

Transitioning to University: the engineering students' struggle

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BACKGROUND

As students transition to university study at undergraduate level they can experience numerous opportunities and challenges, both from a personal and academic perspective. Although each student will bring with them varying levels of mastery of the necessary generic study skills and techniques to deal with stress, making students aware of these skills and the importance of developing them is critical. Often within a first year context, these skills are assumed knowledge and are not specifically addressed. Potentially this is a large gap in engineering education affecting the transition experience of students into university and the retention of first year students who experience the effects of stress.

PURPOSE

The purpose of this paper is to assess the effectiveness of a first year engineering program designed and delivered to address any shortfall in generic academic skill capability and expand the students' personal awareness as a way to achieve a more stress-free transition to university studies.

APPROACH

The True You program is a nine week, 15 minute block pilot program that delivers a range of topics to support engineering students in their first year, including lecture materials, student engagement activities and facilitated discussions. The program is designed to support students to further develop generic academic skills and learn techniques that allow them to connect more deeply with themselves and their body, as a way to potentially achieve a more stress-free student experience. Both a qualitative and quantitative approach has been adopted using an anonymous survey instrument as the primary tool to collect information about the student experience which is then analysed in light of the literature and the collective reflections of the presenter and observers of the program.

RESULTS

Almost three-quarters (73%) of the students stated the True-You Model felt personally true for them and 90% found the program useful as a first-year engineering student. A majority of students indicated resonating with the techniques aimed to support conscious presence in order to deal more effectively with stress, with 'failing a unit' the primary stressor. Although the sessions around academic study skills and self-care practices were deemed supportive, the real learning and adjustments to tertiary education will not necessarily be realised until the end of the first session, hence a flexible approach that supports the adaptation to university life may always be required.

CONCLUSIONS

There is great difficulty in the first year aligning students' expectations to the realities of the student experience including the study workload and stresses that present along the way. Whilst programs such as the True-You Program can raise awareness and provide practical support to students on the realities of tertiary education, many will not be saved from the stresses and strains until they have endured the university experience for themselves. Survey results and student comments suggest the program was successful in providing support in a practical way for students transitioning to university. Whilst universities must ensure their expectations of students are reasonable and that the environment supports learning and student wellbeing, students have joint responsibility to do the academic work necessary to meet the demands of the degree and engage in healthy lifestyle practices that support themselves to succeed in a high stress environment.

KEYWORDS

Transitioning to university, generic academic skills, stress, first-year students.

Background

Stress and its physiological symptoms are now the most prevalent complaints of students seeking counselling, where the emotional components of irritation, frustration, and anger are 'rampant' (Newton 1998). Mild to severe levels of stress and burnout have been documented in university students (Tosevski, Milovancevi and Gajic 2010) with hopelessness known to be the most important risk factor for suicide in students (Tosevski, Milovancevi and Gajic 2010). In fact, evidence suggests that Australian students report higher suicidal ideation (62%) than related studies undertaken in the USA (Schweitzer, Klayich, McLean 1995). Unfortunately, students do not often seek treatment for stress as they believe it to be a normal part of being at university, may prefer to deal with stress alone, do not see their needs as serious or do not have time to get treatment (Regehr, Glancy and Pitts 2013).

The first-year students' struggle at university is certainly a well-known phenomenon. The authors have independently observed the difficulties students experience in their first year from a student support and engagement role (first author) and from a teaching and lecturing standpoint (second author). Students flail as they attempt to cope with university expectations, not to mention expectations of themselves, the intense level of stress presenting from study workloads, juggling personal and study responsibilities, social connection and any shortfall in generic academic skills such as time management, public speaking, group work and exam skill. All of these activities are performed from a body that is 'stressed', potentially influencing the student experience and quality of study.

The student struggle can be the impetus for students to leave the education system, with student attrition a widespread problem for Australian Universities. Reports indicate that the national attrition rate in 2013 for commencing bachelor students reached an all-time high of 18.7%, with the institution of focus in this research paper standing at 28.63% (Australian Government Department of Education and Training 2014). Tinto (2012) states that attempts to address matters of attrition have done little to reduce these rates and virtually no consensus exists on the root cause of why students are abandoning their studies.

