

TEACHING MATHS TUTORS TO TEACH: MODULES, REFLECTIVE PRACTICE AND PROFESSIONAL RECOGNITION

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Background

The ANU Mathematical Sciences Institute (MSI) employs 40 tutors each semester. Many are themselves students in more advanced courses. By creating positive learning environments, tutors help students develop understanding, critical thinking and problem-solving skills. Tutors also provide feedback from students to course lecturers. Ensuring tutors have effective teaching skills promotes students' learning and teaching quality, and acknowledges the *Higher Education Standards Framework (Threshold Standards)* requirement that all teaching staff have "skills in contemporary teaching" and "qualifications one level higher than course being taught or professional or practice-based experience and expertise".

Aims

Our strategy aims to increase students' learning by improving their tutors' teaching, while creating work-integrated learning opportunities for our tutors, who are also our students. Customised professional development (PD) seeks to improve tutors' teaching, communication and reflective skills, and hence their future employability.

Intervention

We developed six two-hour PD modules for mathematics tutors, inspired by the online modules from the Australian Learning and Teaching Council's "National discipline-specific professional development programme for lecturers and tutors in mathematical sciences" (2009, LE9-1248). Since 2011 the latter have been available on the Australian Mathematical Society (AustMS) website (<http://www.austms.org.au/Unit+Organisation>).

We modified four AustMS modules to create two "Tutor Training in MSI" online self-paced modules focused on discipline-specific teaching, with reflective questions throughout. A third online self-paced module, "Supporting Our Students", explained inclusive teaching and university-based support.

We also developed three face to face modules. The first clarified tutoring practicalities, with online resources on evaluation. Another module introduced reflective practice, giving tutors opportunities to discuss experiences with one another and the facilitators. The "Peer Observation" module enabled tutors to observe a more experienced tutor in action, the focus being not on critiquing the tutor being observed but rather on the observer identifying new ways of working with their own students. Tutors reflected online on their observation in confidential postings to the module facilitators. The latter responded to individuals, and made selected and anonymised collations available to the whole group.

Results and Conclusions

In the pilot semester, most tutors completed most of the training modules. Peer observation was especially successful, with this quote being typical: "*I genuinely enjoyed X's tutorial, and I think I will try to use many of his ideas in the future*". The tutors provided rich and varied observations, commenting on how the observed tutors interacted with students, how physical learning environments were set up, and how new concepts and problem-solving were presented.

Four new modules will allow for more discipline-specific ideas derived from other AustMS modules, more peer observation, and guided reflective writing towards Associate Fellowship of the Higher

Education Academy. Plans are to improve module designs, assess benefits for tutors and students, and translate to other science disciplines. We expect tutors who complete all modules and gain professional recognition will be more competitive when applying for future tutoring, PhD scholarships or external jobs. We envisage making these modules available to the mathematics teaching community via AustMS.

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