers at Primary level were part-time in 2013, compared to 27 per cent of Secondary teachers. Figure 5.8 shows the proportions of teaching staff working part-time by age group. The lowest proportion of part-time employment is among those aged under 34. About six per cent of teachers under 30 work part-time and 20 per cent of teachers aged 30–34. The under-35 age group currently accounts for about 43 per cent of the workforce.

About 30 per cent of teachers aged 35–44 are employed part-time. An ABS study of births in Australia in 2010 showed that the peak age group for birth rates shifted from women aged 25–29 years to those aged 30–34 years in 2000, and since 2003, births for women aged 35–39 years exceeded that of women aged 20–24 years.⁴⁶

The dotted line in Figure 5.8 indicates results from Victorian teachers across all sectors who participated in the SiAS 2013 survey. The results are very similar and suggest that the SiAS Victorian sample can be further analysed for details of part-time teachers.

Figure 5.8: Proportion of teachers working part-time in government schools by age, 2011–2013



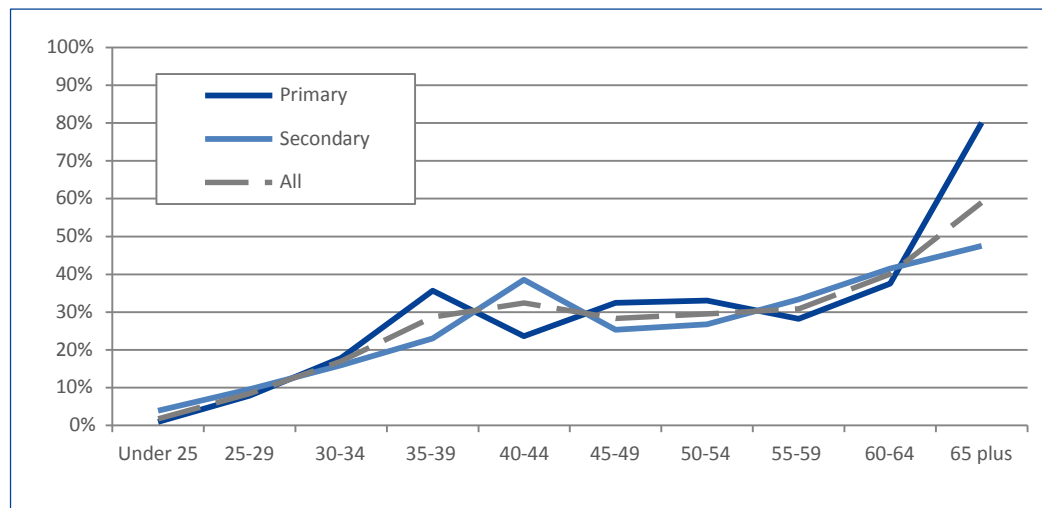
Source: DEECD, Performance and Evaluation Division Customised data set, 2014; SiAS 2013 Teacher survey dataset (original analysis)
 Note: Government figures include the following classes of teacher: Graduate, Accomplished, Expert, Leading, Paraprofessional, Principal class.

⁴⁶ See 3301.0 – Births, Australia, ABS 2010.

www.abs.gov.au/ausstats/abs@.nsf/Products/960D884FECD456EFCA257933001674FA?opendocument

An analysis of the SiAS 2013 teacher dataset shows that rates of part-time employment across sectors at the Primary and Secondary levels are similar (see Figure 5.9).

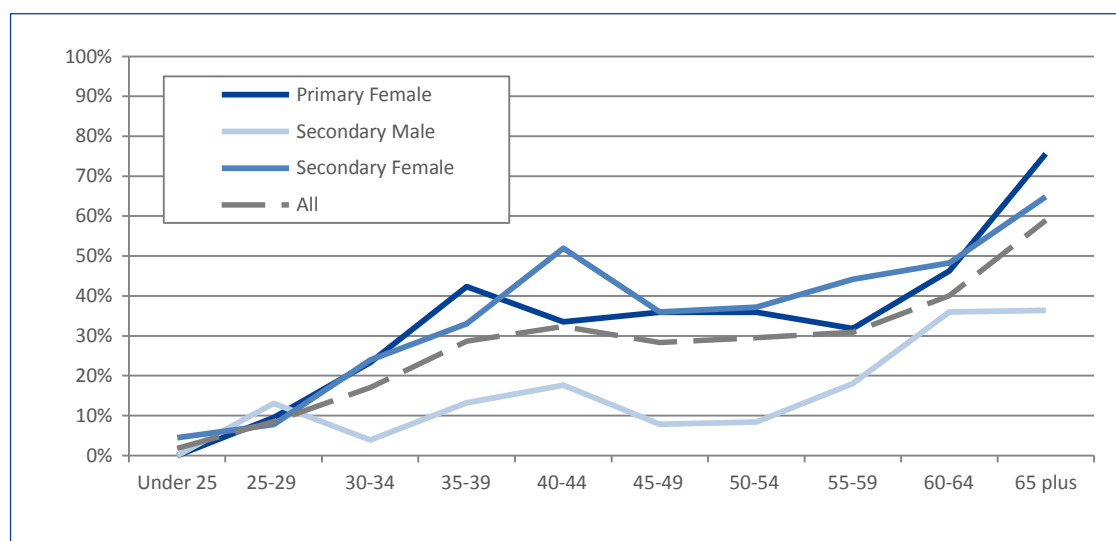
Figure 5.9: Proportion of teachers working part-time by age and school level, Victoria, SiAS 2013



Source: SiAS 2013 Teacher survey dataset (original analysis)

Disaggregating the data by age, gender and level shows that the extent of part-time work is greater among females. In total, about seven per cent of males and 28 per cent of females were working part-time at Primary level. The very small population of male Primary teachers, and the small proportion working part-time did not allow for further disaggregation, so male Primary teachers are not shown in Figure 5.10. About 15 per cent of males and 35 per cent of females were working part-time at Secondary level.

Figure 5.10: Proportion of teachers working part-time by age, gender and school level, Victoria, SiAS 2013

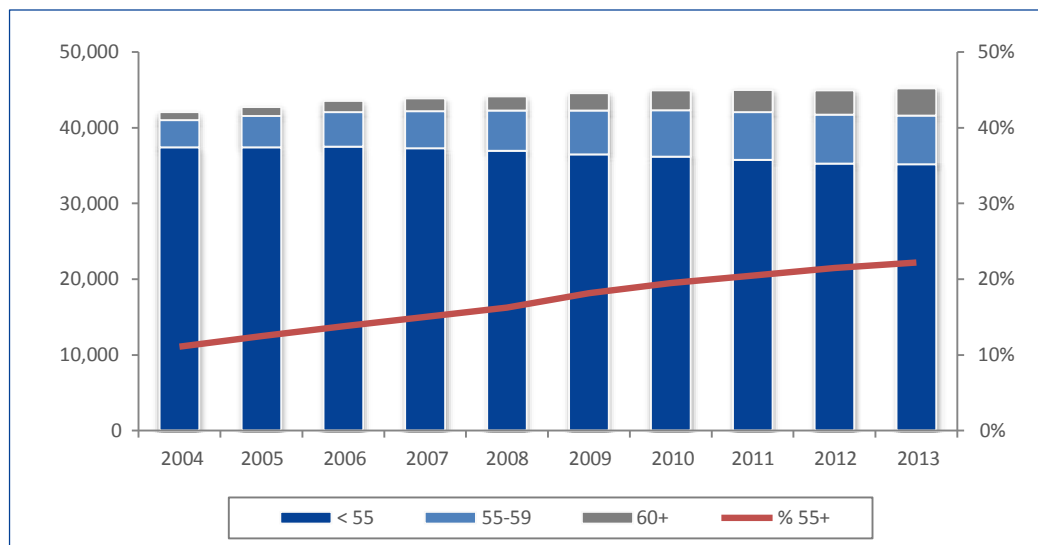


Source: SiAS 2013 Teacher survey dataset (original analysis).

Note: These data should be treated with caution as disaggregating sample data to this extent has resulted in high standard errors. Male Primary teachers are not shown as the sample was too small. Data are indicative only (table of figures not supplied).

Figure 5.11 shows that the proportion of teachers aged 55+ has increased in the last 10 years from just over 10 per cent in 2004 to over 20 per cent in 2014 (see section 4.3.3 for a further discussion on age). The steady increase in the proportion of teachers choosing to work post-55 may partly explain the increase in part-time teachers, given that about 30 per cent of 55–59 year olds, 40 per cent of 60–64 year olds and 50 per cent of those aged 65+ are working part-time.

Figure 5.11: Teachers in government schools by age, 2004–2013 (headcount and % aged 55 years or over)

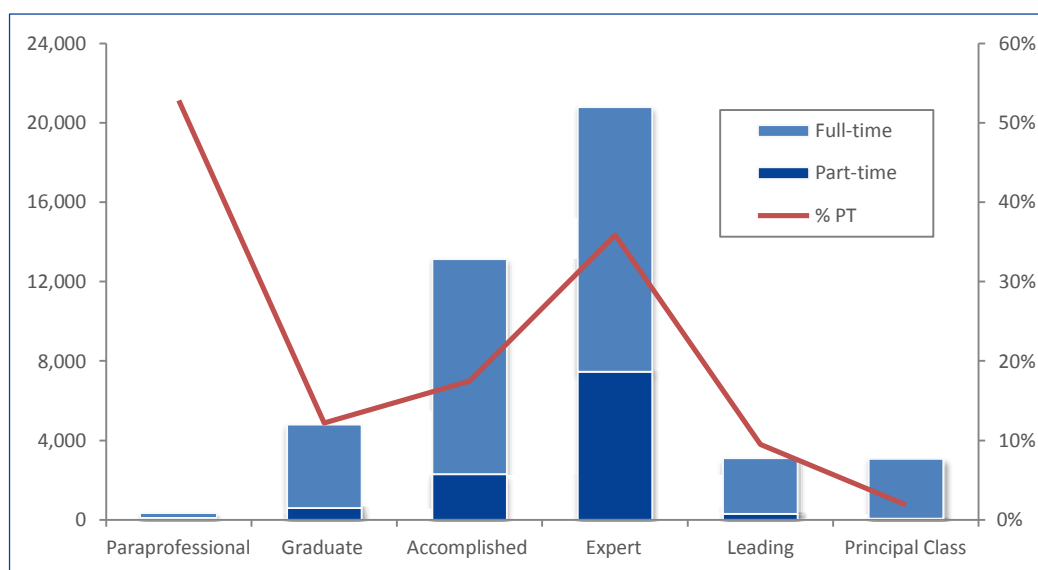


Source: DEECD, Performance and Evaluation Division Customised data set, 2014

Note: Government figures include the following classes of teacher: Graduate, Accomplished, Expert, Leading, Paraprofessional, Principal class.

Figure 5.12 (and Table 5.2) shows the numbers and proportion of government teaching staff by time fraction and employment grade. Proportions of graduate teachers (12 per cent) and leading teachers (9.5 per cent) working part-time are low, and fewer than two per cent of those in principal level positions are part-time.

Figure 5.12: Teachers in government schools by time fraction, 2013, (headcount and % part-time)



Source: DEECD, Performance and Evaluation Division Customised data set, 2014

Table 5.2: Teachers in government schools by time fraction, 2013

	Para-professional	Graduate	Accomplished	Expert	Leading	Principal Class	All
Part-time	141	586	2,296	7,460	295	58	10,836
Full-time	126	4,212	10,833	13,337	2,817	3,009	34,334
Total	267	4,798	13,129	20,797	3,112	3,067	45,170
% PT	52.8%	12.2%	17.5%	35.9%	9.5%	1.9%	24.0%

Source: DEECD, Performance and Evaluation Division Customised data set, 2014

5.5 The workforce on leave

Members of the teaching workforce are entitled to take leave for various purposes, both paid and unpaid. Figure 5.13 shows increases in carer's leave and sick leave from 2011 in government schools. Rates in carer's leave have been rising over time. The overall increases in leave from 2011 may be due to changes in the payroll system introduced in 2010.⁴⁷ The new system has a paperless employee self-service component for leave application and approval. The reported increase may be due to more reliable and systematic data capture. Increases in carer's leave are likely to be due to the removal in 2010 of the 10 day cap on carer's leave.

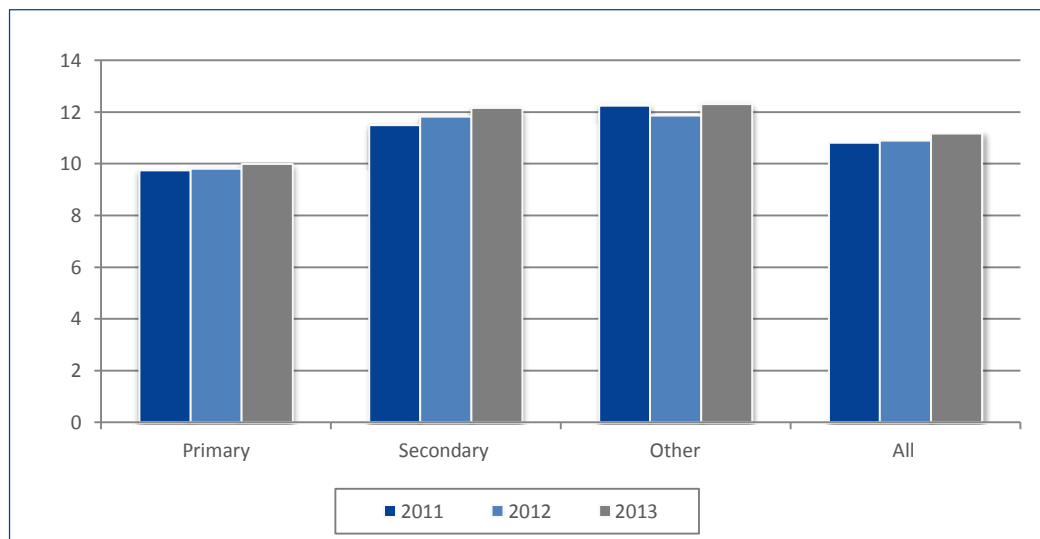
Figure 5.13: Average days of sick and carer's leave taken by teachers in government schools, 2004–2013



Source: DEECD, Performance and Evaluation Division Customised data set, 2014

Figure 5.14 shows that teachers in Primary schools take on average about ten days sick/carer's leave annually, while teachers in Secondary schools take about 12 days on average.

Figure 5.14: Average days of sick and carer's leave taken by teachers in government schools by level, 2004–2013

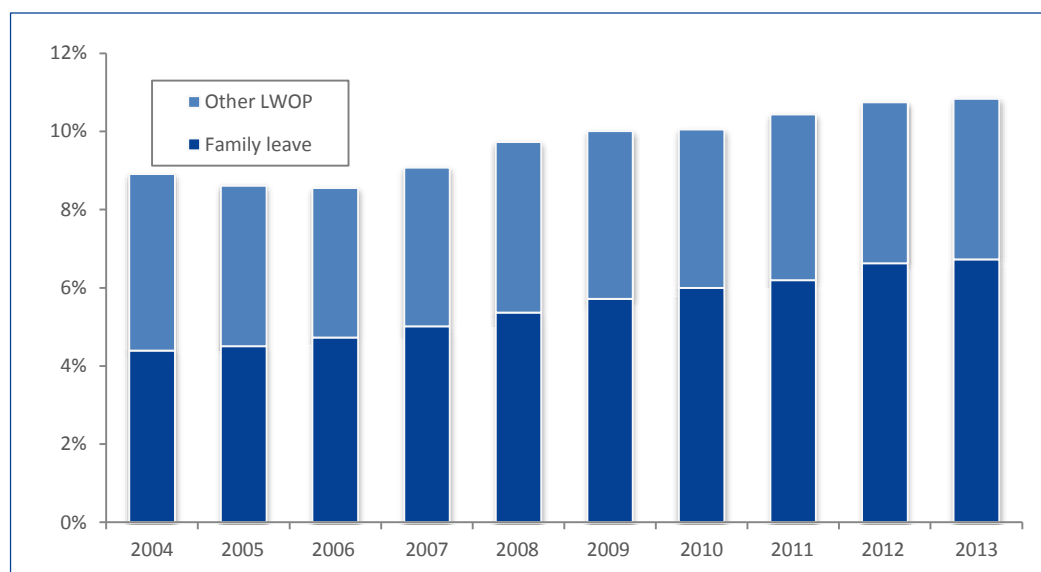


Source: DEECD, Performance and Evaluation Division Customised data set, 2014

Figure 5.15 shows that the equivalent of 10.5 per cent of the teaching workforce (FTE) is on unpaid leave. The rise in leave without pay over the last decade has primarily been in the proportion of teachers taking family leave, which has risen by about two percentage points since 2004.

⁴⁷ The 2010 data presented in Figure 5.13 are inconsistent with the data reported in the previous report. The data presented here is valid. The data reported previously may have been affected by the change in payroll system.

Figure 5.15: Proportion of teachers (FTE) in government schools on leave without pay, 2004–2013



Source: DEECD, Performance and Evaluation Division Customised data set, 2014

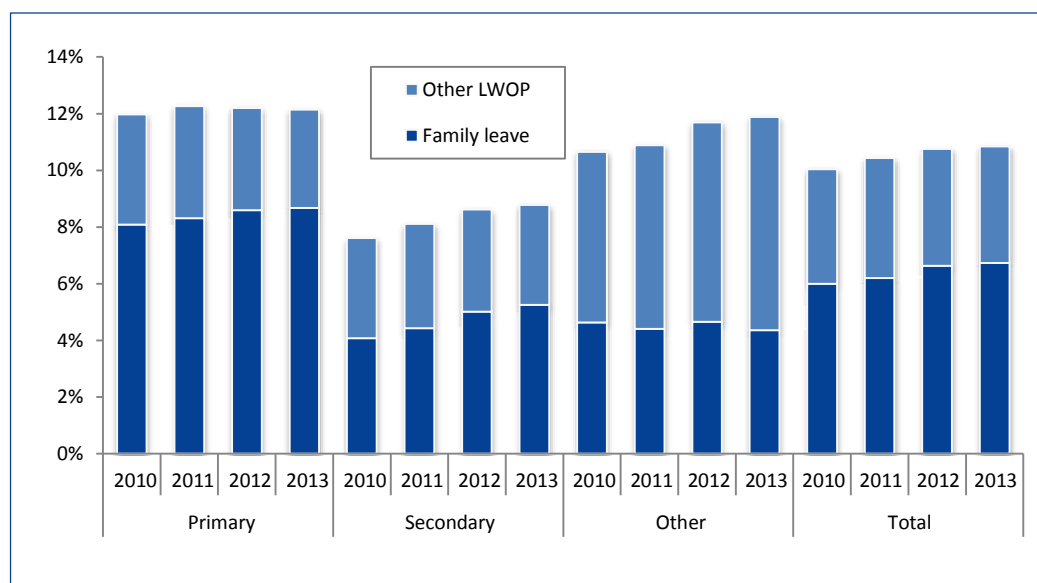
Table 5.3: Teachers in government schools on leave without pay, 2004–2013

	FTE as at last pay in June each year						
	Family leave		Other LWOP		Total LWOP		Total FTE
	Count	% of total FTE	Count	% of total FTE	Count	% of total FTE	
2004	1,715.1	4.4%	1,763.5	4.5%	3,478.6	8.9%	39,024.9
2005	1,786.5	4.5%	1,625.2	4.1%	3,411.7	8.6%	39,623.2
2006	1,905.1	4.7%	1,539.3	3.8%	3,444.4	8.6%	40,267.0
2007	2,031.6	5.0%	1,648.0	4.1%	3,679.6	9.1%	40,530.2
2008	2,176.9	5.4%	1,771.8	4.4%	3,948.7	9.7%	40,573.3
2009	2,330.9	5.7%	1,751.7	4.3%	4,082.6	10.0%	40,777.5
2010	2,459.4	6.0%	1,662.4	4.1%	4,121.8	10.0%	41,030.6
2011	2,541.3	6.2%	1,739.5	4.2%	4,280.8	10.4%	41,009.8
2012	2,711.6	6.6%	1,688.0	4.1%	4,399.6	10.7%	40,927.3
2013	2,761.8	6.7%	1,686.2	4.1%	4,447.9	10.8%	41,041.5

Source: DEECD, Performance and Evaluation Division Customised data set, 2014

There are notable differences between teachers in Primary and Secondary settings. Figure 5.16 shows that a higher proportion of Primary teachers are on family leave (over eight per cent) compared with Secondary teachers (about five per cent), although the proportion of Secondary teachers shows a greater rise in the last four years. Proportions of teachers on 'other leave without pay' are about the same for Primary and Secondary schools, but considerably higher for 'other' schools, which includes combined Primary/Secondary schools and Special schools. The cause of this difference is not clear.

Figure 5.16: Proportion of teachers (FTE) in government schools on leave without pay by school type, 2010–2013



Source: DEECD, Performance and Evaluation Division Customised data set, 2014

Table 5.4: Proportion of teachers (FTE) in government schools on leave without pay by school type, 2010–2013 (%)

		Family leave	Other LWOP	Total LWOP
Primary	2010	8.1	3.9	12.0
	2011	8.3	3.9	12.3
	2012	8.6	3.6	12.2
	2013	8.7	3.5	12.1
Secondary	2010	4.1	3.5	7.6
	2011	4.4	3.7	8.1
	2012	5.0	3.6	8.6
	2013	5.3	3.5	8.8
Other	2010	4.6	6.0	10.7
	2011	4.4	6.5	10.9
	2012	4.7	7.0	11.7
	2013	4.4	7.5	11.9
Total	2010	6.0	4.1	10.0
	2011	6.2	4.2	10.4
	2012	6.6	4.1	10.7
	2013	6.7	4.1	10.8

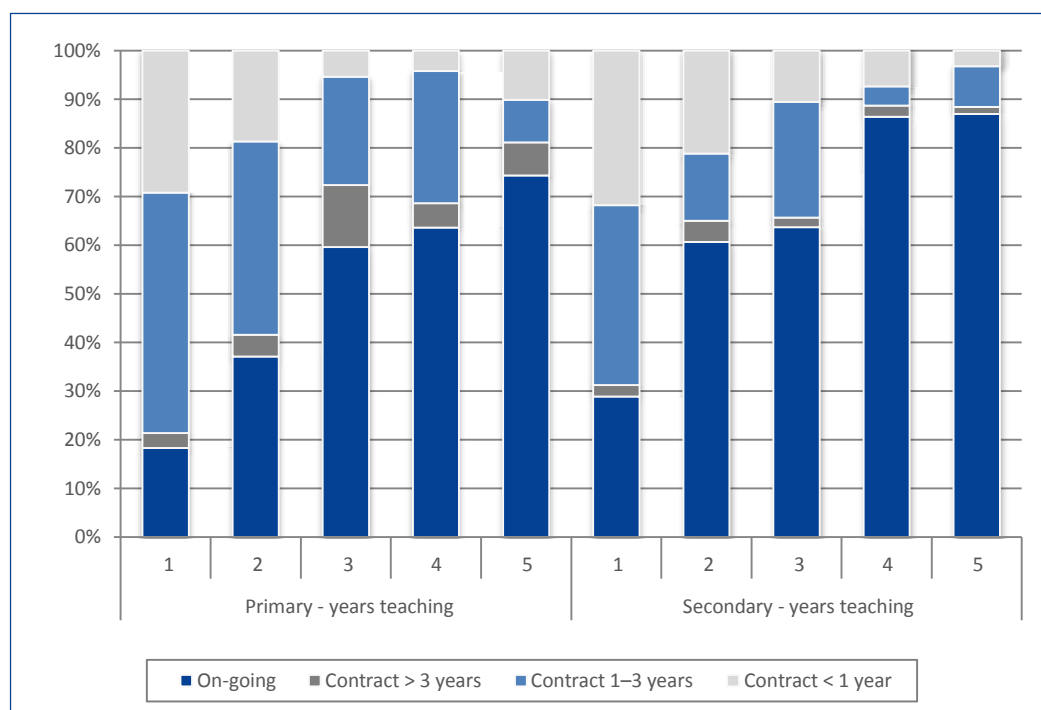
Source: DEECD, Performance and Evaluation Division Customised data set, 2014

5.6 Fixed-term employment

SiAS data provides an overview of fixed-term employment in Victoria and Australia. About 77 per cent of Primary teachers and 86 per cent of Secondary teachers in 2010 and 2013 are employed in ongoing positions in Australia. In Victoria the figures are comparable.⁴⁸ Further analysis of SiAS 2013 data for this report, presented in Figure 5.17, shows that the majority of teachers in their first year are in fixed-term positions. At Primary level, the majority of teachers are in ongoing positions by their third year (59 per cent) while at Secondary level, the majority are in ongoing positions by their second year (60 per cent).

⁴⁸ McKenzie et al, (2014), Table 5.1.

Figure 5.17: Proportion of teachers employed on ongoing or fixed-term contracts in first five years of teaching by level, Victoria, SiAS 2013



Source: SiAS 2013 Teacher survey dataset (original analysis)

Table 5.5 Proportion teachers employed on ongoing or fixed-term contracts in first five years of teaching by level, Victoria and Australia, SiAS 2013 (%)

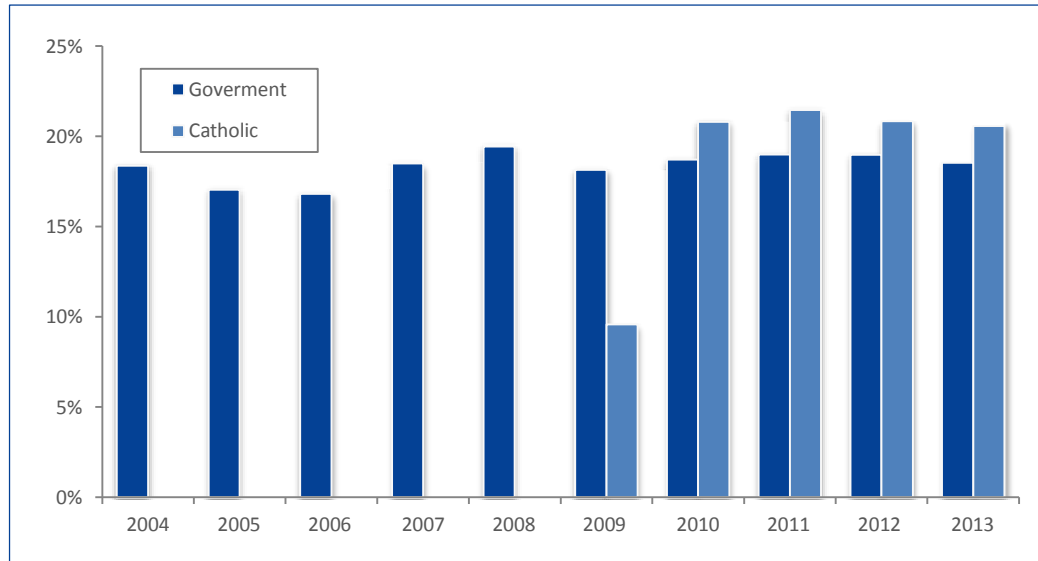
Type of position	Victoria Primary					Australia Primary				
	1 year	2 years	3 years	4 years	5 years	1 year	2 years	3 years	4 years	5 years
Casual/Relief	--	--	1.5	1.6	--	0.6	0.4	0.4	3.7	2.9
Fixed-term (< 1 year)	29.2	18.7	5.3	4.1	10.1	34.7	26.8	17.9	8.6	21.9
Fixed-term (1-3 years)	49.3	39.7	21.9	26.8	8.8	43.0	35.0	29.7	33.6	8.9
Fixed-term (> 3 years)	3.1	4.5	12.6	4.9	6.8	1.0	1.8	3.8	2.7	1.6
On-going	18.3	37.1	58.7	62.6	74.4	20.7	36.1	48.1	51.4	64.7
Total	100	100	100	100	100	100	100	100	100	100
	Victoria Secondary					Australia Secondary				
Casual/Relief	2.0	0.9	--	1.6	--	5.8	4.9	1.8	1.5	4.9
Fixed-term (< 1 year)	31.1	21.0	10.5	7.2	3.2	33.1	22.6	12.5	13.9	4.9
Fixed-term (1-3 years)	36.2	13.7	23.8	3.9	8.4	30.4	23.7	21.6	12.0	7.3
Fixed-term (> 3 years)	2.3	4.3	2.0	2.3	1.4	0.7	3.1	1.3	1.1	0.7
On-going	28.3	60.2	63.7	84.9	87.0	29.9	45.8	62.9	71.6	82.3
Total	100	100	100	100	100	100	100	100	100	100

Source: SiAS 2013 Teacher survey dataset (original analysis)

Note: SiAS 2013 collected data from teachers employed at schools for at least one day a week through the survey period. The list of teachers provided by schools is likely to have excluded agency employed, casual and relief teachers. SiAS is likely to underestimate the proportion of teachers in casual/agency employment.

The proportion of teaching staff in government schools employed fixed-term has varied by 2.6 percentage points over the last ten years, from a low of 16.8 per cent in 2006 to a high of 19.4 per cent in 2008 (Figure 5.18). For the last five years, the proportion of government school teaching staff employed fixed-term has been between 18–19 per cent. The proportion of Catholic school teaching staff employed fixed-term has been at about 21 per cent for the last four years, about two percentage points higher than government schools overall.

