Demand and supply of primary and secondary school teachers in Australia

Executive summary

The report examines the state of the teacher labour market in each Australian State and Territory in 2000, projects demand and supply for teachers to 2003 and, for the longer term period to 2010, considers some issues which are likely to have a significant impact on the balance between demand and supply. The analysis is based on information provided by the State and Territory education authorities and data from other sources.

Trends during the 1990s

During the 1990s, the teaching workforce increased by about 11 per cent across Australia with most of the increase occurring in the primary sector. While total teacher employment grew in every State and Territory, growth was especially strong in New South Wales, Queensland, Western Australia and the Northern Territory. Primary sector teacher employment grew in all jurisdictions but secondary sector teacher employment fell in three, namely Victoria, South Australia and Tasmania.

By 1999 there were 239,000 teachers (215,000 in FTE terms) employed in Australian schools, divided almost equally between primary and secondary schools. Almost 80 per cent of teachers were employed on a permanent full-time basis, with 10 per cent employed on a permanent part-time basis and 11 per cent on a fixed term contract. Almost 80 per cent of teachers in primary schools were female while the gender balance was about even in secondary schools. The average age of teachers was around 42.

The state of the teacher labour market in 2000

The early 1990s were a period of teacher surplus in Australia. More rapid growth in teacher demand during the later part of the 1990s led to a gradual tightening of the teacher labour market. By the end of 2000 the education authorities in the States and Territories reported that the teacher labour market was broadly in balance across Australia, both in the primary and secondary sectors.

Recruitment difficulties were nonetheless being experienced during 2000 in a number of disciplines and in rural and remote regions. Vacancies for mathematics, science and information technology (IT) secondary school teachers have been hard to fill in all States and Territories. Mathematics teachers have been the hardest to fill but recruitment difficulties in this and the science and IT areas are of long standing. Other subject areas experiencing some recruitment problems, although not necessarily in all States and Territories, include modern foreign languages and industrial arts/technology. Most States and Territories indicate that, in addition to these specialisations, teachers in general are hard to recruit for positions outside the metropolitan and larger urban centres.

States and Territory governments have used a number of initiatives to address these recruitment difficulties. Broadly these initiatives have been aimed at attracting more well-qualified young people into teaching, through financial and other incentives. These measures also generally include an element of targeting specialisations in short supply. Some States and Territories also have measures designed to attract teachers to country locations.

Other English speaking countries are experiencing similar trends in their teacher labour markets. New Zealand, the USA, the UK and, to a lesser extent, Canada all report some recruitment difficulties in the kind of subject areas that are hard to fill in Australia as well. In New Zealand and the USA teachers from particular ethnic backgrounds, such as Maori in New Zealand, and Spanish and black American in the USA, are also highly sought after. The UK has been reported as having been actively recruiting in Australia in certain specialisations.
Demand and supply projections to 2003

The report makes an assessment of the possible trends in demand and supply of teachers to 2003. This year was chosen because it is the most forward year for which estimates of future graduate numbers can be made from existing enrolments in initial teacher training courses. This leads to greater accuracy in the projections for teacher supply.

Methodology for projecting demand and supply of teachers

Demand in the report was estimated as the sum of growth demand and replacement demand. Growth demand accounts for increases in the teacher workforce and is determined by enrolment trends and Student to Teaching Staff ratios (STRs), which are a function of government policies. For the purpose of the report, STRs were assumed to remain at 1999 levels. Growth demand for the period to 2003 was estimated at less than 1 per cent of the workforce.

Replacement demand accounts for retirements, resignations and other forms of separation. Data on government schools indicates that separation rates, which include mainly retirements and resignations, have been of the order of 3 per cent of the permanent workforce nationally, although there is wide variation between States and Territories. Somewhat higher separation rates were used for the period to 2003, due mainly to an expected increase in the retirement rates during that period. Separation rates for non-government schools were set at lower rates because resignation rates have been assumed to be lower in non-government schools. For the purposes of projections in this study, it was assumed that teachers taking extended leave (who represent between 6 and 8 per cent of the permanent workforce in any one year) are replaced by teachers returning from extended leave.

Supply of new teachers comes from new graduates, migration, teachers registered with the education authorities for positions in government schools, the pool of casual and relief teachers, former teachers outside the labour force or not working in the profession who may move into teaching, and teachers returning from leave. The report has been able to quantify the significance of most of these sources.

