Teaching the teachers to communicate

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Introduction

Highly developed communication and teamwork skills are vital for Australian graduates (Australian Association of Graduate Employers [AAGE], 2019), and universities have a central role to play in helping all students develop these skills throughout their studies. Entry requirements alone do not guarantee students have the communication skills needed to succeed in their degree (Arkoudis, 2014, 2018), nor thrive in the workforce. In light of this, universities are providing opportunities for students to develop these skills; however, more needs to be done (Quality Indicators for Learning and Teaching [QILT], 2019).

Communication skills and teamwork skills are highly valued by employers and are two of the top three skills employers seek in graduates (AAGE, 2019). The importance of communication skills is recognised by Masters level IT graduates who reported how central these skills have been to their early employment and how they would have benefited from more focus on professional skills during their degree (Nilsson, 2010). Graduates are not alone in this belief, with some agreement amongst academic staff that writing skills are essential in engineering studies (see, for example, Goldsmith & Willey, 2016, 2018; Goldsmith, Willey & Boud, 2019), but time and resource constraints make interventions challenging to implement (Buswell, Jesiek, Troy, Essig & Boyd, 2019).

Despite constraints, universities have been taking steps to provide students with opportunities to develop communication and teamwork skills as part of their studies for some time now (see, for example Arkoudis, 2014, 2018; Arkoudis, Baik, Bexley and Doughney, 2014; Johnson, Veitch & Dewiyanti, 2015; Stappenbelt & Barrett-Lennard, 2008). However, even with recognition of the importance of these skills and university interventions, students frequently rate their 'ability to work effectively with others' and their communication skills relatively low in Student Experience Survey feedback (QILT, 2019). This raises the question as to why not all students are developing these skills as expected.

This paper focuses on a study into the Teaching and Assessing Communication Skills (TACS) program, which aims to assist academic staff to develop communication and teamwork skills in students.

The challenges in developing professional skills in Universities

While time and resource constraints are two of the challenges that academics face when developing communication and teamwork skills, there are many others, with some of the key issues relating to conceptual clarity, the inherent nature of professional skills and the university environment.

One issue of conceptual clarity is that academic staff often expect different things when they refer to professional skills (Carew & Therese, 2007; Green, Hammer, & Star, 2009), but arguably of more importance is the difference in how academics perceive the relationship between professional skills and discipline knowledge. The importance of this perception is that it can directly affect how they approach teaching these skills. Barrie's research (2007) indicates that academics may possess anything from the most basic view that professional skills are simply foundation skills, separate from discipline knowledge that should have been learnt prior to entering university, to more advanced perceptions, such as that professional skills are "interwoven" with discipline skills and are required to successfully develop them. Without this higher perception, there is the risk that academics will see the development of communication and teamwork skills as "not my job" (Goldsmith & Willey, 2016).

The second key issue is that when compared to more technical skills, professional skills are inherently more challenging to teach (Barrie, Hughes, & Smith, 2009). Part of this is that these skills are complex to assess (Hambur, Rowe, & Luc, 2002) and generally need more class and assessment time to do successfully (Green et al., 2009). Further to this, communication and teamwork skills require extended periods to develop, requiring years rather than the weeks allowed for a single subject (Hughes & Barrie, 2010).

The third key issue is the impact of the university environment with one direct problem being that professional skills are also often taught in isolation, relying upon the inspiration and experience of individuals or small teaching teams (Barrie et al., 2009), which can become a significant problem considering that staff can feel ill-equipped to deal with the challenges involved in developing student teams in a way that prepares them for the workforce (Matusovich, Paretti, Cross & Motto, 2012). Even though University teachers are content experts, they often have "limited knowledge about how people learn" and how to provide a context "to facilitate learning" (Luppertz, Himmel, Ouehrani & Winzker, 2016, p. 100). This is particularly true when it comes to developing professional skills (Carew & Therese, 2007; Matusovich et al., 2012). Indirect issues are the growth in class sizes (Carew & Therese, 2007) and the casualisation of teaching staff (Green et al., 2009) which both contribute to an increased reliance on a group of staff who typically have a high rate of turnover, little ownership and little institutional support.

These issues result in the need to create a shared understanding of the role of communication and teamwork skills, to simplify the teaching of these skills, to bring together practitioners who develop these skills and to directly improve the abilities of staff to teach and assess these skills, especially casual staff.

