

Innovative Approaches for Enhancing the 21st Century Student Experience

Models and Case Studies: Data-driven leadership of student success

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Summary

1. There remains enormous opportunity for higher education institutions to improve data-driven leadership that helps each student succeed.
2. A leadership architecture is advanced as a general frame for guiding improvement-oriented research and development.
3. Case studies of institution practice articulate the utility of the leadership architecture, highlight contemporary situations and clarify opportunities for advancement.
4. Observations are made to inform uptake and application of these resources.

Introduction

Surely everyone engaged in higher education wants students to have an engaging and fulfilling experience. Yet higher education today is a huge venture and really meaningful experiences that once flowed serendipitously must now be programmed explicitly into broad education designs. This is particularly important as higher education shifts from a supply-driven system to a more market-driven venture that must be increasingly sensitive to the needs of students. Everyone involved must continue to explore new approaches for helping each student succeed.

Ensuring that every eligible person has a successful experience is critical to the future of higher education. Australia has made world-leading progress over the last three decades to define the student experience, collect lots of data and report insights to stakeholders in increasingly sophisticated ways. Yet much of this work rests on generation-old and unreliable approaches to identifying people, to gathering insights and to helping students prosper. There is a need to clarify new approaches that help each student and institution step ahead.

There is a particular need for new forms of data-driven leadership of the student experience. Making this step requires management and leadership to become more evidence-based, requires work on the student experience to move beyond reliance on institution-centric survey rituals that reify mythical socio-demographic groups, and requires institutional research to become less a-theoretical.

This document presents a series of leadership models and institution case studies prepared to give life to these ideas. These models and cases were produced during a national project conducted in Australia between 2015 and 2016. Working from systematic research reviews and formative consultations, this project garnered data from 31 higher education institutions, 44 students and hundreds of stakeholders and experts. It produced insights on contemporary practice and leadership models, and clarified initiatives required to underpin future advances. The following section presents the Leadership Architecture, which includes the models that are then used to frame the case studies.

Leadership Architecture

A series of leadership resources have been formed to define and clarify strategies for developing a successful student experience:

- Enhancement Framework (EF)—which, through a stepwise architecture, helps institutions envision new arrangements and create cultures and conditions for student success;
- Nine Qualities Model (9Q)—which distinguishes qualities that define a successful student experience, and can be used to marshal evidence to articulate student profiles and journeys;
- Data Experience Leadership Model (D+E+L)—which conveys the need for joined-up data-driven leadership to help students succeed; and
- Institution Maturity Matrix (IMM)—which institutions can deploy to diagnose the maturity and change-readiness of their institution research, their leadership of the student experience and their perspectives on student success.

Combined, these resources provide a Leadership Architecture (Figure 1) for enhancing the 21st century student experience that defines success and clarifies strategies for development. Positioned within the overarching frame of the Enhancement Framework, the logic, in a nutshell, is that achieving success in terms of any or all of the nine qualities comes from joining data with experiences with leadership. The IMM provides the tool to diagnose and advance practice.

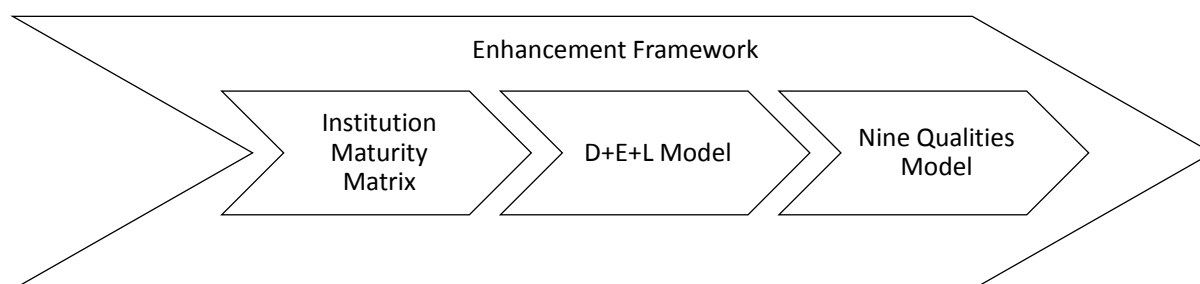


Figure 1: Leadership Architecture: Enhancing the 21st century student experience

Enhancement Framework (EF): Creating a culture of success

A broad Enhancement Framework provides a fulcrum for identifying how to build more evidence-based leadership of the student experience. Figure 2 presents a five-stage Enhancement Framework, which includes:

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.