It is these factors which inspired the trial of The True-You Program (the 'program') aimed to support students' transition to university and address any shortfall in generic academic skills and achieve a more stress-free education experience. With stress being a major factor impacting students and their potential to learn, the program aims to demonstrate that by alleviating the effects of stress in the body, the student is in a better position to enjoy and succeed at tertiary education.

Purpose

The True-You Model (

Figure 1) underpins The True-You Program and suggests that our true self is the self that is unstressed, content, steady, aware, loving, tender, understanding, gentle and sensitive and that this state is relinquished more often than we realise as we take on the stressed state. In the stressed state there is an obvious change in behaviour, a disconnection from our true selves that potentially outplays with reactions such as intolerance, annoyance, irritation, anger, blame, jealousy and harshness in interactions and with one-self. The stressed state is particularly experienced by university students who are known to be vulnerable, prone to stress and intense pressure, and psychopathology triggered by academic overload, constant pressure to succeed, competition with peers, financial pressures and lack of leisure and family time (Tosevski, Milovancevic and Gajic 2010).

University life predominantly focuses on the mind of the student, requiring students to retain information as a way to confirm learning and understanding, but with such focus on the mind,

it is easy for students to forget their body and disconnect from the information it too receives throughout the day. Many students, with a predominant focus on the brain, live from the mental state, not connected nor engaging with unit material, others or themselves as a *whole person*. Benhayon (2011) suggests that we spend our time leaving the body, that is, being elsewhere with our minds whilst our body is conducting a certain act and that the mind is made to be thinking about what you are doing and your body doing what you are thinking. This tendency to not be fully present in our life means that we can become disengaged, distracted with thoughts and the ever growing to-do list. There is the potential to miss or bury all the nuances and subtleties of what we feel and what is happening around us, therefore creating an uncomfortable and disharmonious state in the body.

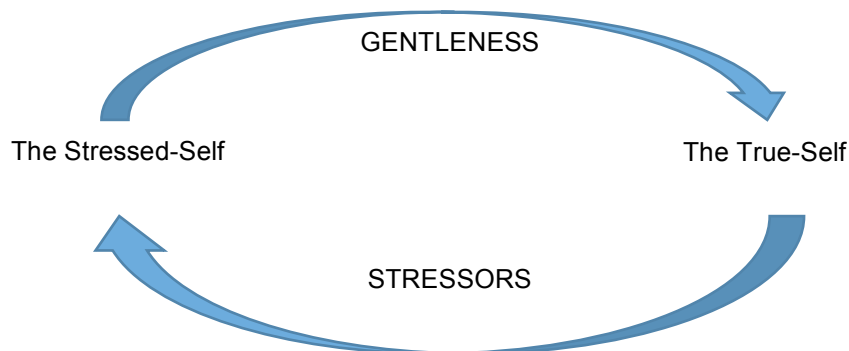


Figure 1: True You Model

The Model (

Figure 1) proposes that the bridge or the way back from the stressed state to the true state, is to purposefully become tender, delicate and gentle in the body in every movement. Gentleness is an important tool that allows us to undo the rough, hard and de-sensitised way we have been conditioned to live (Unimed Living 2016). Of course, asking a group of predominantly young male engineering students to become gentle with themselves, flies in the face of a lifetime of being asked to deny their natural tenderness, vulnerability and sensitivity. Nevertheless, students were introduced to conscious presence and the tools to support their connection with the body as a stepping-stone towards developing a connection back to a quality of life (Unimed Living 2016).

Approach

The program was piloted to engineering students in Session 1, 2016 offering a range of 15-minute topics over a nine week period. The program consisted of a range of lecture materials, student engagement activities, and facilitated discussions. The program commenced in Orientation Week with an open discussion about tertiary education aimed to more closely align the students' expectations with university realities (Briggs, Clark and Hall 2012) as well as provide information about the range of university support services. Each topic (Table 1) was embedded into a first year engineering unit.

