Shortage of qualified ICT teachers

Tim Dodd and Scott Parker

Half of the teachers of information and communications technology (ICT) classes in Australian high schools are not qualified in the subject.

Leon Sterling, chair of the Australian Council of Deans of ICT, said the lack of qualified ICT teachers, particularly in senior high school, was probably a key reason why university ICT enrolments were in decline, leading to a lack of ICT skills in the workforce.

Professor Sterling said the problem of untrained teachers in high schools was even worse for ICT classes than for maths classes, where 40 per cent of teachers in year 7-10 maths classes are not qualified in the subject.

According to figures from the Australian Council for Education and Research (ACER), 58 per cent of ICT teachers in years 7-10, and 48 per cent in years 11-12, are not qualified in the subject.

"These data for ICT and maths are of concern and we need action on several fronts to improve the situation," Professor Sterling said.

Other hard-science and maths classes are also affected by teacher shortages. The ACER data shows that 43 per cent of years 11-12 physics classes are taught by teachers not qualified in the subject, as are 33 per cent of years 11-12 chemistry classes and 24 per cent of years 11-12 maths classes.

Professor Sterling said that schools faced particular problems in delivering the ICT subject because the field changed quickly.

"It’s hard to keep teachers up to date with the latest technology," he said.

He said another problem was that most ICT teachers have not worked as ICT professionals, so are not well-positioned to advise students about careers in the field.

Professor Sterling said the discipline also suffered from a lack of women and girls participating in ICT in schools, in higher education, and in the workforce.

Participation by females in high school advance maths and hard science classes has fallen away, particularly in senior high school.

School education expert Jennifer Buckingham said it was particularly important to engage children in maths in the early years of schooling.

"It does start in primary school, that is where children decide whether or not they’re good at maths and whether or not they like maths," she said.

She believes high-quality teachers are necessary in the early years to ensure that children enjoy maths, and experience success in it at an early age.

Leading female business figure Eilana Rubin, who is a director of NAB Wealth, Mirvac and PPB Advisory, says numeracy is a non-negotiable for successful business people.

"You certainly have to be numerate ... to be successful in business you need to have a range of skills including a high level of financial numeracy and literacy," she said.

"Skills in maths and science set you up for a whole range of opportunities and careers outside the discipline in itself, because it teaches you a way of thinking and analysis."