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Orientation for Credit, Transition for Success

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ABSTRACT

CONTEXT

University orientation is typically a short term, first-year-focussed activity with minimal academic involvement. "O-Week" is held across the university, with many social and academic activities taking place. A few sessions might focus on the area of study that students have chosen. With modern pedagogies in mind, these sessions cover too much content to be remembered and students have limited opportunities for genuine engagement with peers and facilitators. Having orientation not optimised for building the skills and connections needed to succeed in the first year, with potential impacts on progression and retention rates, is a missed opportunity.

GOAL

An opportunity to revisit the aims and student experience of orientation has arisen as we update our engineering program. The new program design has an increased emphasis on the student journey, bringing a renewed focus on the transition into, and through, the university. The goal of this work is to successfully transition students into studying engineering at UniSQ and ensure they have the skills, direction and connections they need to succeed in their program.

APPROACH

The project is based on the use of the transition pedagogies of Kift, Nelson & Clarke (2010) and Lizzio's 5 Senses Model (2006). A key component of the orientation will be students identifying their own areas of strengths that they can leverage as they set personal and professional development goals that they will pursue over the whole of first year in order to attain the defined first year capabilities that will assist them in their studies. Students will be linked with mentors and peer groups and support services as needed. As the student profile of UniSQ is diverse, this intentionally designed approach will help to ensure all student cohorts are included.

OUTCOMES

Our new approach aims to implement orientation for credit courses which will facilitate the building of essential study, personal and professional skills, starting with a residential school to meet staff and students. Personal goal setting and mentoring by staff and senior students will continue through the first year of enrolment and beyond. Students will have enhanced opportunities to develop a sense of belonging and access integrated support as they transition into university. Students will have a 0.5 credit point "pass" in their pocket at completion, and more importantly, should be well placed to continue their personal journey through their studies.

CONCLUSIONS

This work proposes a framework and course structure to support the transition of students into our renewed engineering programs. These are evaluated against existing transition frameworks.

KEYWORDS

Orientation, Transition, First Year, Diversity, Individual, Learning Journey

Introduction

When university orientation is mentioned, many minds go to the traditional “O-Week” with the pomp and processions of official welcomes, social extravagances and long held traditions along with opportunities to sign up for a swathe of special interest societies. Somewhere in this busy week, a student might attend a session related to the study area they have enrolled in, and if fortunate, will meet one or two students from their immediate cohort. Often this session will then focus on delivering a massive amount of content that is not immediately relevant to the student, and likely focus on the roles and positions of staff that are important within the faculty, but less important to students as they start their study.

This paper begins by wholeheartedly agreeing with the observation of Kift, Nelson & Clarke (2010) that orientation is a process not an event. However, despite the best efforts of academic and professional staff, it is difficult to argue that the perception among students has changed from the view that orientation is a single, one-size fits most extravaganza that occurs in “O-Week”.

As a step to move beyond this perception, which is enabled by the “O-Week” marketing, events and social media tags, we propose a rebranding of the orientation process. Instead, we wish to facilitate an individual journey as a student moves into study with our institution. This is a critical first step for our engineering programs, which aim to support students on their personal journey from their individual starting point to when they join the profession. This also means that the focus needs to change from what academics and the university do, to what the students do.

Building on concepts from Lizzio’s (2006) Five Senses Model, which includes transition into, University study, we propose a personalised, curricular process to facilitate the professional practice and personal development (PPPD) of students as they undertake their journey through our program and prepare for professional practice.

Drivers for Change

Changes to government funding for students, such as the Jobs Ready Graduates legislation, and the increased scrutiny of progression and retention of first year students has meant that a successful first year is more important than ever (Australian Government Department of Education, 2022).

In addition to this, engineering educators across the country are responding to changes in the graduate attributes defined by the International Engineering Alliance (2021) and also the work of ACED in defining the engineer of the future, and the implications for engineering programs (Crosthwaite, 2021). Both of these are drivers to include more T-shaped skills in our graduates – which requires a stronger focus on interpersonal and professional skills than previously.

An increase in the demand for engineers has not seen a dramatic increase in the number of students applying to study engineering. Although if we are to achieve the required workforce, a more diverse cohort of first years is to be expected.

Continued attention on attraction and success of equity groups (females, neurodiverse) in the engineering field adds to the need for the orientation process to be fit for purpose for a diverse cohort with potentially different needs. (Chrysochoou et al, 2021; Field 2023).

