ANU COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

CULTURAL AUDIT

Summary of Findings

The May Group
2016-2017

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Across Australia and the world, women are under-represented in the fields of Science, Technology, Engineering, Mathematics and Medicine (STEMM). Women make up 20% of engineering graduates, but it's been estimated that nearly 40% of women who earn engineering degrees either quit or never enter the profession.[1]

The ANU's College of Engineering and Computer Science (CECS) has around 20% women in a body of over 1200 undergraduate students, and recognises the importance of ensuring that those women are valued and inspired while at university.

Effectively responding to the needs and interests of a diverse pool of men and women requires providing all students with equal and full opportunity to learn, receive support, and be assessed fairly. In August 2016, CECS engaged The May Group to undertake a cultural audit to identify any unconscious biases or cultural and organisational barriers that impact the experience of female undergraduate students. Only a small number of students participated, however this audit identified significant key issues that we recommend be explored further.

By further exploring and addressing the barriers identified, guided by our recommendations, CECS has the potential to attract a broader range of students and benefit from a richer array of talent, ideas and academic perspectives, as well as possibly identify and ameliorate cultural discrepancies between how men and women experience STEMM environments early on.

Scope of Audit

25 students participated in this cultural audit: 12 women and 13 men[2] in 5 focus groups that explored participants' experiences, observations and perspectives of studying at CECS.

Participant feedback was analysed through the two interdependent lenses of inclusion[3]:

1. Support and Respect:

Do all students feel equally valued, supported and respected?

- Connected to the group?

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[1] Susan S. Silbey, 'Why do so many Women who study Engineering leave the field?'. August 23, 2016, *Harvard Business Review.*

[2] This audit was conducted through a binary gender lens, specifically to identify issues facing women. However, we acknowledge that gender identity is not always binary, and that students identifying as transgender, gender non-conforming, and otherwise may have divergent experiences.

[3] Adapted from Deloitte Australia, Victorian Equal Opportunity and Human Rights Commission report: *'Waiter, is that inclusion in my soup?'* November 2012.

- Safe and confident to speak up and contribute?
- Inspired to do their best?

2. Equity of Opportunity:

Do all students have equal opportunity to participate, contribute and excel?

- Equal access to staff and faculty?
- Equal access to resources for learning and support?
- Fair assessment of performance and potential?

Summary of Findings

The College experience

Students agreed that hard work, commitment, and a passion for the subject matter were shared traits of undergraduates in engineering and computer science.

Many students experience the College as inclusive, with some divides evident: in particular, between Engineering and Computing students and domestic and international students.

Engineering students described an environment with *'lots of group work'* and greater collaboration: *'When we have a hard assignment there is always a group chat when people help each other out.'*

They also indicated that social contact with other students is common: *'The ESA is great to socialise'*; *'The social events with other students are great.'*

For Computing students, the nature of their work means collaboration is less common: *'It's just individual work'*, and social events are less frequent/official: *'With CSSA there's not many events'* although there are *'games nights playing COD.'*

Many students, both domestic and international, acknowledged a divide between these two groups, indicating that *'socially we do have a bit of a segregation'*, however it did not seem to contribute to experiences of marginalisation and exclusion within the College.

Students at CECS have good access to and highly value the resources and structural support provided by the College. This support for learning and study includes *'emails from CECS every week about stuff that's going on'*, *'access to the buildings [so] you can study whenever you want'*, *'24/7 computer labs'*, *'online resources'*, and Student Services staff who *'are really helpful and can refer you to the right people.'*

Many participants experience ambivalence from teaching staff at CECS, indicating that some tutors lack passion and capability for the subject matter and empathy for the students, by being *'impatient'*, *'sexist'*, *'demeaning'*, and *'not understanding'*.

Similarly, dissatisfaction with the availability and communication habits of lecturers who *'don't respond to emails'* or who are perceived to be only interested in research *'and the teaching is something annoying that the College is just making them do'* leaves many participants feeling undervalued.

However, many of the starkest differences in experience were between male and female students, as identified below.

Key Findings: Differences between men's and women's experiences

While we acknowledge that the sample size of students participating in this audit is small, the variations between men and women's experiences at the College are concerning and should be further explored. Differences include:

1. **Female participants regularly experienced sexual harassment and discomfort**

Worrying experiences of sexual harassment and objectification emerged during the audit, which contributes to an environment where women do not always feel safe, comfortable, or confident to be themselves:

'A lot of the guys are just really weird, and one just leant back in the lecture and started stroking my leg repeatedly.' (Woman)

'There hasn't been a single group project that I've been in where I haven't been hit on or asked out.' (Woman)

2. **Significantly more women feel excluded or isolated amongst peers due to their gender**

Many men, and women at a superficial level, feel supported by their peer group, while working on group assignments, in group chats and class discussions, and generally help each other *'get through the course'*.

