Australasian Association for Engineering Education

What's on in AAEE?

2021 Edition 4

- AAEE Education grants awarded
- 2021 Winter School
- Constructive alignment webinar 13th August, 2021
- 2021 REES/AAEE conference full papers due 6th August, 2021
- 2021 HDR symposium online

AAEE Education grants awarded!

Fifteen grant applications were received with project leaders and team members from thirteen different universities. We thank all the applicants for the thought and effort you put into the applications.

We are pleased to be able to announce the successful inaugural AAEE Education Grants have been awarded for the projects listed below. The grant selection panel were impressed with the research design and institutional commitments (both in-kind and cash) in these applications. The original proposal was for 1 x ACEN aligned grant and 2 x ACED aligned grants. The grant selection panel was also very impressed with the application 'Integrated Inclusion' and secured additional funding from the AAEE Executive Committee to support this project as well.

We look forward to seeing the outcomes from these projects as they are disseminated through our community and thank ACED for contributing to the funding of these grants. I would also like to thank the members of the selection panel, especially Steven Goh, who generated the application documents and chaired the panel.

ACEN Aligned $10,000
Title: Experience of Engineering Students with disabilities engaging in WIL placements
Team: Mr Timothy Boye, University of Technology, Sydney
Abstract: *Universities put significant resources into supporting students with disabilities on campus. However, off-campus in work-integrated learning (WIL), employers are expected to take responsibility for students on a day-to-day basis. This project seeks to understand and communicate the experience of engineering students with disabilities on WIL placement in order to better support them in future.*

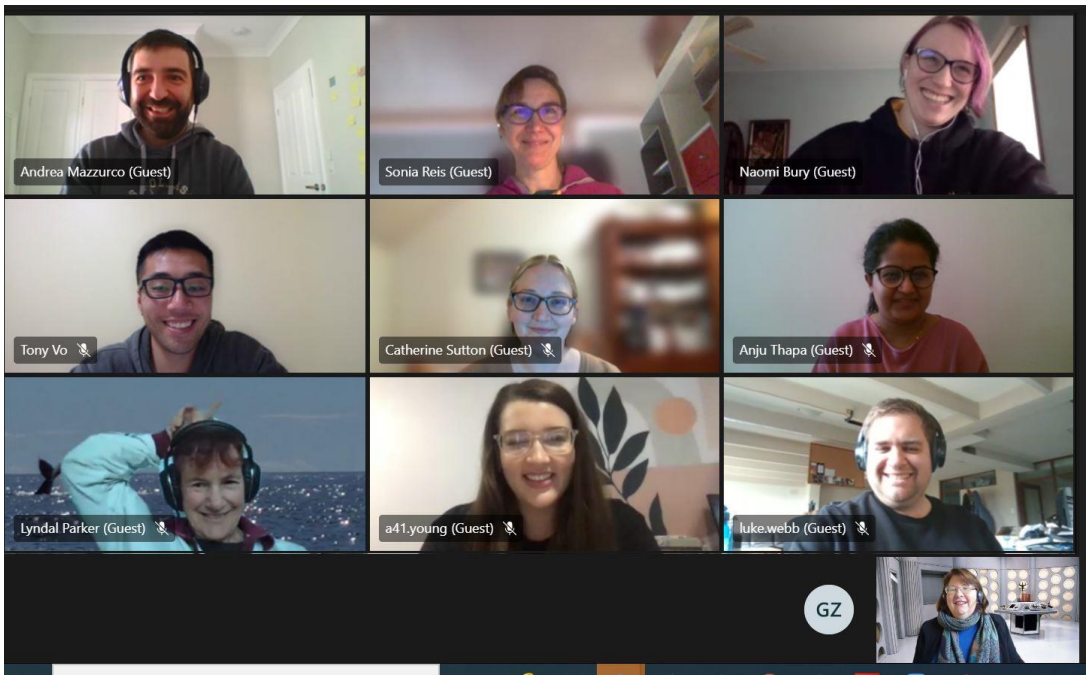
ACED Aligned $20,000
Title: Identifying current best practice and support mechanisms for project-based learning at Australasian institutions
Team: Dr Sarah Grundy, UNSW Sydney; Dr Guien Miao, The University of Sydney; Dr Nick Brown, RMIT University; Dr Marina Belkina, Western Sydney University; Dr Tom Goldfinch, The University of Sydney
Abstract: *It is currently unclear what kinds of support and how much support is needed for teaching of project-based units. This study will focus on gathering data from Australasian university faculties in order to compare and share experiences of project-based learning (PjBL) and build an understanding of unit outcomes in relation to the support provided to the educators of PjBL units. In addition, this study will identify exemplar practices and units. The outcomes of this study will provide information that will allow schools, faculties and T&L leadership across Australasia to make decisions around how best to support and retain the teachers of those units.*