Both a qualitative and quantitative approach was adopted using an anonymous survey instrument as the primary tool to collect information about the student experience at the beginning and conclusion of the program. The data was analysed in light of the literature and collective reflections of the presenter and observers of the program.

The program encouraged students throughout the study session to engage in self-assessment whereby students were asked to actively observe their feelings, reactions and responses, connect to their bodies, and become aware of their thoughts and behaviour as

they progressed throughout the study session. Students were also encouraged to make adjustments, be flexible in their study approach, monitor stress levels and deepen their level of self-care.

Table 1: True-You Program Outline

	Topic	Objective
1	Transitioning to University	Discuss expectations, inform of university support services and introduce the Engineering Team.
2	Manage Your Time	Discuss study expectations, the importance of good time management practices, and commitment to achieve a healthy study-life balance.
3	Study Skills	Explore the ways and levels of learning and the importance of note taking.
4	Stress – Staying Steady	Present the True-You Model and explore how the stressed state is not supportive of learning as a university student.
5	True You Model	Further deepen our understanding of the Model, reinforcing that the stressed state is not who we really are, but we are affected by its way.
	Topic	Objective
6	Public Speaking	Understand the fears around public speaking and develop a connection with the body that supports presenters. Practical exercises to support students to develop confidence.
7	Group work	Discuss group dynamics and reflect on what may be needed to ensure groups are effective, collaborative and productive.
8	Building Community	Discuss the importance of building community, global statistics of loneliness and social isolation, and its relationship to personal wellbeing and belonging.
9	Exam Preparation	Share tips as students begin to prepare for University exams.

Results

True-You Program Evaluation

Direct feedback via student surveys was undertaken at the pre-program stage with 37 surveys returned from 56 students (66%) and 23 post-program survey responses received from a class of 34 students (68%). Feedback was also collected from student interactions and observed behaviours.

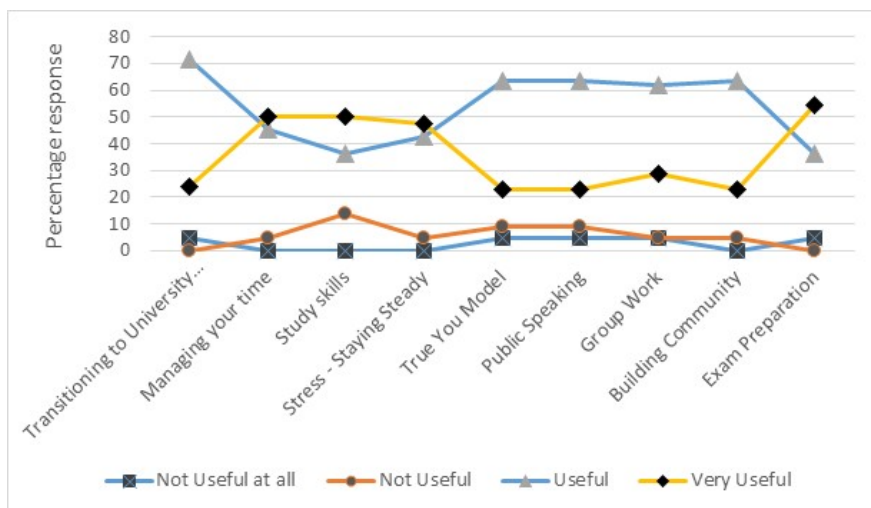


Figure 2: True-You Program Student Evaluation

Session 1 - Transitioning to University

Program Session Feedback (Figure 2): 24% of students found the session very useful, 71% useful, 0% not useful and 5% not useful at all.

A majority of students (61%) felt that university aligned to their expectations. Some commented that “study stepped up a gear”, “I didn’t really know what to expect”, “there was a lot more content that I thought” and ““Uni is always hard ☺.” In light of the insights gained from the study session, students anticipated improving time management and, in particular, allocating more time for study and following a personal timetable.