The distributed expertise model as a potential solution

Although engineering academics may view communication and teamwork skills as essential, when combined with a lack of expertise, the result may be a reluctance to take on direct responsibility for developing them in students (Goldsmith & Willey, 2016; Kranov, as cited in Goldsmith, 2019). Therefore, academics can often encourage students to independently seek advice and guidance from Academic Language and Learning (ALL) advisors to develop these skills. While this may help the students with the self-efficacy required to seek out and receive the support they need, it is not the most far-reaching or sustainable approach. Instead, by collaborating with and leveraging the expertise of ALL advisors, academic staff can reach more students. Such partnerships and collaborative efforts, when done well, can be enormously beneficial to staff and students (Wilkes, Godwin & Gurney, 2015; Johnson et al., 2015). In addition, the benefits of integrating skills development within the discipline cannot be overlooked (Falkner, 2012).

Through a project commissioned by the Australian Government Department of Education, Arkoudis and colleagues propose a viable alternative in the form of the Distributed Expertise Model (Arkoudis, 2014, 2018; Arkoudis et al., 2014; Arkoudis, Harris, Kelly, Hunter & Lynch, n.d.). This model involves staff at all levels, each with their degree of expertise, level of leadership and strategic responsibility. In this model, teaching and learning leaders, course coordinators, teaching academics and ALL advisors assume responsibility for developing communication skills in students and duties are distributed according to expertise (Arkoudis, 2014, 2018). By enlisting ALL advisors in designing resources and techniques for academic staff to integrate into their teaching and learning practices and assessment, academic staff can be supported in developing their expertise in this area (Arkoudis, 2018).

The Teaching and Assessing Communication Skills (TACS) program

In 2017, to leverage the expertise of ALL staff and enable a more sustainable means of developing communication skills in Engineering and IT students at the University of Melbourne, the Melbourne School of Engineering (MSE) Engineering Learning Unit (ELU)

and the University's Academic Skills (AS) team collaborated to develop the Teaching and Assessing Communication Skills (TACS) program. In 2018, the program was expanded to include teamwork skills. TACS provides resources, tools and techniques to empower academic staff to embed this skill development into their subjects via their teaching, assessment design and feedback practices. It does this in two key ways: providing resources and tools for subject coordinators and tutors online via a Learning Management System (LMS) community page and delivering face to face workshop-style sessions for staff to practise and apply the techniques in person. The online resources include assessment and teaching guides, instruction on communication and teamwork skills as well as materials to provide to students. The workshops focus on practical assessment, feedback and strategies for developing these skills in students. MSE staff who choose to participate in the face to face workshops are paid for their time. In addition, academic staff from other divisions have elected to participate in order to integrate the approach in disciplines outside of MSE.

The TACS program complements rather than competes with other existing tutor training programs. In the three years since its inception, the program has seen approximately 200 MSE academic staff engage with it, potentially impacting over a thousand Engineering and IT students each year. With limited resources available in the ELU and AS, combining our efforts to enable academic MSE staff to embed these skills into their teaching and assessment provides a sustainable model of developing these skills in students across their degree.

However, apart from anecdotal success stories shared by TACS participants, we did not know what aspects of the program were most impactful, and how the techniques were being implemented in classrooms. The objective of this study, therefore, is to identify which aspects of the program are most useful; how the techniques and resources are being implemented; and what impact they are having on participants' teaching and their students.

Method

Our research investigates three key questions: What aspects of the TACS program have been most useful? How are the tools and techniques being applied in classrooms? What is the perceived impact on participants' teaching and on their students?

The methodology combines qualitative and quantitative responses in an anonymous electronic survey sent to all enrolled members of the TACS LMS community. The first set of questions identifies the type of work the participant is involved in, how long they have been teaching for, and what aspects of TACS they have participated in (workshop, online community, both or none). We designed these questions to help us identify possible correlations between the type of work (e.g. tutor, subject coordinator), the level of experience, and the resources and techniques being implemented. Using skip logic, the survey then only prompted the participant to answer subsequent questions relating to the aspect of TACS they had engaged in (the workshops or the TACS online community), thereby limiting the number of redundant questions presented to each participant. A full set of questions approved by the ethics committee at the University of Melbourne is available upon contact with the authors.

The survey was developed using the Qualtrics platform and distributed via an announcement sent from the LMS community, followed by one reminder email. Participants were invited to read the Plain Language Statement and consent form on the LMS community and give their consent via the form on the first page of the survey. The survey was distributed via an anonymous online link to encourage quick, anonymous responses, and was open for eight working days. The response rate was 23.4% (42 of the 179 participants).

Results

Of the 42 survey responses received, 34 contained complete and useable data. The respondents have been categorised according to the role that they have identified themselves as having, the categories being “senior teaching staff” for those who identified themselves as subject coordinators or senior tutors, “casual teaching staff” for those who identified as tutors or demonstrators and “other” for those who did not identify themselves as either of the previous groups. Table 1 shows the number of respondents in each role, their teaching experience and the level of students identified as being taught.

