Innovative Approaches for Enhancing the 21ˢᵗ Century Student Experience

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Abstract

This paper discusses insights from a project aimed to bring about sustainable strategic change through improving institutional capacity to enhance the 21st century student experience. It sought to build new concepts for understanding Australia's higher education students, identify new data sources and approaches for measuring the student experience, and engage institutions in enhancement work and new conversations about students. After discussing pertinent contexts and rationales, the paper discusses national research conducted to understand the current state of play. It then proposes the model derived to reconceptualise qualities of a successful experience. It closes by articulating two enhancement strategies developed to seed new practices.

Keywords: student success, student experience, institutional development, conceptual development

Valuing Each Student's Experience

Ensuring that each higher education student has a successful experience is crit-

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ical to the future of the sector and society. Australia has made considerable progress over the last three decades to define the student experience, collect various forms of data, and report insights to various stakeholders in increasingly sophisticated ways (Ramsden 1991; Griffin, Coates, McInnes & James 2003; Coates 2006; 2009; Coates, Kelly & Naylor 2015; Radloff, Coates, Taylor, James & Krause 2013). Yet much of this work rests on generation-old and suboptimal approaches to identifying people, to gathering insights, and to helping students succeed. More contemporary perspectives are needed, particularly given that little has been done to rigorously define what constitutes a successful student experience.

This paper reports on a project designed to provoke a step-change in how the sector thinks about and leads student success. The project seeks to distil an innovative architecture so as to guide future leadership of student success in higher education. Working from detailed and ongoing research of contemporary thinking and practice, it seeks to advance new qualities and profiles for understanding the undergraduate student experience, explore expanded data sources and analytical approaches, and lay foundations for leading reform. This work seeks to raise awareness of student identities and expectations, evoke different conceptions and dialogues about students, create more effective means for monitoring and enhancing education, and set foundations for substantial further development.

In this paper a suite of new perspectives are prompted by critical constraints challenging current circumstances. While each student's experience is essentially highly individual in nature, prevailing myths and institutional norms fixate on crude group-level generalizations. As a sector globally higher education lags compared with other service sectors, stuck in batch-like mindsets that undervalue the agency and potential of core participants (Higher Education Commission 2016). As teased apart below, the basic concepts which sustain much current theorization and practice are based on reified views on who students are. Stereotypes can bear little relation to the identity or aspirations of prospective or current students. The dominant survey methods used to study student engagement have waning utility. Student survey response rates are low and shrinking, variance explained is small, and more effective electronic footprints seem available (Siemens, Dawson & Lynch 2013; Sclater, Peasgood & Mullen 2016). While most work on this front is framed within the context of institutions and fields, higher education is increasingly trans-disciplinary and trans-institutional in nature. There is a need

to break through bureaucratically entrenched barriers and look instead through the eyes of the student (Nahia & Osterberg 2012). There are practical problems. Institutions and stakeholders are increasingly unresponsive to results from student surveys, which in many instances are detached from lived practice, increasingly used for external purposes and reinforcing approaches convenient to institutions rather than serving students (Ladd, Reynolds & Selingo 2014). There exist limited insights into who students are, how people approach higher education, the ways in which they learn, and how people change as they progress.

This state of play provokes myriad uncertainties and questions. What are students seeking to achieve? How can we move beyond the suite of popular but limiting constructs on teaching, retention, experience and engagement to look instead at student profiles, types and segments? What data exists or could be used to better understand students? How can technical analysis explain more variation in the experience, particularly at the individual level? How can we get information on each and every student, not just the fifth who respond to surveys, and how can we explain more than a fraction of the variation in students' experience? What steps can be taken to improve leadership of the student experience? What are effective means for conceptualising the success of programs and institutions? How can institutions better manage their experiences as they progress through study? How can institutions move beyond conceptualising students as a source of data? Most broadly, what can be done to link concepts, techniques and practices to forge more evidence-driven and cogent leadership of the future student experience? These are deep and broad yet basic questions which require us to better understand how an increasing number and range of individuals approach higher education, students' identities and expectations, and how institutions can manage and enhance students.

This paper reports on validation of the new concepts and new methods for helping institutions lead the student experience. Conceptually, it reports on investigation of who students are and what they expect from higher education—inquiry that goes beyond stereotypes, generalities and assumptions about demography and contexts. Methodologically, it reports new approaches for measuring and reporting these new constructs and profiles by helping institutions leverage under-utilised existing data for quality enhancement. To accomplish these objectives the project involved:

- charting the current state of play;
- identifying qualities of student experience; and
- articulating enhancement approaches.