Graduates from initial teacher training courses at undergraduate and postgraduate level have comprised around 4-5 per cent of the teaching workforce annually; net migration has been contributing another one half of a per cent of the workforce per year; the number of teachers on employment lists in the four States which have such a system (namely New South Wales, Queensland, Western Australia and South Australia) was over 33 000; and the pool of relief and casual teachers has some 30 000-40 000 teachers in it. However, no reliable information is available on the number of teachers outside the profession who could be available for teaching.

Data provided by the States and Territories indicate that graduates are the largest single source of new recruits to government schools in any one year. In 1999 they comprised 45 per cent of all recruits into permanent and contract positions of at least one term in length. The remaining 55 per cent came from one of the several other sources described above.

Adequacy of graduations for meeting future teacher needs

Using the assumptions described above the report estimates that recruitment needs in government and non-government schools will be of the order of 12 000-13 000 in the years between 2000 to 2003. Most of this will be replacement demand.

Some of this recruitment arises because of movement of teachers between government and non-government schools, across states and between jurisdictions. The level of recruitment due to growth in teacher requirements and losses from teaching (i.e. net demand) is difficult to estimate but recent
work suggests that it could be of the order of 2.9 per cent of the teacher workforce plus growth demand, or 8500 teachers on average in each of the four years to 2003.

The number of graduates available to take up positions during the same period is estimated to rise from 8300 in 2000 to 9800 in 2003. Comparing this level of teacher graduations to the estimated demand for new teachers suggests that graduations should be adequate to meet the need for new teachers at the national level. The same conclusion would be reached if one applied the finding that, in recent years, experienced teachers have filled just over half the recruitment needs in the government sector and graduates just under half.

It is not possible to undertake a similar analysis for each State and Territory because of data limitations. The principal data deficiency is the absence of accurate data on net demand for teachers within each jurisdiction. Consequently it has not been possible to assess with confidence whether, despite an expected adequate number of teacher graduations at the national level, some States and Territories might face a tightening in their teacher labour market.

There is some mobility of teachers, especially new graduates, across State and Territory boundaries which can assist in the allocation of teachers to where they are most needed. Also, the education authorities and schools have other options at their disposal for overcoming recruitment difficulties, should these arise, in the short term.

**Pressures on the teacher labour market in the longer term (to 2010)**

Although detailed projections were not made for the period post 2003, the report examined three key issues that have been identified as likely to impact significantly on the teacher labour market within the next five to ten years (i.e. between 2005 to 2010). These key issues were student enrolment trends, the ageing of the teacher workforce and the outlook for science and mathematics teachers.

Student enrolments over the next ten years are expected to grow at a slower rate than in the 1990s. Moreover, unlike the 1990s, a greater proportion of the increase will be in the secondary school sector (60 per cent). Overall, these enrolment trends suggest that the demand for teachers arising from enrolment growth in the period to 2010 will be relatively modest.

A more important source of demand for teachers during this decade will be the expected upsurge in retirements. In 1999 over 45 per cent of secondary school teachers were over the age of 45 and over 23 per cent were over the age of 50. Based on past experience and retirement intentions, the 50 years and over group will retire by 2010 as will some in the age group 45 to 50 years. Accordingly retirements as a proportion of the workforce is expected to rise significantly with the impact starting to be felt in the early years of the current decade and accelerating in the second half of the decade. This has significant implications for the teacher labour market in all States and Territories.

Mathematics and science teachers have been difficult to recruit for a long time. There is some evidence, analysed in this report, to suggest that the supply of mathematics and science teachers could in the next decade fall below existing levels. This, combined with the ageing of the existing teacher workforce, would place this segment of the teacher labour market under severe pressure.

**Limitations of data on the teacher labour market**

The report has identified some deficiencies in existing data on teachers which limit the kind of supply and demand analyses that can be undertaken. The report identifies five broad areas for improvement:

- consistent and quantitative information on recruitment difficulties being experienced, including by subject area and location;
better and more frequent data on the specialisation of teachers and graduates and more information on the characteristics of teachers in the non-government sector; more comprehensive information on teachers in the teaching pool, that is those teachers not currently employed as permanent or contract teachers but who are available for such positions; more reliable data on inflows and outflows from teaching, particularly on losses from teaching at the State and Territory level; and information on practices within the education system used to adjust to recruitment difficulties. Some of these areas are being addressed by State and Commonwealth authorities. More work needs to be done on others.