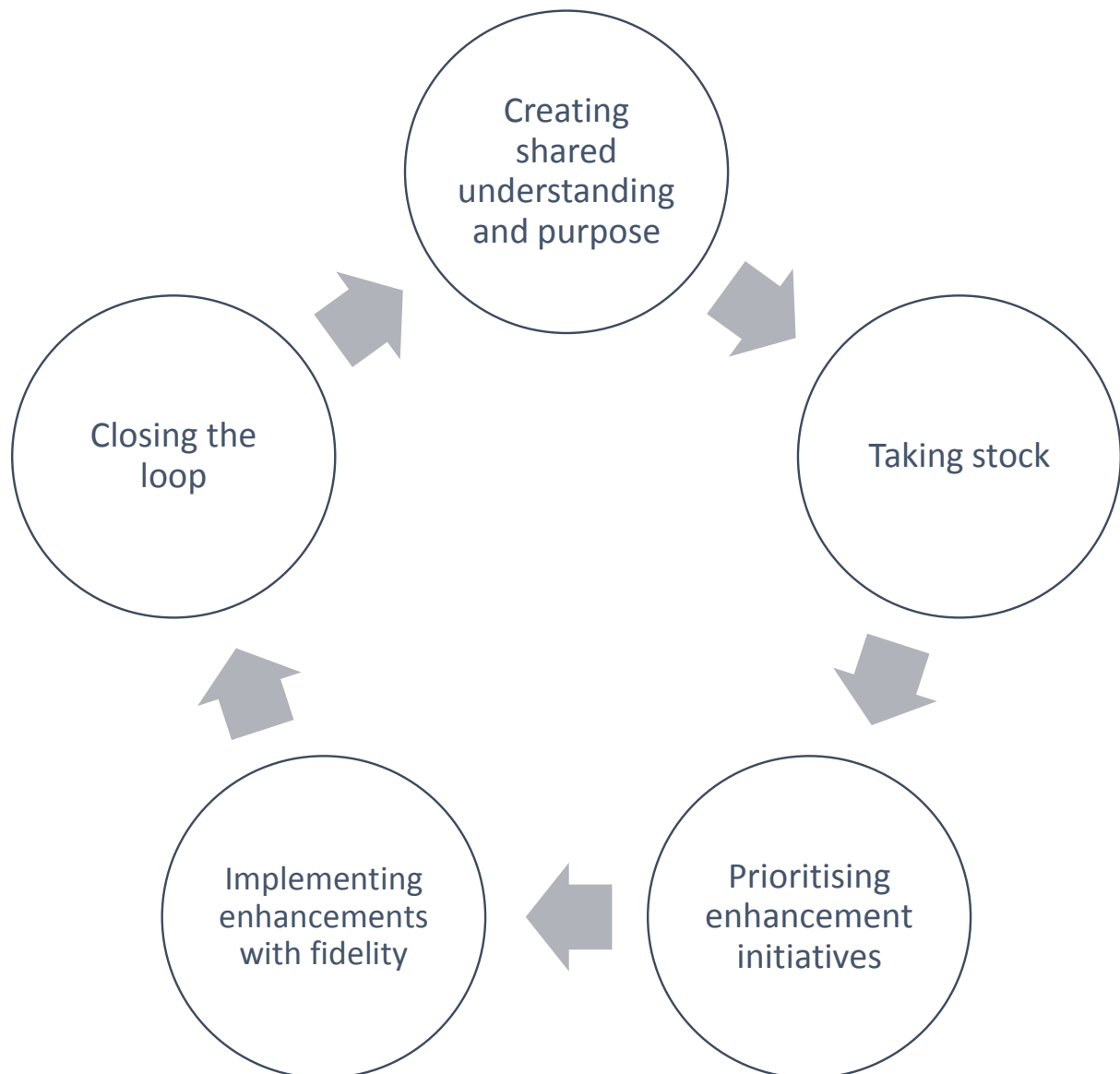


Figure 2: Enhancement Framework (EF): Creating a culture of success

The Enhancement Framework seeks 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 attention and effort to avoid or remedy 'organisational 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 realises aspects of this vision.

In advancing this framework, it is acknowledged that managing change within higher education institutions is fraught with peril. The protective silos and other barriers to communication within these organisations 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.

Nine Qualities Model (9Q): Defining a successful student experience

Figure 3 displays the nine qualities that distinguish a successful student experience. The qualities step well beyond prevailing terms used to define and operationalise the general student experience. The qualities have been chosen to be meaningful to diverse stakeholders, including people who haven't thought about higher education, prospective students, current students, graduates, employers, teachers and support staff. By way of summary:

- discovery relates to people's capacities to encounter and create new ideas;
- achievement embraces learning and development outcomes;
- connection means linking with ideas and people and experiences;
- opportunity comprises social linking and the provision of helpful insights into prospects;
- value goes to whether higher education was worth the cost, time and effort;
- belonging touches on people's inclusion in educationally purposeful communities;
- identity speaks to the formation of new personae in higher education;
- enabled relates to whether people acquire new competencies and also the broader self-regulatory and meta-cognitive capacities to flourish; and
- personalised captures the ideas of 'just-in-time', 'just-enough' and 'just-for-me' and can encompass information needs and educational experiences.