Charting the Apparent State of Play

The project began by launching an investigation of contemporary student experience ideas and practices. The project bootstrapped this investigation by deconstructing the 'student experience' into four topics: student identity, student success, data sources, and change leadership. Each of these topics was investigated using a wide range of research and consulting with more than 50 experts. These investigations helped articulate a model of student success, clarify more effective ways for understanding each individual's identity, flesh out effective strategies for analysing and interpreting huge volumes of data on activity and performance, and unpack the attributes of academic leadership required to help people succeed. This background research clarified the study's broad design. In essence, the project posits that education data underpin a better understanding of students and their experience, which in turn spurs student success. Each of these areas, and particularly their intersection, are joined by distributed academic leadership. This formative work was published in an interim report (Coates *et al.* 2015).

The background research furnished important conceptual and practical clarification of the contemporary student experience. Through the fieldwork, contemporary approaches to understanding the successful student experience was assessed, motivating conceptual frames tested, and new insights and approaches designed.

The project sampled institutions, then students. A total of 31 higher education institution participated and returned an inventory. These institutions ranged across provider types (18 universities, 13 other higher education institutions), states and territories (8 Queensland, 8 New South Wales, 7 Victoria, 4 Western Australia, 2 South Australia, 2 Australian Capital Territory), and included diverse student mixes. A further six site visits and interviews were undertaken for institutions identified with differentiated practice. Semi-structured interviews were conducted with a total of forty-four students. These students were from metropolitan and regional universities as well as small- to mid-size private institutions and pathway providers. Participating students represented a wide range of ages, diverse fields of educa-

tion and cultural backgrounds.

Two instruments—a student interview schedule and an institutional inventory—were developed from the study design to yield information about the nature of student success, the identity and experiences of today's students, the nature and use of information available to institutions, and what leadership is needed to steer improvement in this core area of higher education. Both instruments were open-ended and qualitative given the nature of the phenomenon under study, the project aim, and maturity of the research and practice.

The empirical work in this study sought to probe and shape new concepts rather than yield any kind of sector-wide 'baseline data'. Even so a reasonably large number of institutions contributed insights, offering modest generalizability. Initially, information from institutions and students was used to document and describe current practice across the sector. In terms of student identify, student success and the accessibility of relevant data sources, with further analysis it was feasible to locate institutions along a developmental spectrum in terms of whether practice was shared, differentiated, emerging or aspirational. With respect to leadership, consideration was given to the importance of several attributes for improving student success, understanding students, and data.

As a pathway into reconstructing the student experience, an assessment was made of each institution's maturity in articulating student success, the identity and experiences of today's students, the nature and use of information available to institutions, and what kind of change leadership is needed to improve. A developmentally nuanced interpretative frame (Table 1) was constructed to structure analysis of data gathered. The following paragraphs unpack the frame with reference to insights from the national fieldwork.

Table 1: Frame developed to interpret current practice

Phase	Student success	Student identity	Information use	Change leadership
Strategic	The institution describes multiple	Many aspects of student experience including	Data collection reflects broad ranging	Sophisticated analysis capabilities provide

	aspects of success, incorporating a broad range of perspectives from students and other stakeholders including broader communities.	academic and broader experiences are considered vital to understanding students, and data is sourced according to this definition.	information including personal, educational and cultural background, current studies, co-curricular, aspirations and post-graduate activity. Diversity of data sources including student supplied and synchronous trace data are integrated dynamically.	quantitative and qualitative data from all sources in user-friendly forms including personalised student-facing information for immediate use. The analysis produces new insights to enhance individual student experience.
Integrated	The institution has a broad view of student success, reporting a number of different aspects of success and possibly acknowledging a range of stakeholder perspectives.	Student data is defined in broad terms and includes personal, demographic, performance and elements of behavioural or cognitive data.	Data collection undertaken throughout entire student experience leveraging and integrating information from existing systems with new system capabilities. Data analysed across systems	Student-facing information directs individual students to resources necessary to assist learning and data reported to staff and leaders can assist in developing support strategies

			to provide predictive information identifying areas of support, need or risk.	tailored to current needs analysis of particular student cohorts.
Developing	An understanding of student success focused on employability and program completion, and formulated from an institutional or more often disciplinary perspective.	Students are understood by demographic and performance data and through sporadic surveying.	Planned periods and frameworks for collecting data are resourced and exist in dispersed systems. System capabilities are limited and require manual manipulation information.	Reporting is limited to institutional leaders and staff and is used to make institutional improvement student services or to specific courses based on student feedback.
Basic	The institution is unable to define student success beyond the retention and pass rates defined by the external agencies.	Students are defined by administrative, compliance or external reporting requirements.	Student data is limited to personal and/or demographic details collected at admission and academic results as the student progresses.	Analysis is restricted to reports for external requirements and leaders for administering services and facilities.

The pressure on individual institutions to articulate the value of higher education is increasing given the focus on employability, student debt and broader community debates around the contemporary purposes of higher

education in a managed market for higher education. A clear conception of student success is integral to attracting, retaining and graduating students.