However, more women indicated that they feel socially isolated in classes and coursework, and significantly more women than men identified that exclusion from informal networks was a barrier to women's success at the college:

'A lot of people from my lab last semester would go to the pub after, and it would be entirely male. Even if I was invited, it just wasn't an environment where I felt comfortable.' (Woman)

3. **Women are not considered in the planning of social events and often feel uncomfortable attending**

Social events at the College are more likely to be geared towards men, and men are more likely to feel a sense of personal belonging and connection as a result:

'Engibeering is quite a social event. Access to other students outside of study is pretty good, especially if you're in Engibeering.' (Man)

'On the whole, I feel really supported by my peers and I think people share similar values to me.' (Man)

Female participants were significantly less likely to feel connected overall because social events do not cater to their interests:

> *'If you aren't into drinking you are cut out of I would say 75% of the events that are held.' (Woman)*

> *'CSSA plans are for predominantly male interests, and it ends up in a negative loop.' (Woman)*

4. Male participants were more likely than women to feel a sense of connection with the teaching staff

Some women expressed having positive experiences with teaching staff, for example when they *'actually ask everyone if they need help'*, are *'understanding of different learning styles'*, or do not make students *'feel silly if you don't understand things.'*

However, male participants were significantly more likely than women to feel a sense of camaraderie and connection with their tutors, who are '*like me'*:

> *'I get caught up talking to the tutor for an hour. Doing that shows you're on the same level of respect with the tutor. That's with pretty much all my tutors.' (Man)*

As women are excluded from informal networks, they are less likely to experience this connection and camaraderie with tutors:

> *'Most of the tutors are also males, so they obviously have male friendship groups and you don't know how to get in with them or get those [tutoring] positions...or they are all sharing a jug of beer on a Thursday and you don't want to do that, or drink with them.' (Woman)*

5. Gender bias from peers and faculty affects women's experience of coursework and assessment

Women feel excluded when they experience gendered bias and expectations from their male peers, including when *'guys won't listen or consider what you say'*, and treat them *'as a novelty'* or *'an object'*, and even *'as a group separate to us'*. Some men, primarily international students, also indicated markedly sexist views and opinions about women's academic abilities and interests.

Gender bias from both peers and faculty affects women's experience of assessment and learning at CECS. An overwhelming number of female participants identified 'stereotyping and assumptions' from peers, tutors and lecturers as a barrier to their academic success. This manifested in ways such as female students being assigned *'the writing'* and *'the admin tasks'* in group work, and receiving inadequate guidance from faculty.

> *'Some lecturers are a little bit gender biased towards men and that's because they would have done their degrees only with men. Being in groups with girls they have told me they notice it. It's not outright slandering to women but they often talk about things in a masculine way.' (Man)*

6. Women are less confident than their male peers to contribute which impacts their academic performance and success

Men and women identified lack of confidence as a barrier to women's academic success at the College. Most female participants said they do not feel confident to speak up and contribute in classes; *'If I asked a question I would feel bad…I would be holding others up',* and feel considerably less confident than their male peers to contribute in informal discussions with other students.

'I feel like you need more confidence as a woman just to get to the same point. You feel like you didn't deserve it, you got it because you are a woman, and no one really expects anything from you.' (Woman)

Women's lack of confidence was also strongly linked to a lack of role models by the students in discussions, connected with the power of role models to inspire, motivate, and mentor students.

'If you can't see it, you can't be it; how do you even know it's an option for you?' (Woman)

Conclusions

This audit identified a number of significant differences between the experiences of women and men in the College of Engineering and Computer Science, and it is clear that more to support female undergraduates through their time and experiences at CECS is required.

While some women recognise the commitment to gender equity at CECS and see it as an advantage, their experiences with peers and some faculty undermine how included, supported and respected they feel:

'In the college we [women] are more advantaged, but in our peer cohort we are more disadvantaged.' (Woman)

'It's considered that everything is easier for you… [That] you get more opportunities. But you have to work harder; you have to put in so much more effort to reach the same status.' (Woman)

Findings indicate that bias, stereotyping, exclusion and a lack of respect diminish women's experiences at the College, and if left unaddressed will drive many women from the field:

'I can imagine being put off having a career in IT and Computer Science just based on the people I see doing it here.' (Woman)

'My female friends in other degrees don't experience the level of stereotyping and assumptions and these knucklehead boys and it makes me think life would be so much easier if I was there.' (Woman)

It is important to note that many men in CECS are unaware of the experiences of their female peers, in particular within peer networks. Most exclusionary

practices are a result of unconscious bias, which is perpetuated through cultural, social and gendered norms and expectations, from peers and faculty alike. Some men are aware of the difficulties their female peers face, however others contribute to and perpetuate it with women through sexual harassment and sexist beliefs.