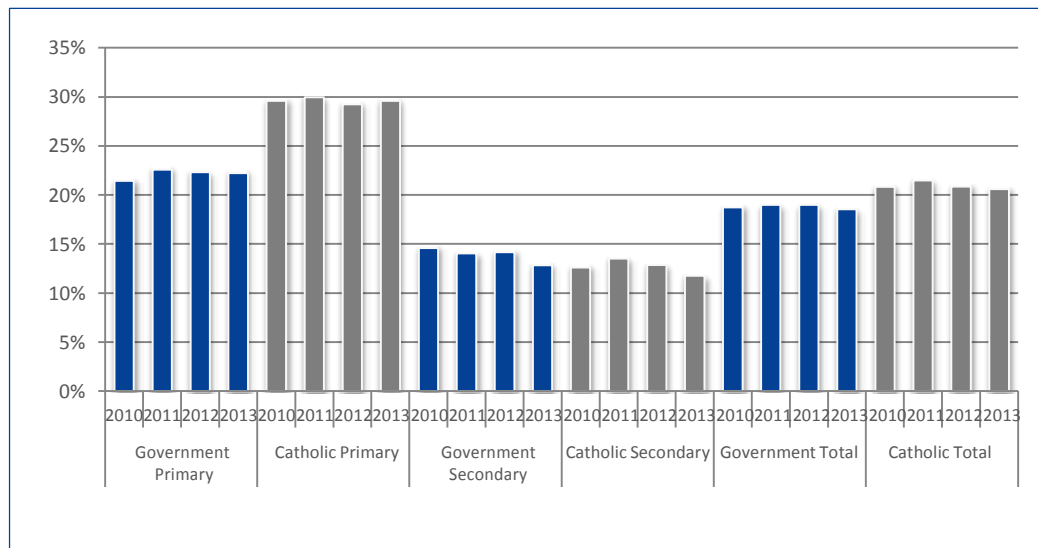
Figure 5.18: Proportion of FTE teachers on fixed-term contracts, 2004–2013



Source: DEECD, Performance and Evaluation Division Customised data set, 2014, CECV 2014

Figure 5.19 shows a breakdown of the proportion of fixed-term teaching staff in government and Catholic schools over the past four years by school level. It is clear that a higher proportion of Primary school teachers are employed fixed-term than their counterparts in Secondary schools. This is likely to be linked to the higher proportion of Primary teachers on family leave (see Figure 5.16). At Secondary level, about 12–14 per cent of teachers in government and Catholic schools are employed fixed-term. At Primary level about 22 per cent of teachers in government schools, and 30 per cent of teachers in Catholic schools are employed fixed-term.

Figure 5.19: Proportion of FTE teachers on fixed-term contracts by level and sector, 2010–2013



Source: DEECD, Performance and Evaluation Division Customised data set, 2014, CECV 2014

Note: Data for government schools do not include joint Primary/Secondary and Special schools. The total for government includes all government schools.

Table 5.6: Proportion of FTE teachers on fixed-term contracts by level and sector, 2010–2013 (%)

	Year			
	2010	2011	2012	2013
Government Primary	21.4	22.6	22.3	22.2
Catholic Primary	29.6	30.0	29.2	29.6
Government Secondary	14.6	14.0	14.2	12.8
Catholic Secondary	12.6	13.5	12.9	11.8
Government Total	18.7	19.0	19.0	18.5
Catholic Total	20.8	21.5	20.8	20.6

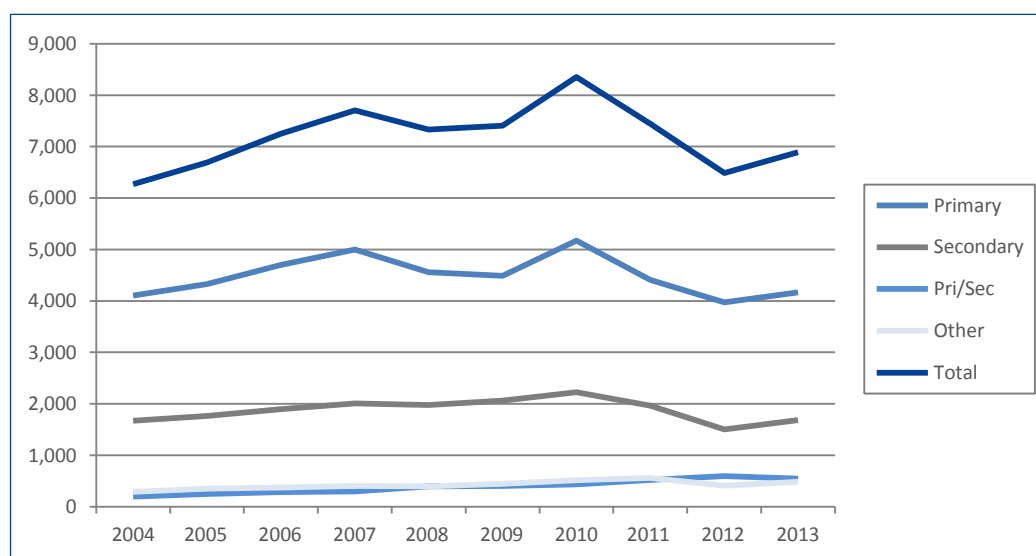
Source: DEECD, Performance and Evaluation Division Customised data set, 2014, CECV 2014

Note: Government Primary and Secondary figures do not include combined Primary/Secondary schools (for example P–12, P–9, etc.) and schools not listed as either Primary or Secondary (for example Special schools). The government total column does include all government schools.

5.7 Casual Relief Teachers (CRTs)

DEECD undertakes an annual census of Casual Relief Teachers (CRTs) in August⁴⁹. The census provides a yearly snapshot of the number of CRTs employed at that time. Figure 5.20 (and Table 5.7) shows the number of CRTs employed in government schools each August from 2004 to 2013. Primary schools have the highest proportion of CRTs, about 60 per cent of the total, compared to about 25 per cent at Secondary schools. This reflects the greater number of Primary schools and their operations. The majority of Primary teachers are responsible for one class and Primary schools tend to be smaller so are less able to cover leave with available staff.

Figure 5.20: Casual Relief Teachers employed in government schools, 2004–2013



Source: DEECD Casual Relief Teacher Recruitment Census, 2004–2013

⁴⁹ The reference period is August census week. For 2013, census week was from 29 July to 2 August (census day).

Table 5.7: Number of Casual Relief Teachers employed in government schools, 2004–2013

	Primary	Secondary	Pri/Sec	Other	Total
2004	4,104	1,674	198	290	6,266
2005	4,328	1,766	245	355	6,694
2006	4,701	1,896	283	373	7,253
2007	4,998	2,009	298	401	7,706
2008	4,559	1,979	398	397	7,333
2009	4,491	2,066	401	449	7,407
2010	5,171	2,228	436	515	8,350
2011	4,407	1,962	520	556	7,445
2012	3,972	1,505	595	412	6,484
2013	4,169	1,687	549	485	6,890

Source: DEECD Casual Relief Teacher Recruitment Census 2004–2013

Table 5.8 shows that about one-quarter of CRTs are unemployed and looking for work, one-fifth are those who have resigned or prefer casual work, and about 18 per cent are retired teachers.

Table 5.8: Background of Casual Relief Teachers employed in government schools, 2004–2013 (%)

	Retired Teacher	Teacher who resigned from permanent teaching/ Prefers CRT work	Leave (Family/LWOP)	Unemployed/ seeking employment/ etc.	Other
2004	18.4	26.9	9.2	27.6	17.9
2005	19.8	26.0	8.6	27.8	17.8
2006	21.8	26.3	9.9	24.8	17.2
2007	21.2	27.7	8.6	26.1	16.5
2008	21.4	24.8	9.5	25.0	19.2
2009	22.1	25.2	8.5	27.8	16.5
2010	20.3	24.3	8.9	26.6	20.0
2011	21.8	24.0	9.9	20.6	23.6
2012	18.8	22.9	9.9	23.5	24.9
2013	18.3	20.1	9.7	25.1	26.8

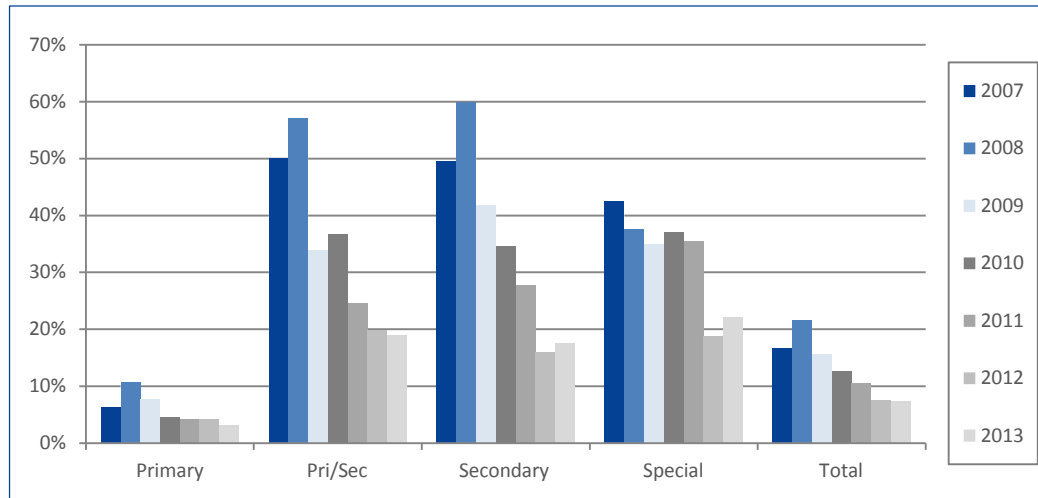
Source: DEECD Casual Relief Teacher Recruitment Census 2004–2013

5.8 Difficult-to-fill vacancies

Difficult-to-fill vacancies are recorded for government schools through an annual census collection. Overall, the number of schools reporting difficult-to-fill vacancies, as a proportion of all schools, has been falling since data were first published in 2000. At that time, schools reporting difficult-to-fill vacancies were 30 per cent of all schools. This had nearly halved (16 per cent) by 2004. A rise was recorded from 2006, peaking at 21.6 per cent of all schools in 2008. Since then there has been a steady fall to the lowest recorded levels in 2013 (7.3 per cent of schools overall).

Secondary and Special schools have the greatest difficulty in filling vacancies, at rates often four or five times higher than Primary schools, although this difference is largely a function of the greater number of Primary schools in comparison with Secondary and Special schools. The proportion of Primary schools reporting difficult-to-fill vacancies has now dropped to 3.2 per cent. Secondary schools reporting difficult-to-fill vacancies peaked at 60 per cent in 2008 and have dropped markedly in recent times, falling to a low of 16 per cent in 2012, as shown in Figure 5.21 (and Table 5.9). The highest proportion of difficult-to-fill vacancies are reported by Special schools (22.1 per cent).

Figure 5.21: Difficult-to-fill vacancies as proportion of all vacancies in government schools by school type, 2007–2013



Source: DEECD, Teacher Recruitment Difficulty Census, 2004–2013

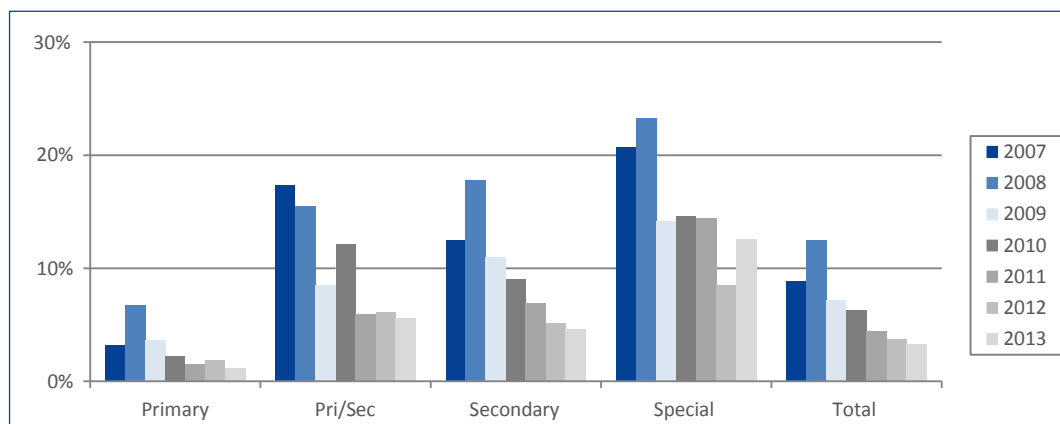
Table 5.9: Proportion of government schools reporting difficult-to-fill vacancies by school type, 2004–2013 (%)

	Primary	Pri/Sec	Secondary	Special	All
2004	8.2	35.4	44.4	25.6	15.9
2005	6.6	42.9	44.2	28.0	15.1
2006	6.8	38.5	45.7	36.3	15.8
2007	6.3	50.0	49.6	42.5	16.7
2008	10.6	57.1	59.9	37.5	21.6
2009	7.7	33.8	41.7	35.0	15.7
2010	4.6	36.6	34.5	37.0	12.6
2011	4.2	24.6	27.7	35.4	10.5
2012	4.2	19.7	16.0	18.8	7.6
2013	3.2	18.9	17.6	22.1	7.3

Source: DEECD, Teacher Recruitment Difficulty Census, 2004–2013

Difficult-to-fill vacancies are also reported as a proportion of total vacancies. These figures have also fallen considerably in recent times and are now below two per cent of all vacancies in Primary schools and below five per cent in Secondary schools.

Figure 5.22: Proportion of difficult-to-fill vacancies in government schools by school type, 2007–2013



Source: DEECD, Teacher Recruitment Difficulty Census, 2004–2013

Table 5.10: Proportion of difficult-to-fill vacancies in government schools by school type, 2004–2013 (%)

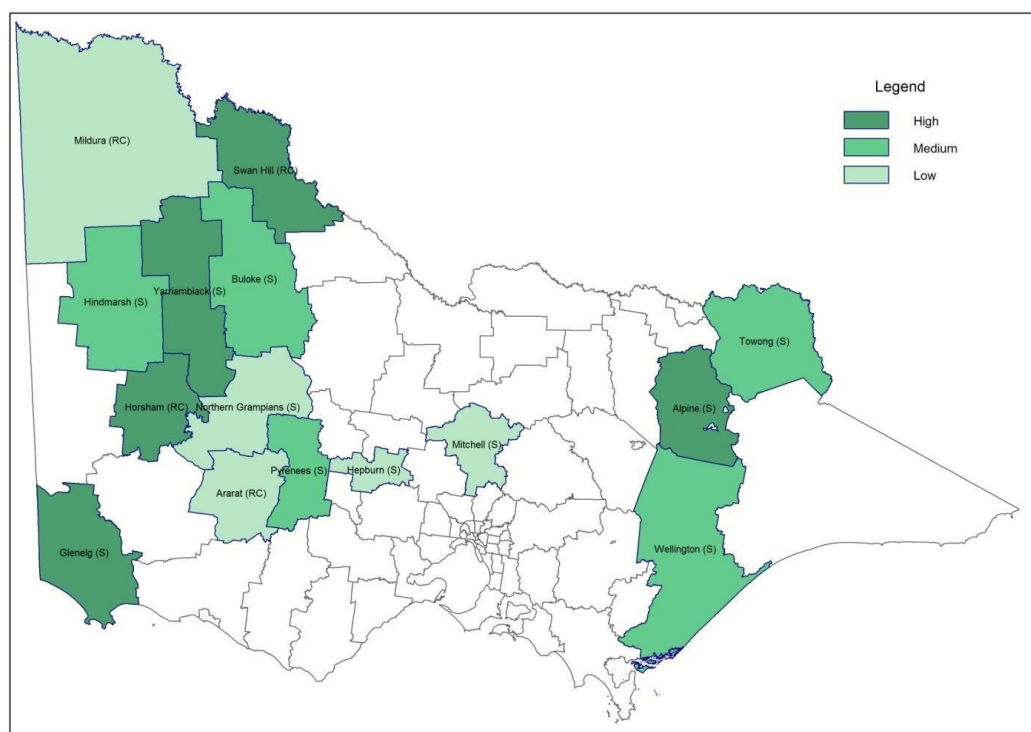
	Primary	Pri/Sec	Secondary	Special	Total
2004	3.7	12.6	13.4	14.5	8.5
2005	3.2	18.1	12.4	13.0	8.3
2006	4.1	12.8	12.6	19.5	8.9
2007	3.2	17.3	12.4	20.7	8.8
2008	6.7	15.5	17.8	23.3	12.5
2009	3.6	8.5	11.0	14.2	7.2
2010	2.2	12.1	9.0	14.6	6.3
2011	1.5	5.9	6.9	14.4	4.4
2012	1.9	6.1	5.1	8.5	3.7
2013	1.1	5.6	4.6	12.6	3.3

Source: DEECD, Teacher Recruitment Difficulty Census, 2004–2013

Difficult-to-fill vacancies by location

Figure 5.23 provides a map of Local Government Areas (LGAs) showing areas facing the most difficulty filling vacancies⁵⁰, averaged over three years (2011–2013, see Table 5.11). Nine of the LGAs represented in the previous report continue to have difficulties, although only two (Horsham and Glenelg) remain at the high level. East Gippsland, Moira and West Wimmera are not included this time, while Mildura and Ararat are at a lower level than previously. Horsham and Yarriambiack have the highest proportions of difficult-to-fill vacancies, averaging vacancies totalling about five per cent of the current teacher population in each region. All others have difficult-to-fill vacancies below three per cent of their teacher population.

Figure 5.23: Local Government Areas with difficult-to-fill vacancies, 2011–2013



Source: DEECD, Teacher Recruitment Difficulty Census, 2011–2013

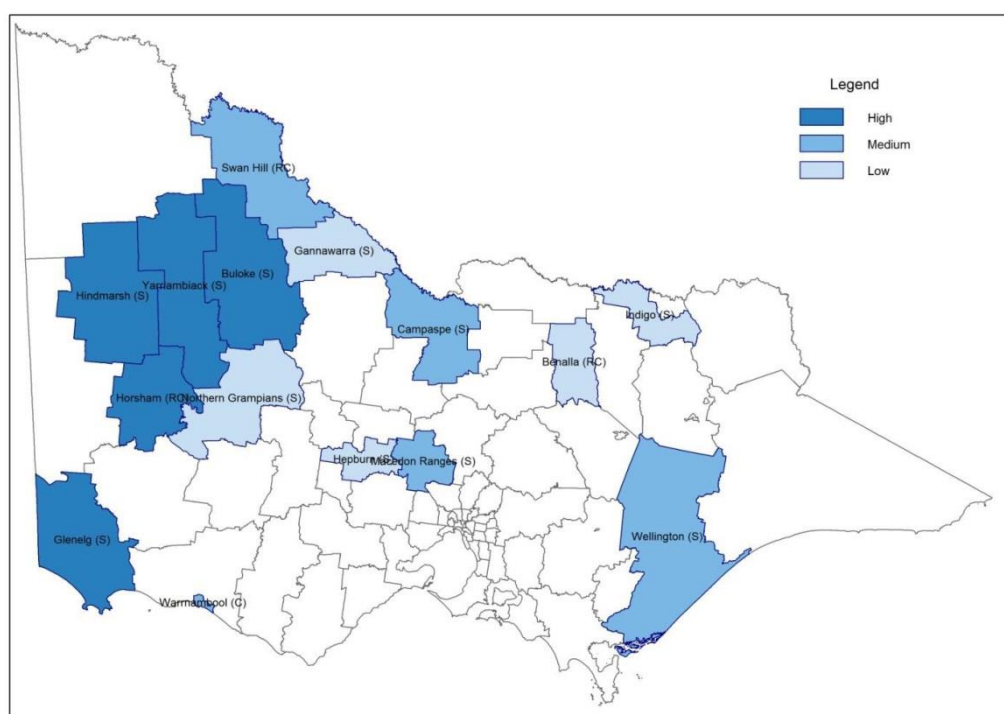
⁵⁰ The definition used for the Teacher Recruitment Difficulty Census is ‘No suitable, qualified applicant was identified through Recruitment Online, the Teacher Graduate Recruitment Program, the Teacher Scholarship Scheme or the Career Change Program.’ The figures relate to all schools.

Table 5.11: Local Government Areas with difficult-to-fill vacancies, 2011–2013

Category	LGA No	Local Government Area	Combined FTE DFVs 2011–2013	Combined FTE teacher population 2011–2013	% DFVs to current FTE population
High	319	Horsham (RC)	21.22	418.24	5.07
	763	Yarriambiack (S)	13.6	296.25	4.59
	661	Swan Hill (RC)	12.4	517.03	2.4
	241	Glenelg (S)	13.2	560.5	2.36
	11	Alpine (S)	10.6	453.86	2.34
Medium	127	Buloke (S)	7.6	342.85	2.22
	667	Towong (S)	5.4	252.49	2.14
	599	Pyrenees (S)	3	148.84	2.02
	681	Wellington (S)	19.6	1,037.73	1.89
	298	Hindmarsh (S)	4.8	265.1	1.81
Low	26	Ararat (RC)	5.3	296.41	1.79
	485	Mitchell (S)	16	956.52	1.67
	291	Hepburn (S)	4.4	279.86	1.57
	478	Mildura (RC)	24.2	1,641.51	1.47
	581	Northern Grampians (S)	4.6	335.4	1.37

Source: DEECD, Teacher Recruitment Difficulty Census, 2011–2013

Figure 5.24: LGAs with difficult-to-fill vacancies for the Mathematics learning area, 2011–2013



Source: DEECD, Teacher Recruitment Difficulty Census, 2011–2013

Table 5.12: LGAs with difficult-to-fill vacancies for the Mathematics learning area, 2011–2013

Category	LGA No	Local Government Area	Combined FTE DFVs 2011–2013	Combined FTE teacher population 2011–2013	% DFVs to current FTE population
High	763	Yarriambiack (S)	5	296.25	1.69
	241	Glenelg (S)	7.6	560.5	1.36
	319	Horsham (RC)	4.2	418.24	1
	127	Buloke (S)	3	342.85	0.88
	298	Hindmarsh (S)	2	265.1	0.75
Medium	661	Swan Hill (RC)	3	517.03	0.58
	413	Macedon Ranges (S)	4.8	864.78	0.56
	681	Wellington (S)	4.8	1,037.73	0.46
	137	Campaspe (S)	5	1,078.78	0.46
	673	Warrnambool (C)	2.8	742.44	0.38
Low	291	Hepburn (S)	1	279.86	0.36
	101	Benalla (RC)	1	290.4	0.34
	225	Gannawarra (S)	1	323.28	0.31
	335	Indigo (S)	1	330.38	0.3
	581	Northern Grampians (S)	1	335.4	0.3

Source: DEECD, Teacher Recruitment Difficulty Census, 2011–2013

6. Demand for teachers

Main points:

- Population growth is driving enrolments in kindergartens. The forecast is for an annual average increase of 3.3 per cent in kindergarten enrolments to 2020.
- Population growth has affected primary school enrolments. The forecast is for an increase of 2.7 per cent per year to 2020.
- Secondary school enrolments have been affected by the raising of the minimum age for leaving school. The forecast is for a 1.2 per cent increase per year to 2020.
- Special school enrolments are forecast to increase 49.7 per cent by 2020.
- Language school enrolments are forecast to fall then rise slowly to 2020.
- Participation rates are forecast to increase to 87.4 per cent by 2020.
- The shift in enrolments away from the government school sector, particularly at the Secondary level, is forecast to continue. The rate of decline in the share of students in the government sector is forecast to slow but is still expected to decline to 61.7 per cent in 2020.
- Teacher numbers in Early Childhood are forecast to increase by 40.3 per cent by 2020. The forecasts may be affected by the introduction in 2016 of the child-to-educator ratio of 11:1 in all kindergarten services.
- Demand for primary school teachers will increase.
- Teacher numbers in Secondary schools are forecast to increase to 2020. Most of the growth in demand is forecast to be in the non-government sector. Demand for teachers in Secondary schools will increase in response to population growth after 2020.
- Demand for teachers in Special school is forecast to increase by 33.8 per cent to 2020.
- More than half of all job openings for new entrants to teaching will be a result of net replacement needs.

6.1 Introduction

The purpose of modelling the future supply and demand for teachers is to assess the potential for future shortages or over-supply. Such information is critical in developing appropriate policies for teacher training, for the management of the teaching workforce and skilled migration. Teacher shortages can adversely affect Victoria's ability to maintain a high quality educational system. An efficient and effective education and training system with an adequate number of high quality teachers is critical for a modern, globalised economy.

The labour market for teachers in Victoria has three interrelated elements:

- The demand for teachers—the number of teachers needed to deliver the educational curriculum to the school age population across the state.
- The supply of teachers—the number of appropriately trained teachers able and willing to teach in the current system.
- The teacher labour market—mechanism through which the supply and demand interact, which can include factors such as relative wages, government policies, the role of unions and school autonomy.

The labour market for teachers in Victoria is dominated by two large employers—the Victorian Government and the Catholic Education Office Victoria—which set wages and conditions centrally.⁵¹ Wages thus change slowly in response to changes in the supply and demand. Generally the government sector is the trend setter with respect to wages and conditions. In the independent sector there is lot more flexibility in the wages and conditions for teachers.

Most jurisdictions tend to model the supply and demand for teachers separately at aggregate levels and use estimates from these models to assess future imbalances. A balance between the supply and demand however does not mean that imbalances do not exist in particular, regions, sectors or learning areas. The imbalances are unlikely to be completely eliminated even if wages are allowed to adjust quickly because of the lags in training and the difficulty in moving people from areas of surplus to areas of shortage. Teachers face the same barriers to geographical mobility as people in other occupations. Some of these barriers include family ties, differences in housing markets and access to services and amenities.

Chapter 4 provided projections of the supply of new teachers from training institutions. To assess whether there will be an under- or over-supply of teachers in Victoria, we need to know how many job openings for new entrants into teaching are

⁵¹ From 2014, principals in Victorian government schools have been able to offer higher salaries than normal to attract particular types of teachers to their schools.

likely to be available in the future. Job openings for new entrants result from growth in teacher employment (e.g. as a result of increasing enrolment of students) and from needing to replace teachers who permanently leave the occupation.

This chapter provides forecasts⁵² of job openings for new entrants into teaching at the kindergarten, Primary and Secondary levels in Victoria from 2014 to 2020. Forecasts of job openings for teachers in Special schools⁵³ and language schools are provided separately. The forecasts are not disaggregated by Year, subject level or region as this would involve developing more complex models of supply and demand. Furthermore, data to estimate such a complex models are currently unavailable.

As a first step in this chapter, we forecast student enrolments, which are one of the main determinants of teacher demand. Next we forecast the demand for teachers which in turn allows us to forecast growth in teacher employment. We then estimate net replacement needs in teaching based on the changing age and gender structure of the teacher occupation. Finally, the growth in demand and net replacement estimates are combined to obtain forecasts of job openings for new entrants.

6.2 State-level forecasts of student enrolments

The future size of the school-age population in Victoria depends on birth and mortality rates and net migration, both interstate and international. Birth rates depend on the long-term fertility rates of women which are associated with social and technological changes as well as laws and attitudes surrounding the role of women in society. Child mortality rates in Victoria are generally low and are only a small factor in the changes in the size of the school-age population. Interstate migration depends on, among other factors, economic development in Victoria relative to other states and territories. International migration to Australia is a federal policy issue and Victoria has only an indirect influence on the size of the program or where migrants settle when they arrive in Australia.

This report uses the latest ABS population projections for Victoria, Series B, by age.⁵⁴ Series B projections assume mid-range rates for fertility and deaths, and medium levels of net overseas and interstate migration.

Kindergarten year

Some of the more important factors that determine the number of children in kindergarten are:

- the number of children of kindergarten age in the population
- government policies
- the level of funding to implement the policies
- the supply of kindergarten places
- the rate of participation in the labour force for women aged 20 to 49 years.

In recent years, Early Childhood education has been recognised as critical in a young child's cognitive and social development. Studies have shown that investment in Early Childhood education not only benefits the child but also has wider economic benefits to society in the long run. For these reasons governments have been putting in place policies to ensure universal access to good quality Early Childhood education for all children irrespective of their socioeconomic background.

In Victoria, children generally attend kindergarten between the ages of three and six years but most are either four or five years old. In 2013, 68.7 per cent of all children in government-funded⁵⁵ kindergarten were four years old and 30.9 per cent were five years old. In the same year, the participation rate in kindergarten of four year olds was 69.5 per cent and that of five year olds 31.2 per cent. Trend data indicate increasing participation in the kindergarten year. For example, the participation rate for four year olds increased by 5.2 percentage points from 2006 to 2013.

To forecast the number of children in kindergarten, we first modelled their participation rates by age.⁵⁶ The models were estimated using data on kindergarten enrolments from 2006 to 2013.⁵⁷ The estimates from these models were then used to forecast participation rates from 2014 to 2020.⁵⁸ The ABS projections of population of children aged three to six years and

⁵² Projections indicate the future size of the population if the assumed patterns of change were to occur. They are not a prediction that the population will change in this manner. On the other hand, forecasts speculate the future population size with a certain level of confidence, based on current and past values as an expectation (prediction) of what will happen. While both involve analysis of data, the key difference between a forecast and a projection is the nature of the assertion in relation to the assumptions occurring. In making a forecast, the assumptions represent expectations of actual future events. The terms 'projections' and 'forecasts' are used interchangeably in this report.

⁵³ Two mainstream government schools have annexes for special needs students.

⁵⁴ Australian Bureau of Statistics (ABS) 2013, *Population Projections, Australia, 2012 (base) to 2101*, Cat. No. 3222.0, Canberra.

⁵⁵ Almost all children in Victoria attend a government-funded kindergarten program. Enrolment data are only available for children who attend government-funded programs.

⁵⁶ A logistic regression framework was used for this purpose. The framework ensures that the participation rate is always constrained between 0 and 1. The model included the participation rate in the labour force of women aged 20 to 49 years as an explanatory variable. Increasing participation in the labour force by women is considered to be associated with an increase demand for early childhood education.

⁵⁷ For a small number of children enrolled from 2011 to 2013, the age information was missing. Similarly no information by age was available for children enrolled from 2006 to 2010. We used backcasting (rolling three-year moving average) to impute the missing values.