The Australian Universities Accord Interim Report (Australian Government Department of Education 2023) captures the essence of this problem succinctly in Section 2.4.1,

> *A more student-centric approach to teaching, tailored to the cultural, social and academic needs of the individual students, will deliver a superior education. What’s needed is innovation and scalability. (Page 81)*

Clearly the first year, the foundation for the rest of the student journey, is more important than ever, and must start the student on their individual path towards a richer set of graduate attributes. Engineering programs need to efficiently incorporate a student-centric approach to satisfy these drivers for change.

This paper takes existing transition frameworks and applies them to widen the scope of orientation to account for a more diverse cohort. As existing frameworks tend to focus on what academics do, this work proposes a new framework to assist students to identify their areas of strength and intentionally build a successful learning journey from wherever they are starting out. This framework supports the student as they undertake their first year and has informed the structure and course learning outcomes of the two first year PPPD courses.

In the next section the paper discusses existing frameworks, with the proposed new framework being presented in the following section. A case study of using this framework is then presented and key outcomes noted.

Existing Frameworks

While some of the drivers for change are new, the frameworks that will help support our response have been well identified and tested, with the 3rd generation transition pedagogies of Kift, Nelson and Clarke (2010) as well as Lizzio's five senses of success (Lizzio 2006) both offering useful lenses. These approaches tend to work well for a traditional university cohort, where the assumption can be made that the students have recently completed high school, and a certain level of familiarity with study and the incumbent terminology and systems, as well a certain degree of academic efficacy. How can the work of Kift. Nelson, Clarke and Lizzio be leveraged to create a successful orientation process for students from more diverse backgrounds, who enter study with a different strength profile?

Kift, Nelson and Clarke (2010) proposed transition pedagogies which take a holistic view of the first year, with strategies to ensure an engaging curriculum, access to support services, sustainable partnerships between academic and professional staff as well as intentionally fostering a sense of belonging. These strategies support an intentionally designed first year curriculum that "carefully scaffolds, mediates and supports first year learning for contemporary heterogeneous cohorts." Importantly this framework considers the first year from the student view, and further, is embedded in the curriculum, taking orientation efforts from a solely co-curricular status to a part of the program of study, encompassing curricular and co-curricular elements.

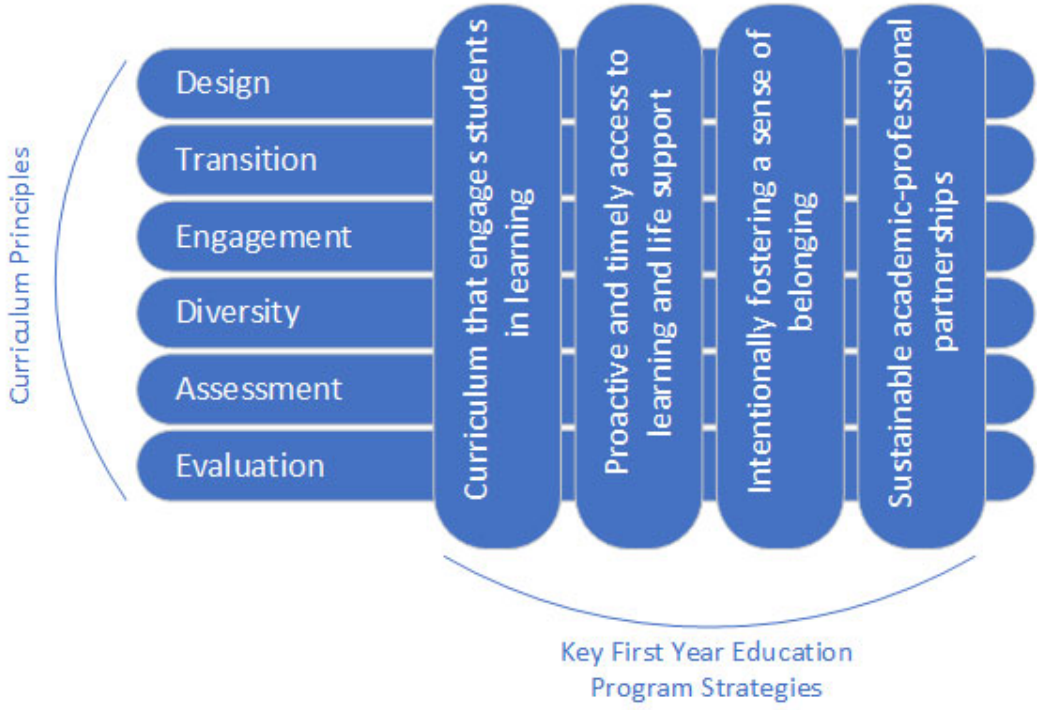

Figure 1: The Transition Pedagogy Framework adapted from Kift, Nelson and Clarke (2010)

Lizzio captures the student transition to higher education through five domains, the sense of academic culture, sense of connectedness, sense of capability, sense of purpose and sense of resourcefulness. It uses approachable language and takes a positive, strengths-based approach. The framework is summarised in Table 1, with the information adapted from Lizzio (2006).