Approaches to student success can be considered at their most basic in terms of retention. Institutions with broader conceptions of student success include graduation, employability, personal growth, engagement with campus or extracurricular life, critical thinking and inquiry skills, gaining access to higher education, engaging with peers and making friends. A more expansive approach to student success takes into consideration multiple perspectives from institutions, students, and a range of other stakeholders, including broader communities and attitudes. Of the 31 participating institutions, the majority of responses in relation to student success were expansive and included both universities and other higher education institutions.

There is growing pressure on higher education institutions to differentiate the value of the student experience to potential and existing students. As students invest heavily in not just one but sometimes multiple higher education qualifications and experiences, institutions have become adept at articulating what success may look like for their students. The findings of the institutional inventories support a highly developed conception of student success across the sector.

An institution's capacity to understand students is fundamental to their capacity to lead a successful experience (Kuh*,* Kinzie, Buckley, Bridges & Hayek 2006). Partly because of rapid expansion, but also likely due to sector characteristics, higher education continues to batch people into groups. Casual regard may be given to individual diversity, but identifying students according to metrics that are in effect basic socio-demographic categories, often formed in terms of deviation from elite-era stereotypes dominate practice, with scant regard to psychological factors including motivation or expectations is common.

Of the 31 institutional inventories received and organised along a maturity continuum from basic to strategic perspectives, most institutions were located in the middle with traditional or batch-like approaches to student identity. These developing approaches identify a narrow range of identity factors (typically conventional demographic features) that contribute to student success. These demographic factors link with government reporting requirements, particularly concerning equity groups. Thus, age, cultural background, gender, socioeconomic status, first in family status, disability status were identified, as was employment status. A broader more integrated

approach can be characterised as a batched perspective that takes into account more than just demographic features. Most institutions who fell into this category reported that their student body had grown more diverse in recent years including increasing numbers of less prepared students and countries of origin of international students. While most institutions fell into one of two, relatively traditional understandings of student identity, there emerged an acknowledgment that more nuanced, personalised or individually focused understandings of students was required.

A small group of four institutions espoused an individualistic view on student identity which was identified as strategic on the maturity matrix. Two of the four institutions described using 'big data', particularly behavioural data, to identify novel groups or individual behaviours that contributed importantly to student success, rather than relying on traditional student groupings (such as membership of nationally defined equity groups).

While most institutions were situated in less mature stages towards an individualistic student experience, many acknowledged the need for greater granularity of student information including: literacy and numeracy levels, educational background, more granular information within equity groups, mental and emotional health, whole of experience perceptions, motivations and objectives for study, aspirations and hopes for achievement, library use, co-curricular activities, technology use, barriers or difficulties in study, engagement levels, and graduate outcomes.

Enhancing the student experience through the collection and analysis of data is a strategic priority across the sector. However, acknowledgment that current institutional systems are not fit for purpose is widespread and many institutions are hampered in their efforts to access important student information often disaggregated and stored in silos within and across institutions, or not captured at all. Given these challenges it is not surprising that practice across the sector is identified in the least developed stages on the maturity matrix.

A basic approach to the definition and collection of data is driven by administrative, regulatory or external compliance. Student data is limited to personal or demographic details collected at admission and academic results as the student progresses. Data analysis is restricted to the production of reports for external reporting requirements and to institutional leaders for purposes of resourcing essential student services and facilities. In a developing stage, demographic and performance data is complemented by information from

tests, surveys, and market research with planned and resourced periods and frameworks for collecting. System capabilities are often limited and require manual manipulation to yield useful information. Reporting is limited to institutional leaders and staff and is used to make institutional improvement to student services or to specific courses based on student feedback.

Only a small minority of institutional responses reflected practice that can be described as integrated or strategic. An integrated approach is characterised by student data that is defined by personal, demographic, performance, and elements of behavioural or cognitive data. Collection of data is undertaken throughout the student experience leveraging information from existing systems, integrating systems or by introducing new system capabilities. Data from various sources is integrated and analysed across different systems and provides predictive information that provides timely information to staff or students identifying areas of support or risk. Student-facing information directs individual students to resources necessary to assist learning and data reported to staff and leaders can assist in developing support strategies tailored to current needs analysis of particular student cohorts.

Only one institution reflected an approach to student data that can be characterised as strategic. This approach considers how data impacts the individual student experience and defines data in broad terms including personal, educational and cultural background, current studies, co-curricular, aspirations and post-graduate activity. Diversity of data sources including student supplied and synchronous trace data are collected and integrated dynamically. Sophisticated analysis capabilities provide quantitative and qualitative data from all sources in user-friendly forms including personalised student-facing information for immediate use. The analysis produces new insights to enhance individual student experience. While aspirational, with rapid technological advances, and increased appetite for enhancing individualised student experiences across the sector, the strategic approach is increasingly becoming a target for many higher education institutions as they seek to personalise the student experience.

What is required to shift existing practice towards more evidence-driven leadership of each individual's success? Higher education is moving into a larger and more competitive milieu, and there is an evident need to build capability that will yield required transformations in quality and productivity. Broadly, it seems, the institutions are relatively progressed with respect to their approach to student success, moderate in terms of thinking more individually

about students, and under developed when it comes to sophisticated use of data to identify and cater to individual student experience.