⁵⁸ The forecasts of the labour force participation rate of women aged 20 to 29 years were obtained using a logistic regression model.

forecasts of participation rates were combined to produce forecasts of enrolments. Similar models were constructed to forecast the numbers of kindergarten children with a disability and children who repeat the kindergarten year.

Table 6.1 shows the observed enrolments (2006 to 2013) and within-sample (2006 to 2013) and out-of-sample (2014 to 2020) forecasts of enrolments in kindergarten. The table also includes the ABS projections of the number of children aged three to six in the Victorian population.

Table 6.1: Population of children aged three to six years and enrolments in government-funded kindergarten program, Victoria, 2006–2013 (observed) 2014–2020 (projections of population and forecasts of enrolments)

Year	Population				Enrolments			
	Age 3	Age 4	Age 5	Age 6	Without disability	With disability ¹	Total	2 nd year repeat
2006	61,828	61,930	62,573	63,265	52,445		58,396	1,879
2007	63,106	62,508	62,525	63,141	56,026		59,453	1,991
2008	64,141	64,041	63,302	63,222	57,274		60,968	2,139
2009	67,481	65,127	65,034	64,023	58,227		62,365	2,294
2010	69,203	68,438	65,977	65,656	62,512		66,651	2,505
2011	70,337	69,556	69,445	66,860	67,096	2,884	69,980	2,702
2012	71,279	71,238	70,300	70,108	69,143	2,783	71,926	2,893
2013	73,216	72,116	72,112	71,068	69,958	2,983	72,941	2,993
2014	72,541	74,094	73,041	72,849	73,363	3,034	75,893	3,301
2015	77,127	73,511	75,008	73,859	74,619	3,064	76,921	3,465
2016	78,289	78,091	74,440	75,826	78,650	3,207	80,795	3,767
2017	79,438	79,249	79,003	75,261	81,943	3,321	83,950	4,050
2018	80,595	80,384	80,145	79,798	84,127	3,390	85,973	4,289
2019	81,721	81,529	81,267	80,925	86,298	3,458	87,995	4,538
2020	82,769	82,647	82,405	82,039	88,446	3,525	90,009	4,796
Change 2006–2013	11,388	10,186	9,539	7,803	17,513	-	14,545	1,269
Change 2013–2020	9,553	10,531	10,293	10,971	18,488	542	17,068	1,803
Change 2006–2013 (%)	18.4	16.4	15.2	12.3	33.4	-	24.9	73.6
Change 2013–2020 (%)	13.0	14.6	14.3	15.4	26.4	18.2	23.4	60.2
Average annual change 2006–2013 (%)	2.6	2.3	2.2	1.8	4.8	-	3.6	10.5
Average annual change 2013–2020 (%)	1.9	2.1	2.0	2.2	3.8	2.6	3.3	8.6

Source: DEECD, ABS, 2013 and CEET model

1. Reliable data for children with a disability in kindergarten became available from 2011.

The population of children aged three to six years in Victoria increased by 15.6 per cent from 2006 to 2013, but kindergarten enrolments increased by 24.9 per cent over the same period. A closer examination of the projections shows the number of children aged three years falling in 2014. This is because births in Victoria dropped by 1.55 per cent in 2010–2011. As a result of this the population of four and five year olds is projected to decline in 2015 and 2016, respectively. The overall impact on kindergarten enrolments will be a lower than average growth in 2015. The increase in 2015 will be 1.4 per cent compared to an average annual increase of 3.1 per cent from 2013 to 2020.

In absolute terms, there were 38,916 more children aged three to six years in 2013 than in 2006, but over the next seven years to 2020 41,348 more are projected to be in the population. Enrolments in kindergarten are forecast to increase by 17,068 in the seven years to 2020.

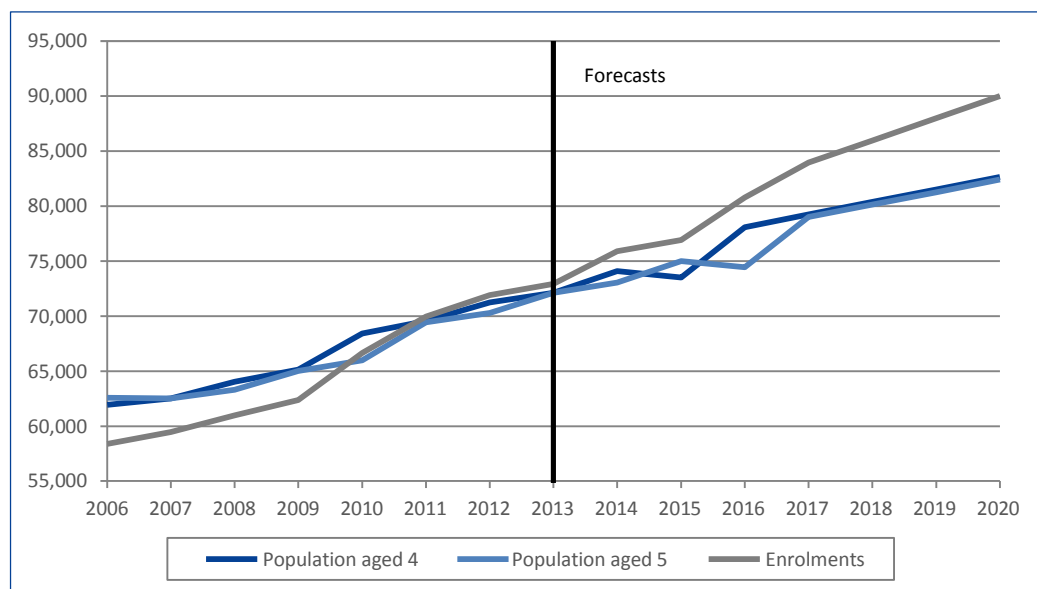
Figure 6.1 shows that kindergarten enrolments increased at about the same rate as the population of children aged four or five until about 2009, but since then enrolments have been increasing at a faster rate.

The number of children with a disability in kindergarten is forecast to be 3,525 in 2020, which is an increase of 18.2 per cent from 2013. On average, children with a disability make up about four per cent of all enrolments.

Over the last seven years, the number of children repeating the kindergarten has increased from three per cent of the total in 2006 to 4.1 per cent in 2013. Children repeat the kindergarten year, the year before starting school, because of learning or

developmental delays. The number repeating is forecast to continue increasing, albeit at a slower rate. Children repeating the kindergarten year is forecast to be 5.3 per cent of the total in 2020.

Figure 6.1: Kindergarten enrolments and numbers of children aged four and five years in the population, Victoria, 2006–2013 (observed) and 2014–2020 (projections and forecasts)



Source: DEECD, ABS, 2013 and CEET model

Years P to 6

Time series methods are used to model enrolments in each Year from P to 6.⁵⁹ These methods account for the contemporaneous and temporal relationships between the different variables in the model.⁶⁰ All models were estimated with data on enrolments from 1981 to 2013. The estimated models were used to forecast enrolments from 2014 to 2020.

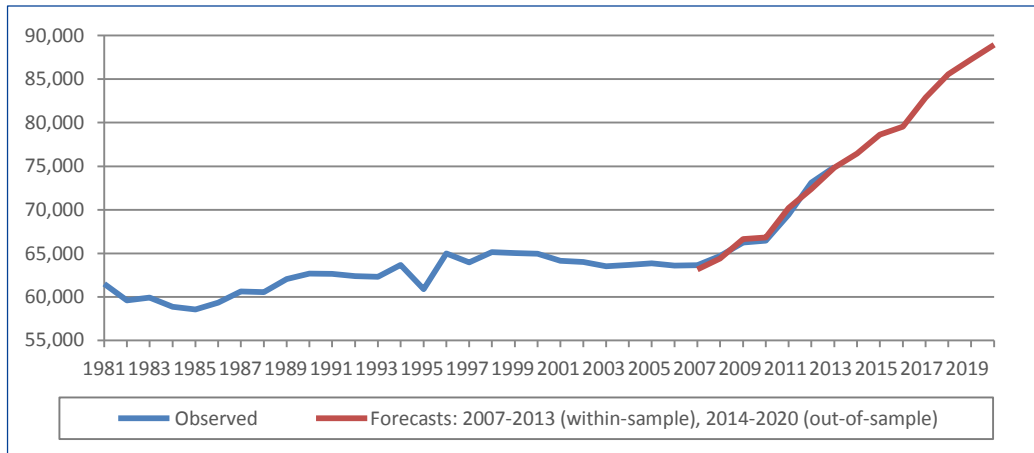
Figure 6.2 to Figure 6.8 show the observed enrolments (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of enrolments in Years P to 6, respectively.⁶¹ The figures provide an indication of how well the data fit the models.

⁵⁹ The numbers are in terms of FTE. The difference between actual headcount and FTE is expected to be negligible, especially in Primary and lower Secondary Years. A small number of students at the Primary and Secondary levels are ungraded. Data on these two categories of students have a high level of volatility from one year to another. For this reason, a simple exponential smoothing model is fit to the data for these two categories of students. The model forecasts 45 ungraded Primary students and 260 ungraded Secondary students each year to 2020. The students are included in the totals for Primary and Secondary schools.

⁶⁰ An autoregressive model, ARX (1), with lag one provided the best fit for the data at each Year level. It included the lagged value of enrolments in the Year below and net migration of young children to Victoria as two independent variables. Net migration is the sum of the net overseas and net interstate migration. The models for Years P to 4 included net migration of children aged 5–9 years and the models for Years 5 and 6 included net migration of children aged 10–14 years. The models were estimated sequentially beginning with Prep year.

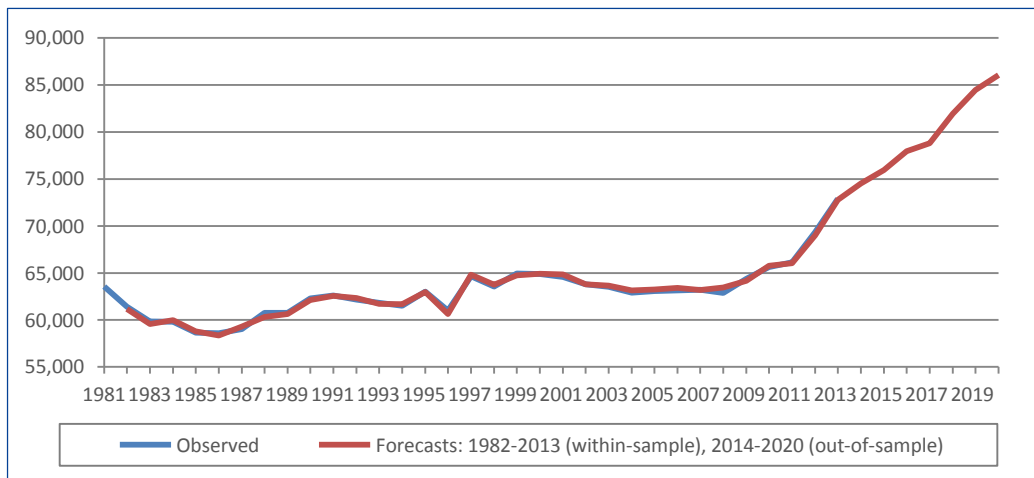
⁶¹ For Prep year, the within-sample forecasts are from 2007 to 2013 because lagged kindergarten enrolments enter the model as an explanatory variable and kinder and data for it are available only from 2007.

Figure 6.2: Enrolments in Prep grade, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)



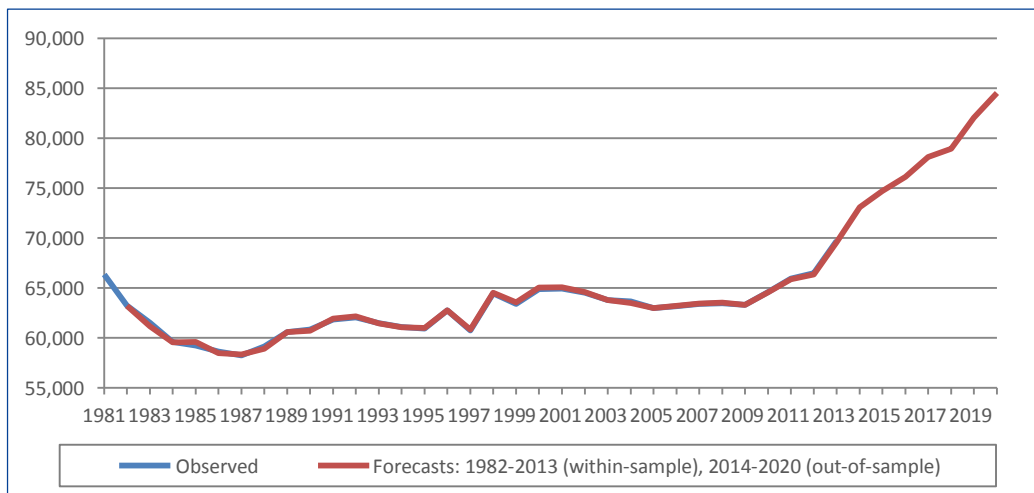
Source: DEECD, and CEET model

Figure 6.3: Enrolments in Year 1, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



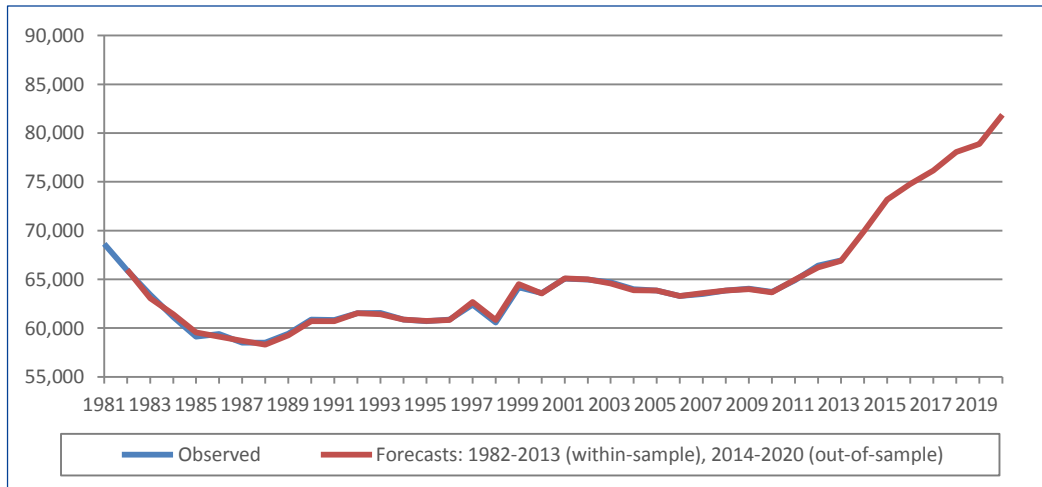
Source: DEECD, and CEET model

Figure 6.4: Enrolments in Year 2, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



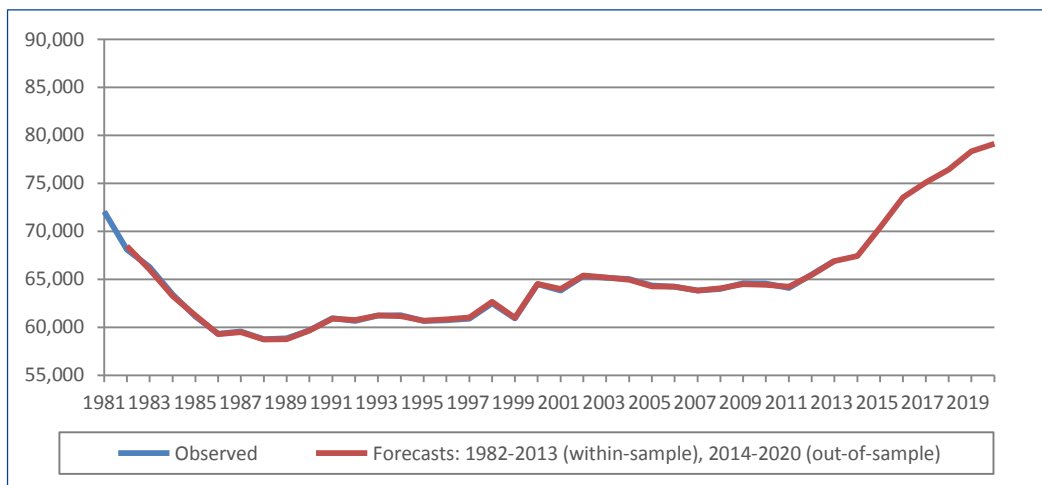
Source: DEECD, and CEET model

Figure 6.5 Enrolments in Year 3, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



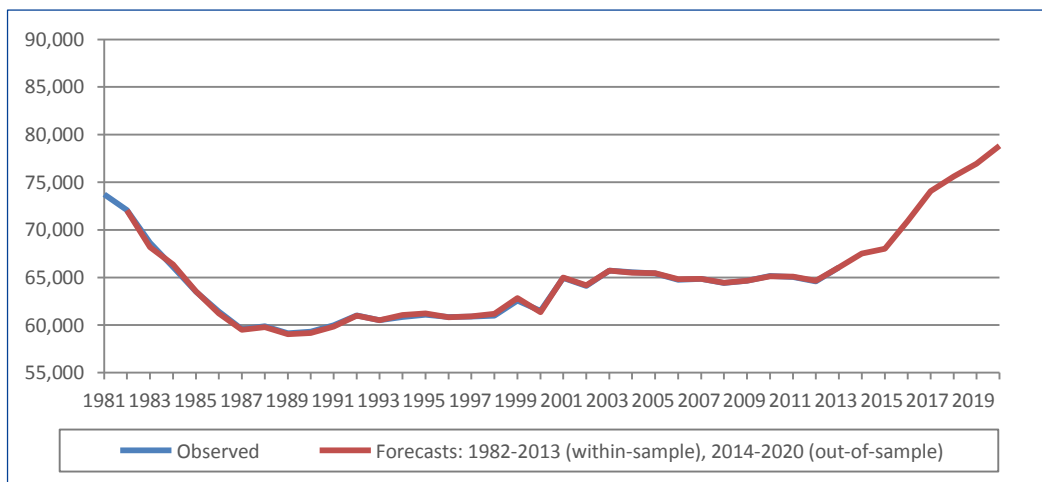
Source: DEECD, and CEET model

Figure 6.6: Enrolments in Year 4, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



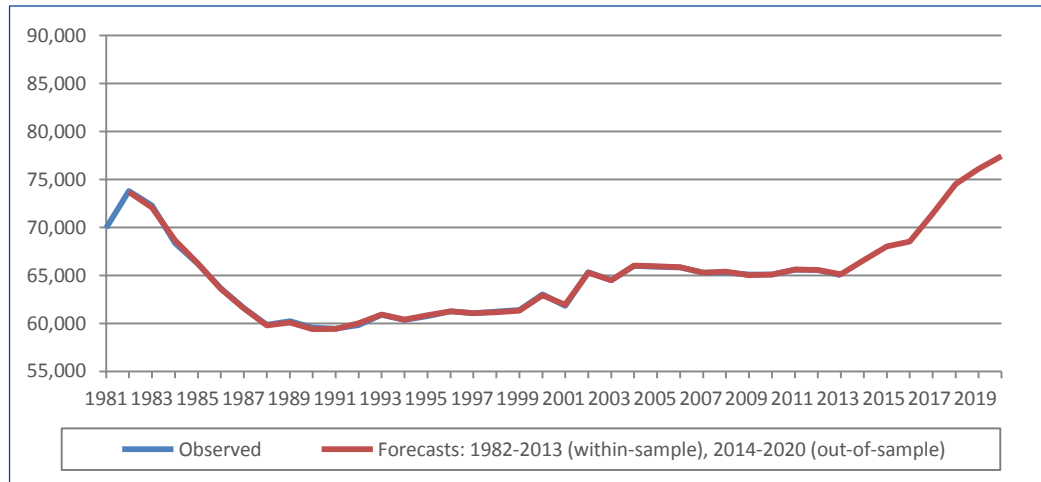
Source: DEECD, and CEET model

Figure 6.7: Enrolments in Year 5, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, and CEET model

Figure 6.8: Enrolments in Year 6, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, and CEET model

Table 6.2 provides a summary of enrolments in Primary schools by Year from 2006 to 2020. It shows that enrolments in Primary schools increased by 34,326, or 7.7 per cent, from 2006 to 2013, but the growth has varied across Years. At the Prep level, for instance, enrolments increased by 17.8 per cent but at Year 6 they fell by 1.2 per cent. The recent high growth in the numbers of young children in the population, mainly through higher birth rates, is reflected in the expansion in enrolments in the lower Years. In coming years, this will lead to increased enrolments in higher Primary Years. Overall enrolments are forecast to increase by 94,273, or 19.5 per cent, from 2013 to 2020. A small proportion of the growth is expected to be a result of net migration to Victoria of children aged 5–14 years. Net migration is expected to add about 6,600 children in this age range to the state’s population in 2014 and about 7,500 by 2020.

Table 6.2: Enrolments in Primary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Prep	1	2	3	4	5	6	All ¹
2006	63,583	63,135	63,165	63,290	64,235	64,740	65,844	448,260
2007	63,648	63,225	63,391	63,503	63,830	64,864	65,301	447,812
2008	64,702	62,881	63,456	63,865	64,002	64,428	65,302	448,692
2009	66,229	64,386	63,315	64,054	64,597	64,659	65,106	452,347
2010	66,444	65,636	64,600	63,717	64,562	65,155	65,100	455,285
2011	69,453	66,131	65,923	64,893	64,075	65,054	65,616	461,163
2012	73,100	69,343	66,496	66,417	65,484	64,592	65,573	471,042
2013	74,914	72,897	69,708	66,925	66,937	66,068	65,051	482,586
2014	76,462	74,527	73,071	69,955	67,431	67,504	66,608	495,602
2015	78,628	75,948	74,717	73,187	70,381	68,007	68,027	508,940
2016	79,522	77,961	76,121	74,776	73,524	70,935	68,537	521,421
2017	82,883	78,798	78,123	76,146	75,086	74,060	71,444	536,586
2018	85,547	81,952	78,961	78,077	76,428	75,616	74,540	551,166
2019	87,254	84,456	82,070	78,895	78,312	76,955	76,088	564,075
2020	88,953	86,065	84,542	81,883	79,119	78,829	77,421	576,858
Change 2006–2013	11,331	9,762	6,543	3,635	2,702	1,328	-793	34,326
Change 2013–2020	14,040	13,168	14,834	14,958	12,182	12,761	12,370	94,273
Change 2006–2013 (%)	17.8	15.5	10.4	5.7	4.2	2.1	-1.2	7.7
Change 2013–2020 (%)	18.7	18.1	21.3	22.4	18.2	19.3	19.0	19.5
Average annual change 2006–2013 (%)	2.5	2.2	1.5	0.8	0.6	0.3	-0.2	1.1
Average annual change 2013–2020 (%)	2.7	2.6	3.0	3.2	2.6	2.8	2.7	2.8

Source: DEECD (historical data sourced from the February School Census) and CEET model.
1. Includes a small number ungraded Primary school students.

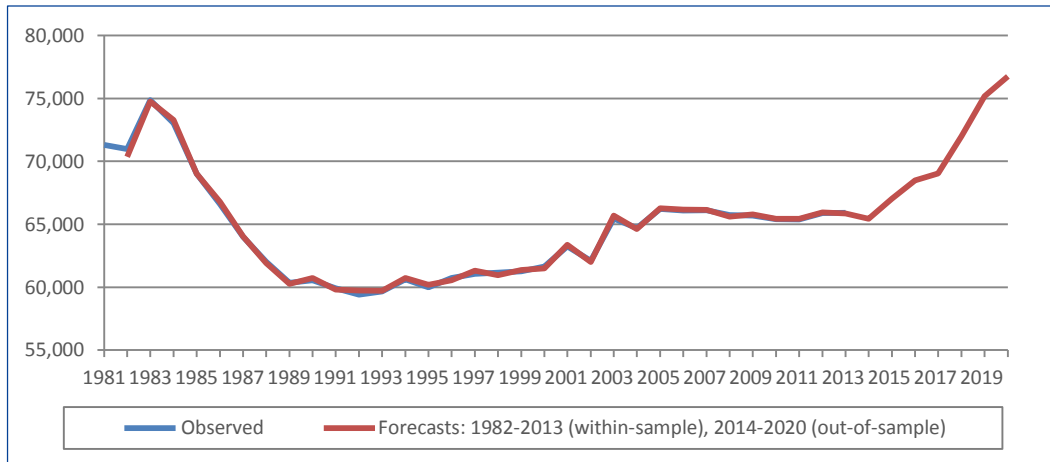
Years 7 to 12

Time series methods were also used to model enrolments in Years 7 to 12.⁶² The school leaving age in Victoria has been 15 years for a long time, but it was raised to 16 in 2006 and then to 17 in 2010. These changes mean that more young people will stay on at school and enrolments at the upper secondary levels are likely to increase.

Figure 6.9 to Figure 6.14 show the observed enrolments (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of enrolments in Years 7 to 12, respectively. The models for Years 11 and 12 tend to fit the data less well because of the additional level of uncertainty in the decisions of young people aged 16–19 years about whether to stay at school or to follow other career pathways.

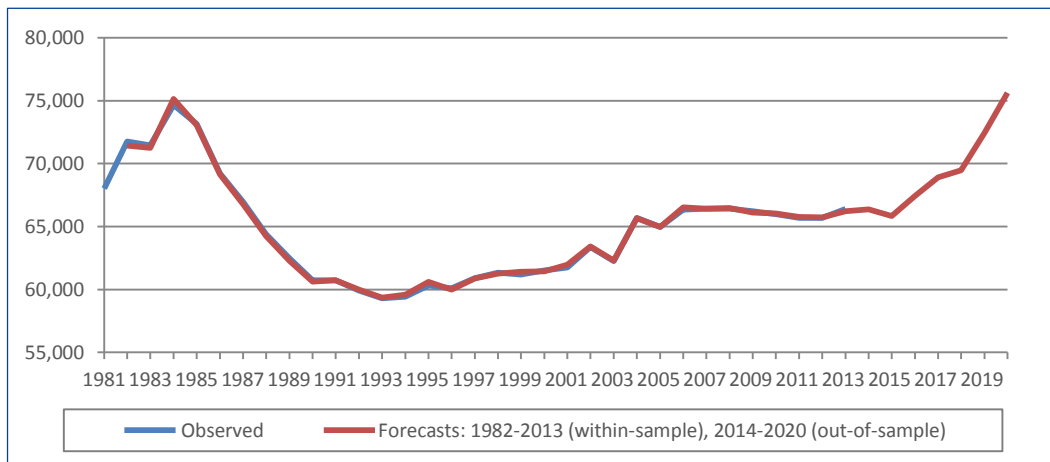
⁶² An ARX(1) model with lagged value of the number of children in the Year below and net migration as explanatory variables provided the best fit for the data for Years 7–9. The models for Years 10–12 included the full-time employment rate for people aged 15–19 years who were not in full-time education as an additional explanatory variable. We expect this variable to have a negative effect on the enrolments in these Years. The data source for this was the Australian Bureau of Statistics (ABS) 2014, *Labour Force, Australia*, Detailed - Electronic Delivery, Feb 2014, Cat. no. 6291.0.55.001, Canberra. All explanatory variables were found to be statistically significant in explaining the annual enrolments.