Table 1: Summary of Lizzio's 5 Senses Model

Sense of Success	**Importance** Students succeed when:	**Mechanisms** We can support students by:
Capability	• They understand the expectations of university study • They have strong basic academic skills • They are committed to being part of the learning community	• Clarifying and negotiating expectations • Providing opportunities to develop the requisite academic skills • Engaging students as active members of a learning community
Connectedness	• They have quality relationships with peers and staff • They feel connected to the university	• Providing opportunities for students to form good working relationships with peers and staff • Encouraging students to be involved with the university
Purpose	• They have a clear sense of purpose and a sense of vocation • Engagement with the discipline of study • They can set personal goals	• Providing opportunities for students to articulate their reasons for choosing to study at uni/their particular program • Demonstrating relevance of their study to their future career • Encourage systematic development of strengths and talents.
Resourcefulness	• They can proactively manage challenges • They can navigate the university system to get help or information. • They can balance work, life and study commitments	• Providing clear and accessible role descriptions, procedures and resources • Encourage timely help-seeking behaviour
Academic Culture	• They understand the core values and ethics of the university and how these affect their experience	• Clearly answering the question, “What is a university?”

Holistic Student Strengths Framework

Much of the published literature and frameworks previously mentioned focus on what we do as academics. To personalise the student journey, the perspective needs to change to academics being facilitators. It is not so much about what we do, but what students do. While we recognise that one size won’t fit all, the challenge is to sustainably support individual student journeys. We suggest that part of the solution is to offer a range of activities, supports and ways to engage with the transition process, with students choosing those most relevant and useful to their own circumstances. The Holistic Student Strengths (HSS) Framework is proposed to facilitate this process.

The aim of this framework is to correlate student strengths built from a range of experiences with predictors of success at university. By considering these through different lenses, and using student focussed terminology and a strengths-based approach, we can support students to undertake self-assessment and reflection, which can be used to prompt discussions with students or support scaffolded development in adjacent, related areas. By starting from a known area of strength, we can support the students to build their capacity in all areas. Repeating the self-assessment activity over time can capture growth and prompt reflection. This approach directly contributes to the Sustainable Partnerships element of Kift et al’s Transition Pedagogies as students who need support services can be efficiently directed there, in a timely manner, without unnecessary processes and overheads.

The proposed framework is illustrated in Figure 3. A description of each element is included in Table 3. The arrows on the outer edge show different categorisations of the strengths – note the symmetry of personal/community categories, and the university and profession related elements. These categories help to show why these skills are important to the students' development – confidence means I can do well at university and feel part of the community, for example. These categories could also facilitate discussions with other areas of the university – such student support, learning support or careers – as we link support services with the program.

Figure 2: Holistic Student Strengths Framework

An example of where this framework might be useful is that typically school leavers might be quite confident and equipped with the academic self-efficacy needed to succeed at university but have a reduced knowledge of the engineering profession. Conversely, students working in industry may lack the academic confidence but have a strong professional identity as engineering tradespeople or technicians, and a very clear idea about the type of role they are seeking after graduation. Identifying these strengths enables students to recognise they are not starting from nothing, that they are bringing valuable skills and perspectives to their study.

Table 2: The HSS Framework Elements

Element	**Student Capabilities**
Self-Awareness	I have a realistic, holistic view of my strengths, weaknesses, and preferences. I am able to reflect on situation and experiences and make meaning from them.
Self-Determination	I am empowered to make the choices that are best for me right now.
Self-Efficacy	I can manage my behaviour and choices. I am confident that I have the capacity and tools to succeed.
Confidence	I am comfortable with the people, processes, systems, and expectations of the university. I am able to access support when I need to.
Sense of Belonging	I feel that I belong in my chosen field of study and can see a path to the profession for me.
Professional Identity	I have a rich understanding of what the engineering profession is and is not. I am committed to developing the skills I will need to succeed in industry.