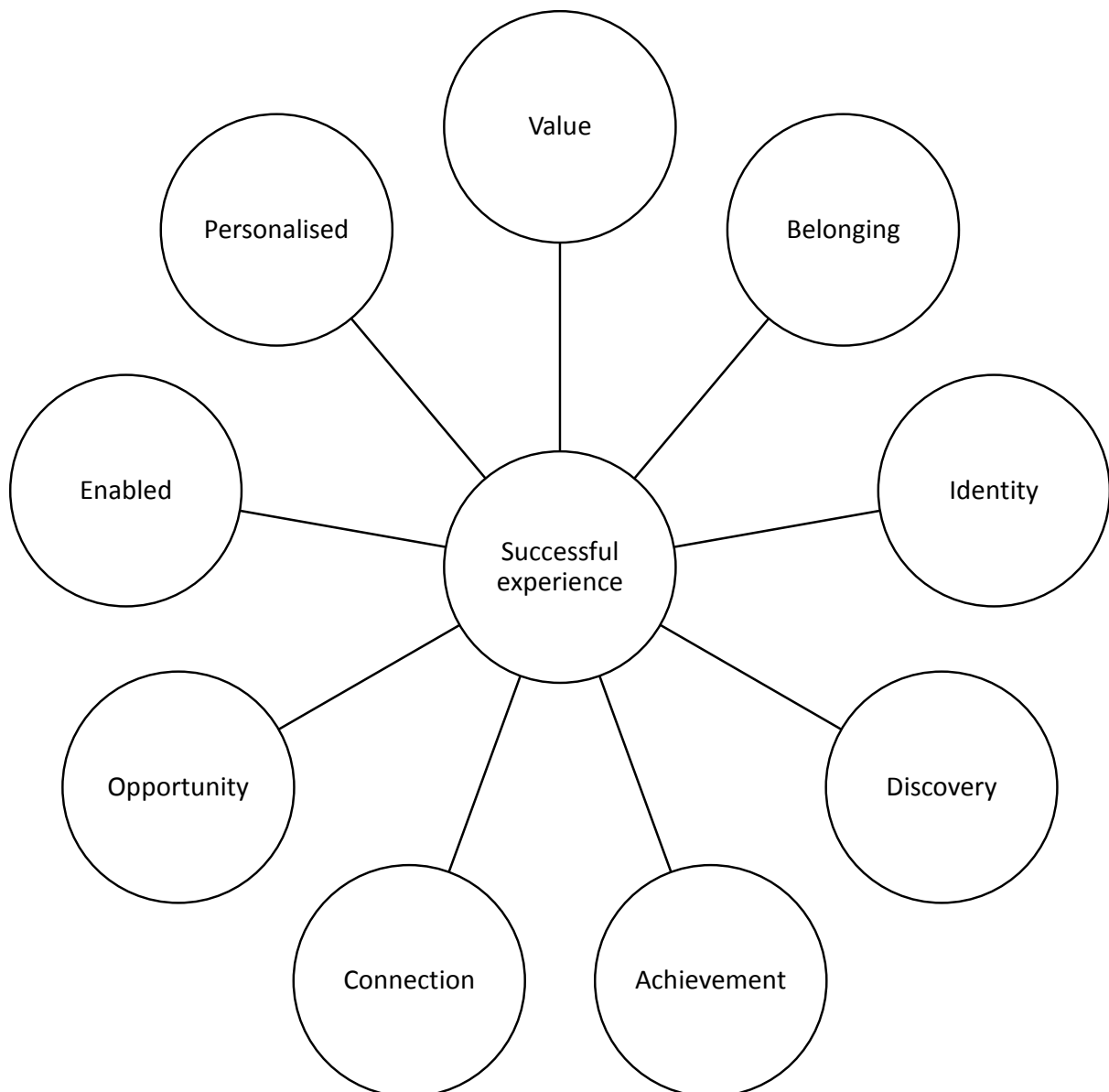


Figure 3: Nine Qualities Model (9Q): Defining student success

In clarifying these nine qualities, it is acknowledged that they are neither exhaustive of the area nor mutually exclusive. The qualities step well beyond prevailing terms used to define and operationalise student experience and related constructs. These qualities are designed to be equally meaningful to many diverse stakeholders, including people who haven't thought about higher education, prospective students, students, graduates, employers, teachers and support staff.

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. To then 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.

With a suitable evidence base, it becomes possible to chart individual paths through each of the nine qualities. For each of the nine qualities it is helpful to imagine thresholds that signal transition from one level of experience to another. This implies a basic assessment structure that underpins each quality and is relatively invariant across environments and people. It does not imply that students proceed stepwise, or even necessarily through each threshold, or that each threshold is even meaningful for each student.

It is important that each person's transition through qualities and thresholds is interpreted in an individualised manner. Each student's individual experiences can be seen as journeys—multiple branching pathways through a higher education process, from beginning to end and beyond. Profiles can then be formed as students move through different journeys. This perspective moves well beyond bundling people into simplistic groups or boxes, which fails to provide the nuance necessary for helping individuals succeed.

Data Experience Leadership Model (D+E+L): Data-driven leadership of experience

There is a pressing need for joined-up research and development of student experience, data and leadership. Pushing ahead separately on each of these frontiers will not achieve the desired change. Rather, leadership must focus more on using data for student success, data must be more aligned with student success and relevant to leaders, and student success must be grounded in data and leadership. Finding a 'sweet spot' that unites data with experience with leadership carries valuable potential for improving higher education. Figure 4 presents the model, which depicts the joined-up data-driven leadership required to help each student succeed.