Figure 6.9: Enrolments in Year 7, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



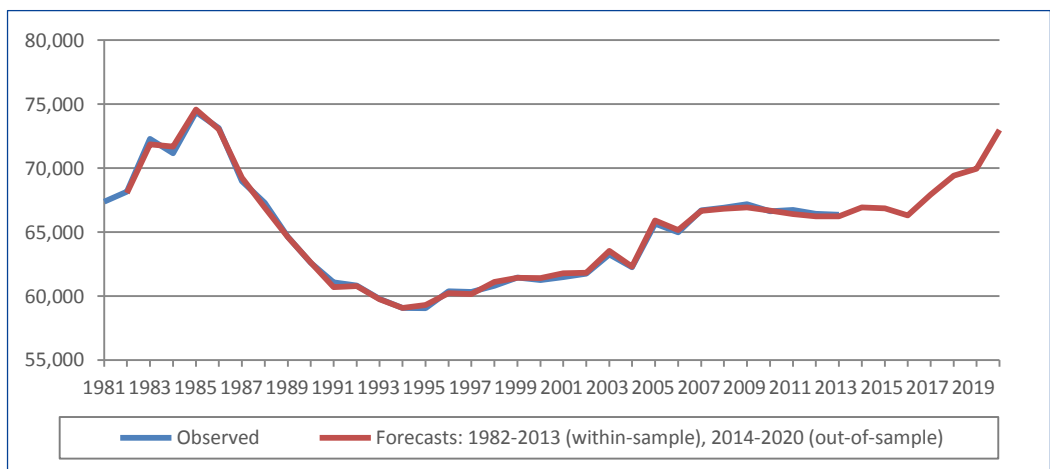
Source: DEECD, and CEET model

Figure 6.10: Enrolments in Year 8, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



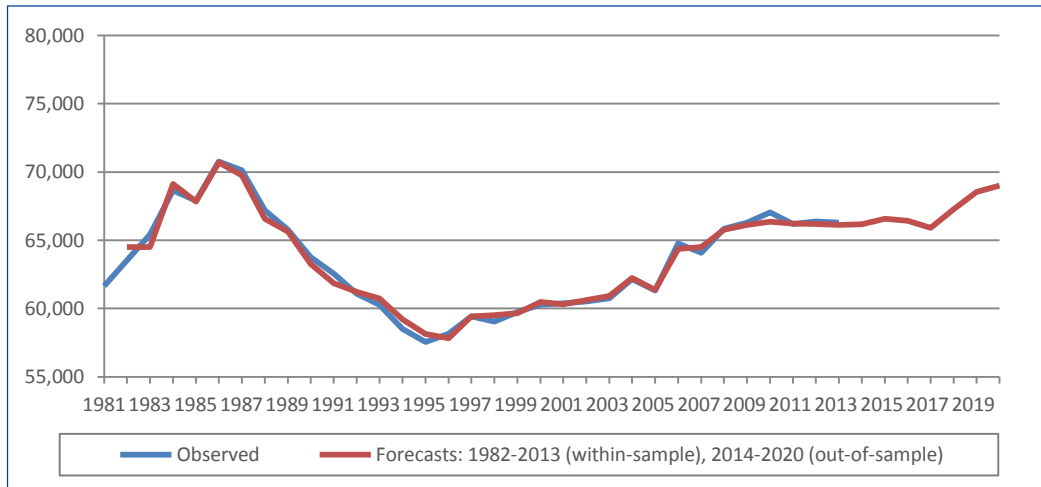
Source: DEECD, and CEET model

Figure 6.11: Enrolments in Year 9, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



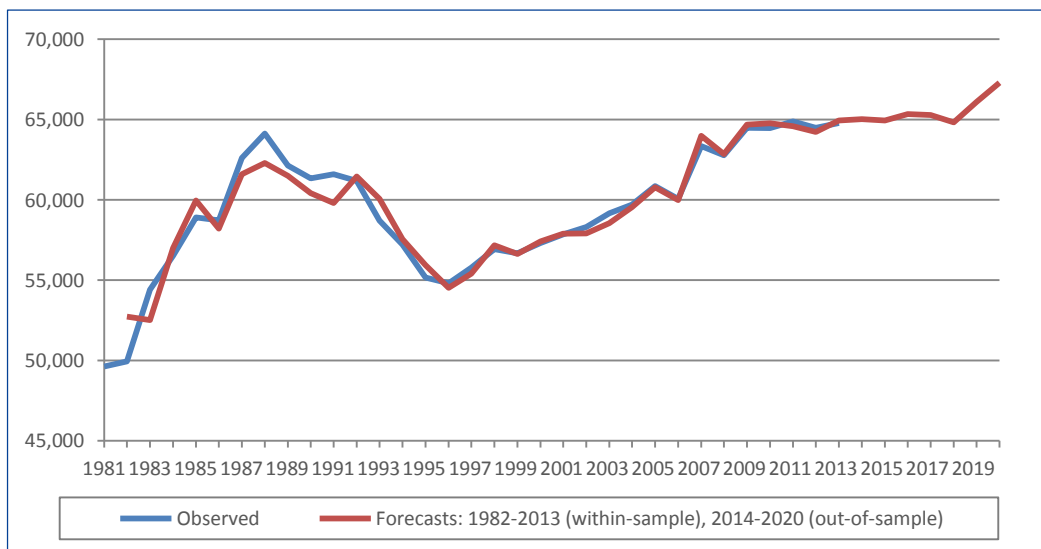
Source: DEECD, and CEET model

Figure 6.12: Enrolments in Year 10, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



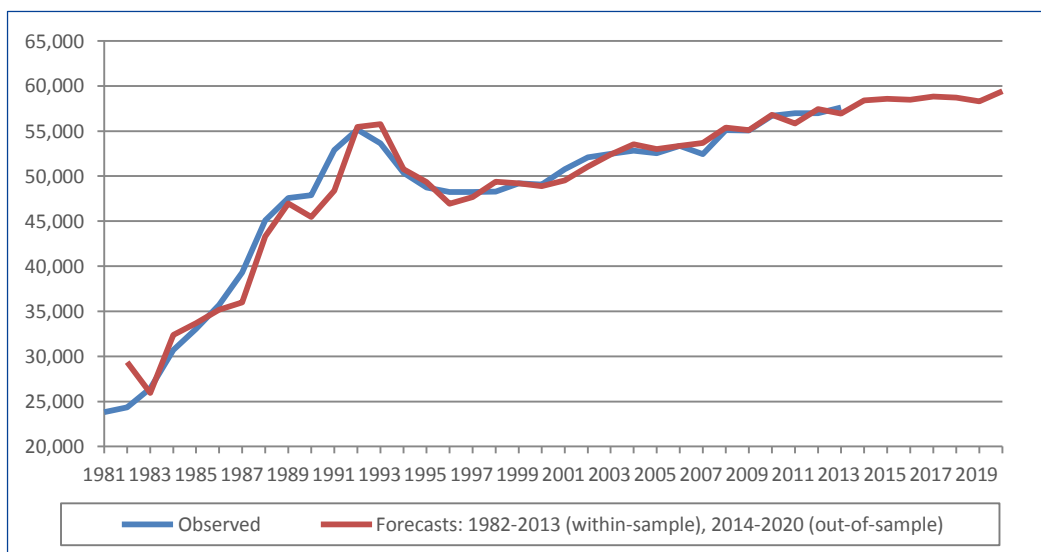
Source: DEECD, and CEET model

Figure 6.13: Enrolments in Year 11, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, and CEET model

Figure 6.14: Enrolments in Year 12, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, and CEET model

Table 6.3 provides a summary of enrolments in Secondary schools by Year from 2006 to 2020. The table shows overall enrolments in Secondary schools increased by 11,739, or 3.1 per cent, from 2006 to 2013. This represents a much smaller increase than in Primary Years. Despite this, apart from Year 7, enrolments increased across all Years. In particular, the growth in enrolments in Years 11 and 12 of about eight per cent is well above average. The recent high growth in Primary enrolments will flow through into lower Years in Secondary schools in the next few years. While total enrolments in Secondary schools are forecast to increase by 33,700, or 8.7 per cent, enrolments in Year 7 are forecast to increase by 16.4 per cent. A small proportion of the growth in enrolments will be a result of net migration of young people to the state. Net migration is expected increase the population of young people aged 10–19 years in Victoria by about 12,700 and by about 14,000 in 2020.

Table 6.3: Enrolments in Secondary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year level						All ¹
	7	8	9	10	11	12	
2006	66,108	66,344	64,975	64,778	60,064	53,355	375,896
2007	66,124	66,430	66,710	64,100	63,354	52,421	379,188
2008	65,748	66,437	66,902	65,846	62,780	55,105	382,970
2009	65,678	66,211	67,164	66,302	64,480	55,055	385,016
2010	65,410	65,996	66,632	67,047	64,465	56,676	386,415
2011	65,388	65,690	66,727	66,200	64,888	56,959	386,097
2012	65,884	65,684	66,412	66,388	64,486	56,980	386,084
2013	65,925	66,398	66,346	66,299	64,780	57,605	387,635
2014	65,425	66,362	66,923	66,180	65,033	58,397	388,579
2015	67,030	65,836	66,838	66,583	64,950	58,569	390,066
2016	68,493	67,441	66,296	66,438	65,353	58,453	392,735
2017	69,037	68,914	67,914	65,921	65,275	58,809	396,130
2018	72,005	69,464	69,399	67,284	64,833	58,705	401,950
2019	75,163	72,447	69,961	68,543	66,109	58,276	410,760
2020	76,751	75,623	72,966	69,010	67,290	59,413	421,313
Change 2006–2013	-183	54	1,371	1,521	4,716	4,249	11,739
Change 2013–2020	10,827	9,225	6,620	2,710	2,510	1,808	33,678
Change 2006–2013 (%)	-0.3	0.1	2.1	2.3	7.9	8.0	3.1
Change 2013–2020 (%)	16.4	13.9	10.0	4.1	3.9	3.1	8.7
Average annual change 2006–2013 (%)	0.0	0.0	0.3	0.3	1.1	1.1	0.4
Average annual change 2013–2020 (%)	2.3	2.0	1.4	0.6	0.6	0.4	1.2

Source: DEECD (historical data sourced from the February School Census) and CEET model.

1. Includes a small number ungraded Secondary school students.

Special and Language schools or centres

Students with special needs are all enrolled in Special schools, which includes two mainstream government schools that have a Special education campus. Some special needs students are in mainstream schools and are counted in the enrolments by Year of these schools. Children attending Special schools, unlike their counterparts in mainstream schools, are not graded by Year level.

Students in Language schools or centres include children who may have arrived in Australia with very limited English and who are often admitted into the country on humanitarian grounds. In the Language centres, which are often located in mainstream schools, these children receive intensive English language tuition as preparation for transition into the mainstream school. The children in these centres are also not graded by Year level.

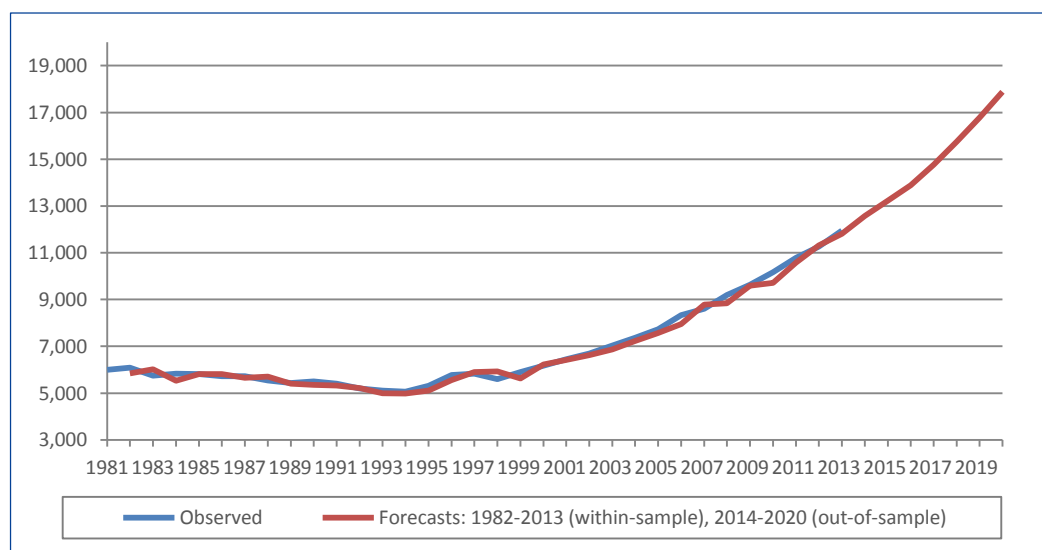
Time series methods were used to model enrolments in Special schools and Language schools or centres.⁶³ Figure 6.15 shows the observed enrolments (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of

⁶³ An autoregressive model with lag two—ARX (2)—provided the best fit for the data. In each model the population of young people aged 5–19 years was included as an explanatory variable.

enrolment in Special schools. The enrolment patterns for children in Language schools or centres are shown in Figure 6.16. The models provide a better fit for data on enrolments in Special schools than for data on enrolments in Language schools or centres. This is mainly because enrolments in Language schools or centres tend to fluctuate significantly from one year to then next, which makes the selection of an appropriate forecasting model difficult.

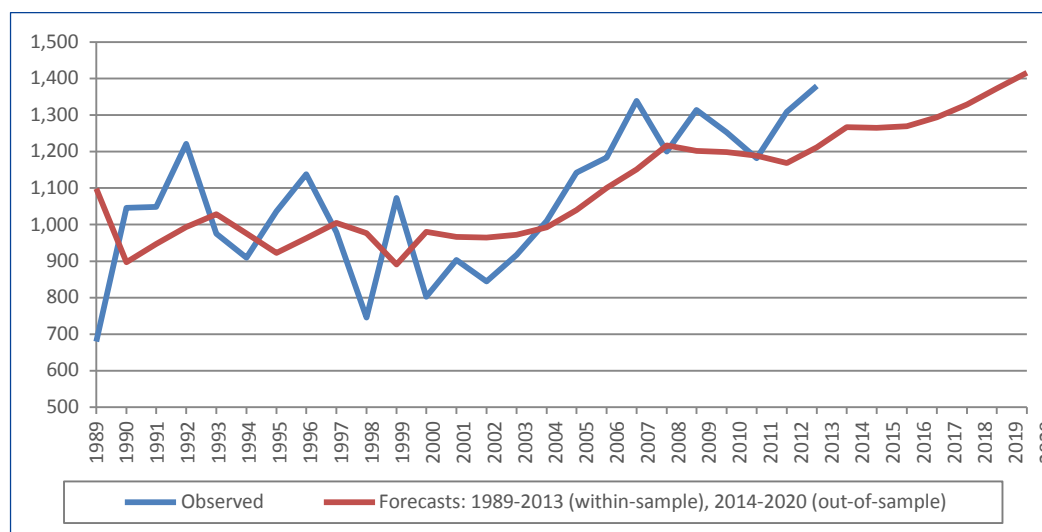
There was very little growth in enrolments in Special schools from 1981 to 2000. Since 2000, enrolments have been increasing rapidly. The high growth over the last decade may be related to an increase in government funding available for Special schools and also to the increase in the range of special needs, especially of the cognitive type, being identified in children. The modelling predicts the recent trend in enrolments to continue. Further research should however be undertaken to validate these forecasts.

Figure 6.15: Enrolments of children in Special schools, Victoria, 1981–2013 (observed) 1981–2020 (forecasts)



Source: DEECD and CEET model

Figure 6.16: Enrolments of students in Language schools or centres, Victoria, 1989–2013 (observed) 1989–2020 (forecasts)



Source: DEECD and CEET model

Table 6.4 provides a summary of enrolments in Special schools and in Language schools or centres from 2006 to 2020. Enrolments in Special schools increased by 3,615 children, or 43.4 per cent, from 2006 to 2013. Over the next seven years enrolments are forecast to increase by 5,936, or 49.7 per cent. The modelling assumes that the supply of places in Special schools is unlimited. In other words new schools will open, or existing schools will expand, to accommodate the increase in the number of children with a disability. If the supply of places in Special schools were not to expand with the increase in demand for places, then the excess students will have to be accommodated in mainstream schools.

There were 196 more students in Language schools or centres in 2006 than in 2013. Enrolments are initially forecast to decline before rising slowly to about 1,416 in 2020. The forecasts need to be validated with other qualitative information from schools that operate such centres.

Table 6.4: Enrolments of children in Special schools and in Language schools or centres, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Special schools	Language schools
2006	8335	1184
2007	8605	1339
2008	9192	1200
2009	9626	1314
2010	10169	1253
2011	10779	1182
2012	11263	1309
2013	11950	1380
2014	12571	1267
2015	13232	1265
2016	13893	1269
2017	14765	1294
2018	15742	1329
2019	16774	1373
2020	17886	1416
Change 2006–2013	3615	196
Change 2013–2020	5936	36
Change 2006–2013 (%)	43.4	16.6
Change 2013–2020 (%)	49.7	2.6
Average annual change 2006–2013 (%)	6.2	2.4
Average annual change 2013–2020 (%)	7.1	0.4

Source: DEECD (historical data sourced from the February School Census) and CEET model.

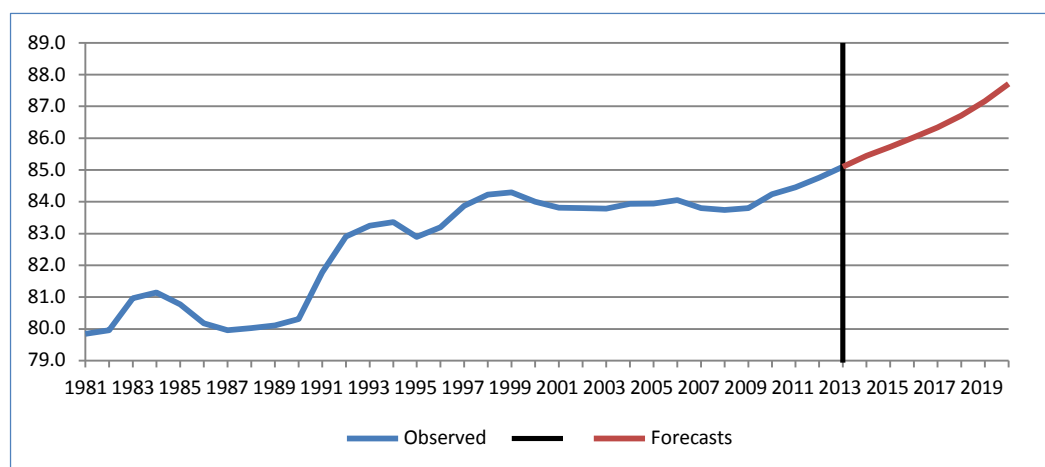
Summary

Enrolments in K to 12, including Special schools and Language schools or centres, in Victoria increased by 60,806, children, or 6.9 per cent, from 2013 to 2020. Over the next seven years to 2020 enrolments are forecast to increase by 145,054 children, or 15.4 per cent. In 2020 total enrolments are forecast to be 1,089,596.

The rate of participation in P to 12 schooling is defined as the proportion of the population aged 5–19 years attending school.⁶⁴ It provides an indication of the performance of the school system. Figure 6.17 shows the observed (1981 to 2013) and predicted (2014 to 2020) participation rates. The observed rates vary substantially and are clearly affected by the recession in the early 1990s. The recession seems to have had a positive and permanent impact on the participation rate. The impact of raising of the minimum school leaving age to 17 years in 2010 is also becoming apparent in terms of increasing participation rate. The rate is predicted to increase from 85.1 per cent in 2013 to 87.7 per cent in 2020 and may increase further if the youth labour market deteriorates further.

⁶⁴ Ideally, it would be preferable to define the participation rate in K to 12 among the population aged 4–19 years. Unlike data for P to 12, kindergarten enrolment data do not go back further than 2006.

Figure 6.17: Participation rate in schooling by population aged five to 19 years, Victoria, 1981–2013 (observed) and 2014–2020 (forecasts)



Source: CEET model

6.3 Sectoral forecasts of student enrolments

So far we have provided forecasts of enrolments at the state level by Year, Special schools and Language schools or centres. In this section we disaggregate these forecasts across the three sectors, government, Catholic and independent, that make up the school education system in Victoria. The modelling incorporates the long-term trends in the distribution of enrolments across the three sectors.

The last three decades has seen the share of enrolments in the non-government sectors increase steadily. The trends are affected by a range of factors. First, the trends are affected by the relative level of resources, public and private, that schools in the different sectors receive. Generally the more resources that are available to a school the better the quality of education it is able to provide its students. Public funding to the non-government sectors has increased substantially over the last couple of decades thus exacerbating the large differences that already existed in the level of resources available for government schools compared to many non-government schools, especially in the independent sector. For example, the real annual growth rate in Australian Government funding, as a percentage of gross domestic product, from 1999–2000 to 2013–2014 has been estimated to be 4.7 per cent for non-government schools and 2.7 per cent for government schools.⁶⁵

Second, it can be argued that with the improvement in the real gross disposable income, parents have more choices about which schools to send their children. Some parents' choice of the non-government sector is based on the belief that they are buying a higher quality of education (for example through better discipline, smaller class sizes and more individual attention) for their children. There is also a belief among some parents that the non-government schools provide better opportunities for such things as networking for their children.⁶⁶

Third, the overall economic conditions, including the level of consumer confidence, also influences parents' decisions to choose non-government schools for their children. Australia has enjoyed an unprecedented, sustained period of economic growth over the past quarter of century. A major downturn in the economy, on the other hand, could slow down, or even reverse, the trend towards non-government schools.

Fourth, if the private cost of higher education rises, as it is likely to under the recently proposed Australian Government policies on higher education, it is possible that some parents, who would have normally sent their children to non-government schools, may now consider sending their children to a government school and use savings on fees to support their children through higher education.

This section models the enrolment shares in the three sectors of education by Year level and Special schools. It is unnecessary to model the enrolment shares in Language schools as they are all in the government sector.

⁶⁵ Harrington (2013).

⁶⁶ Beavis (2004); Kelly & Scafidi (2013).

In this section we model the shares of enrolments in the three sectors of education in Victoria using multivariate time series methods for compositional data.⁶⁷ The multivariate model incorporates the temporal relationships between the different time series. Ideally we would like to have included all the factors discussed above as explanatory variables in the model. Lack of appropriate data on some of these factors however precludes this approach. Instead we include the following as explanatory variables:

- The lagged share of enrolments in one Year below in the same sector
- The number of school-age children in the population⁶⁸
- The labour force participation rate of women aged 20 to 49 years
- The real gross disposable income per capita in Australia.⁶⁹

For each Year level and Special schools a separate model was estimated.⁷⁰ Language schools or centres did not require modelling enrolments by sector because all Language schools or centres are in the government sector.

The results from the modelling suggest that the explanatory variables that we included in the models are significant in predicting the shares of enrolment across the three sectors. The results were used to produce forecasts of enrolments by sector.

⁶⁷ We selected a vector autoregressive model, VARX(p) for the purpose (see Aitchison (2011), pp. 107–117 for details)

⁶⁸ The models for Years P–4 included the population aged 5–9 years as an explanatory variable; the models for Years 5–9 included the population aged 10–14 years; and the models for Years 10–12 included the population aged 15–19 years. The models for Prep Year and special schools also included a linear trend term.

⁶⁹ Data for Victoria for this variable are unavailable for all years and, therefore, we have used Australian data as a proxy.

⁷⁰ For Prep VARX (3) was the best fit for the data; for Years 1–4 VARX (2); for Years 5–11 VARX (1); and for Grade 12 and special schools VARX (4).

Government sector

Table 6.5 and Table 6.6 provide summaries of enrolments by Year level in government Primary and Secondary schools from 2006 to 2020.

From 2006 to 2013, enrolments in Primary schools increased by 15,510 students, with the highest increases in Prep and Year 1. Enrolments fell in Years 5 and 6. The modelling forecasts total enrolments increasing by 63,804 students from 2013 to 2020. Enrolments are forecast to increase across all year levels but the highest growth is forecast in Year 3.

In Secondary schools 3,568 fewer students were enrolled in 2013 than in 2006, a drop of 1.7 per cent. The changes in enrolments however vary by Year level. Since 2010 enrolments in Years 11 and 12 have in fact increased substantially. This is partly because the minimum school leaving age was raised to 17 in 2010 but it may also be because the labour market for young people is softening. As we shall see below these factors appear to have a disproportionately larger effect in the government than in non-government sectors.

Due to the pipeline effect, the recent high growth in enrolments in Primary schools will result in increasing enrolments in lower Secondary grade levels in the forecast period. Enrolments in Year 7, for instance, are forecast to increase by 6.4 per cent. Overall 4,168 more students are forecast in Secondary schools in 2020 than were enrolled in 2013.

Table 6.5: Enrolments in government Primary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year							
	Prep	1	2	3	4	5	6	All ¹
2006	43,633	43,786	43,615	43,731	44,061	44,153	44,591	307,577
2007	43,490	43,378	43,781	43,714	43,813	43,907	44,134	306,223
2008	43,968	42,881	43,292	43,772	43,683	43,523	43,886	305,006
2009	45,038	43,677	43,110	43,456	43,975	43,361	43,687	306,304
2010	44,945	44,469	43,673	43,150	43,503	43,593	43,353	306,685
2011	46,956	44,631	44,396	43,539	43,108	43,009	43,451	309,093
2012	49,671	46,703	44,768	44,530	43,678	42,580	43,100	315,030
2013	50,859	49,469	46,931	44,933	44,831	43,352	42,710	323,086
2014	51,922	50,459	49,457	47,037	45,166	44,322	43,436	331,800
2015	53,443	51,581	50,662	49,428	47,154	44,641	44,256	341,167
2016	53,956	52,925	51,756	50,494	49,513	46,610	44,511	349,765
2017	56,194	53,404	53,050	51,791	50,443	48,714	46,277	359,875
2018	57,956	55,553	53,580	53,090	51,810	49,679	48,327	369,997
2019	59,049	57,207	55,744	53,416	53,068	51,092	49,290	378,867
2020	60,088	58,223	57,366	55,490	53,216	52,293	50,214	386,890
Change 2006–2013	7,226	5,684	3,316	1,201	771	-801	-1881	15,510
Change 2013–2020	9,230	8,754	10,434	10,557	8,385	8,940	7,504	63,804
Change 2006–2013 (%)	16.6	13.0	7.6	2.7	1.7	-1.8	-4.2	5.0
Change 2013–2020 (%)	18.1	17.7	22.2	23.5	18.7	20.6	17.6	19.7
Average annual change 2006–2013 (%)	2.4	1.9	1.1	0.4	0.2	-0.3	-0.6	0.7
Average annual change 2013–2020 (%)	2.6	2.5	3.2	3.4	2.7	2.9	2.5	2.8

Source: DEECD (historical data sourced from the February School Census) and CEET model.
1. Includes a small number ungraded Primary school students.

Table 6.6: Enrolments in government Secondary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year						
	7	8	9	10	11	12	All ¹
2006	39,200	39,602	39,097	38,655	35,808	30,377	222,827
2007	38,738	39,418	39,932	37,992	37,524	29,664	223,290
2008	37,882	38,960	39,773	38,922	36,867	30,793	223,331
2009	37,406	38,259	39,727	39,117	37,989	30,802	223,423
2010	37,015	37,662	38,779	39,565	38,125	32,082	223,414
2011	36,227	37,278	38,633	38,554	38,396	32,396	221,728
2012	36,308	36,523	38,224	38,555	37,737	32,170	219,755
2013	35,676	36,893	37,596	38,332	37,859	32,542	219,169
2014	35,069	36,144	37,948	37,716	37,500	32,753	217,384
2015	35,516	35,622	37,255	37,816	36,983	32,457	215,904
2016	35,854	36,116	37,000	37,240	36,969	31,893	215,325
2017	35,656	36,529	37,617	36,921	36,577	31,869	215,422
2018	36,499	36,403	38,240	37,444	36,127	31,854	216,819
2019	37,663	37,375	38,249	37,964	36,597	31,531	219,632
2020	37,964	38,685	39,418	37,969	37,019	32,028	223,337
Change 2006–2013	-3,524	-2,709	-1,501	-323	2,051	2,165	-3,658
Change 2013–2020	2,288	1,792	1,822	-363	-840	-514	4,168
Change 2006–2013 (%)	-9.0	-6.8	-3.8	-0.8	5.7	7.1	-1.7
Change 2013–2020 (%)	6.4	4.9	4.8	-0.9	-2.2	-1.6	1.9
Average annual change 2006–2013 (%)	-1.3	-1.0	-0.5	-0.1	0.8	1.0	-0.2
Average annual change 2013–2020 (%)	0.9	0.7	0.7	-0.1	-0.3	-0.2	0.3

Source: DEECD (historical data sourced from the February School Census) and CEET model.

¹ Includes a small number ungraded Secondary school students.

Catholic sector

Table 6.7 and Table 6.8 provide summaries of enrolments by Year level in Catholic Primary and Secondary schools from 2006 to 2020.

Enrolments in primary schools increased by 9,764 students, or 9.9 per cent, from 2006 to 2013. The modelling suggests the enrolments in the sector will increase by more than double this number in the seven years to 2020. This represents an increase of 20,257 students, or 18.7 per cent. Unlike in the government sector, the highest growth in enrolments in this sector is forecast in Prep grade.

Enrolments in Secondary schools increased by 9,409, an increase of 11.2 per cent. The increases in Primary school enrolments are expected to flow into Secondary schools in the forecast period. For example, enrolments in Year 7 are forecast to increase by a quarter from 2013 to 2020. Overall 16,517 more students are forecast to be enrolled in Catholic Secondary schools in 2020 than in 2013, which is more than four times the growth over the same period than in the government sector.

Table 6.7: Enrolments in Catholic Primary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year							
	Prep	1	2	3	4	5	6	All
2006	14,212	13,898	13,911	13,901	14,157	14,045	14,249	98,373
2007	14,175	14,169	13,984	13,881	13,933	14,112	14,052	98,307
2008	14,489	14,172	14,292	14,127	14,003	13,884	14,011	98,979
2009	14,849	14,515	14,231	14,421	14,304	14,067	13,870	100,257
2010	14,996	14,845	14,617	14,299	14,494	14,235	14,069	101,554
2011	15,821	15,023	15,004	14,706	14,293	14,488	14,209	103,545
2012	16,258	15,927	15,110	15,063	14,778	14,256	14,484	105,876
2013	16,704	16,304	15,970	15,123	15,051	14,728	14,256	108,137
2014	17,083	16,705	16,237	15,906	15,106	14,934	14,588	110,559
2015	17,444	17,020	16,539	16,166	15,931	14,998	14,781	112,880
2016	17,703	17,396	16,897	16,442	16,079	15,885	14,837	115,238
2017	18,489	17,619	17,250	16,860	16,426	15,995	15,724	118,363
2018	19,090	18,350	17,419	17,268	16,943	16,318	15,906	121,294
2019	19,544	18,921	18,125	17,417	17,467	17,082	16,143	124,699
2020	20,066	19,361	18,678	18,101	17,535	17,666	16,987	128,394
Change 2006–2013	2,492	2,406	2,059	1,222	894	683	7	9,764
Change 2013–2020	3,362	3,057	2,707	2,978	2,484	2,938	2,731	20,257
Change 2006–2013 (%)	17.5	17.3	14.8	8.8	6.3	4.9	0.0	9.9
Change 2013–2020 (%)	20.1	18.8	17.0	19.7	16.5	19.9	19.2	18.7
Average annual change 2006–2013 (%)	2.5	2.5	2.1	1.3	0.9	0.7	0.0	1.4
Average annual change 2013–2020 (%)	2.9	2.7	2.4	2.8	2.4	2.8	2.7	2.7

Source: DEECD (historical data sourced from the February School Census) and CEET model.