Table 1: Number of respondents, their role, teaching experience and students taught

		Experience in years				Student level taught [1]	
Role	**Total**	**< 1**	**1-3**	**3-5**	**5+**	**Undergraduate**	**Graduate**
Senior teaching staff	9	0	1	1	7	4	5
Casual teaching staff	23	12	7	3	1	7	7
Other	2	0	0	0	2	1	0

[1] Not all participants indicated the level of the students that they teach.

Most of the respondents were casual teaching staff, which is also likely to be the case for the participants in the program as a whole.

Given that most participants engaged with the workshops on offer, it is interesting to note which aspects of the workshop program they found useful in their teaching and assessment. Table 2 shows the aspects identified as being useful by participants by role as well as the number of participants that attended workshops or use the online community. The most widely used aspects were those related to assessment. For the workshops, this was the use of rubrics and guidance on giving feedback, while for the online community the materials included assessment guides, rubrics and how to use feedback phrase banks.

Table 2: TACS attendance/use and the aspects identified as being useful by participants[1]

	Senior Staff	**Casual Staff**	**Other**
Attended Workshops (S/W/T)[2]	8 (4/5/4) [2]	23 (16/17/16) [2]	2 (1/1/2) [2]
Assessment related	100.0%	87.0%	100.0%
Common issues	50.0%	69.6%	50.0%
Supporting students	50.0%	43.5%	100.0%
Managing Teamwork	75.0%	60.9%	50.0%
Use the LMS Community	6	8	0
Assessment related	83.3%	87.5%	0.0%
Staff resources	66.7%	75.0%	0.0%
Student resources	66.7%	25.0%	0.0%
Teamwork	66.7%	37.5%	0.0%
Other	16.7%	12.5%	0.0%

[1] Percentages are only for respondents that used particular components, not the total number of respondents.

[2] The number of respondents who attended the (S)peaking, (W)riting and (T)eamwork workshops.

Participants were also asked open questions about how they have applied the techniques learnt in the workshop and the materials available in the online community, as well as the impact that they believed that these had on their teaching and on their students. The responses were overwhelmingly positive, with a strong emphasis on improved assessment (fairer and more efficient), the value of rubrics and better feedback. A good example of this

sentiment being: *"Students get faster feedback on their assessment tasks. Finer grain detail about what areas need improvement, and in general better focussed learning"* (Senior 1).

Another impact was a better teamwork experience for both staff and students; participants felt they could manage teams more effectively and better help students to form higher functioning teams. As one participant noted:

> *"I believe this has profound effect on the students. Having them be more comfortable with each other leads to them being able to trust one another which is vital for a well performing team." (Casual 15)*

The third key impact was that participants felt that they better understood teaching design and had greater confidence and a general feeling of *"An overall improvement in the teaching and learning practices...."* (Senior 6).

While overall positive, there was also a little less confidence in the direct impact of the techniques taught on students. These responses were more about what participants expected the response to be, rather than what they had seen already.

> *"We haven't attempted to quantify the degree to which students and markers are better supported or producing higher-quality work at a greater degree of ease, but anecdotally, it seems suggestive." (Senior 8)*

Some comments, while not negative, were a little concerning in that some participants equated student impact with satisfaction as indicated by Student Evaluation Survey (SES) responses. *"I think it is very positive [even] though we get mixed SES results."* (Senior 4)

When asked if there is anything they would add to the program, comments were mostly positive with a few constructive ('more of') statements. These focussed primarily around running workshops more frequently, the benefits of having more staff attend (Senior 8: *"It's a good initiative; I wish more lecturing staff (not just tutors/demonstrators) would make use of it."*) and providing extra guidance on topics covered, such as rubrics.

Discussion

The findings of this research suggest that TACS is beginning to meet some of the challenges of teaching professional skills; that participants are developing a shared understanding of the role of professional skills, that some of the workload of teaching professional skills is being addressed, that the basis of a community of practice has been created and that staff feel like they are being directly supported, especially casual staff.

A shared understanding of the role of professional skills

The TACS program is providing participants with improved conceptual clarity regarding the teaching and assessing of professional skills. It does this by developing a clear, shared understanding of what communication and teamwork should be and the standards to be expected, while at the same time providing examples of the language to be used, particularly through annotated samples and feedback. Amongst the participants, improved feedback and use of language is felt to convert into better outcomes for students, as one respondent noted, "*I am able to use language appropriately in delivering feedback for my students, resulting in improved performance*" (Casual 22).