For each of these areas, institutions were asked to identify important factors for executing and sustaining institutional change. Specifically, they were invited to rank the following six attributes:

- Culture—the environment created by the totality of systems, structures and people;
- Structure—the operating framework including governance and management;
- Systems—the operational elements of the institution including IT systems;
- Leadership—the style of management and the strategic direction of the institution;
- Staff—the current breadth and scope of roles responsible for operationalising systems; and
- Skills—the development of staff skills and knowledge required to operationalise institutional systems.

Table 2 summarises the rankings provided by all responding institutions. In terms of substantive experiential matters—success and identity—it is clearly the more humanistic matters like culture and leadership and staffing that are seen to count, whereas systems and skills and staff rank more highly for the education data dimension. The need to build staffing and skills features prominently across each dimension and, conversely, the need to advance governance and management structure was generally seen as low. Again, the divergence between the substantive and technical facets affirms the disconnectedness of current practice. These very broad insights marry with the maturity insights shown above, flagging the need for more fundamental system development on the technical dimension.

Looking very broadly, therefore, the need to develop education data systems could be seen as the main constraint hampering progress. Institutions flagged the particular need to develop greater understanding of students in specific areas like educational background, personal circumstances including emotional and mental health, aspirations and motivations for study, participation in non-academic activities and a holistic view of the educational

experience. With richer and more granular information, institutions noted the ability to produce more nuanced reports of various kinds to students, to staff and to the broader community.

Table 2: Importance of change factors

Area	Culture	Structure	Systems	Leadership	Staff	Skills
Student Success	High	Low	Low	High	Medium	Medium
Student Identity	High	Low	Medium	Medium	High	Low
Education data	Low	Low	High	Medium	Medium	High

While student success and understanding students are considered largely influenced by culture and leadership, the collection and analysis of information needed to realise student success and to better understand students is seen as a systems issue. This apparent disconnect between leadership and culture and the development of analytic skills, resources and systems provides insights that stimulate new perspectives for bridging this gap. There is a particular need for educational rather than solely technical leadership of analytical systems to realise the goal of joining up the substantive, technical and practical facets of the future student experience.

The fieldwork component of the project confirmed that while Australian universities and some higher education institutions currently use large amounts of institutional data to inform business decisions such as marketing strategies or the development of new funding sources and operating models, fewer are engaged in strategic, intentional and institution-wide approaches for data to improve and personalise the student experience. Further, the research indicated that although there is sector-wide commitment to enhance student experience, in practice concentrated data points occurred at admission and when students were identified as 'at risk'. The vast majority of students not identified by existing frameworks including by equity descriptors or through retention algorithms, are largely amorphous and increasingly unknown to institutions as they transition through and out of higher education.

Broader and more meaningful information on each student throughout and beyond their higher education experience is considered important for

student success. As student numbers increase so too do the institutional challenges of being aware of how to help people succeed. The challenge of integrating and analysing disparate pieces of information about each student and using it strategically to individualise and enhance their experience is significant. Yet, from the perspective of the student, these disparate bits of information existing in different institutional systems or not being captured in full, are artefacts of a personal educational experience.

Understanding each student through data-driven approaches requires a harmonising of strategic priorities with institutional operations and systems. There are multiple challenges in re-orientating collection and use of data from an institutionally-led frame to a more dynamic and individualised approach. Digitising student profiles and journeys in ways that make sense to institutions, and institutions using the ideas sketched in this report, may well evoke altered approaches to higher education. But much work is underway in pockets of the sector to increase system capability, analytical functions and data-warehousing. In the medium term certain institutions and fields will advance more quickly than others until a critical mass of educational infrastructure reaches a tipping point that invokes fundamental reinvention of the student experience.

Proposing Qualities of a Successful Experience

The fieldwork projected deep insights into contemporary practice which extended and enriched preceding literature analysis and consultation. Building actionable concepts for understanding and managing students is core to future success in this area. Much applied data-focused student management and institutional research work is a-theoretical, but taking a conceptual approach is critical for it helps people make educational and institutional sense of the phenomena under study.

Drawing together prior insights into student experience, success and identity, with more contemporary frames and emerging from the empirical work, the team proposed nine qualities for leading student success. The intersecting qualities presented distil insights from the literature, from students, from experts and from institutions. For explanatory purposes these nine qualities are grouped into three broader clusters: student outcomes; student formations; and student supports.

In the reconceptualization being advanced <u>student outcomes</u> encompassed the four qualities of discovery, achievement, connection, and opportunity:

- **<u>Discovery</u>** is an essential quality of students' experience of higher education. Even in very epistemologically convergent areas of 'training' or development, people relish experiences where they have the opportunity to encounter but even better create new ideas. Ultimately, discovery seems cognitive in nature and provoked by intrinsic motivators, though it can be mediated socially and behaviourally and associated with various forms of emotion such as stimulation, intrigue and delight. Discovery experiences in higher education are varied such as research experience, building understanding, generalising transferable ideas and skills, building emotional capability, or creating social networks.

