



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

FACULTY OF
SCIENCE AND INFORMATION
TECHNOLOGY



www.newcastle.edu.au

Reconceptualising Mathematics Teacher Training

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The ETMST Program

(Enhancing the Training of Mathematics and Science Teachers)



Aims to produce wide-scale, long-lasting changes to mathematics and science teaching that will address the “mathematics crisis”.

The ETMST Program

(Enhancing the Training of Mathematics and Science Teachers)



Will do this by:

- *Improving the quality of mathematics and science teachers pre-service programs and*

The ETMST Program

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*“drive a major improvement in the quality of mathematics and science teachers by supporting new pre-service programs in which **faculties of science and education collaborate** on course design and delivery, combining content and pedagogy so that mathematics and science are taught as **dynamic, forward-looking and collaborative human endeavours**”.*

The ETMST Program

(Enhancing the Training of Mathematics and Science Teachers)

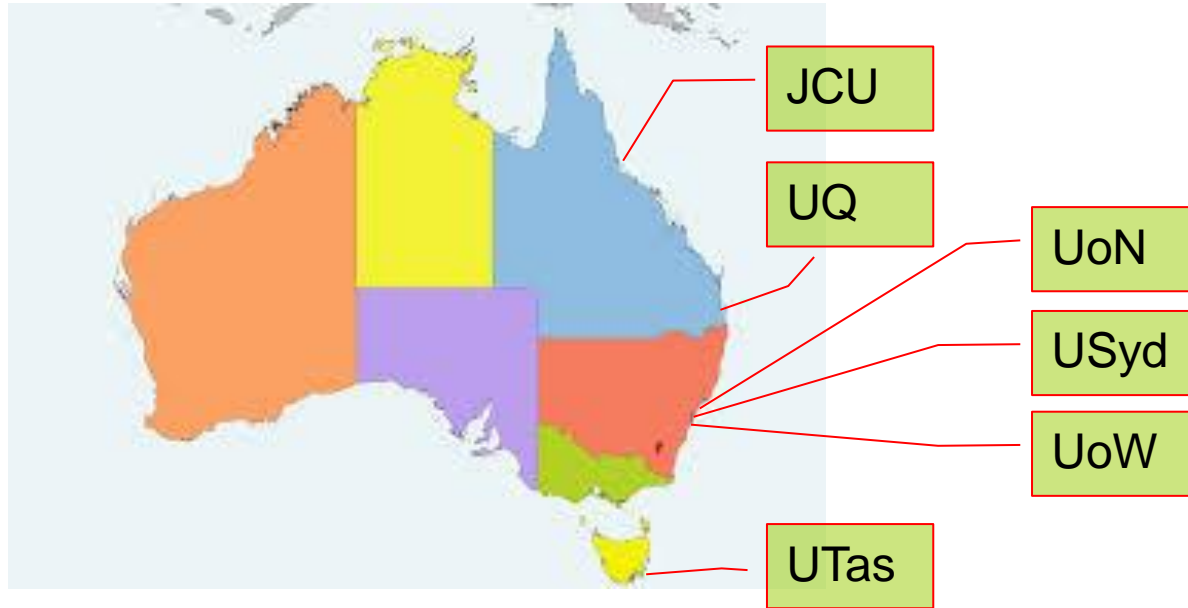


Will do this by:

- *Improving the quality of mathematics and science teachers pre-service programs and*
- *Increasing the supply of graduates from these programs.*

The IMSiTE Project

(Inspiring Mathematics and Science in Teacher Education)



Aims to pilot and evaluate different approaches and implementations of the ETMST vision to discern, and then disseminate, effective practices.

The IMSiTE Project

(Inspiring Mathematics and Science in Teacher Education)

Quote from the application:

*“Our vision for pre-service teacher education involves more than simply creating new courses. Instead, we are aiming for learning experiences that **cannot** be designed or implemented without the combined expertise of discipline and education professionals.”*

The IMSiTE UoN Team

Elena Prieto

Andrew Kepert



Malcolm Roberts

Peter Howley

Kathryn Holmes

Edwina Butler

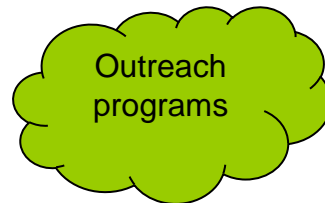
Judy-anne Osborn

Three mathematicians, one statistician, two mathematics educators and one secondary science educator.