The provision of rubrics and assessment guidance (found to be useful by over 80% of respondents) as well as the improved awareness of common problems may help participants to form a consistent view of what is and is not acceptable, providing the basis for a standard in assessment. Importantly, the assessment guidelines and rubrics are provided to be integrated with current assessment practices, promoting the higher conception of professional skills as being interwoven with the discipline skills. As one senior teaching

participant responded, "*The rubrics training was outstanding and has resulted in wholesale change to the design of assessments across several subjects"* (Senior 1)*.*

Reducing the challenge of developing professional skills

The techniques and resources provided through the TACS program are designed to reduce the perceived inherent challenges associated with teaching professional skills. In particular, the communication skills rubrics and feedback language samples - key features of established communication skills development programs and frameworks (see Arkoudis et al., 2014; Buswell et al., 2019; Johnson et al., 2015) - have been widely adopted by participants. There is a clear positive sentiment amongst participants towards the impact of rubrics, as evidenced by the following description regarding marking load:

> *The rubric skills has* [sic] *dramatically reduced the turnaround time for large cohort subjects (+350 students). It has also substantially improved the consistency and accuracy among a large number (8-10) of markers. (Senior 1).*

These comments are reflected in others' comments pointing to the impact of the assessment components of the program.

Even for teamwork, participants felt that there were workload benefits by applying techniques learnt through TACS that enabled students to learn from each other: *"More so, having students teach one another is much better than me teaching them as them teaching is an excellent way of interpreting the class content and applying it"* (Casual 15).

A general sense of being better prepared to teach professional skills was also reported by participants. As Casual 23 explained, "*When providing the feedback to the students, I was aware of the techniques and it made my task easier*". This was also true when it came to teamwork:

> *"I've [started] interacting more closely with my students and their teams. Especially since I [teach] first year undergraduate subject, many of the students are starting uni for the first time, so it feels easier to get them to do team forming activities and also talk to them about group Dynamics/common pitfalls etc." (Casual 11)*

TACS has also helped spread out the development of professional skills across years by engaging staff who teach graduate and undergraduate students. Survey respondents engaging with graduate and undergraduate subjects were distributed equally among participants, suggesting that the program and its participants will influence students throughout their studies. In the future, targeting key subjects across the Engineering and IT curriculum may further address this.

Developing a community of practice

Felder, Brent and Prince (2011) note that the development of learning communities is one of the most common structures for these programs, and by extension, one of the most successful. An indirect consequence of the program has been to form the basis of a community of practice through the online community. While this aspect of the program is currently under-utilised, with the majority of the engagement being between the TACS program team and the participants (as opposed to being between participants), the continued engagement will allow for community development in the future.

Ongoing interest in the development of the program was expressed by participants, with one directly suggesting that the program be run "*frequently, so we can discuss about our ongoing issues happening in the class"* (Senior 9). This points to the efficacy of the program in forming a basis toward alleviating the issue of isolation in the teaching of communication and teamwork skills.

Supporting casual staff

As discussed earlier, a significant portion of teaching and assessing professional skills is provided by casual staff and addressing this is one of the reasons why TACS was initially conceived. The data collected in this research suggests that casual staff are being reached, with the majority of respondents having tutor or demonstrator roles, roles typically held by casual staff. All of these respondents attended the face-to-face workshops with aspects most commonly identified as being useful being related to assessment (using rubrics and providing feedback), and an improved awareness of common issues. As one respondent (Casual 11) explained *"I think my feedback is more constructive now. It has also improved my confidence greatly".* New staff are also being reached with just over half the casual teaching respondents having less than one year of teaching experience. While the active use of the LMS community is only around 35% amongst this group, passive participants of the community can still be tracked and contacted allowing for ongoing development as it becomes available. These results suggest program traction with a key target group: casual staff.

Conclusion

Overall the Teaching and Assessing Communication Skills program has been successful, with good participation rates and strong positive feedback regarding it directly affecting teaching practice and performance. In terms of the objectives of the study, the most useful aspects of the program were found to be those related to assessment: specifically, assessment design, using rubrics and feedback practices. These successes are largely attributable to the adoption of the Distributed Expertise Model, integrating external expertise into discipline teaching through close collaboration between ALL advisors and engineering faculty staff. Through this collaboration, engineering-based examples and materials could be generated and provided by communication and teamwork development experts, allowing participants to perceive the skills as an expected, relevant and very actionable part of their work, which needs to be the case for it to be truly contextualised (Goldsmith, 2018). Additionally, faculty ownership means that a push to engage with the program comes from engineering faculty, and funding can be provided to pay for attendance.

Looking forward, the next step is to tap into the potential of the program to form a vibrant community of practice that links practitioners with each other and not only the facilitators. Responding to the participant feedback, this means creating opportunities for discussion, in other words, increasing teacher communication.

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