Valuing Indigenous Knowledges within the University Science Curriculum

Dr Chris Matthews
Senior Lecture, Griffith School of Environment
Griffith University
and
Chair, Aboriginal and Torres Strait Islander Mathematics Alliance (ATSIMA)
Terra Nullius

Our Shared History
Our Relationship

non-Indigenous

Advanced

No opportunity

 Fear
Mistrust

Indigenous

devalued

primitive

valued

Knowledge holders

No relevance

Silence
Overturning the mindset of Terra Nullius

• Does mathematics/science education (and research) devalue Indigenous people?

• Educational providers (and researchers) need to build positive relationships with Indigenous communities.

• Build connections between culture and curriculum.
Devaluing

Deakin (2010) who was commenting on an Indigenous mathematics strand in the National Curriculum stated the following:

However, I will argue here that these passages envisage the introduction into the National Mathematics Curriculum of a topic (Indigenous Mathematics) which, strictly speaking, does not exist. It is no derogation of Aboriginal or Islander culture to recognise this fact. Indigenous Australians did not build Gothic cathedrals either. We all know this and no-one thinks any the worse of them on this account. Attempts to discover an Indigenous Mathematics are undoubtedly well-intentioned, but ultimately ill-directed. It is neither useful nor beneficent to bestowed on aspects of Aboriginal and Islander cultures a significance that they do not, in fact, possess.
Devaluing

Jorgensen (2010) from her experiences in mathematics classes in a remote Indigenous Community stated the following:

‘…my goal is to draw out the need for new education and research paradigms that may seek to explore the complexity of assimilationist education. This proposition may be construed negatively but I contest this. By its very nature, Western education should be considered to be assimilationist. It represents particular worldviews that are incongruent with many Aboriginal cultures. Coming to learn school mathematics requires a conscience effort to take on board the knowledge structures of Western thinking and rationalism.’
Indigenising the Curriculum @ Griffith University

At the start I was asked to Indigenise the Environmental Science Curriculum

– Only Aboriginal Academic in the whole Science Group;
– Won same small L&T Grants;
– Interviewed Indigenous students and staff;
– Comparative work between Australia and Canada;
– Indigenous Curriculum was something to the side and not part of the real business;
Indigenising the Curriculum @ Griffith University

Co-chair Working Party to develop and implement a whole of University approach

– Build a **structured** approach
– Indigenous Studies Major based on the “at least” model;
– Focusing on few schools first;
– Growth model
Indigenising the Curriculum @ Griffith University

Key attributes are

- It is an essential part of your profession and education;
- Part of the central business of the University;
- Indigenous and non-Indigenous academics have an important role to play;
- All students will engage – transformative experience;
- Dealing with racism in the teaching and learning space;
- Cultural Safe space for Indigenous students
Indigenising the Curriculum @ Griffith University

Created a *Community of Practice* in Environment School

– Gained support from PVC, Dean T&L and Head of School;
– Called for all interested academics;
– How do we implement an Indigenous Curriculum?
– Worked out a model;
  • What is Science?;
  • Relationship between Indigenous people and Science;
  • Critique of discipline;
  • Indigenous perspective;
Indigenising the Curriculum @ Griffith University

Created a **Community of Practice** in Environment School

– Curriculum restructure
– PVC implemented a Group wide Bachelor of Science;
– Based on Threshold Learning Outcomes for Science, OLT publication (1/12);
– Our Community of Practice had no authority;
Indigenising the Curriculum @ Griffith University

Finding common ground

– Fought for a core first year course that explores “What is Science?”
– Revamp an existing course and work with a new colleague
– Science is a privileged knowledge vs Science is just another way of knowing;
– Science has done some really bad stuff;
– The power of Gammage “Biggest estate on Earth”;}
Indigenising the Curriculum @ Griffith University

Successful in getting a core course approved that

- Explores the relationship between Science and indigenous people;
- Work of Prof. Bill Gammage;
- Story of David Unaipon;
- Objectifying Indigenous people: Removal of remains;
- Bioprospecting: Indigenous Knowledge, manufacture of drugs and Intellectual property;
Indigenising the Curriculum @ Griffith University

This is only the start of the journey

– Students have the choice to further their education through two existing courses;
– The University wide Indigenous Studies Model (if approved);
– Leadership Framework that is connected to L&T Committees;
– Always more to do.