Session 2 - Manage Your Time

Program Session Feedback (Figure 2): 50% of students found the managing your time session very useful, 45% useful, 5% not useful and 0% not useful at all.

Students were presented with a template and hardcopy example of a personal study timetable with suggestions to map time spent at lectures and tutorials, employment, family time, sport and other activities. 41% indicated that mapping their time was helpful followed by 36% who said that it helped a bit and 23% suggesting the timetable offered little to no support.

Although students were advised to spend at least 10 hours of study per unit each week, results indicate that on average students applied only 8 hours of study per week per unit, providing a shortfall of 2 hours per unit per week.

Session 3 - Study Skills

Program Session Feedback (Figure 2) – 50% of students found the study skills session very useful, 36% useful, 14% not useful and 0% not useful at all.

The results show that 17% of students felt they had sufficient study skills upon arrival to university to cope and 65% felt they had sufficient skills but would have liked those skills to have been at higher level. Students indicated a particular struggle with the level of mathematics, time management, workload and making effective study notes.

Session 4 - Stress – Staying Steady

Program Session Feedback (Figure 2) – 48% of students found the Stress – Staying Steady session very useful, 43% useful, 5% not useful, 0% not useful at all and 5% cannot remember the session.

All students indicated feeling stressed commencing studies, with 9% stating they were 'very stressed' and 91% indicating experiencing 'stress to some degree'.

At the start of study session students nominated their top four stressors to include fear of failing a unit (76%), coping with the workload (70%), learning the unit material and sitting exams (59%) and coping financially (50%). In the post-program survey failing a unit remained in first position (77%) joined by sitting exams (77%), followed by public speaking (64%), coping financially (55%) and with the workload (50%).

The students were introduced to conscious presence in this session and were provided with a range of tools and practical exercises. A majority (77%) indicated the techniques were effective, with only a small percentage of students (23%) commenting that the techniques provided little support at all. 18% of students did not refer to the techniques at all outside of class but those that did stated that 9% used it a daily basis, 36% on a weekly basis, 18% a few times during the study session, and 18% used the technique once. Students stated that they did not incorporate the techniques into their life because they were "always too stressed to remember the technique", "have other ways of coping such as exercise" or had "too many distractions to incorporate into my life routines."

Session 5 - True You Model

Program Session Feedback (Figure 2) – 23% of students found the True You Model session very useful, 64% useful, 9% not useful and 5% not useful at all.

Almost three-quarters (73%) of the students stated the Model felt personally true for them with 27% answering 'Definitely Yes' and 46% 'Yes a bit'. The remaining one-quarter (27%) responded that they did not really resonate with the Model.

Session 6 - Public Speaking

Program Session Feedback (Figure 2) – 23% of students found the Public Speaking session very useful, 64% useful, 9% not useful and 5% not useful at all.

Students engaged in a public speaking activity in front of a seated partner. In the first attempt, they were observed to be quite restless, insecure and disconnected from themselves. On the second attempt, after practicing a conscious presence technique, students were observed to be more steady in the body and confident in their delivery. 57% of students found the technique helped build confidence, with only 5% feeling it did not help at all. Students commented "that if you just get in and do it without over thinking it, it was much easier and ideas started to flow more naturally than trying to think up and pin point ideas", "I was able to speak a little easier" and "it's still scary to talk in front of people". Interestingly, 57% of students did not practice the technique outside of class.

Session 7 - Group work

Program Session Feedback (Figure 2) – 29% of students found the Group Work very useful, 62% useful, 5% not useful and 5% not useful at all.

This session involved class discussion about group work, its challenges and opportunities. The session presented the importance of speaking from the body, which means connecting with the body before interacting with another and being fully present with yourself and the other person. Students were encouraged to practice this in their group work experience in another unit and note any observations. 9% of students responded that it helped a lot, 64% said it helped a bit and 27% stated it did not really help.

Session 8 - Building Community

Program Session Feedback (Figure 2) – 23% of students found the Building Community session very useful, 64% useful, 5% not useful, 5% didn't attend the session and 5% cannot remember the session.