- **<u>Achievement</u>** plays a formative role in the student experience. Much student experience work has focused on learning and development processes, but outcomes are what really count. Somewhat separate policy and research traditions have emerged around education processes and education outcomes, yet students do not see the distinctions forged by governmental and institutional policies and practices. Instead, both students and experts see achievement as critical to a positive student experience. Achievement means really concrete things such as getting into higher education, passing units, getting good marks, completing courses, articulating to other qualifications, and getting a job.

- **<u>Connection</u>** is something people seek from higher education, even in very theoretical moments. Connection is whether institutions, teachers, fellow students and support staff help learners make connections between ideas and people and experiences. Practically, such connection plays out in terms of learners establishing new networks within and outside their institutions, going on academic exchanges, joining-up ideas across activities and academic learning, building cultural sensitivity to differences in orientations, collaborating with communities, and linking with professional communities as well as those on campus.

- **Opportunity** is a reason that people embrace higher education. Academic and professional opportunities are principal among such interests, but there are others like enhancing health, social and culture prospects. The kind of opportunity being defined involves social linking and the provision of helpful insights into prospects, and building people's sense of being personally enriched and empowered. Hence there are a broad range of activities and conditions in play, ranging from personalised perceptions of accomplishment to tangible vocational achievement.

Student formations encompass three qualities—value, belonging, and identity:

- **Value** should be returned from higher education. While seemingly simple and self-evident this proposition masks myriad complex and difficult considerations. Often, value is segmented into different categories like financial, social, educational, professional or personal. A common though complex distinction is almost made between private value for individuals versus public value for industries or society as a whole. In terms of an important quality of the student experience, value is defined as people seeing that higher education was worth the cost, time and effort. This definition puts emphasis on monetary and opportunity costs as well as broader forms of cognitive, emotional and behavioural effort.
- **Belonging** to a community has long been seen as an important quality of higher education, associated with many forms of constructive experiences and outcomes. The concept of belonging taps into part of what is embraced by research into student engagement—that is, people's support to participate in educationally purposeful practices— but more specifically pinpoints people's orientation and inclusion into and recognition by communities.
- Forming **identity** is an important rationale for participating in higher education. Higher education offers people opportunities to extend or change themselves, either in localised or more expansive ways—to become more responsible citizens. Simply put, it is expected that people who study medicine or engineering or accounting graduate not just with new knowledge and skills but also with new personae.

Similarly, mathematics and history graduates should have a sense of what they have learned and how to apply this to future opportunities. Identity formation is codified explicitly in many professional programs, for instance as 'bedside manner', 'clinical skills', or 'management capability'. In other courses 'professional attributes' are defined (e.g. 'ethics' or 'integrity') in more general ways. The presentation of 'graduate attributes' by institutions in recent decades has signalled an even more diffuse and pervasive form of identity development. Recent enthusiasm regarding entrepreneurialism is relevant here, signalling interest in higher education helping learners build a sense of themselves as leaders of new ideas.

In terms of <u>student supports</u>, people should feel that their experience is enabled and personalized:

- Higher education should **enable** people. It should help people acquire new competencies and also the broader self-regulatory and meta-cognitive capacities that will help them flourish in the future. Empowering students in this way comes from formal education but also from broader experiences and conditions which affirm people's development and participation in organisational activities. Sitting on committees and boards, for instance, offers excellent experience in governance and leadership.
- Growing relevance is being placed on a **personalised** higher education experience. Such experience is commonly characterised as 'just-in-time', 'just-enough', and 'just-for-me'. People receive information, support and guidance as they need it, rather than when the institution schedules to deliver it. This does not imply the lack of curriculum and broader organising structures, but rather that such structures are nimble and responsive to different circumstances. Such personalised experience can be contrasted against industrialised batch approaches like large lectures, scheduled paper-based exams and place-fixed learning have serviced a means for scaling higher education from elite to mass to university levels.

The above discussion sketches the nine qualities which are intended to map out important pictures of the future student experience. In articulating these nine

qualities it is acknowledged that they are neither exhaustive nor mutually exclusive. Rather, it is suggested that they mark out a suite of worthy agendas and carry potential to create discourse that helps students and their institutions succeed.

The qualities step well beyond prevailing terms used to define and operationalise student experience and related constructs. For instance, while 'student satisfaction' has become somewhat entrenched, there is ample evidence that beyond stamping out poor practice it offers substantially diminishing returns to improving higher education. Worse, it sucks energy and attention away from things that really count as articulated in the nationally validated nine qualities above. Major organising phrases such as 'teaching quality' and 'student support' and 'student services' are also becoming less relevant as team-based computer-mediated teaching and facilitation become more pervasive. The nine qualities are broader than the frequently espoused though rarely measured 'graduate attributes'. Rather than fixate on what are really supply-centric concepts, instead the qualities signal new co-created conceptualisations of higher education.