ACED Aligned $20,000
Title: Engineering educator capability and capacity: How do we accelerate implementation of best practice to meet the 2035 vision for engineering education?
Team: Dr Sarah Dart, Queensland University of Technology; Dr Alexander Gregg, Queensland University of Technology; Dr Sam Cunningham-Nelson, University of Newcastle
Abstract: *Engineering educators fundamentally shape curriculum and student learning experiences, and will thus play a pivotal role in evolving engineering education practices to meet the 2035 Engineering Futures vision. However, there are persistent concerns about the poor quality of instruction within even present-day engineering programs, and there are numerous challenges to enhancing this teaching quality including workforce skill gaps, operational barriers, and disconnected hiring priorities. To address these issues, this project critically investigates how the key skills and attributes required of engineering educators are represented in academic recruitment through analysis of job advertisements. Interviews with educators in a range of roles are also performed to identify the operational factors supporting and hindering implementation of best educational practice. Bourdieu's Theory of Practice is applied as the methodological lens, leading to novel and actionable insights for enhancing the quality of engineering education through transforming the capability and capacity of the engineering educator workforce to enact the 2035 vision.*

ACED Aligned $10,000
Title: Integrated inclusion: developing best practice for engineering education and the profession
Team: Dr Nick Brown, RMIT; Dr Eva Cheng, University of Technology Sydney; Ms Karen Whelan, Queensland University of Technology
Abstract: *As identified in the ACED Engineering Futures 2035 Scoping Study, to tackle the biggest challenges the engineering profession of the future needs to reflect the diverse make up of Australian society. One cause for the lack of diversity is that under-represented groups do not feel a sense of inclusion or belonging in their engineering studies/profession. Current university inclusion initiatives tend to focus on attracting a target minority and have largely had limited success. Classroom inclusion initiatives, disconnected from the course content, are often perceived as simplistic or tokenistic, placing the burden on the minority to modify their behaviour. This research project will develop education best practice where the successful participation and inclusion of marginalised and disadvantaged students is integrated into the course itself, comparable to how teamwork is often integrated in engineering courses. Validation will occur in a 3,000-student cohort across three universities. Dissemination will target engineering educators of first year courses where belonging is critical.*

2021 Winter School

This year we ran Winter School online for the first time. We used the Teams platform and spread it over two weeks from 12th – 22nd July so that we could have screen breaks in between sessions. Eleven participants took part from six different universities including a participant connecting in from Bhutan which meant a very early start for them. Sydney based participants were in Covid lockdown from the start of the program and over the course of the two weeks Melbourne also went into Covid lockdown – so in many ways it was a different sort of Winter School.