Table 6.8: Enrolments in Catholic Secondary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year						
	7	8	9	10	11	12	All
2006	15,345	15,155	14,588	14,505	12,986	11,796	84,375
2007	15,526	15,370	15,009	14,391	13,526	11,781	85,604
2008	15,874	15,517	15,220	14,761	13,374	12,270	87,016
2009	16,047	15,858	15,314	14,892	13,763	12,090	87,964
2010	16,077	16,036	15,588	15,027	13,905	12,558	89,193
2011	16,537	16,059	15,730	15,241	14,015	12,678	90,259
2012	16,660	16,489	15,750	15,416	14,386	12,914	91,616
2013	17,270	16,693	16,262	15,518	14,700	13,341	93,784
2014	17,275	17,362	16,219	15,793	14,957	13,795	95,400
2015	17,871	17,264	16,917	15,781	15,155	13,922	96,911
2016	18,412	17,879	16,664	16,238	15,187	14,108	98,487
2017	18,756	18,391	17,272	16,060	15,480	14,197	100,157
2018	20,107	18,750	17,707	16,545	15,466	14,372	102,947
2019	21,045	20,276	18,039	16,902	15,923	14,330	106,515
2020	21,613	20,977	19,572	17,149	16,303	14,688	110,302
Change 2006–2013	1,925	1,538	1,673	1,013	1,714	1,545	9,409
Change 2013–2020	4,343	4,284	3,310	1,631	1,602	1,347	16,517
Change 2006–2013 (%)	12.5	10.1	11.5	7.0	13.2	13.1	11.2
Change 2013–2020 (%)	25.1	25.7	20.4	10.5	10.9	10.1	17.6
Average annual change 2006–2013 (%)	1.8	1.4	1.6	1.0	1.9	1.9	1.6
Average annual change 2013–2020 (%)	3.6	3.7	2.9	1.5	1.6	1.4	2.5

Source: DEECD (historical data sourced from the February School Census) and CEET model.

Independent sector

Table 6.9 and Table 6.10 provide summaries of enrolments by Year level in independent Primary and Secondary schools from 2006 to 2020.

From 2006 to 2013, enrolments in independent Primary schools increased by 9,052 students. Relative to its size, the sector experienced growth of 21.4 per cent, the largest of any sector. The highest increase in enrolments were in Prep and Year 1. Overall enrolments are forecast to increase by 10,212 students in the seven years to 2020. This presents a growth of 19.9 per cent but enrolment growth in Year 6 will be much higher at 26.4 per cent.

Enrolments in independent secondary schools increased by 5,988 students, or 8.7 per cent, between 2006 and 2013. This is a relatively smaller increase than in the Catholic sector. The recent high growth in enrolments in Primary levels will most probably translate into increased enrolments in lower Secondary levels. Enrolments in Year 7, for instance, are forecast to increase by more than a quarter in the seven years to 2020. This represents an overall 12,993 more students in 2020.

Table 6.9: Enrolments in independent Primary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year							
	Prep	1	2	3	4	5	6	All ¹
2006	5,738	5,452	5,639	5,657	6,018	6,541	7,004	42,310
2007	5,982	5,678	5,626	5,909	6,084	6,845	7,115	43,282
2008	6,246	5,828	5,873	5,966	6,316	7,021	7,405	44,707
2009	6,342	6,195	5,974	6,178	6,318	7,232	7,549	45,786
2010	6,504	6,322	6,310	6,268	6,565	7,327	7,678	47,046
2011	6,676	6,477	6,522	6,649	6,674	7,557	7,956	48,525
2012	7,170	6,713	6,619	6,825	7,027	7,756	7,988	50,136
2013	7,351	7,124	6,806	6,869	7,055	7,988	8,085	51,362
2014	7,457	7,362	7,377	7,012	7,159	8,249	8,584	53,243
2015	7,741	7,346	7,516	7,592	7,296	8,368	8,990	54,893
2016	7,863	7,640	7,468	7,840	7,933	8,441	9,189	56,417
2017	8,199	7,776	7,823	7,496	8,217	9,351	9,443	58,347
2018	8,501	8,049	7,962	7,719	7,675	9,619	10,307	59,875
2019	8,661	8,328	8,201	8,062	7,776	8,782	10,655	60,510
2020	8,799	8,481	8,499	8,292	8,368	8,870	10,221	61,574
Change 2006–2013	1,613	1,672	1,168	1,212	1,037	1,446	1,082	9,052
Change 2013–2020	1,448	1,357	1,693	1,423	1,313	883	2,136	10,212
Change 2006–2013 (%)	28.1	30.7	20.7	21.4	17.2	22.1	15.4	21.4
Change 2013–2020 (%)	19.7	19.0	24.9	20.7	18.6	11.1	26.4	19.9
Average annual change 2006–2013 (%)	4.0	4.4	3.0	3.1	2.5	3.2	2.2	3.1
Average annual change 2013–2020 (%)	2.8	2.7	3.6	3.0	2.7	1.6	3.8	2.8

Source: DEECD (historical data sourced from the February School Census) and CEET model.

¹ Includes a small number ungraded Primary school students.

Table 6.10: Enrolments in independent Secondary schools by Year, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Year						All ¹
	7	8	9	10	11	12	
2006	11,563	11,587	11,289	11,618	11,270	11,182	68,694
2007	11,860	11,642	11,769	11,718	12,304	10,976	70,293
2008	11,992	11,960	11,910	12,163	12,539	12,042	72,623
2009	12,224	12,094	12,124	12,294	12,728	12,163	73,629
2010	12,318	12,298	12,265	12,455	12,435	12,036	73,808
2011	12,624	12,353	12,365	12,405	12,477	11,885	74,110
2012	12,916	12,672	12,438	12,417	12,362	11,897	74,713
2013	12,979	12,812	12,488	12,449	12,221	11,721	74,682
2014	13,080	12,856	12,757	12,670	12,577	11,850	75,796
2015	13,643	12,949	12,667	12,986	12,811	12,189	77,251
2016	14,228	13,446	12,632	12,961	13,197	12,452	78,922
2017	14,625	13,993	13,025	12,941	13,217	12,744	80,551
2018	15,399	14,311	13,452	13,295	13,240	12,479	82,183
2019	16,455	14,797	13,673	13,678	13,588	12,415	84,613
2020	17,175	15,960	13,977	13,891	13,969	12,696	87,675
Change 2006–2013	1,416	1,225	1,199	831	951	539	5,988
Change 2013–2020	4,196	3,149	1,489	1,442	1,748	975	12,993
Change 2006–2013 (%)	12.2	10.6	10.6	7.2	8.4	4.8	8.7
Change 2013–2020 (%)	32.3	24.6	11.9	11.6	14.3	8.3	17.4
Average annual change 2006–2013 (%)	1.7	1.5	1.5	1.0	1.2	0.7	1.2
Average annual change 2013–2020 (%)	4.6	3.5	1.7	1.7	2.0	1.2	2.5

Source: DEECD (historical data sourced from the February School Census) and CEET model.

¹ Includes a small number ungraded Secondary school students.

Special and Language schools

Table 6.11 provides a summary of enrolments in Special schools by sector and in Language schools or centres. All Language schools or centres are in the government sector. Most Special school enrolments are also in the government sector.

Enrolments increased by 3,615, or 43.4 per cent, from 2006 to 2013. Based on recent trends, they are forecast to increase by 5,936, or 49.7 per cent, from 2013 to 2020. While enrolments are forecast to increase quickly in the Catholic sector, they are of a low base.

There were 111 more students in Language schools in 2013 than in 2006. Over the next seven years their numbers are forecast to initially decline before increasing gradually to a total of 1,416 students in 2020.

Table 6.11: Enrolments in Special schools and Language schools, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Special schools			Total	Language schools
	Government	Catholic	Independent		
2006	7,756	170	409	8,335	1,184
2007	8,005	154	446	8,605	1,339
2008	8,579	182	430	9,191	1,200
2009	9,012	185	429	9,626	1,314
2010	9,562	210	396	10,168	1,253
2011	9,989	305	486	10,780	1,182
2012	10,342	373	548	11,263	1,309
2013	11,048	343	559	11,950	1,380
2014	11,792	252	528	12,572	1,267
2015	12,461	236	535	13,232	1,265
2016	12,969	315	609	13,893	1,269
2017	13,603	472	690	14,765	1,294
2018	14,462	582	698	15,742	1,329
2019	15,537	566	672	16,775	1,373
2020	16,636	557	693	17,886	1,416
Change 2006–2013	3,292	173	150	3,615	196
Change 2013–2020	5,588	214	135	5,936	36
Change 2006–2013 (%)	42.4	101.6	36.7	43.4	16.6
Change 2013–2020 (%)	50.6	62.4	24.1	49.7	2.6
Average annual change 2006–2013 (%)	6.1	14.5	5.2	6.2	2.4
Average annual change 2013–2020 (%)	7.2	8.9	3.4	7.1	0.4

Source: DEECD (historical data sourced from the February School Census) and CEET model.

Summary

Table 6.12 summaries the enrolments by sector. It shows overall student enrolments in Victorian schools increased by 49,876, or six per cent, from 2006 to 2013. In the seven years to 2020 they are forecast to increase by 133,923, or 15.2 per cent.

The enrolments in the non-government sectors are forecast to increase proportionally more than in the government sector. As a result of this the share of enrolments in the government sector is predicted to decline from 62.8 per cent in 2013 to 61.7 per cent in 2020.

The continuing strong growth in the non-government sectors raises questions about the capacity in these sectors to meet growing demand. If the supply of places were not to increase, then the excess demand will flow into the government sector, which is the sector of last resort. A situation may also arise whereby fees rise substantially because the supply of places does not keep up with demand and or selection criteria for entry into these schools, especially independent schools, are raised.

In the modelling it is assumed that the supply of places in the non-government sectors is perfectly elastic. In other words, no limit is placed on the supply of places to meet increased demand at the current level of fees. If, on the other hand, the supply of places were not to increase with rising demand, then the excess demand will flow into the government sector, which is the sector of last resort, and the share of enrolments in the sector may then rise above the level forecast in this report. A situation may also arise whereby fees rise substantially because the supply of places does not keep up with demand and or

selection criteria for entry into these schools, especially independent schools, are raised. Also, if the general economy begins to deteriorate and unemployment begins to rise substantially, then we can expect enrolments in the government sector to increase. The impact of the recent growth in the population of young people will only manifest into higher enrolments in Secondary schools towards to end of the current forecast period, but is expected to continue beyond this period.

Table 6.12: Total enrolments in schools by sector, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Sector							
	Government		Catholic		Independent		All	
	No.	%	No.	%	No.	%	No.	%
2006	539,343	64.7	182,918	21.9	111,413	13.4	833,675	100.0
2007	538,858	64.4	184,065	22.0	114,021	13.6	836,944	100.0
2008	538,116	63.9	186,177	22.1	117,760	14.0	842,053	100.0
2009	540,053	63.7	188,406	22.2	119,844	14.1	848,303	100.0
2010	540,914	63.4	190,957	22.4	121,250	14.2	853,122	100.0
2011	541,992	63.1	194,109	22.6	123,121	14.3	859,221	100.0
2012	546,436	62.8	197,865	22.8	125,397	14.4	869,698	100.0
2013	554,684	62.8	202,264	22.9	126,603	14.3	883,551	100.0
2014	562,242	62.6	206,211	23.0	129,566	14.4	898,020	100.0
2015	570,796	62.5	210,027	23.0	132,680	14.5	913,503	100.0
2016	579,329	62.3	214,041	23.0	135,948	14.6	929,318	100.0
2017	590,194	62.2	218,992	23.1	139,589	14.7	948,775	100.0
2018	602,607	62.1	224,823	23.2	142,757	14.7	970,187	100.0
2019	615,409	62.0	231,779	23.3	145,795	14.7	992,983	100.0
2020	628,279	61.7	239,252	23.5	149,942	14.7	1,01747, 4	100.0
Change 2006–2013	15,340		19,346		15,190		49,876	
Change 2013–2020	73,595		36,988		23,340		133,923	
Change 2006–2013 (%)	2.8		10.6		13.6		6.0	
Change 2013–2020 (%)	13.3		18.3		18.4		15.2	
Average annual change 2006–2013 (%)	0.4		1.5		1.9		0.9	
Average annual change 2013–2020 (%)	1.9		2.6		2.6		2.2	

Source: DEECD (historical data is sourced from the February School Census) and CEET model.

Note Includes students in Special schools and Language schools.

6.4 Forecasts of demand for teachers

This section provides forecasts of the demand for teachers in Victoria from 2014 to 2020. The forecasts are for teachers who have the required minimum level of training and who are registered to work in Victorian schools. The forecasts are provided by sector for:

- Kindergartens
- Primary schools
- Secondary schools
- Special schools
- Language schools or centres.

Some of the more important factors that may affect the demand for teachers at this level of aggregation are:

- Student enrolments
- Average class sizes
- Parents' preferences for public and private education.

Other factors that may also affect the demand for teachers are curriculum policies, students' choice of elective subjects and the number of schools in the state. Curriculum policies and students' choice of electives are more likely to affect the distribution of demand by discipline areas and less likely to affect overall demand. If more schools are needed to cater for

children living in less densely populated parts of the state, then the demand for teachers will increase to ensure that these children have equal educational opportunities. Parental preference between public and private schools indirectly affects the demand for teachers. Not only do these choices affect the distribution of demand, but it also affects the overall demand because student-to-teacher ratios are generally lower in the independent sector.

Kindergarten teachers

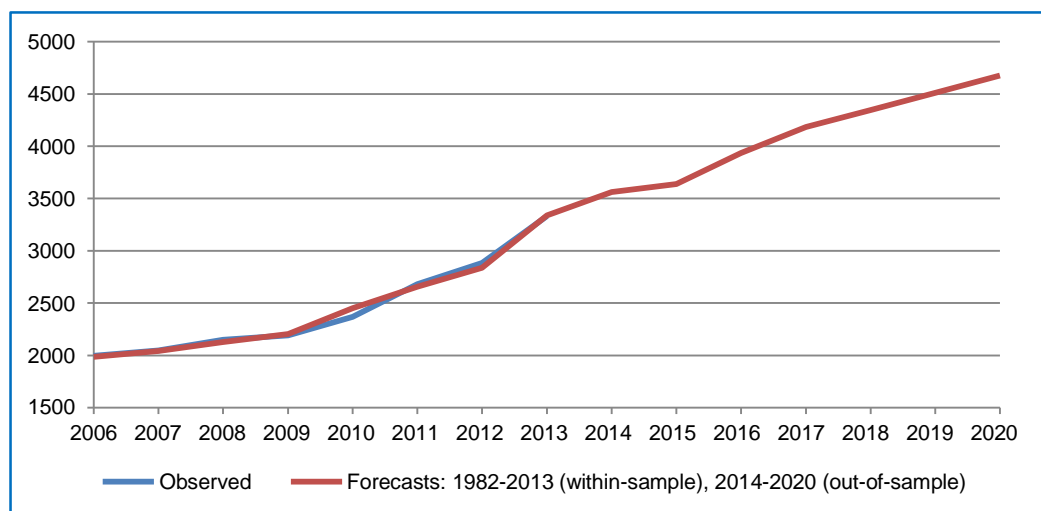
In Australia, Universal Access to Early Childhood Education ensures that a quality, early childhood education programme is available for all children in the year before full-time schooling (preschool or kindergarten). In Victoria almost all children attend a funded programme in the year before starting school.

To ensure the quality early childhood education and care, service providers in Australia are required to comply with the National Quality Framework (NQF). The NQF aims to raise quality and drive continuous improvement and consistency in education and care services, with a focus on outcomes for children, particularly those who are vulnerable and from disadvantaged backgrounds. The NQF stipulates that a kindergarten programme of 15 hours per week be available to each child in the year before they start school and that the delivery of the programme is by a degree-qualified early childhood teacher or by a teacher with an ACECQA-approved equivalent qualification. In Victoria, program hours for kindergarten increased from 10 to 10.75 in 2012 and then to 15 in 2013. In 2014, almost all kindergarten service providers were delivering 15-hour kindergarten programs. Another policy that is likely to affect the demand for kindergarten teachers is the introduction of the child-to-educator ratio of 11:1 from 2016. Educators include university-trained teachers and assistants who hold at the least certificate III in early childhood education and care.

The demand for kindergarten teachers is modelled using a time series method.⁷¹ The model includes kindergarten enrolments and the stipulated minimum hours of delivery of the kindergarten program as two independent explanatory variables. The child-to-educator ratio cannot be included in the model because data on educators are unavailable at present. Time series data on kindergarten teachers employed in funded kindergarten services from 20006 to 2013 are used estimate the model.⁷²

Figure 6.18 shows the observed (2006 to 2013) and within-sample (2006 to 2013) and out-of-sample (2014 to 2020) forecasts of employment of kindergarten teachers. It suggests demand flattening from 2014 to 2015. This reflects the dip in the number of four-year olds in the population in 2015.

Figure 6.18: Employment of kindergarten teachers, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)



Source: DEECD and CEET model

Table 6.13 provides a summary of employment of kindergarten teachers from 2006 to 2020. Employment of kindergarten teachers increased by 1,338, or 67.1 per cent, from 2006 to 2013. The demand for kindergarten teachers is forecast to increase by 1,345 from 2013 to 2020.

The table also shows the average number of children to teachers in the system, which is simply calculated by dividing the number of children enrolled by the number of teachers employed. The measure of the number of teachers is headcount. This ratio will decline as the number of teachers working part-time increases. As Figure 6.19 shows, the ratio dropped significantly from 2010 to 2013. The rate of decline is projected to moderate over the next seven years. Note that this ratio is not the same as child-to-educator ratio discussed earlier.

⁷¹ An autoregressive model, ARX (1), provided the best fit for the data.

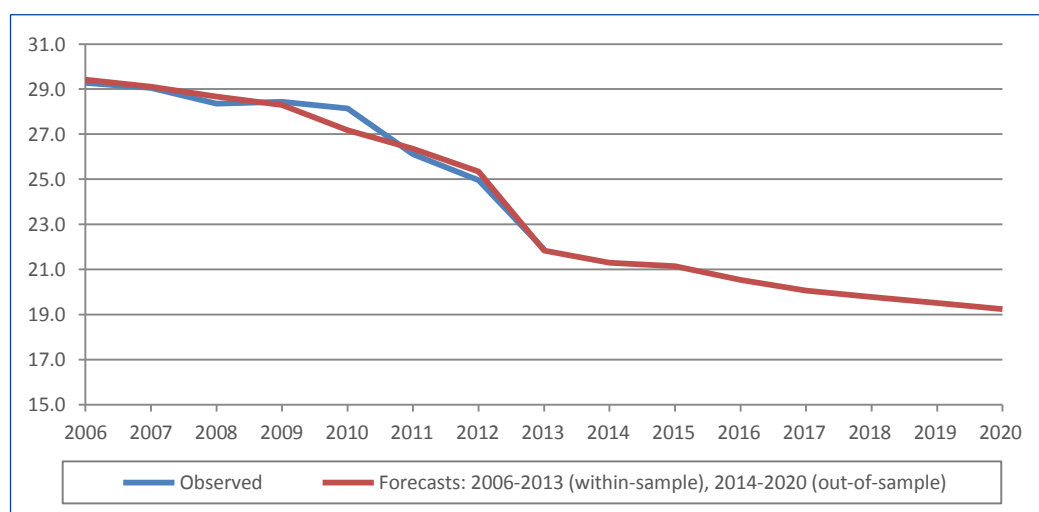
⁷² A small number of teachers work in services that are not funded by the Victorian government. Data on these teachers are unavailable.

Table 6.13: Employment of kindergarten teachers, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Teachers	Kindergarten enrolments	Hours/child/week	Ratio of children to teachers
2006	1,995	58,397	10	29.3
2007	2,047	59,453	10	29.0
2008	2,150	60,969	10	28.4
2009	2,193	62,365	10	28.4
2010	2,369	66,651	10	28.1
2011	2,680	69,980	10	26.1
2012	2,882	71,926	10.75	25.0
2013	3,333	72,941	15	21.9
2014	3,563	75,893	15	21.3
2015	3,639	76,921	15	21.1
2016	3,937	80,795	15	20.5
2017	4,185	83,950	15	20.1
2018	4,347	85,973	15	19.8
2019	4,512	87,995	15	19.5
2020	4,678	90,009	15	19.2
Change 2006–2013	1,338	14,544		
Change 2013–2020	1,345	17,068		
Change 2006–2013 (%)	67.1	24.9		
Change 2013–2020 (%)	40.3	23.4		
Average annual change 2006–2013 (%)	9.6	3.6		
Average annual change 2013–2020 (%)	5.8	3.3		

Source: DEECD and CEET model

Figure 6.19: Average child-to-teacher ratio in the kindergarten sector, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)



Source: DEECD and CEET

Primary school teachers

To forecast the demand for Primary school teachers, we first model the average student-to-teacher ratio.⁷³ The forecasts of these ratios are multiplied by the forecasts of enrolment to produce forecasts of demand for teachers.

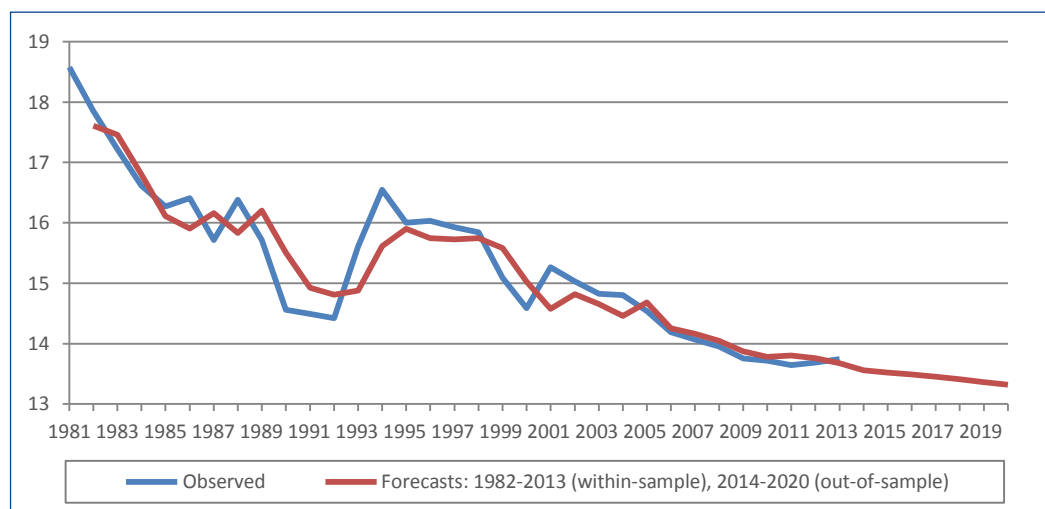
We use a time series method to simultaneously model the student-to-teacher ratio in the three sectors.⁷⁴ Figure 6.20 to Figure 6.22 show the observed (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of the student-to-teacher ratio from 1981 to 2020 for government, Catholic and independent Primary schools, respectively.

In all three sectors the long-term trend is of a declining ratio. In the government sector the ratio declined from 18.6 in 1981 to 13.7 in 2013, although for a period in the early 1990s the ratio increased quite substantially. The early 1990s saw significant changes in state government policies with respect to public sector employment, particularly in the education and health sectors. Australia also experienced a significant economic downturn during this period. The ratio is forecast to decline to 13.2 in 2020.

In the Catholic sector the ratio declined from 21.1 in 1981 to 12.6 in 2013. The long term trend in the ratio was little affected by the changes in state government policies in the early 1990s. The rate of decline in the ratio has been highest in the early 1980s and in the 2000s. These are also the periods when government funding for the sector, especially that provided by the Australian Government, increased significantly. Increasing employment of part-time teachers is probably also contributing to the decline in the ratio. In 2020, the ratio is forecast to be 12.6, which is lower than the ratio forecast for the government sector.

The independent sector has the lowest student-to-teacher ratio of any sector, which is a clear reflection of the much higher level of resources that schools in the sector have at their disposal. The ratio declined from 14 in 1981 to 10.7 in 2013. The ratio is however more sensitive to the prevailing economic conditions. The ratio, for instance, increased sharply during the recession from 1988 to 1991. Over the last seven years the ratio seems to have stabilised at about the 10.5 level. It is forecast to fall further to 10.1 by 2020.

Figure 6.20: Average student-to-teacher ratio in government Primary schools, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)

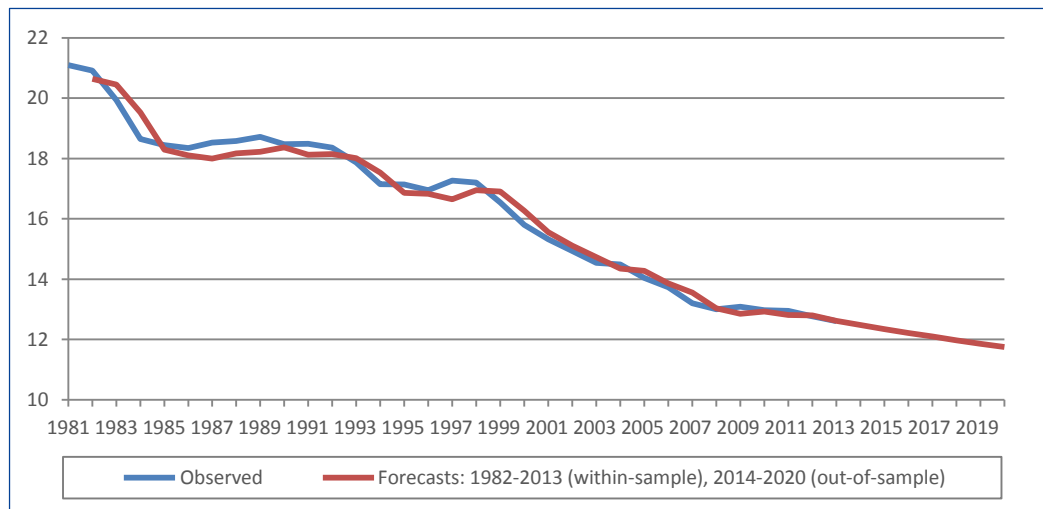


Source: CEET

⁷³ The headcount is used as the measure of teacher numbers in calculating the student-to-teacher ratio. The headcount is a more important measure than full-time equivalent (FTE) when assessing possible imbalance between supply and demand.

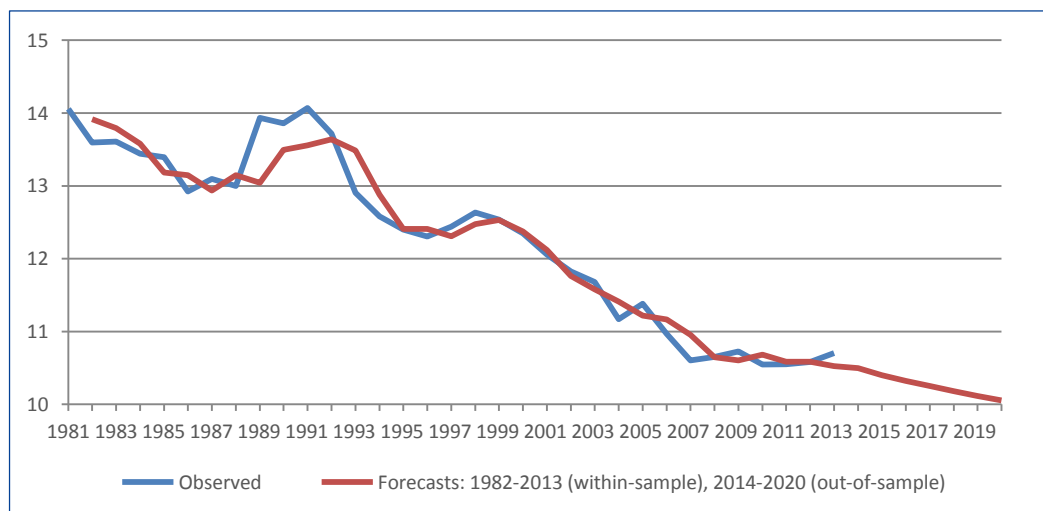
⁷⁴ The model that best fit the data was a vector autoregressive model of order one, VAR (1). The model allows the correlations between the three series and their past values to be modelled simultaneously.

Figure 6.21: Average student-to-teacher ratio in Catholic Primary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: CEET

Figure 6.22: Average student-to-teacher ratio in independent Primary schools, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)

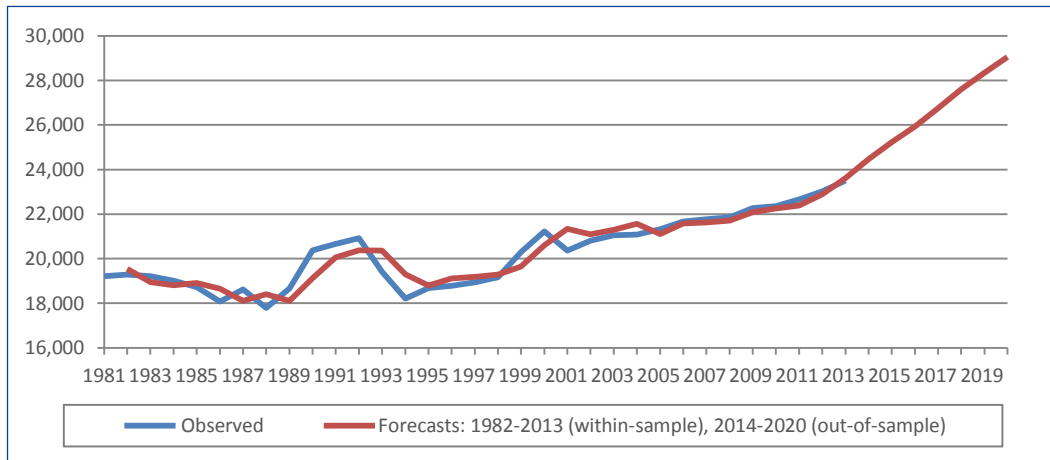


Source: CEET

Figure 6.24 to Figure 6.25 show the observed (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of the employment of teachers in government, Catholic and independent Primary schools.