These qualities are designed to be equally meaningful to many diverse stakeholders, including people such as those who have not thought about higher education, prospective students, students, graduates, employers, teachers and support staff. Given the transparencies and efficiencies afforded by new technologies and knowledge it makes little sense to design ideas about education or quality for segmented or partitioned audiences, as has been the case in the past. Instead, common and suitably nuanced information can be provided to myriad stakeholders. What this means in concrete terms is that the same data used for individual student reports could flow to academic leaders.

Articulating such qualities has the potential to be intellectually fruitful though of little practical import without a feasible means for operationalising the ideas. A suitable suite of data is essential to giving life to the nine defined qualities of a successful student experience. Then to activate future success an effective platform is required to ensure that information is communicated in meaningful ways to as many people as possible who have the potential to benefit from higher education, and to individuals as they create a higher education experience.

Relevant and reasonably robust data must be available that support and advance the defined qualities of a successful student experience. An initial stocktake based on the consultations and fieldwork conducted in this study is

provided in Table 3 for just two of the nine qualities. Further information is available in the full project report, which can be obtained from the lead author.

The associated indicators provide important new analytical and actionable frames for discussing the student experience in Australia. They provide new means for correlating a range of demographic, contextual, or psychographic factors with various facets of the student experience. Specific metrics are then identified to underpin the indicators. The metrics offer quantitative potential for giving life to the indicators. These are sourced from large and under-utilised storehouses of data held in a variety of institutional systems.

As this shows, desired data can flow from a range of sources. Aspects of the qualities can be sourced from survey data, and from a range of enterprise systems. Additional data is needed in places, as is the need to integrate and organise existing data in new ways. Known problems surround the lack of integration across systems, the inability to capture online student learning undertaken in non-institutional platforms, the exploitation of data from 'offline' activities that may be captured by card swipe or other systems (Higher Education Commission 2016), and working through a complex set of institutional, academic, pedagogic, social, ethical and cultural issues (Prinsloo & Slade 2013).

Table 3: Mapping of two qualities with indicators and data

Quality	Associated indicators	Data availability	Data needs
Discovery	Specific indicators which underpin this quality include: development of new technical, generic and personal skills; advanced problem solving skills, production of	Based on audit of existing information, lagged data is available from national student and graduate surveys. There is a shortage of collected data that measures students' capacity for discovery however internal data points including curriculum and assessment systems, and	Hence adequately assessing this quality would involve making available and integrating data collected by student surveys, institutional systems and commercial platforms.

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Quality	Associated indicators	Data availability	Data needs
	body of creative academic work; understanding academic culture and expectations; and acquisition of new interests.	commercial online profiling platforms would yield richer information.	
Value	Specific indicators which underpin this quality include: graduate outcomes; course fees; course duration; work experience opportunities; physical and online facilities and services; perceptions of teacher quality; identification of study purpose aspirations; and student information.	Based on audit of existing information, lagged data is available from national student, graduate and employer surveys. Additional information could be gained from student service use and incidence of attendance, exit interviews, institutional alumni systems and social media platforms.	Hence adequately assessing this quality would involve making available, formalising and integrating data collected by national surveys, institutional systems and records, and commercial platforms.

The nine qualities map out facets of a successful student experience and for each of these it would be helpful to identify thresholds that signal transition from one level of experience to another. This exposes our adherence to a fundamental measurement assumption that gradations of 'increasing experience' can be specified for each quality. This does not imply that every student proceeds stepwise or even necessarily through each threshold, or that

each threshold is even meaningful for each student. It does imply a fundamental structure which underpins each quality and is relatively invariant across environments and people. This is uncontroversial if the thresholds are defined in sufficiently general ways than are able through the process of measurement to be particularised in relevant and helpful ways.

The process of defining these thresholds typically involves an iterative sequence of steps which involves:

- for each quality conceptualising experience transition thresholds—that is, for instance, clarifying what characterises low, medium and high forms of personalisation or value or opportunity;
- identifying or creating relevant data elements that have desirable technical properties—for instance, compiling information from student surveys and related systems into reporting resources;
- aligning data elements with each of the transition thresholds, giving consideration to appropriate assessment and reporting analyses and protocols;
- validating the alignment of data with qualities using validation and psychometric review;
- testing and refining the model in small-scale applications; then
- scaling the model for use in more general contexts.

The approach sketched above reflects the straightforward application of assessment science to build technical foundations for the nine qualities. It is important to follow such process in developing new student experience infrastructure, though this does not mean that the solution must be complex. The field of higher education student experience has a history of searching for more precision in evidence than is often warranted by quality of data—the pervasive (mis-use) of satisfaction data being a primary case in point. Identifying robust but parsimonious indicators of these facets of the student experience will do more to advance practice than searching for decimal-place differences on current metrics will ever achieve.