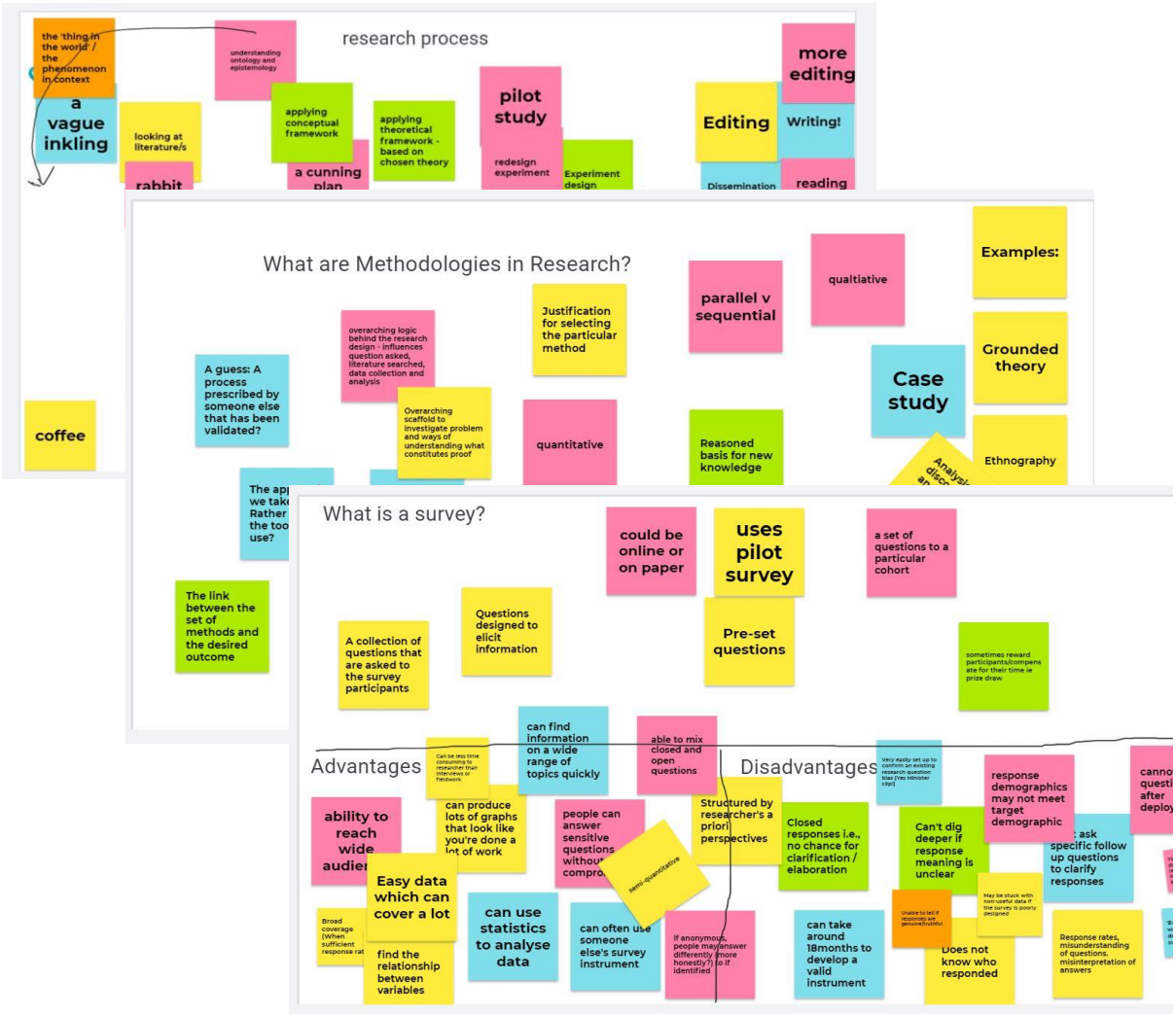
Winter School participants in Teams

However, as in previous Winter School's there was much discussion around the similarities and differences between engineering research and engineering education research and during the program we referred back to the research process we had co-constructed on the first day on a jamboard. Being online didn't stop us from interacting and we used the Teams chat, Jamboards (see below) and Googledocs so that questions, comments, and resources could be shared.

I would like to thank the other facilitators Andrea Mazzurco, Llew Mann and Sally Male for contributing their time and expertise to Winter School and creating the experiences that led participants to make the following comments:

I just wanted to reach out and say a big thank you for the AAEE Winter School this year. It was such an enjoyable experience and I learned so much over the two weeks. It was great to connect with engineering education researchers and hear about other areas of work….I'm very much looking forward to being a part of the AAEE community as I continue my research journey.

I've really been loving the Winter School! It's just really great to hear from educational researchers and other people focused on teaching… It's great to be able to learn from other people interested in the same things!



Winter School Jamboards

EVENT/INFORMATION/ETC:

Webinar – Constructive alignment: an approach to curriculum development

Date and Time: Friday 13th August 2021, 12-1pm AEST
Presenters: Dr Steven Goh, Dr Mark Symes, Adjunct AProf Prue Howard (Engineers Australia Accreditation Visit Manager)
Format: Short Presentation, follow by Q&A, and sharing of frontline experiences applying the approach into curriculum development
Zoom Link: https://usq.zoom.us/j/82723214982

Biggs refers to a principle called “Constructive Alignment”. Constructive alignment is a principle used for devising teaching and learning activities, and assessment tasks, that directly address the intended learning outcomes that underpins current requirements for program and course design. The design process makes a deliberate effort to align learning

activities, the assessment and its criteria, and the learning outcomes to be achieved. This design (mapping) process is also used as a tool for internal and external accreditation. This webinar is an opportunity to discuss and explore the principle and its relevance to frontline teaching, why we do it, and how to do it well.

EVENT/INFORMATION/ETC:

AAEE/REES 2021 conference https://rees-aaee21.org/

Full papers and workshop proposals are due on 6th August!!!

Also don't forget to register. Registrations are available for virtual participation as well as physical participation in Perth.

2021 HDR symposium online!!

ONLINE via ZOOM
Thursday 2nd & Friday 3rd December
9:30am - 12pm AWST

We're back for a second year! Calling all PhD and Masters by Research candidates - join us for two half-day workshops led by Prof. Les Dawes and Prof. Olivera Marjanovic prior to the 2021 REES-AAEE Conference. The focus is on providing opportunities for PhD and Masters by Research candidates to obtain individualised feedback on their work from senior scholars outside their institution and build their peer network in Engineering Education Research. We welcome both new and returning participants who are at any stage of their candidature. **Applications close 30 August 2021** so get in soon! More information available in the Facebook group and on the AAEE website.

Australasian Journal of Engineering Education (AJEE)

Many papers for the 'REES/AAEE special focus on ethics' special issue have been published online**: https://www.tandfonline.com/toc/teen20/current**

Both submissions of manuscripts to the journal and downloads of published articles are continuing to increase