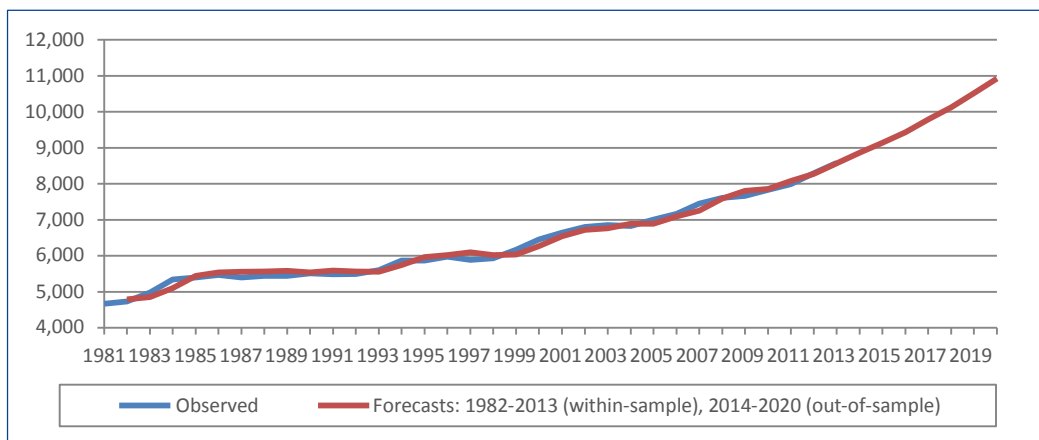
Table 6.14 provides a summary of employment of Primary school teachers from 2006 to 2020. Total employment in Victoria increased by 4,187 teachers from 2006 to 2013. In percentage terms employment increased by more in the non-government sectors—24.4 per cent in the independent sector and 19.7 per cent in the Catholic sector compared to 8.5 per cent in the government sector. Employment is forecast to increase by 9,214 teachers, or 23.6 per cent, from 2013 to 2020, with 60.1 per cent of this increase expected in the government sector. Employment in the non-government sectors is forecast increase by more than a quarter from 2013 to 2020.

Figure 6.23: Employment of teachers in government Primary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



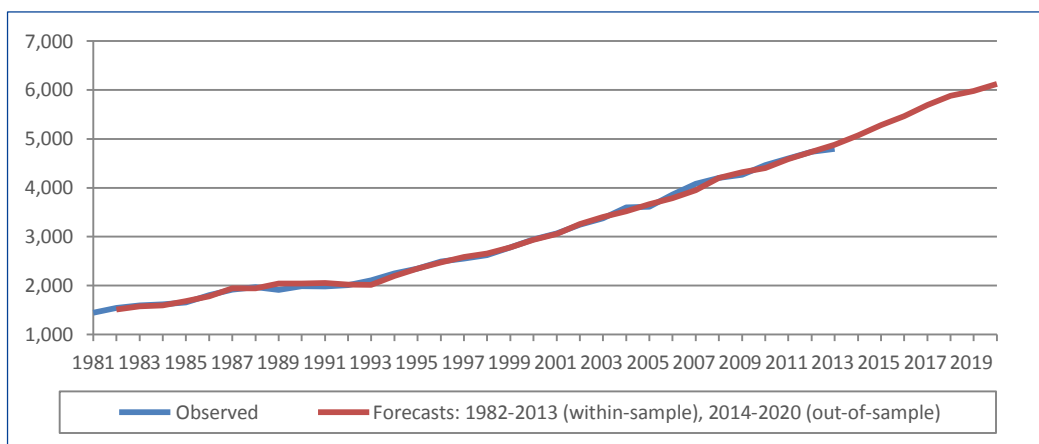
Source: DEECD, ABS, Department of Education and CEET model.

Figure 6.24: Employment of teachers in Catholic Primary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, ABS, Department of Education and CEET model.

Figure 6.25: Employment of teachers in independent Primary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, ABS, Department of Education and CEET model.

Table 6.14: Employment of teachers in Primary schools, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Government	Catholic	Independent	Total
2006	21,675	7,163	3,858	32,696
2007	21,768	7,447	4,082	33,297
2008	21,862	7,612	4,198	33,672
2009	22,270	7,664	4,269	34,203
2010	22,361	7,830	4,461	34,652
2011	22,658	7,994	4,600	35,252
2012	23,015	8,293	4,738	36,046
2013	23,508	8,576	4,799	36,883
2014	24,468	8,858	5,072	38,398
2015	25,233	9,140	5,278	39,652
2016	25,932	9,429	5,466	40,827
2017	26,757	9,784	5,692	42,232
2018	27,594	10,126	5,880	43,601
2019	28,348	10,513	5,981	44,841
2020	29,045	10,928	6,124	46,097
Change 2006–2013	1,833	1,413	941	4,187
Change 2013–2020	5,537	2,352	1,325	9,214
Change 2006–2013 (%)	8.5	19.7	24.4	12.8
Change 2013–2020 (%)	23.6	27.4	27.6	25.0
Average annual change 2006–2013 (%)	1.2	2.8	3.5	1.8
Average annual change 2013–2020 (%)	3.4	3.9	3.9	3.6

Source: DEECD, ABS, Department of Education and CEET model.

Secondary school teachers

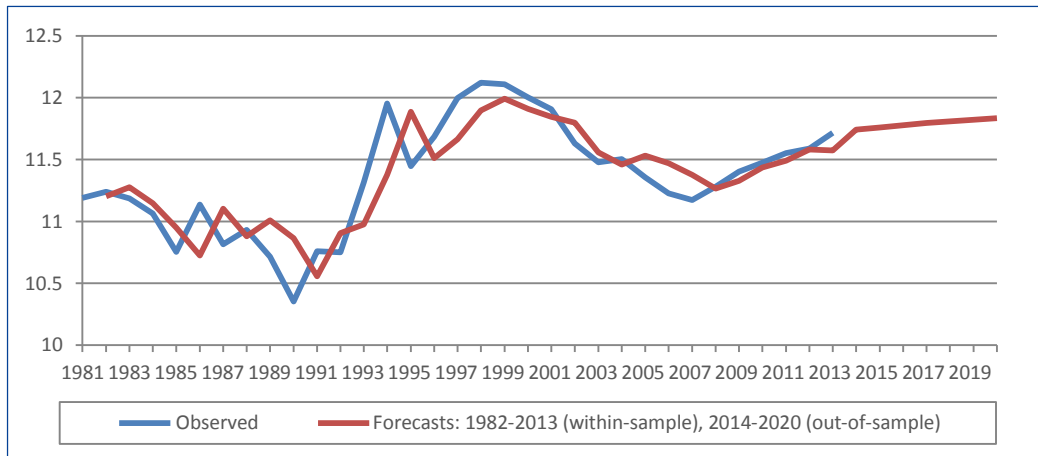
A time series method was also used to forecast the demand for Secondary school teachers. Figure 6.26 to Figure 6.28 show the observed (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of the average ratio of student-to-teacher in government, Catholic and independent Secondary schools, respectively.

In government Secondary schools the ratio has fluctuated considerably over time. It declined in the 1980s, increased in the 1990s, declined again from 2000 to 2007 before increasing again to 11.7 in 2013. The ratio was lowest at 10.4 in 1990. The trends reflect the changing government policies on funding and on measures to improve the quality of outcomes for students. On current trends the ratio is forecast to rise slightly to 11.8 by 2020.

In Catholic Secondary schools the ratio declined from 14.7 in 1981 to 11.1 in 2013, but has remained fairly constant since 2007. Until 2007 the ratio in this sector was always higher than in the government sector but since then the opposite has been the case. The ratio is forecast to remain at about the current level for the next seven years.

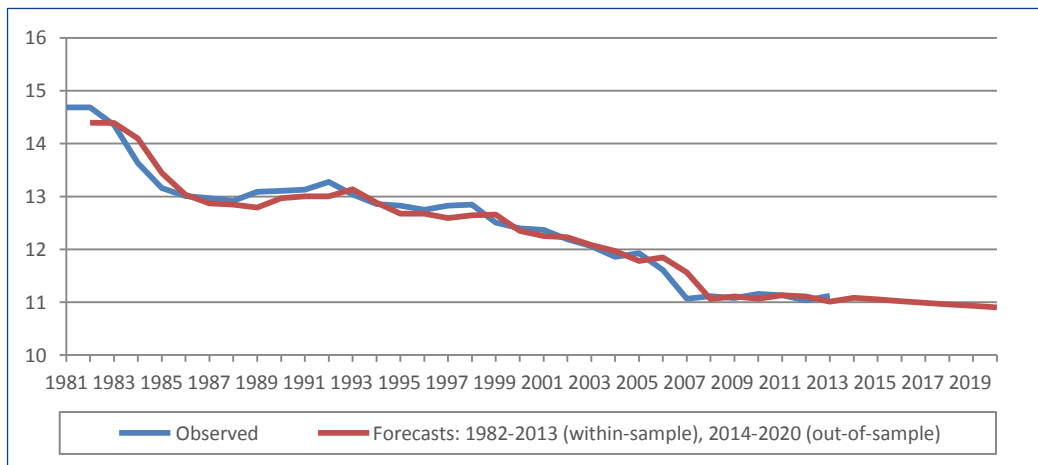
In independent Secondary schools the average ratio declined from 11.7 in 1981 to 8 in 2013, but since 2007 the rate of decline has slowed. The results of the modelling suggest the ratio will fall to about 7.7 by 2020.

Figure 6.26: Average student-to-teacher ratio in government Secondary schools, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)



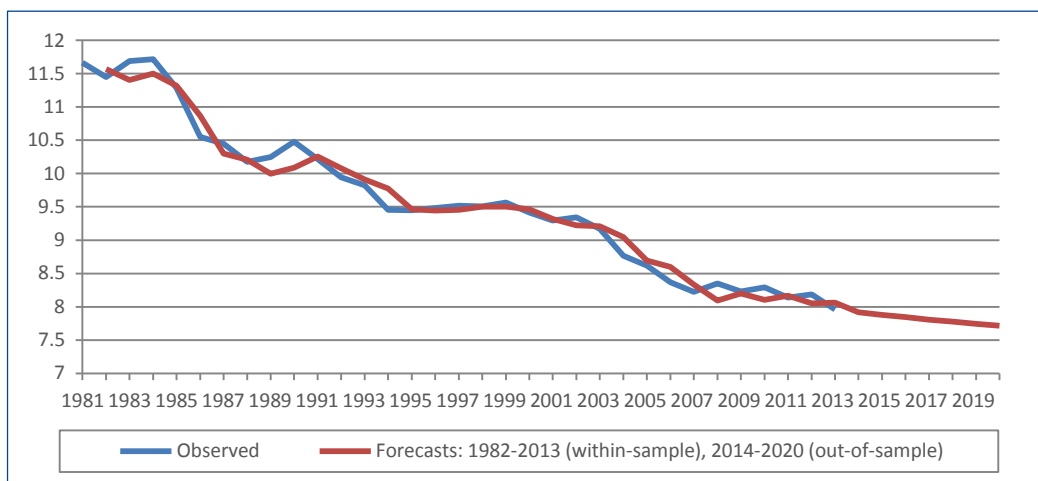
Source: CEET

Figure 6.27: Average student-to-teacher ratio in Catholic Secondary schools, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)



Source: CEET

Figure 6.28: Average student-to-teacher ratio in independent Secondary schools, Victoria, 1981–2013 (observed) 2014–2020 (forecasts)



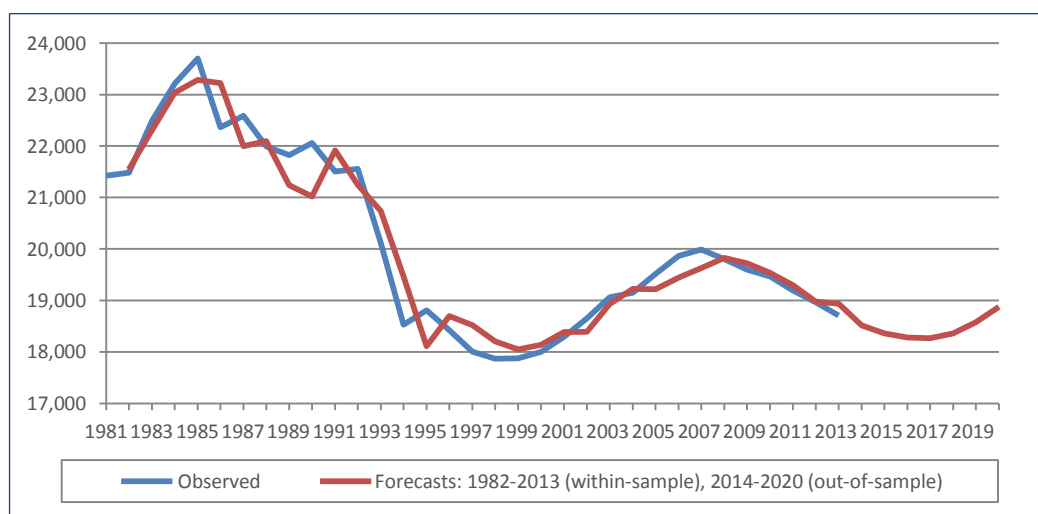
Source: CEET

Figure 6.29 to Figure 6.31 show the observed (1981 to 2013) and within-sample (1982 to 2013) and out-of-sample (2014 to 2020) forecasts of employment of teachers in government, Catholic and independent Secondary schools.

The employment of teachers in government Secondary schools has a strong cyclical pattern often related to changing enrolment patterns and government policies. Employment reached a peak in the mid-1980s. It declined rather sharply for the next decade and a half to less than 18,000 in 1998. For the next seven years it slowly increased to about 20,000 before coming down again to less than 19,000 in 2013. The demand is forecast to decline until 2016 before beginning to increase to meet increased enrolments that are in the pipeline and also increased retention due to the raising of the school leaving age in 2010.

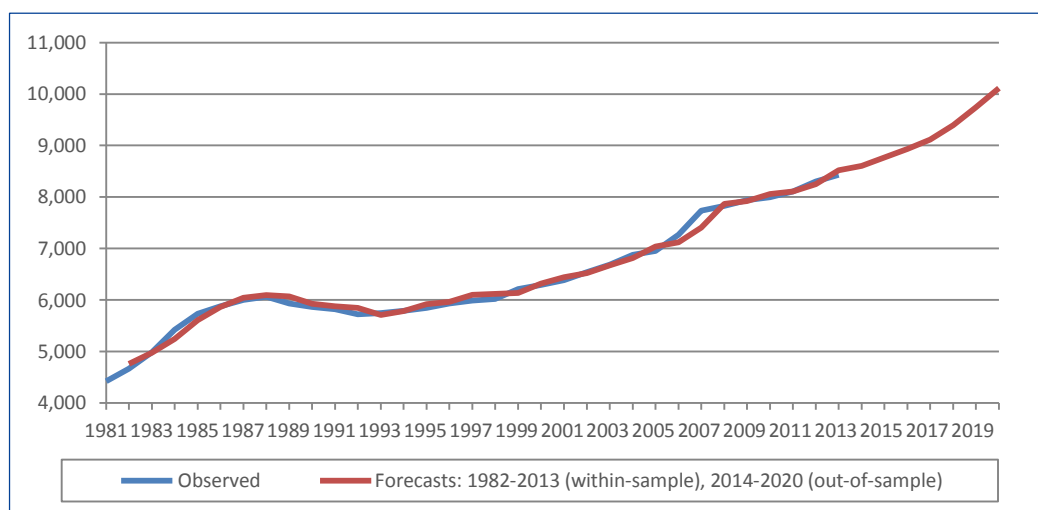
In contrast, the employment of teachers in the non-government sectors show sustained growth since 1981 and none of the cyclical variation evident in the government sector. The only period during which growth seemed flat-lined is during the recession of the late 1980s and early 1990s. Fewer parents were perhaps able to send or keep their children in non-government schools during the recession. Lack of growth in enrolments would have meant fewer new teachers were employed. During these difficult economic circumstances some schools may have even increased the student-to-teacher ratio to limit increases in fees.

Figure 6.29: Employment of teachers in government Secondary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



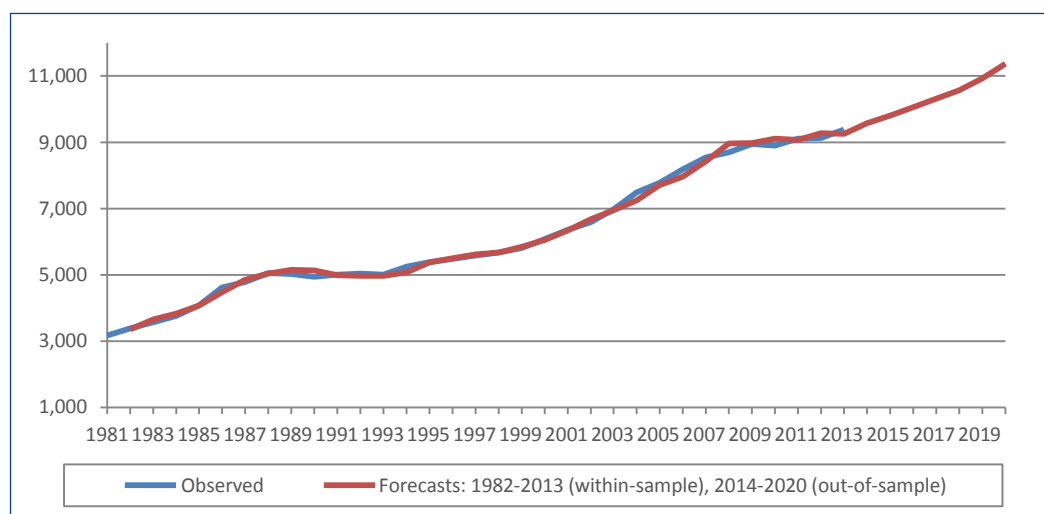
Source: DEECD, ABS, Department of Education and CEET model.

Figure 6.30: Employment of teachers in Catholic Secondary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, ABS, Department of Education and CEET model.

Figure 6.31: Employment of teachers in independent Secondary schools, Victoria, 1981–2013 (observed) 1982–2020 (forecasts)



Source: DEECD, ABS, Department of Education and CEET model.

Table 6.15 provides a summary of employment of teachers in Secondary schools from 2006 to 2020. The total number of Secondary school teachers employed in Victoria increased by 1,206 teachers from 2006 to 2013. While teacher numbers in the government sector declined by 5.8 per cent, in the Catholic and independent sectors they increased by 16 per cent and 14.6 per cent, respectively.

Total employment is forecast to increase from 36,521 teachers in 2013 to 40,355 in 2020, with half (51.8 per cent) of this growth in the independent sector and only 4.3 per cent in the government sector. As the recent growth in enrolments in the Primary sector flows through into the Secondary sector, the overall demand for Secondary school teachers is expected rise after 2020.

Table 6.15: Employment of teachers in Secondary schools, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Government	Catholic	Independent	Total
2006	19,862	7,268	8,185	35,315
2007	19,988	7,737	8,542	36,267
2008	19,799	7,827	8,697	36,323
2009	19,595	7,938	8,948	36,481
2010	19,469	7,995	8,904	36,368
2011	19,191	8,106	9,108	36,405
2012	18,964	8,302	9,128	36,394
2013	18,707	8,432	9,382	36,521
2014	18,516	8,605	9,572	36,693
2015	18,358	8,768	9,803	36,929
2016	18,281	8,937	10,062	37,280
2017	18,264	9,114	10,316	37,694
2018	18,360	9,394	10,570	38,324
2019	18,578	9,744	10,927	39,249
2020	18,872	10,116	11,367	40,355
Change 2006–2013	-1,155	1,164	1,197	1,206
Change 2013–2020	165	1,684	1,985	3,834
Change 2006–2013 (%)	-5.8	16.0	14.6	3.4
Change 2013–2020 (%)	0.9	20.0	21.2	10.5
Average annual change 2006–2013 (%)	-0.8	2.3	2.1	0.5
Average annual change 2013–2020 (%)	0.1	2.9	3.0	1.5

Source: DEECD, ABS, Department of Education and CEET model.

Teachers in Special schools and in the ‘Other’ category

The modelling of the demand for teachers in Special schools was undertaken at the state level because there are relatively few non-government Special schools.⁷⁵ A time series method was used for this purpose.⁷⁶ The model included the numbers of students with special needs as an explanatory variable.

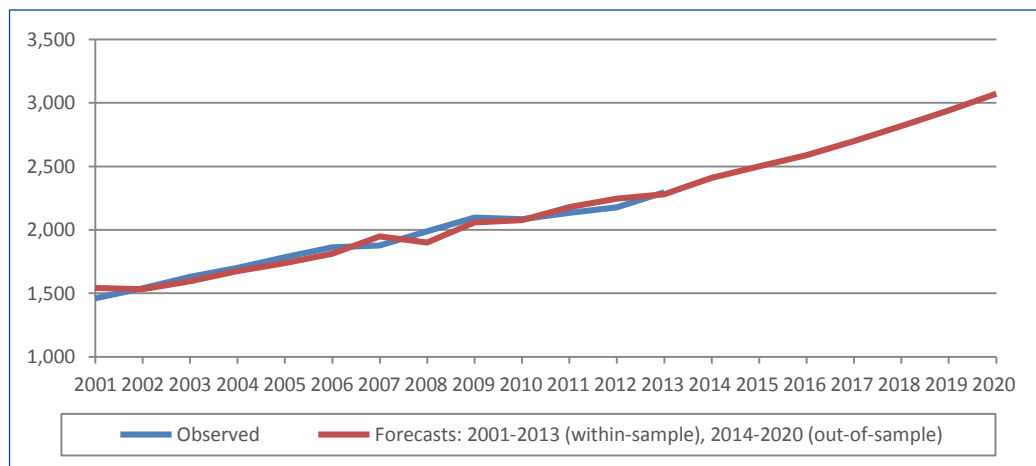
The demand for teachers in the ‘Other’ category was modelled using a similar method. The ‘Other’ category includes teachers who work in Language schools, outdoor education camps, and other settings.

Figure 6.32 shows the observed (2001 to 2013) and within-sample (2001 to 2013) and out-of-sample (2014 to 2020) forecasts of employment of teachers in Special schools. It shows a constant growth in employment and this is forecast to continue to 2020. Similarly, Figure 6.33 shows the employment of teachers in the ‘Other’ category. Employment in the ‘Other’ category averaged about 300 from 1994 to 2007. It increased significantly after that, peaking at 1,068 in 2010. By 2013 it had almost halved to 564. Such fluctuations in demand are difficult to model with reasonable accuracy.

⁷⁵ We used the average sectoral employment from 2009 to 2013 to derive sector-level forecasts.

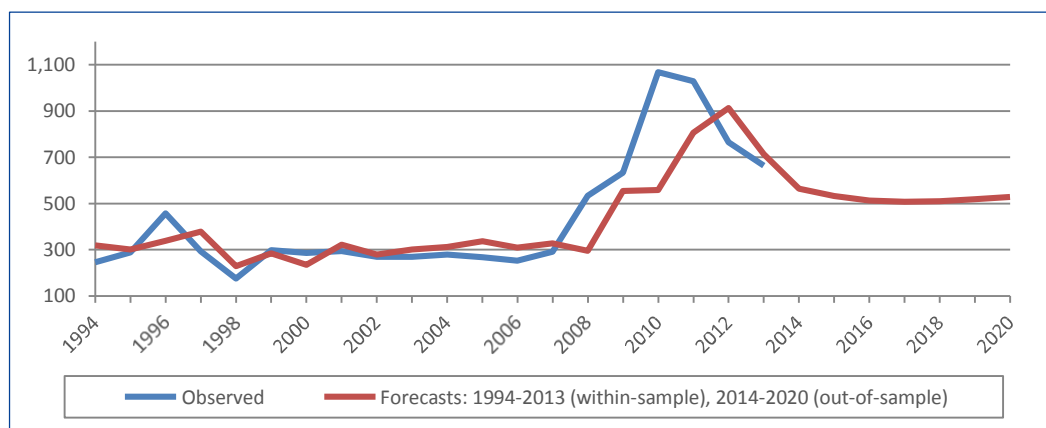
⁷⁶ An autoregressive model, ARX (1), was found to be the best fit for the data.

Figure 6.32: Employment of teachers in Special schools, Victoria, 2001–2013 (observed) 2002–2020 (forecasts)



Source: DEECD, ABS, Department of Education and CEET model.

Figure 6.33: Employment of teachers in the ‘Other’ category, Victoria, 1994–2013 (observed) 2002–2020 (forecasts)



Source: DEECD, ABS, Department of Education and CEET model.

Table 6.16 provides a summary of employment of teachers in Special schools and in the ‘Other’ category from 2006 to 2020. The number of teachers employed in Special schools increased by 433 from 2006 to 2013. Employment of teachers in the non-government sectors fell during this period. The demand for teachers is forecast to increase by 776, or 33.8 per cent, in the seven years to 2020. The forecasts anticipate enrolment in Special schools to increase as forecast earlier.

As discussed above, the employment of teachers in the ‘Other’ category seems to fluctuate significantly. The demand for teachers in this category is forecast to decline by 136 in the seven years to 2020.

Table 6.16: Employment of teachers in Special schools and in 'Other' category, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Special education			Total	Other ¹
	Government	Catholic	Independent		
2006	1,720	66	78	1,864	253
2007	1,826	31	22	1,879	292
2008	1,932	33	25	1,990	534
2009	2,029	26	42	2,097	634
2010	2,044	22	19	2,085	1,068
2011	2,080	34	20	2,134	1,029
2012	2,124	34	19	2,177	765
2013	2,243	29	25	2,297	664
2014	2,350	32	28	2,410	564
2015	2,439	34	29	2,502	532
2016	2,524	35	30	2,589	512
2017	2,631	36	31	2,699	507
2018	2,749	38	33	2,819	510
2019	2,869	40	34	2,943	518
2020	2,996	41	36	3,073	528
Change 2006–2013	523	-37	-53	433	411
Change 2013–2020	753	12	11	776	-136
Change 2006–2013 (%)	30.4	-56.1	-67.9	23.2	162.5
Change 2013–2020 (%)	33.6	42.4	42.4	33.8	-20.4
Average annual change 2006–2013 (%)	4.3	-8.0	-9.7	3.3	23.2
Average annual change 2013–2020 (%)	4.8	6.1	6.1	4.8	-2.9

Source: DEECD, ABS, Department of Education and CEET model.

¹ Teachers in the 'Other' category are all in the government sector and work in Language schools, outdoor education camps and other settings.

Summary

Table 6.17 provides a summary of the demand for teachers in Victoria from 2006 to 2020. In 2013, 79,698 teachers were employed in the state. Total employment increased by 7,575 teachers, or 10.5 per cent, from 2006 to 2013. Over the next seven years to 2020, total demand is forecast to increase to 94,730 teachers, which represents 15,032 more teachers than in 2013. About 61.3 per cent of the growth in demand is Primary school teachers; 25.5 per cent for Secondary school teachers; 8.9 per cent for kindergarten teachers; and 5.1 per cent for teachers in Special schools.

Table 6.17: Employment of teachers, Victoria, 2006–2013 (observed) 2014–2020 (forecasts)

Year	Kinder	Primary	Secondary	Special schools	Other ¹	Total
2006	1,995	32,696	35,315	1,864	253	72,123
2007	2,047	33,297	36,267	1,879	292	73,782
2008	2,150	33,672	36,323	1,990	534	74,669
2009	2,193	34,203	36,481	2,097	634	75,608
2010	2,369	34,652	36,368	2,085	1,068	76,542
2011	2,680	35,252	36,405	2,134	1,029	77,500
2012	2,882	36,046	36,394	2,177	765	78,264
2013	3,333	36,883	36,521	2,297	664	79,698
2014	3,563	38,398	36,693	2,410	564	81,627
2015	3,639	39,652	36,929	2,502	532	83,254
2016	3,937	40,827	37,280	2,589	512	85,145
2017	4,185	42,232	37,694	2,699	507	87,318
2018	4,347	43,601	38,324	2,819	510	89,600
2019	4,512	44,841	39,249	2,943	518	92,063
2020	4,678	46,097	40,355	3,073	528	94,730
Change 2006–2013	1,338	4,187	1,206	433	411	7,575
Change 2013–2020	1,345	9,214	3,834	776	-136	15,032
Change 2006–2013 (%)	67.1	12.8	3.4	23.2	162.5	10.5
Change 2013–2020 (%)	40.3	25.0	10.5	33.8	-20.4	18.9
Average annual change 2006–2013 (%)	9.6	1.8	0.5	3.3	23.2	1.5
Average annual change 2013–2020 (%)	5.8	3.6	1.5	4.8	-2.9	2.7

Source: DEECD, ABS, Department of Education and CEET model.

¹ Teachers in the 'Other' category are all in the government sector and work in Language schools, outdoor education camps, etc.

6.5 Net replacement needs

New jobs from growth in demand account for only a portion of all jobs that are expected to be available for newly trained teachers. Many current teachers will leave the profession for a variety of reasons, such as ill-health, retirement or transfer to another occupation. These departures will create additional opportunities for newly trained teachers. The number of teachers retiring will rise in coming years due to the ageing of Australia's baby boomers. The exits from the profession net of those who return creates replacement needs, which when added to jobs created due to growth in demand, provide a more complete picture of job openings for new entrants.

The measurement of replacement or turnover needs is complex because of the continuous movement of teachers into and out of teaching. Although a number of measures exist to assess turnover, the one adopted for this report is net replacement.⁷⁷ It estimates the number of workers leaving an occupation who will need to be replaced by relatively younger workers. It often is used to approximate openings stemming from retirements and from the need to replace workers who permanently leave an occupation for other reasons.

Net replacement needs can be approximated by comparing the stock of teachers at two points in time using the cohort component method which is often used in demography. In this method changes in the size of cohorts, defined by age, are measured across two time periods. Cohorts that increase in size indicate net inflows of workers into the occupation and those that decrease in size indicate net outflows (net separations). The sum of the net outflows provide a measure of net replacement needs in the occupation. The analysis is usually undertaken separately for males and females because the turnover behaviour tends to vary by gender.