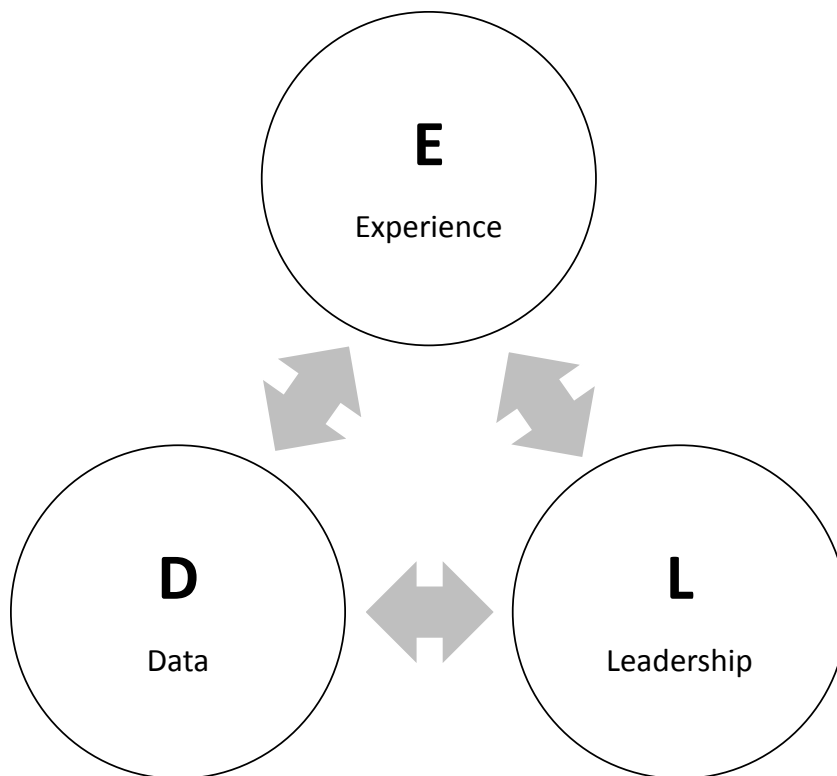


Figure 4: Data Experience Leadership Model (D+E+L): Data-driven leadership of experience

Institution Maturity Matrix (IMM): Diagnosing maturity and readiness

An Institution Maturity Matrix provides a lens for institutions to diagnose the maturity and change-readiness of their institution research, their leadership of the student experience and their perspectives on student success. As Figure 5 clarifies, building data-driven leadership of the student experience means improving in each of these three areas, and doing so in ways relevant to each of the others. Better data will not help unless it is relevant to leaders and success. Leadership will flail unless such energy is guided in ways that inspire success. Articulations of success are interesting but useless if they are not linked with data and people or systems that can shift practice.

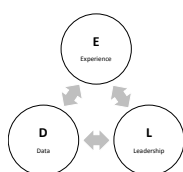
		D: Data	E: Experience	L: Leadership
Phase	Basic	Student data is limited to personal and/or demographic details collected at admission and to academic results as the student progresses.	The institution is unable to define student success beyond the retention and pass rates defined by external agencies. Students are defined by administrative, compliance or external reporting requirements.	Analysis is restricted to reports for external requirements and to leaders for administering services and facilities.
	Developing	Planned periods and frameworks for collecting data are resourced and exist in dispersed systems. System capabilities are limited and require manual manipulation of information.	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.	Reporting is limited to institutional leaders and staff. Reporting based on student feedback data is used to make institutional improvements to student services and to specific courses.
	Integrated	Data collection undertaken throughout entire student experience leveraging and integrating information from existing systems with new system capabilities. Data analysed across systems to provide predictive information identifying areas of support, need or risk.	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 and performance data, and elements of behavioural or cognitive data.	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.
	Strategic	Data collection reflects broad ranging information, including personal, educational and cultural background, current studies, co-curricular activity, aspirations and post-graduate activity. Diverse data sources, including student-supplied and synchronous trace data, are integrated dynamically.	The institution describes multiple aspects of success, incorporating a broad range of perspectives from students and other stakeholders, including broader communities. Many aspects of student experience, including academic and broader experiences, are considered vital to understanding students, and data is sourced accordingly.	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 guide enhancement of individual student experience.