Case Study: Orientation for Credit at University of Southern Queensland

At the University of Southern Queensland, our renewed suite of undergraduate engineering programs will be offered from 2024. Central to the refreshed student experience is the concept of a student being the owner of their personal learning journey. A number of Professional Practice and Personal Development (PPPD) Courses will facilitate students to intentionally plan their personal journey - reflecting on their motivations, goals, current skills and strengths and their path towards their graduate role.

This is important for all students, but it is especially important where the cohort is particularly heterogeneous. Our student cohort has a significant proportion of students who study online (around 70% of our cohort), attending residential schools on campus at key points. These students are typically mature-aged, often in their thirties, and often have trade or other qualifications beyond their high school education. By taking a strengths-based approach, we can allow all students to leverage the life experience and qualifications by demonstrating how they can contribute to their success in their university studies.

Two of the Professional Practice and Personal Development courses act as bookends for the undergraduate engineering programs, facilitating student transition into and out of university. Along with the other PPPD courses, they also facilitate the planning and documentation of the student journey, as well as curation of the final student portfolio which will demonstrate achievement of the graduate attributes. Each course is worth 0.25 credit points.

Of interest to this paper are the first two courses, though an overview of the entire PPPD stream is required in to fully understand the orientation courses. The PPPD courses from the 4-year engineering program are outlined in Table 2. Note that the program design includes an embedded associate degree, with students demonstrating these graduate attributes at the end of the second year.

Table 3: PPPD Courses in the Bachelor of Engineering (Honours)

Course Name	When undertaken	Outcome
Student Engineer Induction	First 6 Weeks of First Year	Beginning to make connections, measuring the starting point and planning the journey.
Student Engineer Portfolio	Entire First Year	PPPD through first year to meet personal development goals
Engineering Affiliate Portfolio	Entire Second Year	PPPD through second year to continue personal development and complete work experience
Engineering Associate Portfolio	End of Second Year	Submit Portfolio to demonstrate achievement of Stage 1 Competencies for Associate Engineer
Transition to Professional Engineer	First 6 Weeks of Third Year	Identify goals for PPPD towards Professional Engineer
Engineering Professional Portfolio	Final Enrolment	Submit Portfolio to demonstrate achievement of Stage 1 Competencies for Professional Engineer

In general, the courses work in pairs. Student Engineer Induction is a short term intensive, where activities, goal setting and planning occur, with the Student Engineer Portfolio allowing the full year for these to be undertaken.

The Engineering Affiliate Portfolio captures the ongoing journey and work experience elements of the second year, which are captured in the Engineering Associate Portfolio, where achievement of the Stage 1 Associate Engineer competencies is demonstrated.

The Transition to Professional Engineer facilitates the change in expectations from Associate Engineer to Professional Engineer, and allows for more reflection, goal setting and planning, the

aim of course being demonstrating the Stage 1 Competencies for Professional Engineer in the Engineering Professional Portfolio.

The focus of the detailed design is the two first year courses. Students will commence their study with The Student Engineer Induction, where they will come to one of our campuses and have opportunities to build relationships with peers, staff and a connection with the university itself. During this course they will be able to reflect on their current skills profile and identify their strengths and opportunities for growth. From this, personal development goals will be set for the coming year and access to university resources will be facilitated. The year long Student Engineer Portfolio course follows the journey of the student through first year.

Detailed Design

To determine the course learning outcomes (CLOs) of the new courses, the work to date in the orientation process within the school was used as a starting point, along with the aims and functional requirements of the new courses.

The process was as follows:

1. KPIs for the student transition were brainstormed and/or collated from previous work.
2. These were grouped thematically and linked to the HSS framework elements as well as the published literature.
3. The KPIs were then classified as short term (occurring in Student Engineer Induction) and longer term (occurring in Student Engineer Portfolio).
4. The result of steps 2 and 3 was that the KPIs were grouped by theme and timeframe. Now, each group of KPIs were collated into a single CLO. The CLOs for Student Engineer Induction and Student Engineer Portfolio are shown in Table 4.
5. The drafted CLOs were mapped against the HSS Framework as well as the frameworks of Lizzio as well as Kift et al. The outcomes of this mapping process are shown in Tables 5 and 6.
6. Coverage of the CLOs against each framework was assessed.