Data showed that feeling connected to the engineering student community was of most importance and this prevailed over the local engineering industry and the extended university community. A majority of engineering students (81%) stated they felt some connection to the university. 60% of students identified feeling a little lonely, 5% a fair amount and 35% said they did not experience loneliness at all.

Session 9 - Exam Preparation

Program Session Feedback (Figure 2) – 55% of students found the Exam Preparation session very useful, 36% useful, 0% not useful, 5% not useful at all and 5% didn't attend that session.

The exam preparation session included tips from the authors and lecturer and answered concerns for students.

Program Evaluation

Overall, the findings showed that 36% of students found the program very useful, 54% useful, 6% not useful and 3% not useful at all, 1% didn't attend and 1% could not remember (figure 3). Students provided comments in the survey that it was a “fantastic program, really helpful in making the switch into uni life”, “very good although more sessions and interaction would have helped”, “spoke a lot of truth”, and a “good way of giving students confidence”.

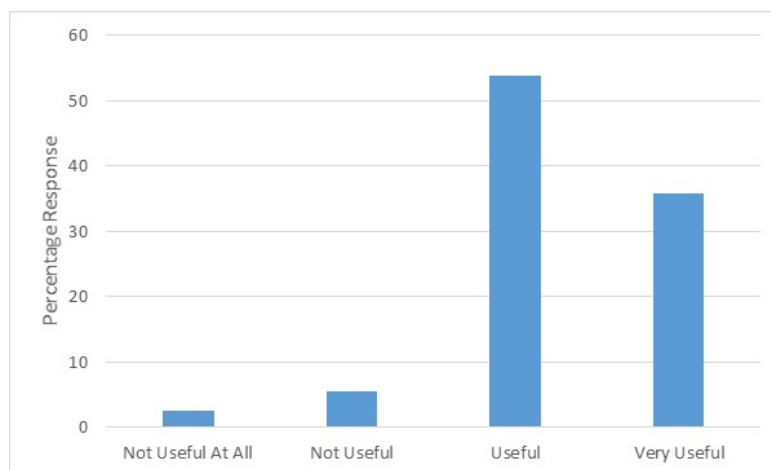


Figure 3: Overall True-You Program Evaluation

Discussion

The True-You Model (

Figure 1) formed the foundation of the program and focused not only on managing stress but assisting students to become more focused and steady within themselves as they engaged with their studies. For instance, if we look at the session on exam preparation, the focus was on the typical and practical ways of studying such as writing good summaries for review at exam time, regularly practicing mathematical equations but also on the quality to ‘be’ whilst studying, referring to being in and expressing the quality of their true selves whilst going about their day. Students were encouraged to be mindful to live in a way which supported conscious presence and to rely on tools provided for support and to maintain an inner steadiness, such as breathing in gently through the nose and walking in connection with the body rather than be pre-occupied with a worrisome mind. Students were also encouraged to eat nutritious foods, enjoy gentle exercise, avoid late night studying and ensure quality sleep. The survey indicated that the Model resonated with almost three-quarters (73%) of the student body and although clearly not all students related to the program, most comments

were positive suggesting the program helped to make “the switch into uni life”, “develop confidence” and provide ways to “make it so much easier on your body”.

In light of the literature pertaining to students’ high levels of stress, it is clear that Universities have a responsibility to provide a learning environment that honours student health and wellbeing. The results in this research alone suggests that all students in the pre-program survey identified feeling stressed coming into the engineering degree and in the post-program survey 76% of students indicated ‘failing a unit’ was their primary stressor and this did not shift throughout the entire study session. Coping with the workload, learning the unit material, sitting exams, financial sustainability and public speaking were also of major concern to students. In addition to stress, 65% of the students admitted to feeling lonely to some degree. Levy (2014) states that whilst the stress response is necessary for life or death situations, it can make learning difficult, as the stimulated senses do not support deep learning, memory storage, self-control, impulse control, and reasoning. Evidence suggests that the stress response is “detrimental in the classroom” and that the brains of students experiencing high levels of stress look and respond differently than those who are not (Levy 2014). There is a pressing need for universities to provide and promote access to counselling services (Schweitzer, Klayich and McLean 1995), develop a learning environment which ‘normalises’ seeking support for academic difficulties, and provides more structure and support for developing academic skills (Tosevski, Milovancevic and Gajic 2010). Perhaps too there is a need for institutions to challenge the norm that high stress should remain a part of University life and consider the expectations of students in a more realistic way.