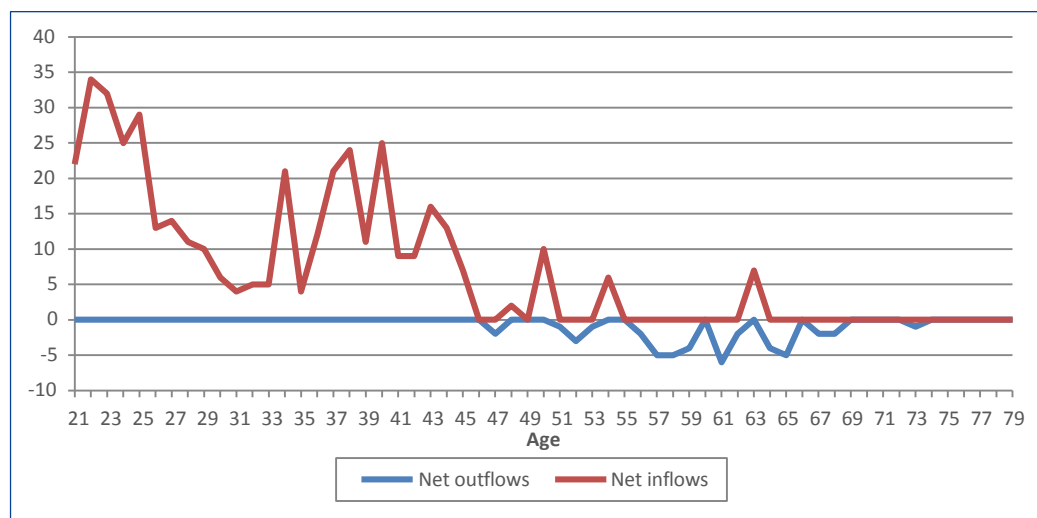
For illustrative purposes Figure 6.34 shows the pattern of net inflows and net outflows for kindergarten teachers from 2012 to 2013.⁷⁸ As one would expect net inflows into kindergarten teaching is generally of younger teachers and net outflows of

⁷⁷ Shah and Burke (2001), pp. 648–663; Bureau of Labor Statistics (2006); Shah and Long (2013). Net replacement needs are always less than total or gross replacement needs in an occupation. Total replacement needs together with growth represent the total number of opportunities available in the occupation. However, training program planning is best served by knowing the opportunities for new entrants.

⁷⁸ As almost all kindergarten teachers are female, we do not analyse the pattern of net inflows and net outflows by gender.

older teachers. Net inflows between the ages of 33 and 47 could be teachers returning from family leave. The sum of net outflows represent about 1.5 per cent of the number of teachers employed in 2012, which is the net replacement rate. Calculations using data for 2011 and 2012 gives a net replacement rate of 1.9 per cent. We use the average of these two values as our estimate of the net replacement rate for kindergarten teachers.

Figure 6.34: Net inflows and net outflows of kindergarten teachers, Victoria, 2012–2013



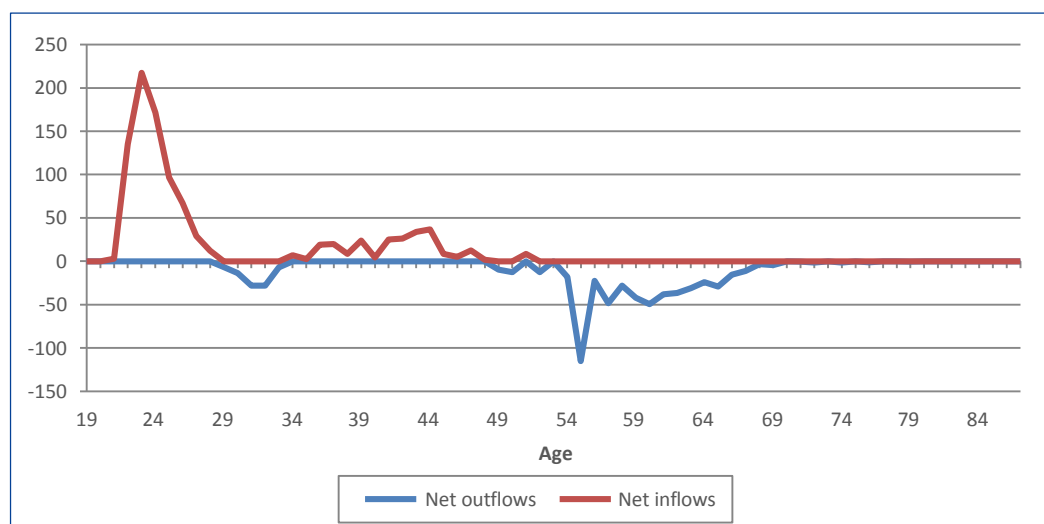
Source: CEET

Figure 6.35 and Figure 6.36 show the pattern of net inflows and net outflows for female and male teachers in government Primary schools from 2012 to 2013. Although the pattern is generally similar to that for kindergarten teachers, there are significant net outflows of female teachers between the ages of 28 and 35, the age when female teachers are most likely to go on maternity or family leave. The financial advantage of retiring at age 55 for teachers who are in the Revised Scheme for superannuation is also evident by the large spike in net outflows of teachers aged 55 years.

The pattern of net inflows and net outflows for male Primary school teachers is similar to that for females but without the significant net outflows between the ages of 29 and 34. Net outflows of male teachers at age 34 perhaps signifies career changes by some teachers.

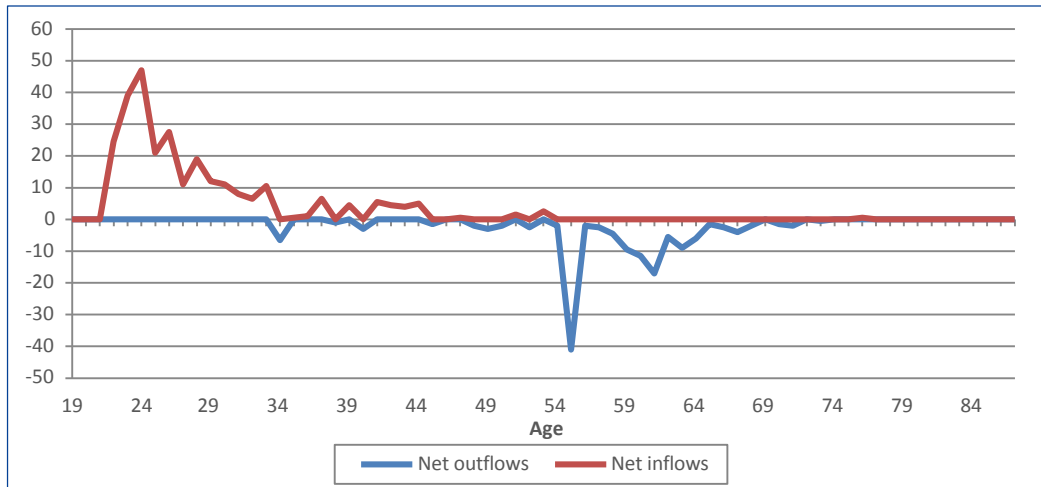
Using data on teachers in the government sector from 2004 to 2013, the average net replacement rate for Primary school teachers is estimated to be 3.6 per cent for females and 2.9 per cent for males. We use these rates for the non-government sectors as well because data to separately estimate the rates in these sectors are unavailable.

Figure 6.35: Net inflows and net outflows of female teachers in government Primary schools, Victoria, 2012–2013



Source: CEET

Figure 6.36: Net inflows and net outflows of male teachers in government Primary schools, Victoria, 2012–2013

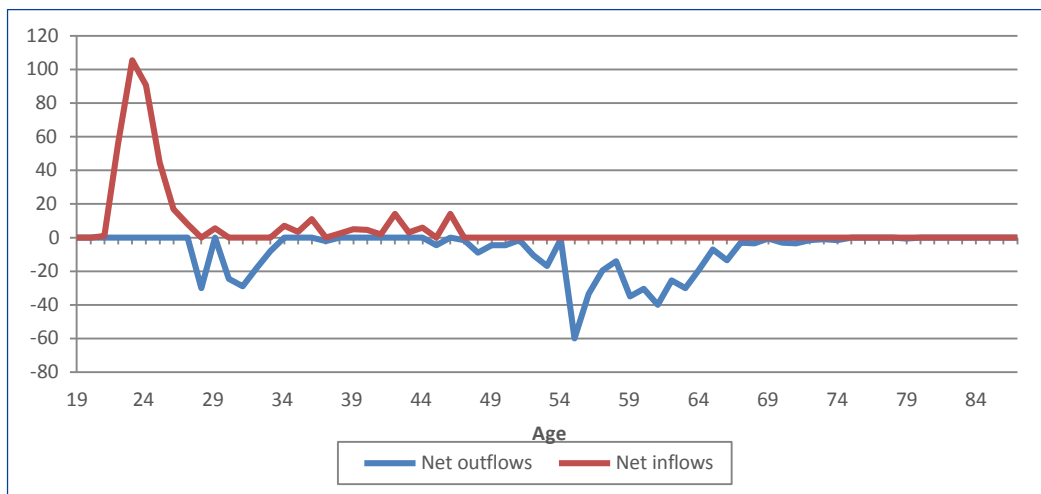


Source: CEET

Figure 6.37 and Figure 6.38 show the pattern of net inflows and net outflows for female and male teachers, in Secondary schools from 2012 to 2013. These patterns are generally similar those observed for Primary school teachers. Net outflows of male teachers however occur over a wider age range.

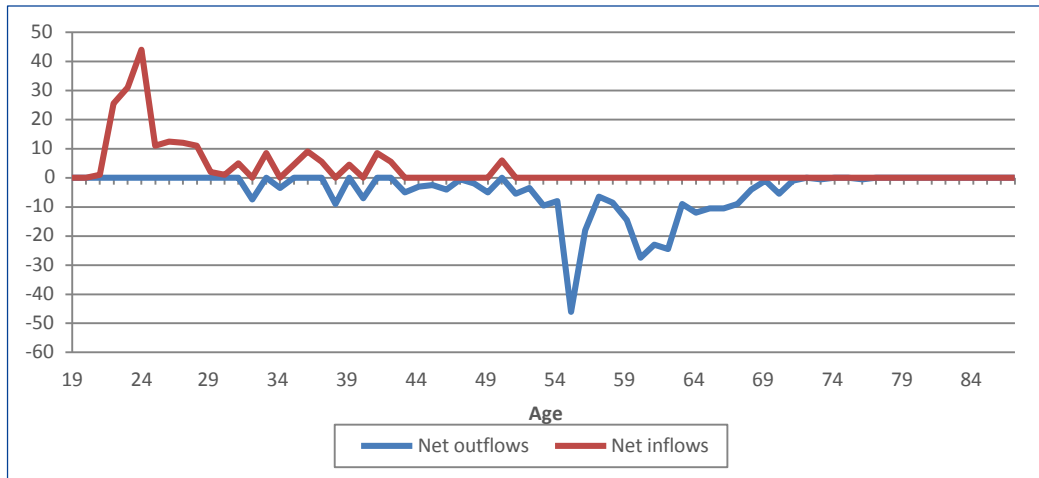
Using data teachers in the government sector from 20014 to 2013, the average net replacement rate for teachers in Secondary schools is estimated to be 3.9 per cent for females and 4.2 per cent for males. For reasons cited above, these estimates are also used for teachers in the non-government sectors.

Figure 6.37: Net inflows and net outflows of female teachers in government Secondary schools, Victoria, 2012–2013



Source: CEET

Figure 6.38: Net inflows and net outflows of male teachers in government Secondary schools, Victoria, 2012–2013



Source: CEET

6.6 Job openings for new entrants to teaching

Job openings for new entrants to teaching result from growth in the number of teaching positions and net replacement needs. They provide an indication of the future job openings for newly trained teachers. Comparing these job openings with the numbers of new graduates from teaching courses who choose teaching as a career, provides us with an indication of whether there is likely to be a shortage or an excess of supply of teachers in the future. Such analyses provide baseline assessment at the aggregate level and need to be validated with other data, including qualitative data, to better understand the complex interplay between supply and demand in different geographical areas, hard-to-staff schools and subject shortage areas.

Government sector

Table 6.18 shows job openings for new entrants resulting from expansion in demand and net replacement needs in the government sector from 2014 to 2020. Total job openings over this period are projected to be 21,087, of which 60.8 per cent are a result of net replacement needs. While 28 per cent of job openings for kindergarten teachers will be the result of net replacement needs, for Secondary school teachers the percentage is 89.5 per cent.

Table 6.18: Job openings for new entrants to teaching in the government sector, Victoria, 2014–2020

	Kinder	Primary	Secondary	Special schools	Other ¹	Total
Expansion demand						
2014	230	960	0	107	0	1,296
2015	76	766	0	89	0	931
2016	298	699	0	85	0	1,082
2017	248	824	0	107	0	1,180
2018	162	837	96	117	3	1,216
2019	165	754	218	121	8	1,265
2020	166	697	294	127	10	1,294
Total 2014–2020	1,345	5,537	608	753	21	8,264
Net replacement needs						
2014	63	815	753	83	25	1,739
2015	67	849	745	87	21	1,769
2016	69	875	739	90	20	1,793
2017	75	900	736	93	19	1,822
2018	79	928	735	97	19	1,859
2019	82	957	739	102	19	1,899
2020	85	983	748	106	19	1,942
Total 2014–2020	521	6,307	5,194	659	141	12,822
Job openings for new entrants						
2014	293	1,775	753	190	25	3,035
2015	143	1,614	745	176	21	2,700
2016	367	1,574	739	175	20	2,875
2017	323	1,724	736	201	19	3,002
2018	241	1,766	831	214	22	3,074
2019	247	1,711	957	222	27	3,164
2020	251	1,681	1,042	233	29	3,236
Total 2014–2020	1,866	11,845	5,802	1,412	162	21,087

Source: CEET model

Note. Columns may not add up to the totals because of rounding.

¹ Teachers in the 'other' category are all in the government sector and work in Language schools, outdoor education camps and other settings.

Catholic sector

Table 6.19 shows the job openings new entrants in the Catholic sector from 2014 to 2020. Total job openings are projected to be 8,912, with 54.6 per cent resulting from net replacement needs.

Table 6.19: Job openings for new entrants to teaching in the Catholic sector, Victoria, 2014–2020

	Primary	Secondary	Special schools	Total
Expansion demand				
2014	282	173	3	459
2015	282	163	1	446
2016	288	169	1	459
2017	355	177	1	533
2018	343	280	2	624
2019	386	350	2	738
2020	415	372	2	789
Total 2014–2020	2,352	1,684	12	4,048
Net replacement needs				
2014	300	340	0	640
2015	310	347	0	657
2016	320	353	0	673
2017	330	360	0	690
2018	342	367	0	710
2019	354	378	0	733
2020	368	392	0	761
Total 2014–2020	2,324	2,537	3	4,864
Job openings for new entrants				
2014	582	513	4	1099
2015	592	510	2	1103
2016	608	522	2	1132
2017	685	537	2	1223
2018	685	647	2	1334
2019	741	728	2	1471
2020	783	764	2	1550
Total 2014–2020	4,676	4,221	15	8,912

Source: CEET model

Note. Columns may not add up to the totals because of rounding.

Independent sector

Table 6.20 shows the job openings for new entrants in the independent sector from 2014 to 2020. Total job openings are projected to be 7,491, with 55.7 per cent resulting from net replacement needs.

Table 6.20: Job openings for new entrants to teaching in the independent sector, Victoria, 2014–2020

	Primary	Secondary	Special schools	Total
Expansion demand				
2014	273	190	3	466
2015	206	231	1	438
2016	188	259	1	448
2017	227	254	1	482
2018	188	254	1	443
2019	100	357	1	459
2020	143	440	2	584
Total 2014–2020	1,325	1,985	11	3,320
Net replacement needs				
2014	166	378	0	545
2015	175	386	0	562
2016	182	395	0	578
2017	189	406	0	595
2018	197	416	0	613
2019	203	426	0	630
2020	207	441	0	648
Total 2014–2020	1,319	2,849	2	4,170
Job openings for new entrants				
2014	439	568	3	1,011
2015	381	617	1	1,000
2016	370	654	1	1,026
2017	416	660	2	1,077
2018	385	670	2	1,057
2019	304	783	2	1,089
2020	350	881	2	1,232
Total 2014–2020	2,644	4,834	13	7,491

Source: CEET model

Note. Columns may not add up to the totals because of rounding.

Summary

Table 6.21 provides a summary of job openings for new entrants at the state level. The total number of new job openings in the seven years to 2020 is estimated to be 37,489, a majority of which will be a result of net replacement needs. About 51.1 per cent of all job openings for new entrants will be Primary schools and 39.6 per cent will be in Secondary schools.

Table 6.21: Job openings for new entrants to teaching, Victoria, 2014–2020

	Kinder	Primary	Secondary	Special schools	Other ¹	Total
Expansion demand						
2014	230	1,515	363	113	0	2,221
2015	76	1,253	394	92	0	1,815
2016	298	1,175	428	87	0	1,988
2017	248	1,406	431	110	0	2,195
2018	162	1,368	630	120	3	2,283
2019	165	1,240	925	124	8	2,462
2020	166	1,256	1,106	130	10	2,668
Total 2014–2020	1,345	9,214	4,277	776	21	15,633
Replacement needs						
2014	63	1,281	1,471	84	25	2,923
2015	67	1,334	1,478	88	21	2,988
2016	69	1,377	1,487	91	20	3,044
2017	75	1,418	1,502	94	19	3,107
2018	79	1,467	1,518	98	19	3,181
2019	82	1,515	1,544	102	19	3,262
2020	85	1,558	1,581	107	19	3,350
Total 2014–2020	521	9,951	10,580	663	141	21,856
Job openings for new entrants						
2014	293	2,796	1,834	196	25	5,144
2015	143	2,587	1,872	179	21	4,803
2016	367	2,553	1,915	178	20	5,033
2017	323	2,824	1,933	204	19	5,302
2018	241	2,835	2,148	218	22	5,465
2019	247	2,755	2,469	226	27	5,724
2020	251	2,813	2,687	237	29	6,018
Total 2014–2020	1,866	19,164	14,857	1,439	162	37,489

Source: CEET model

¹ Teachers in the category 'other' are all in the government sector and work in Language centres, outdoor education camps, etc.

6.7 Chapter summary

This chapter has provided forecasts of the demand for teachers and job openings for new entrants into teaching in Victoria from 2014 to 2020. Separate forecasts are provided for teachers in kindergarten, Primary, Secondary and Special schools as well as for teachers in the 'Other' category. The forecasts for teachers in Primary and Secondary schools are further disaggregated by sector.

Central to forecasting the demand for teachers are forecasts of student enrolments. Several factors were taken into account to model student enrolments in schools by Year level and sector.

Population growth of children aged three to six years is one of the main determinants of enrolments in the kindergarten year. The size of this cohort increased by 2.2 per cent per year from 2006 to 2013. According to the ABS projections, the cohort will continue growing, albeit at a slightly slower rate of two per cent per year until 2020. Consequently, but also because of government policy and changes in parental attitudes, enrolments in kindergartens are forecast to increase from 72,941 in 2013 to 90,009 in 2020. This represents an average annual increase of 3.3 per cent.

Population growth since 2006 has also contributed to the rapid increase in enrolments in Primary schools. Enrolments increased by about 1.1 per cent per year from 2006 to 2013, but they are forecast to increase by 2.7 per cent per year from 2013 to 2020. In absolute terms, the number of children in Primary schools is forecast to increase from 482,586 in 2013 to 573,073 in 2020.

Enrolment growth in Secondary schools over the past seven years has been more modest, increasing by 11,739 students, or 0.4 per cent per year, from 2006 to 2013. In 2013 there were 387,635 students in Secondary schools and their numbers are forecast to be 421,313 in 2020. The raising of the minimum age for leaving school, introduced in 2010, is probably already having an impact on retention in Years 11 and 12. The impact is more significant in the government sector than the non-government sectors. The recent and continuing growth in enrolments in Primary schools will have an impact on Secondary school enrolments from about 2017.

Special schools have seen a tremendous growth in enrolments in recent years, with numbers increasing from about 8,335 in 2006 to almost 11,950 in 2013. If the recent trend in enrolments were to continue, then enrolments will increase by half as much to 17,886 by 2020.

The sectoral analyses show a drift in enrolments away from the government sector, particularly at the Secondary level. The changes in the distribution of shares in enrolments across the three sectors are partly affected by the changes in the real disposable income per capita, but a more important factor, for which we do not have data, is likely to be the level of government, both Commonwealth and state, funding going to non-government schools. The share of enrolments in the government sector declined from 64.7 per cent in 2006 to 62.8 per cent in 2013. The resulting gains were shared almost equally by the Catholic and independent sectors. The rate of decline in the shares in the government sector is however expected to slow over the next seven years to 61.7 per cent in 2020. A slowing economy may have an impact on the relative shares between the sectors.

The rate of participation in schooling among the school-age population (5 to 19 years) has generally been increasing since 1981. The rate is affected by the economic cycle and also by government policies, such as that of the minimum school leaving age. The participation rate increased from 79.8 per cent in 1981 to 85.1 per cent in 2013. It is forecast to increase to 87.4 per cent by 2020.

Increasing enrolments in kindergarten and government policy to increase the minimum hours of the kindergarten program to 15 per week are the main reasons for the increase in employment of kindergarten teachers from 1,995 in 2006 to 3,333 in 2013. Demand is forecast to increase by another 40.3 per cent to 4,678 teachers by 2020, but may rise further with the introduction of the child-to-educator ratio of 11:1 from 2016.

In Primary schools, the average number of students to teachers has been declining gradually since the early 1980s. The ratio is consistently lower than in the independent sector than in the other two sectors. Since 2002, the ratio in the Catholic sector has dropped below the ratio in the government sector. The ratios in 2020 are forecast to be 13.3, 11.7 and 10.1 in the government, Catholic and independent sectors, respectively.

The ratio in government Secondary schools peaked at 12.1 in 1998, but since 2007 it has again been trending up and forecast to reach 11.8 by 2020. The ratios in the non-government sectors show a more consistent decline over time. In the Catholic sector, since 2007 the ratio has shown very little decline but in the independent sector the downward trend has continued although at a slower rate. In 2020, the ratios in the Catholic and independent sectors are forecast to be 10.9 and 7.7, respectively.

The employment of Primary school teachers increased 12.8 per cent from 32,696 in 2006 to 36,883 in 2013. The growth in demand is forecast to double over the next seven years to 46,097 teachers in 2020. This represents an increase of 9,214 more teachers than were employed in 2013.

The growth in the employment of Secondary school teachers has been more modest, increasing by 1,206 in the seven years to 2013. Fewer teachers were employed in government schools in 2013 than in 2006. Over the next seven years to 2020, the demand is forecast to increase by 10.5 per cent to 40,355 by 2020. Most of the growth is expected to be in the non-government sectors. The recent and forecasted growth in enrolments in Primary schools will begin to affect demand for Secondary school teachers in a more substantial way from 2017.

The numbers of teachers in Special schools increased 23.2 per cent from 2006 to 2013. The demand for them is forecast to increase by 33.8 per cent to 3,073 in 2020.

More than half of all job openings for new entrants into teaching will be the result of net replacement needs. Net replacement is a larger factor in job openings for new entrants to teaching in Secondary schools than in the Primary schools or kindergartens. Only 27.9 per cent of job openings for new entrants to kindergarten teaching are expected as a result of net replacement needs, compared to 71.2 per cent for new entrants to Secondary teaching. While the number of job openings for new entrants vary from year to year, the total number from 2013 to 2020 are as follows: 1,866 in kindergarten teaching; 19,164 in Primary teaching; 14,857 in Secondary teaching; 1,439 for teaching in Special schools; and 162 for teaching in the 'Other' category.

7. Overview of supply and demand for teachers

Main points:

- There are some limitations on the data. The number of Victorian residents studying online with an interstate provider, the qualification levels (Primary/Secondary) of interstate or overseas teachers, and the preferences of teachers with dual qualifications are not known.
- Supply and demand figures are state-wide and there may be some areas which have unmet demand.
- Most Early Childhood teachers have a dual qualification. An oversupply is forecast, but there may be some years with undersupply (2014, 2016 and 2017).
- Demand for Primary teachers is high. Victorian-qualified teachers may not meet demand, but conservative estimates concerning teachers entering the workforce from other sources suggest a likely oversupply.
- Secondary teachers are in oversupply, except in some subjects such as Technology, Mathematics, Physics and LOTE. An oversupply is likely to continue to 2020.

7.1 Introduction

This report is the tenth in a series of publications that have considered and forecasted teacher supply and demand since beginning in 2001: the first and most detailed series of its kind in Australia. The series has evolved over time in terms of the variety of datasets used and the detail of analysis. This report continues in this tradition. It follows the structure of, and updates the data provided in, the previous report. This report extends the information provided in two significant ways. Firstly, data has been disaggregated by Primary and Secondary levels in recognition of the different requirements of each. For the first time, the Early Childhood level is also considered in detail. Secondly, the forecasts presented are considerably more detailed than previously. Teacher Supply is disaggregated by level and dual qualifications. Teacher Demand has been modelled from time series data about students and teachers, taking into consideration a number of additional factors as part of the modelling.

This final chapter brings together the forecast figures on supply presented in Chapter 4 and on demand presented in Chapter 6 and presents an overview of supply and demand in Early Childhood and at Primary and Secondary levels, at state level. The chapter also provides an overview of the limitations of the data and the forecasting, and briefly discusses areas where additional data collection may provide a better understanding of teacher supply and demand for the future.

7.2 Teacher supply and demand

Before presenting the figures for the supply and demand of teachers in Victoria from 2014 to 2020 it is worth summarising the assumptions and caveats surrounding the data.

Supply of teachers:

- Victorian teacher education undergraduate supply to 2018 is based on supplied enrolment data and assumes current attrition rates and the proportions of those in dual qualifications remains the same
- The move to two-year graduate courses is ongoing and the impact of this change on some universities still primarily enrolling in one-year courses is not known
- The 2014–2015 Commonwealth budget proposed changes to university funding. It is not yet known what changes will be legislated or how they will affect enrolment in ITE courses.
- Graduate ITE supply numbers are forecasts based on the available information and assume growth that may be more conservative than what eventuates
- Supply of new graduates for 2019–2020 has been set at 2018 figures;
- Supply figures in all years assume that 20 per cent of Victorian university teacher education graduates from all levels will be unavailable to teach
- Estimates of Victorian graduates from interstate providers, where included, are conservative, based on limited data
- Interstate and overseas migration of qualified teachers into Victoria, based on VIT figures, is also conservative, based on limited data.

Demand for teachers:

- Current ABS population projections Series B have been used, assuming mid-range rates for fertility and deaths, and medium levels of net overseas and interstate migration
- Forecasts of demand are for the number of teachers (not FTE) by Early Childhood, Primary and Secondary levels.

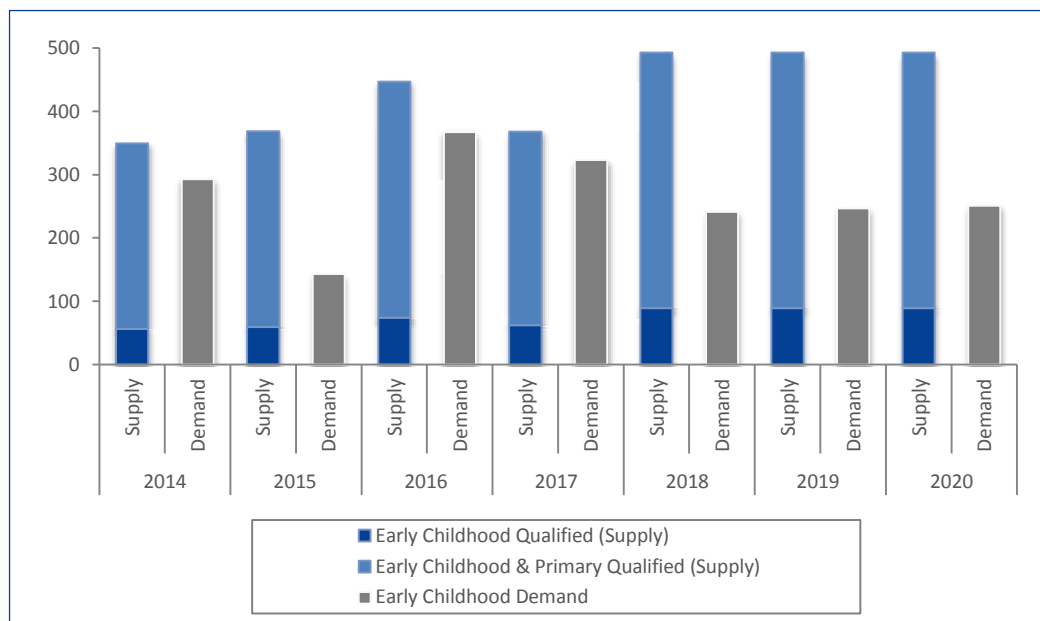
The demand figures presented here are for Early Childhood, Primary and Secondary levels. Demand by sector for Primary and Secondary levels is included in the figures provided. The demand forecast presented is for the minimum annual number of new graduates needed to meet the growth in teacher numbers and net replacement demand from 2014 to 2020.

7.3 Early Childhood teacher supply and demand

The dominant supply cohort in the Early Childhood (four year kindergarten) sector is now graduates with a dual qualification in Early Childhood and in Primary, as there are fewer courses offering only Early Childhood qualification⁷⁹. However, there are no data on the preferences of dual graduates for working in the Early Childhood or Primary sectors. Figure 7.1 shows forecast demand to 2020 and estimated supply of Early Childhood graduates from Victorian universities.