The findings of this audit are clear: young men at CECS create and perpetuate the culture at the College, in part simply due to their dominance in high numbers, as well as their lack of awareness and apparent indifference.

The College itself is making well-intentioned efforts to support women, and these should be expanded and replicated where possible. However, the male-dominated student culture is pervasive, and manifests through the social events catered to male interests, the class environment that privileges those who are naturally more confident, and the teaching styles of staff who were themselves part of this culture and benefited from it.

It is critical that the College address the bias and foster an environment where men and women are comfortable, supported, and inspired to continue on in the field treating each other as equals.

Cultivating Inclusion: Recommendations

Cultivating an inclusive culture requires:

1. **Leadership and accountability:**
   - Leaders, from the Dean through to lecturers, must themselves recognise, understand and know how to be inclusive and leverage diversity.
   - They must articulate a clear and consistent message.
   - They must role model inclusive behaviours.
   - They must be willing to be held to account.
2. **Supporting systems and structures:**
   - Systems, processes and structures must override informal norms that privilege 'how we do things around here' and instead embed transparency, consistency and objectivity required to support inclusion. They must also provide the flexibility to support and accommodate a diverse student body with divergent needs, interests and aspirations.
3. **Awareness and capability:**
   - Awareness must be built and capability developed to enable people to recognise, accommodate and leverage diversity, ameliorate unconscious bias and cultivate inclusive behaviours. It must start with developing a richer understanding of their own and other's experience. This cultural audit begins this awareness raising.

Actions and Strategies

Outlined below are recommendations, incorporating students' ideas, for cultivating a more inclusive and supportive environment for women undergraduates at CECS.

1. Leadership and accountability:

It is recommended that:

1. The College faculty and staff acknowledge findings of this cultural audit and commit to further and ongoing research into the issues raised.
2. Faculty and staff consistently communicate their commitment to fostering an inclusive environment for all students.
3. The Dean maintains a visible commitment to gender equity and is supported by visible and explicit commitment from her leadership team through to tutors.
4. Staff facilitate a forum to explore issues raised in this study and identify ameliorating strategies.
5. The College executive group identifies, commits to, and holds themselves accountable for taking specific action following this review.
6. The CECS Access and Equity Committee takes a more active role in its responsibility for developing and overseeing plans for addressing bias and barriers for women.
7. This committee is accountable for driving, measuring and reporting on progress against these plans no less than bi-annually.
8. The College leadership reaches out to relevant Student Associations to seek to address unconscious bias within them.

2. Systems and structures:

It is recommended that:

1. The College ensures greater transparency in appointments of tutor and research assistant positions. *'They don't advertise research or research assistant positions to students…they just tap people on the shoulder instead. The positions for tutors are the same.' (Woman)*
2. The College creates a common room, targeted specifically to Computing and Engineering women as a safe and appealing space for studying and socialising, and open to all students. *'If the common room and events were more appealing to women that would be good. Make the space specifically catered to women but have both genders allowed.' (Woman)*
3. Networking and mentoring opportunities are expanded for women, both within the College and with industry; building on the success of Fifty50 initiatives. *'More events where you get to network with just other female students. Sometimes it's hard to find other females with in your courses or labs.' (Woman)*

4. Course and assessment structures for Computing are reviewed, with a view to increasing opportunities for group work and collaboration.
5. ESA and CSSA include more social events that are more inclusive for students who may not want to drink and are comfortable for women. *'I think the ESA does a lot to help us grow as an identity, but I wish they would do more to support not so much drinking. It would be so much more inclusive if there was less of a focus on that blokey 'let's go drinking' culture.' (Woman)*

3. Building awareness and capability:

It is recommended that:

1. The College shares findings of this cultural audit with students and staff.
2. Unconscious bias awareness training is delivered to all relevant staff, from the College executive through faculty to tutors and all other staff in direct contact with students, to support them to cultivate inclusion.
3. Widespread unconscious bias awareness training is provided for students. *'There should be more awareness; what is unconscious bias, how do we work against it. We had some courses run by a lecturer a few years back where we had access and inclusion come in and talk to us about Disability/LGBTI, what the issues are and what language is appropriate, and that was so great.' (Man)*
4. Students are required to attend sexual harassment seminars and training.
5. Further data is collected, on an ongoing basis, about the undergraduate student experience, with a specific view to assessing the experiences of women and monitoring progress following this audit.