Just as institutions must focus on their own behaviour and establish conditions that promote outcomes of student success (Tinto 2012), students have joint responsibility to do the work required and maintain healthy self-care practices that support studying in a pressured environment. Research suggests that creating a healthy lifestyle, maintaining quality and quantity of sleep, developing social networks, promoting peer education and counselling, building a positive student environment (Tosevski, Milovancevic and Gajic 2010) and developing a good relationship with faculty staff and peers, are all productive and effective ways for the student to improve their tertiary education experience (Tinto 2012). Although the program offered guidance in relation to healthy study practices and tools specific to reducing stress, it appeared from data collected from the post-program survey that some, for whatever reason, did not attempt to integrate these into their lives in full or at all. For example, the results from the post-program survey showed that many did not study the minimum 10 hours per unit per week recommended by the institution; and whilst specific techniques to support conscious presence were provided to assist students understand and minimise stress, the majority interacted with the technique intermittently and 18% did not use the techniques at all. The presenter indicated that the techniques were not something to be practiced morning and night like a prayer ritual, but a livingness to be performed to the best of one’s ability throughout each moment of each day, developing a quality of being that the student would learn to know as their true self. Those students who found conscious presence helpful but did not incorporate the technique into their daily lives, commented that they were “always too stressed to remember the technique” or had “too many distractions to incorporate into my life routines”. Ultimately, only the student can choose how much they are willing to invest of themselves at university and bring to their lives the practices that promote success and support personal wellbeing along the way.

Throughout the study it became clear that students tend to initiate personal change once an uncomfortable level of tension is reached and, hence, the lived experience is fundamental to the student experience. This was evident at the conclusion of the program where students stated that for the next study session it was their intention to study more, develop a personal study timetable and manage their studies in a different way. Bretherton (1993) states that the process of change often occurs in response to conflict and that the Chinese character for conflict represents crisis and hidden opportunity. Students are often persuaded by the uncomfortable nature of tension felt in the body to make different choices to change their

situation. The impetus for this self-initiating process becomes a natural and integral part of the student experience. Accordingly, first-year degrees should allow space for students to adapt to the environment and learn the skills to become a 'successful' student – acknowledging that success herein encapsulates both *academic performance* as well as *personal wellbeing*.

Overall, the True-You program offered support to a majority of first-year engineering students to assist with the transition to university process. Evidence suggests that the program offered many insights and supported students to adjust to the pressures of university life by creating awareness, opening up discussions to deconstruct the students' struggle, bridging the gap in generic academic skills capability as well as better managing stress. Students commented that the program spoke "a lot of truth", provided a sense of "not being on your own", and "made me think about myself more". Findings validated the continuation of the program with some modifications as suggested by the students, to expand the time allocated per session to allow for more practical exercises and deeper discussion. Whilst the study aimed to assess the value of the program generally, further analysis of whether the program would improve student retention would prove useful.

Conclusion

The findings of this study indicate that the True-You Program can work towards supporting students in their first-year of university to bridge the gap in generic academic skills as well as increase awareness around stress and its effects on the body. With stress well known to affect the students' ability to learn, universities have a responsibility to provide a supportive learning environment and ensure the expectations placed upon students are realistic and supportive of student health and wellbeing. Students have joint responsibility to take appropriate action to ensure success and this includes committing to academic study skill practices that support their studies and ensuring personal health and wellbeing remains a priority in the high stress environment. It was evident from the survey results and student feedback that the program offered the opportunity to depersonalise and deconstruct the struggle of university students and supported many to make the necessary changes as they set about adapting to their environment.

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