As well as this growth dimension, it is important that the transition through thresholds is interpreted in an individualised manner. People do not move at the same pace or even in the same way through common educational experiences (Sturtz 2008). Hence as flagged directly in one of the qualities,

there is the need for a highly individualised interpretation of student identity as part of the proposed model of student success. The idea of 'intersectionality' (Dill & Zambrana 2009), for instance, forwards an approach to identity that uses intersecting vectors of relevant information to account for differences in identity criteria to build complex pictures of who people are. Such identity delineation already abounds for anyone with an online presence, yet is just starting to emerge in higher education. Taking this approach helps move beyond bundling people into simplistic groups/boxes which fails to provide the nuance necessary for helping individuals succeed.

The ideas of profiles and journeys are useful tools for conveying this approach. Simply put, a profile can be envisaged as a dynamic complex of diverse attributes which portray an individual in relation to a successful student experience. A journey is a multiple branching pathway through a higher education process, from beginning to end. The idea of profiling 'movements through journeys' steps well beyond the idea of shifting 'batched groups through lifecycles'. Together these two approaches may seem on first glance to unleash infinite complexity for conceptualising and managing each student's experience, but the history in other industries implies otherwise. After initial reworking in terms of new processes, effective digitisation has been shown to yield substantial increases in productivity and quality of people's purposeful interactions with organisations.

Different players will of course interface with this information in different ways. Indeed, understanding differences in perspectives and interpretation has proved to be an important part of how new forms of data are being positioned and developed in traditional/existing higher education structures (which are often changing themselves). It is important to design new approaches taking very seriously the demands of consequential validity. Technical development can then be driven by a clear sense of what should be achieved. The approach enacted in this study—involving reviews and discussions about research and practice, have sought to design an approach that yields meaningful insights to key stakeholders such as students, teachers, support staff, managers, leaders and the public at large. Understanding how these and other actors best harmonise, was an important facet of the final consultative phase of the project.

Articulating Enhancement Approaches

To carry the desired change the agenda articulated in this paper must play out across many levels. Change of this scale needs to be deconstructed into several component initiatives. As evidenced in this project it involves working with vast numbers of people and organisations—academics, leaders, policymakers, industry, vendor firms, and most particularly students. It may require leading developments through various stages of acceptance, particularly when treading among sensitive matters like how to represent the value of an institution's provision.

Three initiatives were distilled from the preceding research, which seem helpful to propel future innovation. These could play out across institutions or perhaps even within specific campuses or disciplines. A suite of state-based workshops were convened to test and enrich these ideas advanced in this project. In this paper we describe two of the initiatives, with further information available to interested parties in the full project report (Coates, Kelly, Naylor & Borden 2017).

The first initiative involves 'institutional reshaping' which involves rebuilding institutions around students. There is little doubt that institutions and the people within them have an intrinsic drive to help people succeed. But this energy must be directed in the most effective ways. As suggested, entrenched myths and rituals are delivering diminishing returns and there is a need to step beyond these and try new and different ways. Providing fresh perspectives on the student experience, exciting as they may be, are not sufficient to activate major strategic or practical change. Hence an enhancement framework to clarify and exemplify opportunities for sustainable adoption was developed. The framework is fully articulated in the interim report titled 'Student Experience Enhancement Framework' (Borden, Coates, Kelly & Zilvinskis 2016).

The framework proposed a means to help institutions identify how they could build more evidence-based leadership of the student experience. It sought ways to create a collaborative culture of student success within a professional bureaucracy. Enhancing the student experience will only happen if the appropriate people talk to each other, share their understanding, and apply their expertise and diverse judgments to shape the institution's environment for student endeavour. It is crucial to focus to avoid or remedy 'organizational attention deficit disorder'. It is important to shift to a student-

centric perspective on the educational experience that encompasses a holistic frame familiar to students as they intersect with a broad range of processes and people, units and departments, platforms, services and requirements. Therefore, the enhancement framework envisions a 'new order' of institutional arrangements and capacities that support a more aligned focus on creating a culture for student success, and describes pathways for realising aspects of this vision.

Sometimes characterized as a cycle (for example, 'plan, do, check, act' or 'plan, implement, review, improve') (Deming 1994), enhancement practices are perhaps better conceptualized as a set of interconnected and interdependent spirals. Specific improvements spiral through iterations of improved performance and increased understanding within a context of leadership and executive management that seeks to optimise overall performance.

The framework which includes five stages:

1. Identifying priority areas for improvement and developing a shared vision for enhanced quality;
2. Taking stock by assessing the current status of the institution's inputs, processes and outcomes in relation to the vision for improved quality;
3. Prioritising initiatives and selecting strategies for enacting improvements and developing action plans;
4. Implementing the action plans with fidelity, typically starting with a pilot or small scope project; and
5. Assessing the impact of the new processes and programs, making adjustments as needed, and scaling up.