Table 4: Course Learning Outcomes for the First Year PPPD Courses

	Student Engineer Induction	**Student Engineer Portfolio**
CLO1	Describe, in broad terms, the essence of engineering and identify key engineering disciplines.	Apply the Engineers Australia code of ethics to professional, personal and academic circumstances to support ethical decision making.
CLO2	Reflecting on your skills, attributes and personal goals, explore your personal motivations for choosing your engineering program.	Engage with the final year project conference and reflect on the skills, attributes and types of projects being undertaken by the final year students.
CLO3	Based on your understanding of the UniSQ engineering program aims, structure, choices and opportunities, and building on your current knowledge and abilities, explore options for your learning journey over the program.	Document your first year journey by collating your portfolio and regularly reflecting on your progress towards the first year portfolio aims and your personal goals.
CLO4	Begin to make connections with peers, academics, UniSQ and its country, as well as the wider engineering community, and reflect on your role in ensuring a respectful learning environment for all students and staff.	Establish connections with peers and academics by engaging with mentoring activities and actively contribute to maintaining respectful learning environment for all students and staff.
CLO5	Take stock of your current skill set and describe your successful learning journey, including strategies for monitoring progress, identifying when assistance is needed, and proactively accessing support services.	Monitor your progress towards your personal goals, identify when assistance is needed and proactively access the resources and support necessary for your learning journey.

The mapping shows a good coverage of the elements of each framework in the course CLOs. This provides confirmation that the HSS Framework comprehensively address all the dimensions of the existing frameworks while providing a new, student-focused lens.

It can be seen that each CLO maps to at least one element from each of the three frameworks. Several elements are mapped against more than one CLO. The linkage is reassuring as it shows that whichever framework is used as a reference, the CLOs are actively supporting transition.

It is useful that each of the HSS Framework elements are present in at least two CLOs, giving students with identified strengths in these elements at least two CLOs where they could focus first. For example, a strong professional identity would be of assistance in achieving the first three CLOs of the Student Engineer Induction. While exploring their motivations for studying engineering by completing the activities supporting CLO2, the student should also be starting to identify and develop skills in the Self-Awareness strength area.

Table 5: Course Learning Objectives: Student Engineer Induction

	HSS Framework						**5 Senses Model**					**Transition Pedagogy**			
	Self-Awareness	Self-Determination	Self-Efficacy	Confidence	Sense of Belonging	Professional Identity	Capability	Connectedness	Purpose	Resourcefulness	Academic Culture	Engaging Curriculum	Timely access to support	Foster Sense of Belonging	Sustainable partnerships
CLO1						x			x					x	
CLO2	x	x			x	x			x			x		x	
CLO3	x	x	x	x		x	x		x			x			
CLO4	x		x	x	x			x			x			x	
CLO5	x	x	x	x			x		x	x			x		x

Table 6: Course Learning Objectives: Student Engineer Portfolio

	HSS Framework						**5 Senses Model**					**Transition Pedagogy**			
	Self-Awareness	Self-Determination	Self-Efficacy	Confidence	Sense of Belonging	Professional Identity	Capability	Connectedness	Purpose	Resourcefulness	Academic Culture	Engaging Curriculum	Timely access to support	Foster Sense of Belonging	Sustainable partnerships
CLO1	x					x	x		x		x	x			
CLO2	x	x			x	x	x		x		x			x	
CLO3	x	x	x	x		x			x	x		x			
CLO4	x		x	x	x			x						x	x
CLO5	x	x	x	x					x	x			x		x

Evaluation Methods

The new PPPD courses will run for the first time in 2024. Evaluation will be a combination of qualitative and quantitative measures. Qualitative metrics include progress through the orientation and transition activities will be easily collected and monitored. In addition, the number of opportunities offered to do something, such as engage with peers, is also an important measure. Other evaluation will be qualitative – by reviewing the portfolio contents and student

reflections or hosting focus groups, we can obtain a richer picture of the student experience. This is the topic of another paper (Kist et al, 2023). Detailed implementation and evaluation of the how well this is achieved is out of scope of this paper and will form future work.

Conclusions

There are two key outcomes of this paper. The first is a framework that extends the scope of traditional orientation to transition diverse cohorts into university study and on the path to professional practice by taking a strengths-based approach. This is important to complement initiatives to widen participation in studying engineering. The framework also has an important role in supporting conversations with students around their strengths, entry points and planning. The second outcome is the proposed course learning outcomes for two first year courses which are designed to support students in the transition process.

The HSS Framework is applicable across institutions and may be of interest to others considering the support of equity groups and generally diverse cohorts. The proposed course learning outcomes may be used by other educators as a starting point or as a benchmark for comparison while reviewing their own orientation and transition activities.

The main contribution of this work is to the change of focus from what academics and institutions do, to what students need to do to succeed.

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