Figure 5: Institution Maturity Matrix

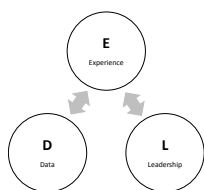
Case studies of institution practice

A suite of brief case studies is presented, drawing together insights from the field. Each case study works through different phases of institutional maturity and connectedness. The case studies give life to the Leadership Architecture and provide insights on contemporary practice, charting areas going well and those in need of improvement.

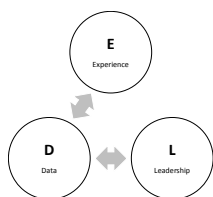
Essentially, within the broad logic of the Enhancement Framework each case study applies the Institution Maturity Matrix (IMM) to examine how institutions are joining up data and leadership with experience (the D+E+L Model) to advance one of the Nine Qualities (9Q) of student success.



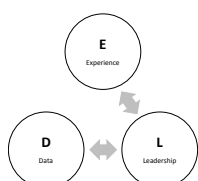
For one large metropolitan university, developing a data-driven approach to student success has been realised through institutional leadership. Fostering a culture that promotes a forward-looking and contemporary conception of student success has required the strategic vision, resources and commitment by leaders to advance implementation of systems and identify the skills base required for operationalising a data-driven institution. The role of leadership in cultivating this culture is reflected in institutional policy documents, institutional performance indicators, changing leadership roles, marketing and other public-facing documents, and evolving teaching and learning practices that support a broad conception of student success aligned to 21st century skills. Understanding the complex intersection of behaviours that lead to student success is an institutional priority. While the range of data collected is not unusually larger than other institutions of a similar size, the coordination of the information, combined with newer sources of data left by students in online systems, is used intentionally to realise a personalised student experience that promotes student autonomy and self-regulation. A strategic unit established for the analysis of data is not limited to business intelligence and is being developed to provide insights for students and leaders alike. The provision of student-facing data is a decision that aligns with the institutional ethos of empowering students towards self-regulated learning. For example, analysis of student movement through Wi-Fi data has produced new insights for leaders, such as redesigning learning spaces to encourage collaboration and team building.



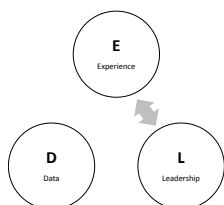
With an expansive and theoretically grounded definition of student success, one metropolitan university is moving towards a more individualistic conception of student identity. Currently, a range of data sources collected about students are aligned to this institutional approach to success, including a behavioural and motivational assessment of each student. While there is a strong institutional culture of developing supportive relationships and positive institutional experiences for students, data systems are not fully matured to allow the level of individualistic engagement sought by the institution. Additionally, the institution requires more data on each student, not just those who require interventions. These limitations are acknowledged by the institution, which has identified the need for better use of existing data, the collection of new data in new ways, and the development of more personalised student portals or dashboards to complement the usual face-to-face relationship and community building.



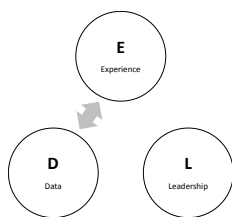
As a well-established higher education institution with strong links to industry, information about students and graduates has always been a priority for this institution. Information has traditionally been sought as part of a business model that utilised student data primarily for recruitment, placements and other service-driven provisions. Similarly, as an institution committed to industry experience, conceptions of student success and experience have primarily rested on gaining employment or recognition in the field. More recently, work towards measuring the student experience has been instigated by institutional leaders to better understand the student experience within a theoretical model and from new insights generated from data collection and analysis. The development of an institutional project to conceptualise a student lifecycle and opportunities for data collection is advanced and is designed to contribute to influencing staff practice and institutional culture towards understanding and measuring the student experience. Influencing a shift in institutional culture has involved the development of targeted professional development activities and the recruitment of specialist analytical staff.