The framework is expressed as a normative ideal. In its purest form, it requires institutions to operate in ways that are fundamentally different to how things are typically done. By describing such an ideal type, it is envisioned that individual institutions can apply the framework in select, priority areas and, through organizational learning, tailor the process to local contexts and expand upon enhancements. Institutions are never likely to reach the ideal type across all enterprise activities but can make significant progress toward enhancing the student experience—a critical aspect of operation that requires the greatest amount of coordination and collaboration across academic and administrative units.

In advancing this framework it is acknowledged that managing change within higher education institutions is fraught with peril (Borden, Calderon, Fourie, Lepori & Bonaccorsi 2013). The protective silos and other barriers to communication within these organizations serve to quell tensions that can arise from the diverse and sometimes competing objectives of units within the institution, given fixed resources and multiple mission objectives. Fostering the collaboration and communication required to create an institution-wide collaborative culture of student success can reveal tensions and conflicts that the existing order has successfully masked. Accordingly, effective change leadership is required to navigate these rough waters and so is also considered as a core aspect of the enhancement framework.

The second initiative involved creating an agency for student success. Australia has a rich tradition of innovation regarding the student experience and it is important there are means to sustain future development. As conveyed by the broad rationales shaping this project, leadership of the student experience must keep moving, and preferably be a step ahead of policy and practice. Research into past practice coupled with consultation during this project has highlighted helpful mechanisms. This section advances the need for a Student Agency focused specifically on promoting student success.

Thinking broadly, a handful of shared interests are required to sustain future work in this area. This study has affirmed the value of developing better advisory mechanisms. Without these the sector as a whole and public will suffer, yet improving these will build capacity and infrastructure within each institution. But even for this a substantial amount of technical work must be done by analysts to collate, prepare and report new insights in ways that address the concerns of stakeholders. Further concurrent work is needed to deploy emerging platforms to find how they can be shaped to ignite the interest of people in participating in higher education. This developmental work provides a shared platform for further multipronged development, including joint research, training programs, and a range of quality improvement practices.

It would appear that initiatives of this type are most successful when they are 'co-created' rather than 'driven' or 'owned' by an existing interested individual or organisation. In a nutshell, co-creation involves bringing interested people together to jointly develop a valued outcome. However, powerful agents in the tertiary ecosystem with enormous capacity to steer discourse, governments and institutions by themselves are unable to deliver the

required change. Students, the public, business and academics must be jointly part of future work on the student experience. Tertiary institutions have always had an intrinsic interest in helping students succeed but this has shaped up as a competitive frontier with changes in higher education markets and the broader economy. 'Coopetition', in the language of strategy, seems the best way forward.

Clearly, a structure is required to support this student experience work. In 2015, government in the United Kingdom proposed formation of an 'Office for Students' to embrace and advance broad work in this area (BIS 2015). Such development signals the lack of existing infrastructure, also the case in Australia. Many initiatives, networks and agencies touch parts of the future proposed in this project, though considered alone or together none are positioned to advance the full agenda. For instance, the Australian Universities Quality Agency used to host an annual forum and good practice database (AUQA 2010) which was not sustained when the agency was superseded by the Tertiary Education, Quality and Standards Agency (TEQSA). Relevant research and engagement was stimulated by the Australasian Survey of Student Engagement (Coates 2009), which in 2011 was institutionalised into the mandatory national University Experience Survey (Radloff *et al*. 2013) now conducted by generic research agencies sponsoring little broader capacity development. Technical facets of the proposed work might be advanced by the Australasian Association for Institutional Research (AAIR), though this community is changing given broader role and workforce shifts. The Higher Education Research Development Society of Australasia (HERDSA) is a scholarly society. The Australian Government has closed the Office for Learning and Teaching (which funded this project), and the Quality Indicators for Learning and Teaching (QILT) website is a decontextualized initiative in need of major reform and repositioning to meet the future needs exposed through this project. Graduate Careers Australia (GCA) focuses on the graduate experience. Tertiary Admissions Centres (TACs) are owned by universities and focus on applications and admissions. Major student groups focus much more on political advocacy rather than broader capacity development. Commercial conferences have proliferated but these pay dividends to host organisations rather than the broader community and several agencies exist to lead research. It is revealing that Australia lacks an agency dedicated to advancing the interests of students.

Given the growing role students play investing in and creating higher education, there is strong case for an agency that exists to advance their interests. The government, leadership and management of such an agency must be carefully planned. The above remarks portend it should have a not-for-profit status. Additional work is required to clarify the nature and remit of such an organisation, and whether it might be aligned with an existing capability. A suitably governed network might be established which has as its mission the advancement of a broad suite of innovative work on the successful student experience. In this connection it is difficult to ignore persistent bi-partisan political calls for an expert higher education advisory body which is independent of both governments and the sector. A commercial option might prevail, considering the powerful role that online job boards have grown to play in people's lives.

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