Promising Practices

Recruiting Highly Qualified Mature STEAM Graduates to Teaching in Australia

Country category: Australia

Teacher education pathway category(ies): Attracting the most suitable candidates into ITE programmes

Stakeholder category(ies): teacher candidate; policy maker; researcher

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This case study describes a “promising practice” drawn from an OECD review of initial teacher preparation in Australia from 22-26 May 2017.

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Promising Practice 2.
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Context

Many countries have increased their attention to science, technology, engineering and mathematics (STEM) education as a means of fostering innovation, responding to the increasing demands on STEM professionals, building on the potential of educational technology (EdTech) and developing a wide digital competence (OECD, 2018[1]). While the concept of STEM prevails in many policy initiatives, the acronym STEAM (science, technology, engineering, arts and mathematics) has also been used more recently to stress the role of arts in exploring and experiencing STEM learning, and acknowledging art as a crucial component of creativity in these fields (Harris and de Bruin, 2017[2]). On average across OECD countries, tertiary-educated adults with a degree in STEM benefit from higher employment rates than their peers with a qualification in arts and humanities, social sciences, journalism and information (OECD, 2017[3]). A recent study estimated that shifting 1% of Australia’s workforce into STEM-related roles would increase GDP by AUD 57.4 billion (Pricewaterhouse Coopers, 2015[4]).

In December 2015, the Australian Government announced a National Innovation and Science Agenda with almost AUD 65 million pledged for the professional development of teachers and to specialised STEM programmes in classrooms (Education Council, 2015[5]). The Education Council also launched the National STEM School Education Strategy 2016-2026. As part of this agenda, federal and state governments have launched several programmes that seek to address three issues in STEM education:

1. **Teacher shortage and recruitment.** Australia, like many OECD countries, has difficulty attracting STEM graduates into teaching. This is due, in part, to the growing demand for workers skilled in these areas from other, more competitive sectors, a lack of incentives to attract highly qualified graduates and experienced people in STEM fields into teaching, and general concerns about the low status of teaching as a career. Although data from the National Teaching Workforce Dataset indicate there is currently a surplus of teachers in Australia – with about 62 000 teachers who are registered but not recorded as employed (Australian Government, 2014[6]) – data from the Staff in Australia’s Schools survey (McKenzie et al., 2014[7]) do indicate teacher shortages in STEM-related subject areas, such as languages, mathematics, physics, chemistry, geography and information technology. These are likely to become more acute when supply increases in the coming years (Weldon, 2014[8]).

2. **Career changers.** In Australia, most teachers start their careers early: 73% of primary teachers and 70% of secondary teachers commenced their career by the age of 25, while about 5% of teachers commence teaching over the age of 40 (McKenzie et al., 2014[7]). An increase in the number of “career changers” with deep subject knowledge and workplace experience to teaching represents a significant opportunity to improve the quality of teaching in STEM areas.
3. **Quality of training.** In the course of interviews, some employers of teachers reported feeling that they have little influence over the content and design of initial teacher education (ITE) programmes. The issue of inadequate alignment between the needs of employers and the output of ITE programmes could be addressed by improving the quality of partnerships between industry, schools and ITE programmes (Education Council, 2018[9]).

**What is the STEAM TECE Programme?**

The STEAM Teacher Education Centre of Excellence (STEAM TECE), an initiative of the Queensland state government, was conceived to address the shortage of high quality STEAM teachers by attracting mature career changers with high quality STEAM degrees and experience into teaching (Queensland Government, 2017[10]). The programme receives financial support from the Queensland Department of Education, which has allowed an increase of placements from 14 to 20 places per year.

The STEAM TECE programme aims at providing experienced career changers with STEAM degrees with an alternative route to the Master of Secondary Teaching, at Griffith University (Queensland). The initiative was designed jointly by Benowa State High School, where the programme is based, and Griffith University. The route involves teacher candidates spending one day a week at Benowa, working in classrooms and attending seminars, one day a week in a partner school, and three days a week at Griffith University. The students also undertake two four-week practicums. Furthermore, the programme aims to provide students with high quality trained mentors. Mentors have three days of external training, plus school based training sessions. They get release time for mentoring and report writing, and funding for personal professional development activities.

This initiative has proved to be of interest to candidates, becoming quite popular with engineers. This has resulted in the programme receiving 60 applications for the 20 places offered in 2017. The selection arrangements are rigorous, including a written application and an interview to test resilience and disposition to teach. Benowa is involved in selection and final assessment of students and, with partner schools, providing mentoring. There is a stakeholder group of schools, unions and the universities to oversee the programme.

Teacher candidates participating in the programme noted that:

- they considered themselves well prepared to start their careers thanks to the practicum elements of the programme, the way it links theory and practice, and for providing an understanding of the wider context of working in a school
- being recruited after they had tried a different career meant that they developed a positive perception of teaching as a good career option.

Teacher candidates had concerns about the financial aspects of the programme. Benowa had taken the decision not to offer bursaries for students, concerned that this might attract students without a strong disposition to teach, and so students had to leave full-time work and self-fund for the year. With such strong demand for places, financial incentives were not necessary to attract candidates, but clearly this might change if the programme were to expand substantially.
Why is it a strength?

The OECD team in its review of Australia from 22-26 May 2017 noted:

- **Securing a permanent job and an appealing career progression to promote career changers.** A major attraction of the programme is that it offers permanent contracts on successful completion – in contrast to the experience of many new teachers who are able only to obtain temporary contracts. New teachers were appointed at the bottom of the pay scale, resulting in a large drop in salary. But their previous experience, plus an element of leadership training in the programme, offered the prospect of accelerated career progression.

- **School-university partnerships to improve the quality of alternative routes into teaching.** Strong collaboration between schools and universities in each state/territory can enable novice teachers’ opportunities to gain strong teaching practice experience.

- **Targeted programmes for particular profiles.** There is already a pool of career finders and changers looking for a more satisfying or alternative career, most recently in professions impacted by a fall in the number of job vacancies, and an expected decrease in employment, such as engineering (Australian Government, 2018[11]; Stewart, 2017[12]). Targeted programmes for these candidates would increase the pool of high quality graduates from which to recruit, particularly in shortage subjects and locations.

How could it be improved?

The OECD team noted:

- **Improving the value of teaching as a solid career in the public opinion.** A national media strategy on attracting teachers to the profession could build on existing good practices, such as offering substantial bursaries to attract strong mature graduates from other professions, and the provision of opportunities for career progression and salary structures.

- **Attending to the needs and diverse profiles of second career teachers.** Research on recruiting career-switchers cautions on the particular challenges of training second career teachers, and the need to pay attention to their highly diverse professional backgrounds (Boyd et al., 2011[13]).

For more information