Overall, there appear to be enough qualified graduates to meet demand, but that assumes high numbers of dual qualified graduates will choose to work in the Early Childhood sector. For example, if there is an even split of graduates between Early Childhood and Primary, there is likely to be an undersupply of graduates from Victorian universities in 2014, 2016 and 2017. Even if the split of dual graduates favours the Early Childhood sector by two-to-one, there would likely be an undersupply of Victorian-trained graduates in 2014, 2016 and 2017.

Figure 7.1: Early Childhood teacher demand (job openings for new entrants) and supply from Victorian universities, 2014–2020



Note: The supply of Early Childhood-qualified graduates is predominantly those with a dual qualification at the Primary level (as shown). It is not known what proportion of these graduates would choose to work in the Early Childhood sector. Estimates of demand (job openings for new entrants) for teachers are from Table 6.21.

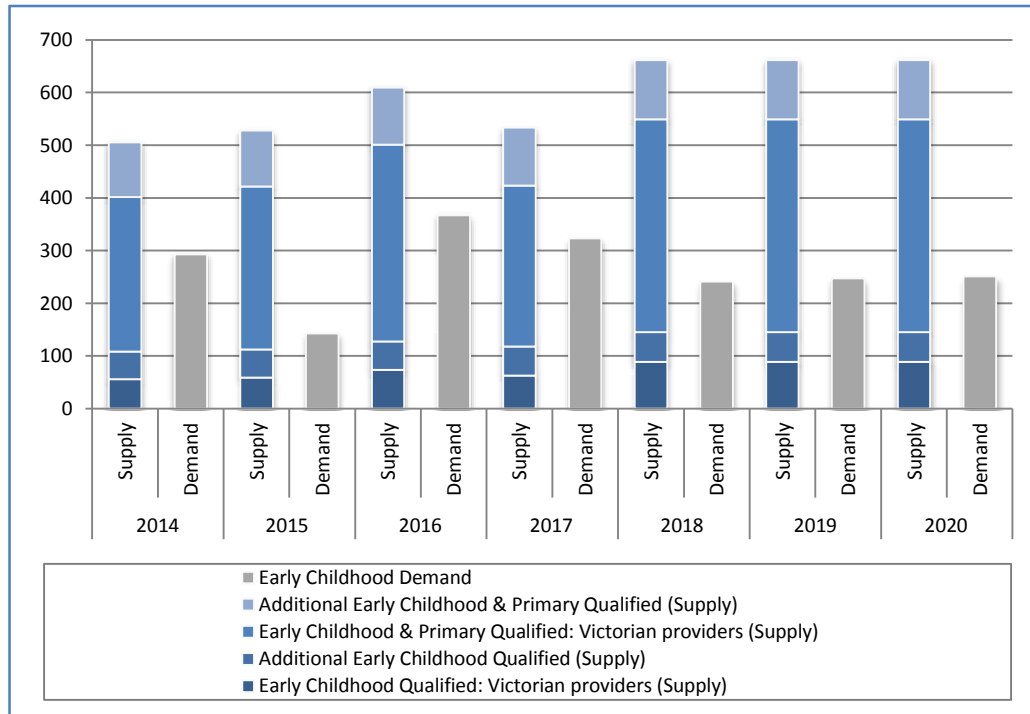
The supply figures shown in Figure 7.1 do not include qualifications gained by Victorians from interstate universities, or teachers coming through interstate and overseas migration. AITSL and VIT figures suggest that the number of teachers newly available in Victoria annually from this pool may be as high as 2,000. Unfortunately, there are no data on the proportions qualified to teach at each level. Data available from some online providers suggest that the majority of online courses are at the Early Childhood and Primary levels, rather than at Secondary. The proportions of interstate and overseas migration of teachers qualified at each level are not known. Overseas migrants recorded by VIT do not currently include teachers with an Early Childhood qualification (except as part of a dual qualification).

The additional assumed figures from the data provided in AITSL and VIT reports are included in Figure 7.2. The figures should be treated with caution but not discounted, particularly as the estimates presented are conservative (that is, only about 50 per cent of the estimated interstate new to Victoria annually have been included). There are clearly enough qualified graduates to satisfy demand. The majority of these graduates, however, also have a Primary qualification. The extent to which demand is met will be based on the preferences of individuals in areas such as the age groups they would prefer to work with and the number of working hours preferred, salary and conditions, and the availability of work in both sectors in preferred locations.

The forecast high demand for Primary teachers (see below) may have a considerable negative impact on the availability of dual qualified Early Childhood teachers over the forecast period, assuming a reasonable number of teachers qualified at both levels preference the Primary sector in their search for employment.

⁷⁹ Rowley, et al (2011).

Figure 7.2: Demand (job openings for new entrants) and supply of Early Childhood teachers, Victoria, 2014–2020



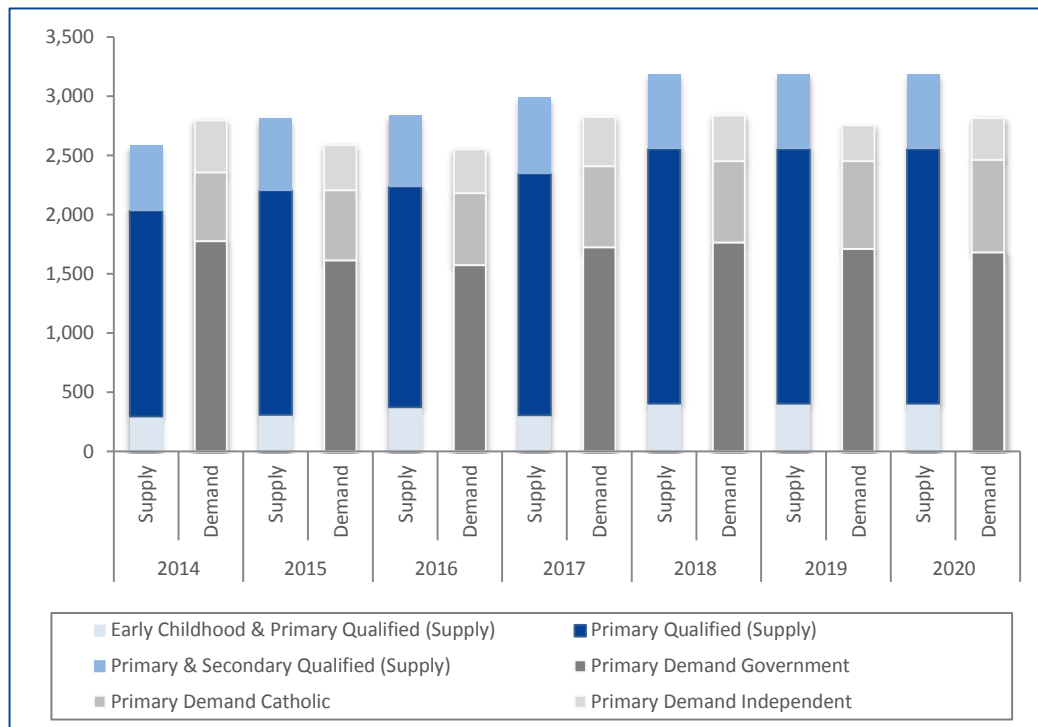
Note: The supply of Early Childhood-qualified graduates is predominantly those with a dual qualification at the Primary level (as shown). It is not known what proportion of these graduates would choose to work in the Early Childhood sector. Job openings for new entrants are from Table 6.21.

7.4 Primary teacher supply and demand

Figure 7.3 shows the forecast supply of Primary graduates from Victorian providers, including graduates with a dual qualification in either Early Childhood or Secondary, and forecast demand by sector from 2014 to 2020. Forecast demand for Primary teachers is split almost evenly between demand due to growth in student numbers and replacement needs (see Table 6.21).

On the basis of the forecast supply of qualified Primary graduates from Victorian providers, the extent to which demand could be met would be based on the number of dual qualified graduates choosing to work at the Primary level. Demand in 2014 exceeds the estimated supply of teachers qualified at a Victorian university.

Figure 7.3: Demand (job openings for new entrants) and supply¹ of teachers for Primary schools, Victoria, from Victorian institutions, 2014–2020

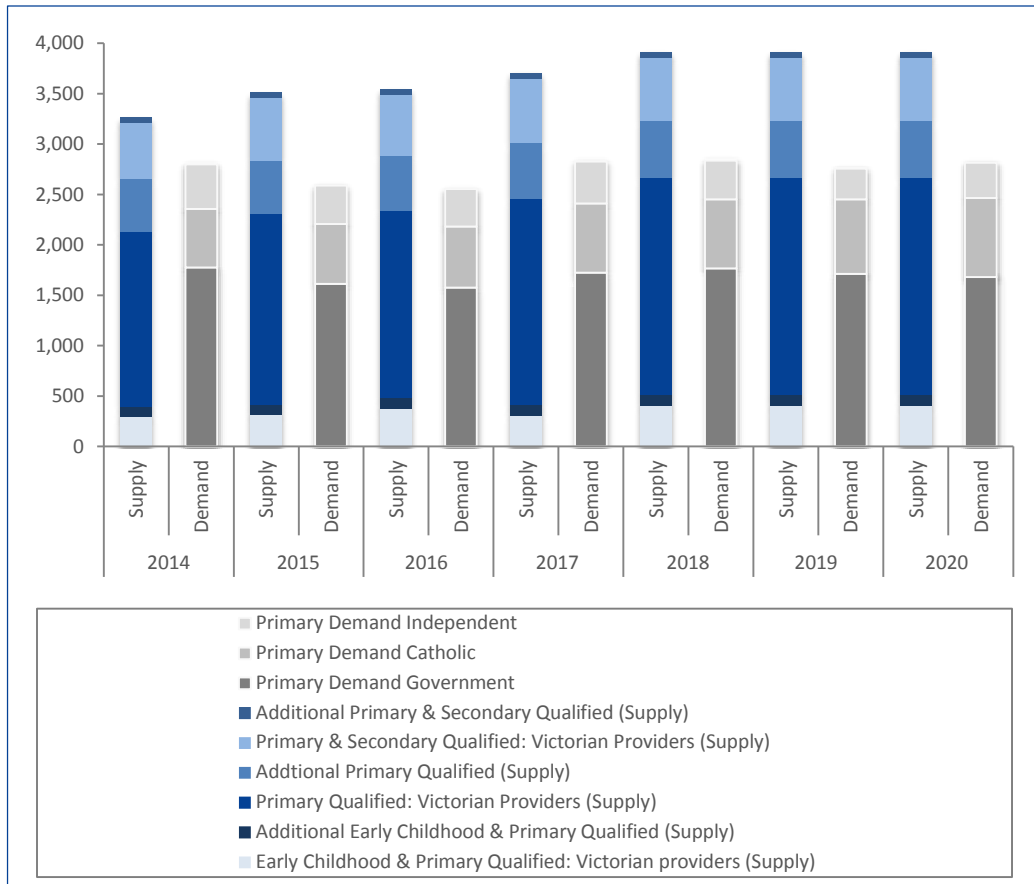


Note: The supply of Primary-qualified graduates includes those with a dual qualification at the Early Childhood or Secondary levels (as shown). It is not known what proportion of these graduates would choose to work in the Primary sector. Demand figures are sourced from tables 6.18, 6.19 and 6.20.
¹ The supply is from Victorian institutions.

Figure 7.4 includes additional conservative estimates of Victorians qualified via an interstate provider and interstate and overseas migrants (in shades of green). The forecasts suggest that there will be enough Primary-qualified teachers to meet demand over the forecast period, although in all cases this would require a proportion of dual qualified teachers to choose to work at the Primary level. This is particularly the case in 2014.

Work in the Early Childhood sector is likely to be widely available (assuming funded places continue at current levels) However, the Secondary level is likely to be considerably oversupplied (see below), which may make the Primary sector a preference for those with dual qualifications in Primary and Secondary.

Figure 7.4: Demand (job openings for new entrants) and supply¹ of teachers for Primary schools, Victoria, 2014–2020



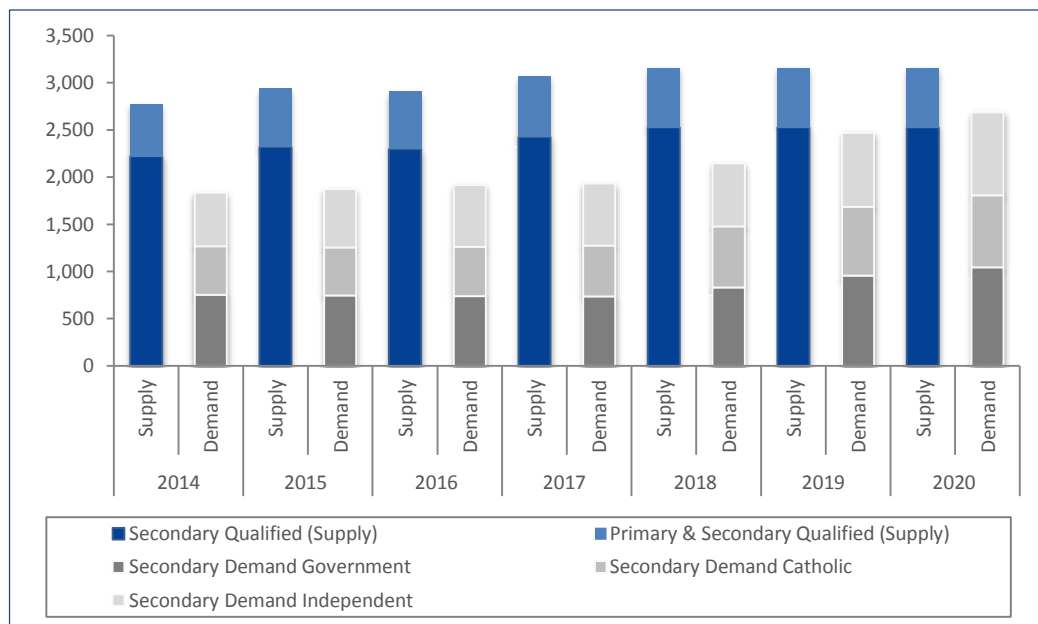
Note: The supply of Primary-qualified graduates includes those with a dual qualification at the Early Childhood or Secondary levels (as shown). It is not known what proportion of these graduates would choose to work in the Primary sector. Job openings for new entrants are from tables 6.18, 6.19 and 6.20.

¹ The supply is from Victorian and interstate institutions.

7.5 Secondary teacher supply and demand

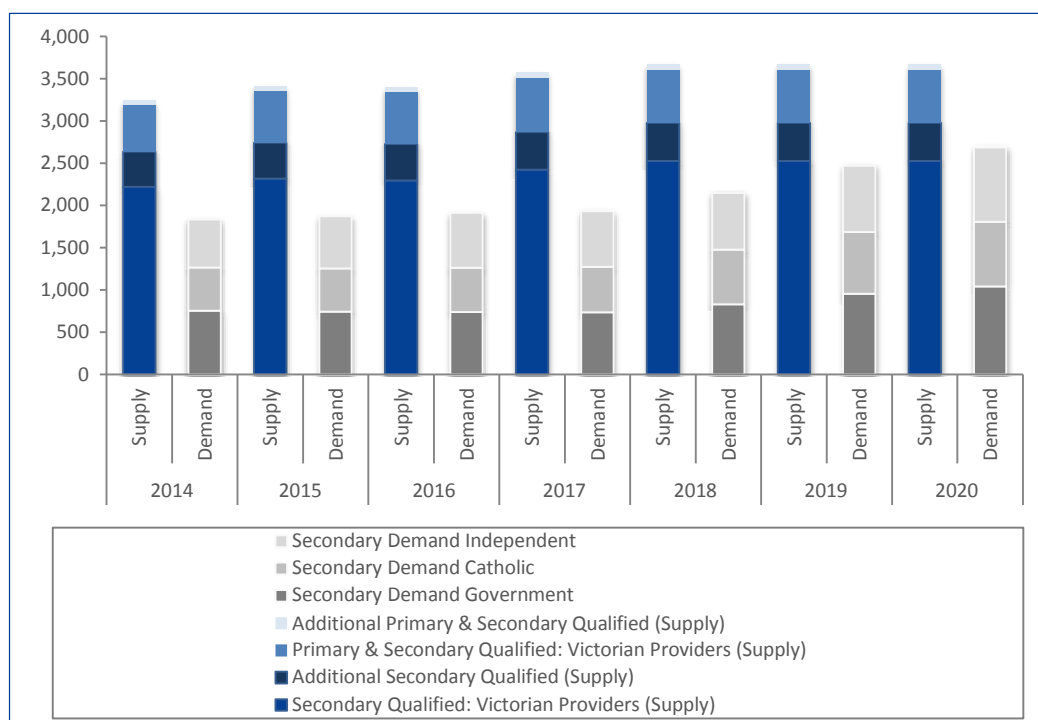
Figure 7.5 and Figure 7.6 show that there is likely to be a considerable oversupply of Secondary teachers overall, to 2018. Beyond 2018, demand increases considerably, driven by increasing enrolments as the increased population of children reaches Secondary level. Secondary supply figures are somewhat more speculative than Primary or Early Childhood as over half of all enrolments are in graduate courses. Enrolments from 2015 on are unknown and the current move to two-year programs has impacted on different providers in different ways, making it difficult to judge likely growth.

Figure 7.5: Demand (job openings for new entrants) and supply¹ of teachers for Secondary schools, Victoria, 2014–2020



Note: The supply of Secondary-qualified graduates includes those with a dual qualification at the Primary level (as shown). It is not known what proportion of these graduates would choose to work in the Secondary sector. Job openings for new entrants are from tables 6.18, 6.19 and 6.20. ¹ The supply is from Victorian institutions.

Figure 7.6: Demand (job openings for new entrants) and supply¹ of teachers for Secondary schools, Victoria, 2014–2020



Note: The supply of Secondary-qualified graduates includes those with a dual qualification at the Primary level (as shown). It is not known what proportion of these graduates would choose to work in the Secondary sector. Job openings for new entrants are from tables 6.18, 6.19 and 6.20. ¹ The supply is from Victorian and interstate institutions.

7.6 Overview of teacher supply and demand

In the context of the supply and demand figures provided above it is worth considering the limitations of the data and the larger picture of supply and demand across Victoria and across learning areas. On the demand side, the SiAS workforce studies have indicated that many teachers of Mathematics, as well as other learning areas, are teaching out-of-field, and teachers of some learning areas, such as Physics, are an aging population. In addition, while supply at both Primary and Secondary levels has been in surplus relative to demand in recent years, some low SES, regional and rural areas of the state continue to have difficulty recruiting staff (although these numbers seem to have been dropping).

Teacher demand projections provided in this report are at the state-wide level, and are driven largely by a considerable rise in the number of births from 2008. There is no data on the extent to which this rise is uniform across the state so it is not possible from these figures to gauge the likely impact on locations that have historically had difficulty recruiting staff. Teachers of the baby-boomer generation are continuing to retire. The age distribution of the teacher population no longer has higher proportions of older teachers, and replacement teachers are generally available for those leaving the workforce. However, it seems likely that retirements and the rise in school-age population may place strain on recruitment in some locations.

Additionally, demand in some areas may place strain on other resources. In the seven years from 2006–2013 an additional 34,326 Primary students entered schools, an average of about 4,900 students per year and a growth of 7.7 per cent. In the seven years from 2013–2020 an additional 90,487 Primary students are forecast to enter schools, an average of nearly 13,000 students per year and a growth of 18.8 per cent. This is more than twice the growth of the seven years to 2013 (see Table 6.2). To put that in perspective, if an average Primary class contains 24 students (as indicated in SiAS 2013), Victorian Primary schools will need to find space and resources for about 500 additional classrooms of children per year for the next seven years, as shown in Table 7.1 (see Table 6.2).

Table 7.1: Year-on-year growth in enrolments and classes in Primary schools, Victoria, 2006–2013 (historical) 2014–2020 (forecasts)

	Enrolments	Year-on-year growth in enrolments	Estimated Primary classes based on 24 students per class		
			Year-on-year growth in classes	Total number of classes	% growth in classes
2006	448,260			18,678	
2007	447,812	-448	-19	18,659	-0.1
2008	448,692	880	37	18,696	0.2
2009	452,347	3655	152	18,848	0.8
2010	455,285	2938	122	18,970	0.6
2011	461,163	5878	245	19,215	1.3
2012	471,042	9879	412	19,627	2.1
2013	482,586	11,544	481	20,108	2.4
2014	495,448	12,862	536	20,644	2.6
2015	508,490	13,042	543	21,187	2.6
2016	520,744	12,254	511	21,698	2.4
2017	535,348	14,604	609	22,306	2.7
2018	549,161	13,813	576	22,882	2.5
2019	561,224	12,063	503	23,384	2.1
2020	573,073	11,849	494	23,878	2.1

Note: Based on Table 6.2. Class size is an average, additional classes required is an estimate.

The supply of Secondary teachers can be broken down into learning areas. While there is considerable variation in enrolments year to year, five-year averages of the proportion of enrolments in each learning area are quite stable, as shown in Table 7.2. At this level, the only area showing a clear drop in the proportion of enrolments in recent years is Technology. LOTE has had a very stable percentage and it is clear that, while the proportional fluctuations of individual languages is not known, there has been no growth in languages as a proportion of Secondary learning areas studied by pre-service teachers in Victoria over the last 15 years. However government policy on compulsory language instruction in primary years may have a flow on for increased demand for language teachers in secondary school in the future.

It may be reasonable to assume that Victorians undertaking a course with an interstate provider are studying learning areas in similar proportions, although such data are not currently documented. One limit of the data on learning areas is that most Secondary teachers study two learning areas, thus lowering actual availability in any given learning area.⁸⁰

⁸⁰ For example, if ten teachers are qualified to teach Mathematics and Physics and teach both subjects at an even load, there are only five teachers available in each subject at full teaching load.

Table 7.2: Distribution of graduates with Secondary teaching qualification across key learning areas, Victorian institutions

	Average 2000–2004 (%)	Average 2005–2009 (%)	Average 2010–2014 (%)	Average 2000–2014 (%)
SOSE	22.4	20.2	23.3	22.0
Science	22.2	19.3	21.0	20.8
Arts	13.7	17.4	14.3	15.1
English	14.7	13.5	13.7	14.0
HPE	12.0	12.5	14.0	12.8
Mathematics	5.5	6.2	5.4	5.7
Technology	5.3	6.6	3.4	5.1
LOTE	4.1	4.1	4.0	4.1
Unknown	0.1	0.2	1.0	0.4
Total	100	100	100	100

Source: ACER

The supply of teachers indicated in this section is of teachers new to teaching and/or new to Victoria. The number of teachers registered with the VIT exceeds the number of teachers working in schools. It is not known to what extent this pool may be available to teach, nor are there data on those who maintain their registration and why they are not teaching. It is fair to assume that some are in transition to retirement or have retired, and have not yet decided to give up the option of returning to the classroom part-time or on a casual basis. It is also likely, given the highly feminised workforce, that many with family responsibilities have maintained registration with the intent to return to the workforce. It may be that some are constrained by a preference for full-time or part-time employment and have been unable to find their preferred option within their preferred travel distance. The characteristics and intentions of those who are registered but not currently teaching is a priority area for future work.

Similarly, it is assumed that 20 per cent of all teacher graduates annually will not be available to teach. VIT data on provisional registration and the GCA destinations survey suggest that this is a reasonable estimate. Some teachers find other employment. Up to 5 per cent are international students who may return to their home country. Other graduates choose to travel. The GCA destinations survey collects information from university graduates about three months after they graduate, when many may still be looking for work and it is not known to what extent those who are not teaching have been unable to find employment in the teacher workforce.

Demand for teachers in Primary schools has increased in the 2012 to 2013 period and is forecast to continue increasing to 2020. For teachers in Secondary schools, demand is forecast to increase from 2017. Supply appears to exceed demand overall, although at the Primary level, this depends on the intent to teach at the Primary level of graduates with a dual qualification. Demand at the Primary level may exceed supply in some areas of the state. This is less likely at the Secondary level at least until 2018, due to considerable oversupply, although some subjects are likely to continue to be undersupplied in some areas, such as Mathematics, Physics and LOTE.

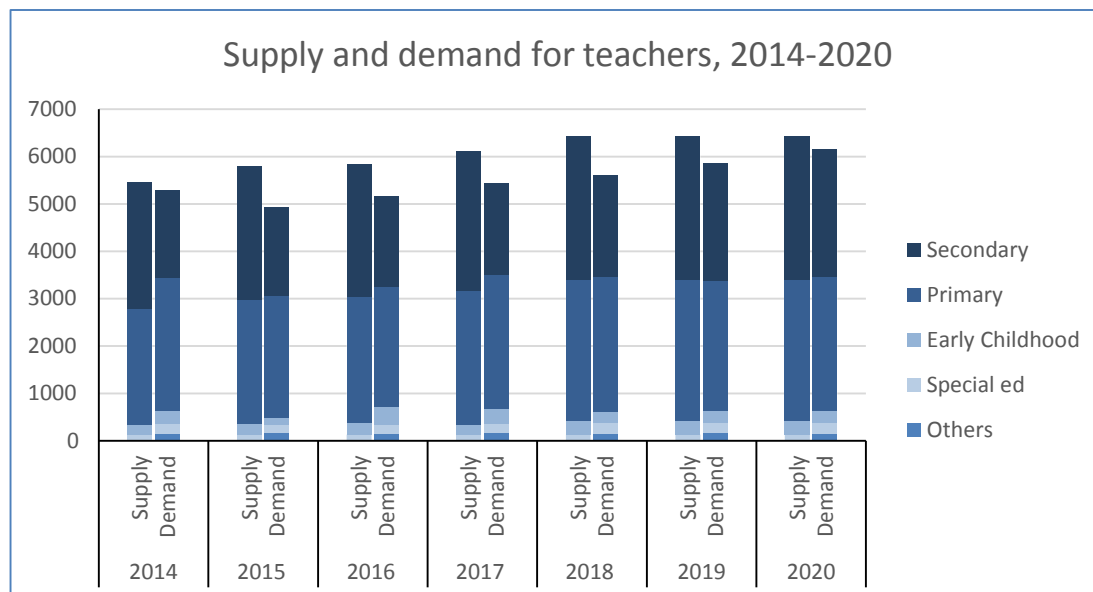
7.7 Summary

As discussed earlier, a lack of data about the choices that dual qualified graduates make in terms of whether to teach in Early Childhood, Primary or Secondary makes it difficult to estimate supply by level. In the absence of such data, below we provide a scenario for the supply and demand for teachers from 2014 to 2020 in which we assume that:

- from among the dual qualified in Early Childhood and Primary, 40 per cent will choose Early Childhood and 60% Primary
- from among the dual qualified in Primary and Secondary, 50 per cent will choose Primary and 50% Secondary
- the supply of Special education teachers will be constant at the level expected in 2013.

Figure 7.6 shows the supply and demand in this scenario. It show overall a small excess in supply over demand in 2014. This gap increases in 2015 before gradually declining to no more than a couple of hundred by 2020. Most of the excess of supply over demand is likely to be at the Secondary level. Demand is expected exceed supply in Special education schools. As the recent growth in enrolments at the Primary level move through the Secondary level, the demand for Secondary school teachers will increase and there is a potential for excess demand over supply in the post-2020 period.

Figure 7.7: Demand (job openings for new entrants) and supply¹ of teachers for Secondary schools, Victoria, 2014–2020



Note: The supply projections assume that a) 80 per cent of graduates will choose a teaching career b) 50 per cent of graduates of online courses from interstate institutions will be available in Victoria c) 40 per cent of dual Early Childhood and Primary graduates will choose Early Childhood and 60 Per cent will choose Primary d) 50per cent of dual Primary graduates will choose Primary and 50 per cent will choose Secondary. Forecasts of Job openings shown in Table 6.21 constitutes demand.

7.8 Future research

There are a number of areas where the collection or availability of additional data would further the understanding of teacher supply and demand parameters. These are discussed briefly below.

Online ITE courses are becoming more prevalent, with AITSL noting that over 6,000 pre-service teachers in Australia were studying in this mode in 2012. It is likely that 1,000 or more of these teachers were in Victoria. Those studying with an interstate provider have been included in this report, as an estimate only. In future reports, the use of the Higher Education Statistics dataset variable for students' home state may provide a more accurate measure of Victorian ITE graduates of interstate providers, dependent on the accuracy with which other variables in this dataset are reported.

About 15 per cent of all teacher graduates now have a dual qualification in Early Childhood and Primary, or Primary and Secondary education. SiAS 2013 indicates that about 20 per cent of teachers have experience at both the Primary and Secondary levels, and this is particularly prevalent in small rural schools where there may be a range of year levels in one class, in combined schools and in Special schools. The requirement for teachers in the Early Childhood sector to have a four- year degree qualification or equivalent is recent, and most course providers offer a dual qualification. Research suggests that graduates with an Early Childhood and Primary qualification are likely to prefer employment at the Primary level.⁸¹ While preferences and influences on preferences are known to a limited extent, there are no data on the actual destinations of dual graduates. This is a significant issue for the understanding of supply to the Early Childhood sector workforce. It would also have an impact on our understanding of supply in the Primary and Secondary workforces.

A proportion of teacher graduates annually have been assumed in this report to be unavailable to teach, but little is known about the size of this group, particularly the proportion of Primary and Secondary graduates, and proportions in various Secondary learning areas.

The data collected by the VIT when teachers register could provide valuable insights in to the supply and demand issues in the teaching workforce. Examples of the type of data on teachers that could be useful for further analysis include the level of qualification, KLA and type of registration. History of re-registration of individual teachers could also provide valuable information on attrition.

⁸¹ See for example: Nolan & Rouse (2013); Productivity Commission (2011).

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