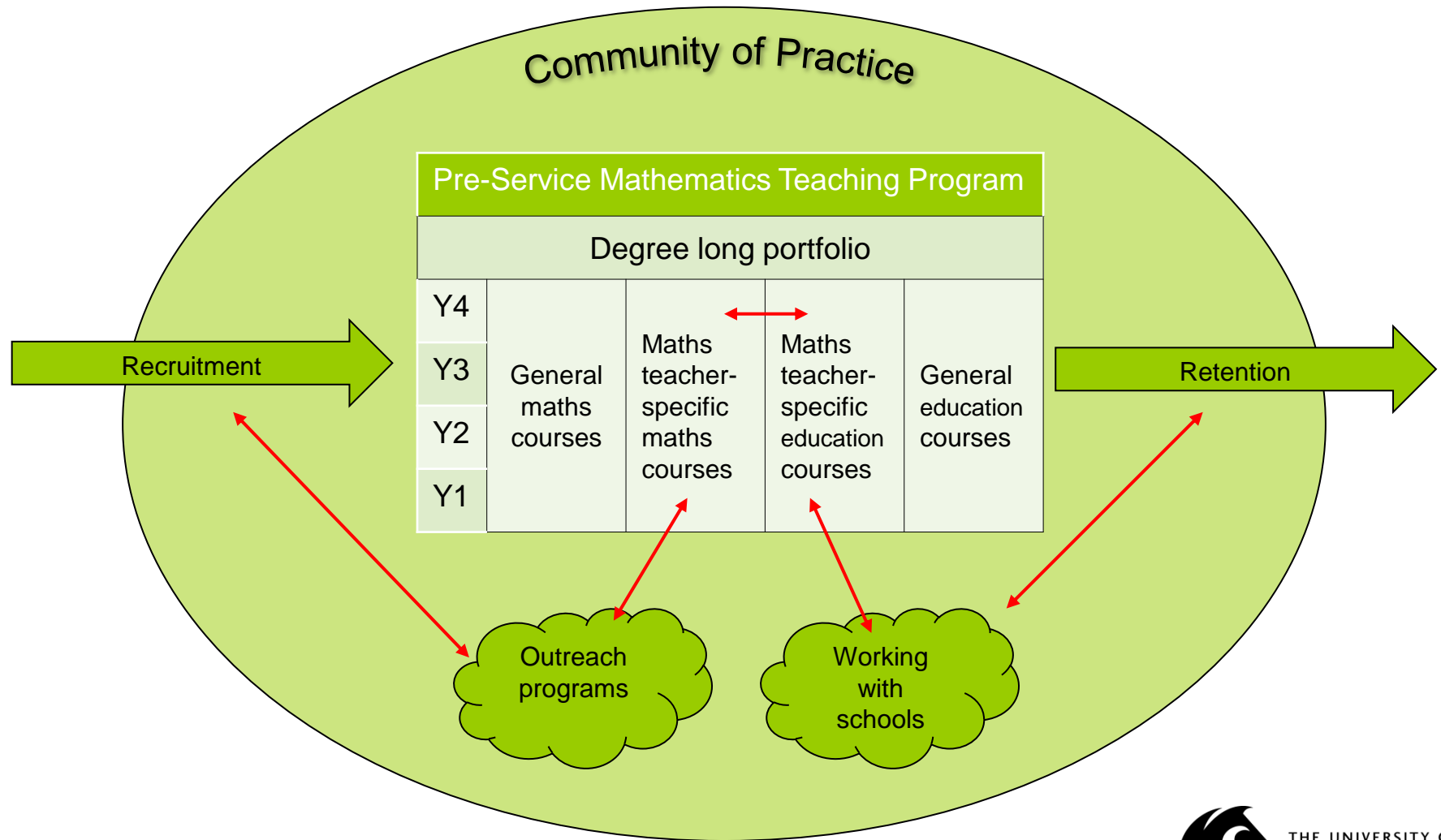
Currently . . .

Pre-Service Mathematics Teaching Program

Y4	Education	Internship	M	Electives
Y3	Education		Mathematics	
Y2	Education			Maths
Y1	Education		Mathematics	



Possibilities . . .



Some of the issues ...

In what we are trying to do:

- *Changing beliefs and dispositions.*
- *The multi-faceted nature of mathematics.*
- *The complexity of teaching.*

In what we are able to do:

- *Administrative constraints.*
- *Workload constraints.*
- *Academic constraints.*

Actualities . . .

Community of Practice

Pre-Service Mathematics Teaching Program

Degree Long Portfolio

Y4	Education	Internship	M	Electives
Y3	Education		Mathematics	
Y2	Education			Maths
Y1	Education		Mathematics	

Recruitment

Retention

Outreach programs

Working with schools

IMSiTE UoN

Our aim is to promote and support the pursuit of high quality mathematics education (across the range of levels and contexts) within the sphere of influence of the UoN.

*“Education in which the student’s ability to use mathematics, the student’s habits of mind with respect to mathematics and the student’s attitude toward mathematics are **all** positively enhanced.”*

THANK YOU



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