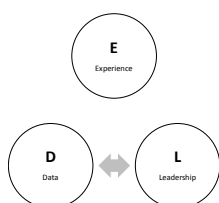
For one university, strategic and institutional level initiatives to advance a broad conception of student success have explicit support from leaders and executives. Adopting a model of student success as 'journey maps' based on real experience, the institution recognises the diversity and individualised nature of student experiences, which include on and off campus activities. The model is grounded in educational research and promotes a strong sense of belonging as a crucial element of positive student experience. While the university has a strong culture of student success, supported strategically through policy and practice, data that can accurately measure the 'journey map' of each student is hampered by disconnected data systems. This lack of integration is currently being addressed through a variety of institutional projects that aim to produce live and predictive student data to staff through administrative systems to support each student. While this information will assist staff in understanding students, the institution notes that use of analytic applications by staff is not widespread and may require professional development initiatives. Additionally, the use of student dashboards is a high priority.



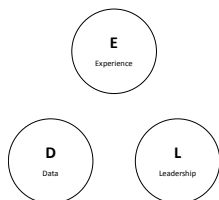
For one research university, student success and experience is currently being re-conceived through strategic institution-wide plans that permeate teaching and learning, broad extra-curricular experiences, personalised support and data-enabled student management. While this agenda for student success has wide in-principle support across the institution, less clear is how to operationalise the vision successfully. To initiate implementation, the creation of senior academic roles in the area of data analysis for student success has begun. As a traditional institution, a wealth of student and other data has always been collected but has been used primarily for business decisions rather than student success specifically. As part of the new initiative for student success, a number of outcomes are desired, including the collection of coherent, integrated and meaningful data and the use of data for timely and personalised student support.



Data driven approaches to student experience can often be instigated by individual staff members working with students or spring from discrete short-term student-centred projects. For one research university, some teaching staff have developed individual approaches to using information from proprietary systems, social media and other platforms used informally during the unit to provide datasets to students about their learning. In these cases, staff with appropriate technical and analytical skills are able to benefit from shared approaches to using data to enhance experience and learning on a small scale. In other examples, discrete short-term projects have been able to derive new insights into the student experience through labour-intensive analysis of existing and often disparate data sets. While these practices represent promising initiatives from ‘early adopters’ within institutions, ultimately without a committed data-driven approach to the student experience supported by leaders, these practices become unscaleable and unsustainable.



Developing meaningful insights into individual students’ experiences presents challenges for one higher education institution, as data collections are defined by national reporting mechanisms, including student surveys and performance data. Although anecdotal and informal knowledge about individual students is realised through face-to-face interaction, leaders and administrators recognise the need to formalise student data through adaptive systems suited to the needs of the institution. For leaders, the use of more detailed, individualised and formalised data would provide a more personalised experience for each student and also evidence the need to direct resources to priority areas, such as the re-design of student spaces to suit learning styles or identifying professional development needs for academic staff.



For a traditional university with established teaching and learning approaches that are primarily campus-based, student experiences have largely been influenced by the culture created on campus through student-managed activities. Institution-wide governance structures, policies and practices are implemented at the faculty level, overseen by specific disciplinary approaches or customs. With robust governance arrangements for academic standards, broad co-curricular facets of the university are not integrated across the institution as a holistic experience. Business intelligence units utilise institutional data for improvement, but there is currently limited use of student data that is harnessed for personalised or tailored information to individual students. With historically campus-, faculty- and paper-based processes, barriers for enhancing the student experience through data-driven approaches include institutional bureaucracies, siloing of information and competing perspectives on how best to use or integrate information.

Summary steps ahead

The above cases give life to the ideas conveyed above in the Leadership Architecture and associated models. They demonstrate how leadership of the student experience is most effective when institutions join up a clear understanding of success with good data and

leadership. The Institution Maturity Matrix (IMM) has helped to use the D+E+L Model as a lens for identifying various states of linkage for one or more of the Nine Qualities (9Q) of student success.

The case study illustrations speak for themselves and, as they are not intended to provide a picture of national practice but of diverse situations, a summary is not provided. But two general observations can be made that help direct energy for future improvement. First, existing work on student success has focused more on the early years than the later years, and less on the time during the middle of a course of study. Second, more focus by far has been devoted to 'at-risk' people with recordable disadvantages rather than the vast majority of other students. There are substantial opportunities for future work to be better distributed along the extent of a person's involvement in higher education, and to each and every student.

The analysis conveyed in this document affirms a generalisable method for leading the higher education student experience. As the depiction brings out, however, there is not a simple or single solution to improving how institutions lead the student experience. Each person, academic unit, discipline or institution has their own priorities and enhancement needs. Guiding the best way forward depends on the current state of play, as well as institution preferences and contexts. Nonetheless, the architecture articulates a helpful frame for leading such work.

This remainder of this summary section highlights general opportunities for uptake and application of these resources. It probes a few lines of work that could be progressed to provide the joined-up, data-driven leadership of experience that underpins student success. The project produced a suite of reports, which discuss many additional opportunities for improvement.

Prior work in this field has shown that improvement activities are often most readily interpretable when they are framed in terms of specific roles and cross-cutting initiatives. For instance, resources for helping students succeed could serve as springboards for action for senior leaders, for institutional researchers, for department chairs, for librarians, or for academic or careers advisors. Alternatively, resources may frame broader strategies regarding reporting, benchmarking, enhancing conditions that spur success, or monitoring student progress over time. Stakeholders could draw on existing materials or develop customised materials for their own context.

There is a need to further validate the various facets of the leadership architecture. Validation so far has been extensive but, aside from expert review from an empirical perspective, within a single higher education system and using a primarily qualitative approach. If the architecture sparks interest and momentum, then a range of further validation is required, including further cognitive testing with students and psychometric assessment of construct and criterion (concurrent and predictive) validity. In an environment obsessed with research-oriented rankings, it is essential that education researchers extend valid and also psychologically appealing alternatives.

The case studies of institution practice affirm that using new technologies, analytic capabilities and platforms for specific and sustained approaches towards enhancing the student experience is a priority for most institutions. As other facets of contemporary life convey, technology is important for shifting focus to individuals and building more real-time perspectives on how they are engaging with success. Yet mixed practices demonstrate the variability of development towards articulating, resourcing, operationalising and sustaining work in this area. The Leadership Architecture provides an opportunity to identify challenges for joining up often disparate cultural, operational and managerial functions within institutions to achieve more integrated practice.

The articulation of student success provides a lens for assessing specific areas for development. For instance, many institutions note belonging, connection and identity as qualities that are integral to student success. As humanistic concepts with strong theoretical links to student well-being, measuring these qualities is important. Lagged and anonymised survey data has inherent limitations. From a success-focused perspective, there is an obvious need to move beyond current preoccupation with information on satisfaction and retention and make use of broader available insights on student engagement. Satisfaction and retention data are insufficient to demonstrate how each student is enabled, for instance. Data is needed that demonstrates broader opportunities, like work placements and experiences, extra-curricular activities, or exposure to academic, industry or social events that create networks and build important life and professional skills. Academic achievement is one of the most readily available and accessible units of data collected and archived within higher education institutions. It is also information that both the institution and individual student share. Less clear for institutions, however, are the aspirations and hopes of each student. Crude performance measures, including progression and graduation figures, are not aligned to how students consider personal achievement. Currently, this information can only be assumed for those students who graduate or through limited employer satisfaction data.

The articulated architecture for understanding how students engage in a successful experience evokes the need for a host of organisational studies. Higher education institutions have a major role to play in taking steps to help students have a successful experience. 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. In what ways can information about the nine qualities be reported to reform professional and institutional practice? Researchers with an interest in education and psychology need to explore what interventions are effective, and how these can be promoted and resourced. Effective leadership is required to navigate such change—a further focus for future research.

This document has advanced models and case studies for understanding and improving students' experience in higher education. This is a relatively young and dynamic research field. This summary document has sought to clarify the enormous progress made to date and furnish a sound basis for future innovation.