

Student Experience Enhancement Framework

Report authors

Victor Borden, Hamish Coates, Paula Kelly, John Zilvinskis

Project team

Hamish Coates (Director)
Paula Kelly (Researcher, Manager2016)
Vic Borden (Expert)
Linda Corrin (Researcher)
Jason Lodge (Researcher)
Phil Long (Expert)
Marian Mahat (Manager2015)
Kelly Matthews (Expert)
Sid Nair (Expert)
Ryan Naylor (Researcher)
Damian Powell (Expert)
David Wilkinson (Expert)
Helen Zimmerman (Expert)



Support for the project has been provided by the Australian Government Office for Learning and Teaching. The views expressed in this report do not necessarily reflect the views of the Australian Government Office for Learning and Teaching.



With the exception of the Commonwealth Coat of Arms, and where otherwise noted, all material presented in this document is provided under Creative Commons Attribution-ShareAlike 4.0 International License <http://creativecommons.org/licenses/by-sa/4.0/>.

Contents

A framework to enhance student success	4
Introduction	4
Creating a collaborative culture of student success within a professional bureaucracy	4
The Enhancement Framework	6
1. Creating shared understanding and purpose	7
Overview	7
→ Strategies for developing shared purpose and understanding	8
2. Taking stock	9
Overview	9
→ Strategies for taking stock	9
3. Prioritizing enhancement initiatives	11
Overview	11
Look internally and externally for prospective solutions	11
→ Strategies for prioritizing and selecting initiatives	12
4. Implementing enhancements with fidelity	13
Overview	13
→ Strategies for implementing with fidelity	14
5. Closing the loop: Assessing for improvement	15
Overview	15
Cost-benefit considerations	15
Leading enhancement	16
Improving the student experience	17
References	19

A framework to enhance student success

Introduction

Providing fresh perspectives on the student experience, exciting as they may be, are not sufficient to activate major strategic or practical change. Hence we advance an Enhancement Framework which clarifies and exemplifies opportunities for sustainable adoption.

This Framework is an architecture for linking the innovative perspectives formed through the project with what is undoubtedly a diverse suite of existing practices. It incorporates evidence-based case studies and good-practice guidelines showing how institutions can use new data and technologies to understand and enhance students' experience. It includes advice to help institutions communicate more effectively with prospective and current students and, as importantly, for the academic and support staff to communicate and work with each other toward student learning, development, and ultimately, success.

Getting this high-level Framework right is vital to the project. The project has defined facets of success and identified analytics and leadership in need of development. To complete the roadmap it is necessary to provide a plan for how future scenarios might play out. As we have achieved in prior projects, such a Framework must inspire people and add value to existing institutional and professional practice. Accordingly, developing the Framework involves consulting widely with relevant stakeholders and developing case studies showing how the ideas can be translated into specific strategies, policies and practices. It is critical that the model is pitched and positioned well in order to build capacity and generate new conversations Australia needs about the student experience.

Essentially, the Framework responds in both strategic and practical ways to the three core areas which the project is trying to join-up to enhance: student experience, education analytics, and leadership. Hence it has been pitched to respond to a single primary question and three derivative questions:

- How can institutions build more evidence-based leadership of the student experience?
 1. What are the best ways of enhancing the student experience?
 2. What are the best ways of enhancing education analytics?
 3. What are the best ways of enhancing leadership?

Creating a collaborative culture of student success within a professional bureaucracy

Before describing the components of the Enhancement Framework, it is important to consider the organizational context within which the enhancements are to be applied and the complex nature of the stakes and stakeholders.

There are several ways that large organizations can achieve mission effectiveness. At one end of the spectrum there are top-down, 'command and control' organizations, like military services, in which the goals, purposes and strategies come from the top and are parlayed down 'through the ranks'. In these organisations there is some opportunity for useful feedback (if the service is appropriately sensitive to data from the field), but limited ability at the 'front lines' to deviate from prescribed roles and rules. At the other end of the spectrum are employee-owned businesses, in which the front line workers have a significant stake in overall performance and significant decision making latitude for fulfilling the mission.

Higher education institutions, especially those in the public sector, simultaneously exhibit top-down and bottom-up components of decision-taking to achieve core objectives. As a professional organization, the 'front-line' workers are hired for their expertise in executing professional services, like teaching, research, and human support services (e.g. academic advising, career guidance, instructional design, information & technology support). There are mechanisms of faculty governance that place responsibility for significant aspects of policy and operations (e.g. entry standards, curriculum and programs, methods of assessment, certification of achievement) in the hands of an increasingly diffuse and diverse set of professional and academic staff. Business managers and executive administrators maintain broad oversight and control over core financial, facility, human resource, and technology infrastructure, while enabling the expert staff to exercise their authority and responsibility.

This complexity, which has been referred to as a "professional bureaucracy" (Mintzberg, 1992) with administrative and academic subcultures (Swenk, 1999), often results in silos of responsibility that allow professional academic and administrative staff leeway to apply their expertise over relatively narrow domains, within programs and within administrative units, with complicated organizational networking arrangements to align these provisions to serve the broader goals of the institution.

Students attending higher education institutions, especially at the undergraduate level, do not experience institutions from the same point of view as the professional, academic or 'third-space' staff who operate and perform its functions. Rather, students identify with the institution as a single organization or space through which they navigate one or more journeys that traverse many of the bureaucratic and academic silos. Recognizing this, some institutions have created integrated student service centers to minimize the run-around or 'hassle factor' students can get even within a relatively narrow range of institutional functions, like course registration, bursaries, library services, advising and career counseling. But these integrated services often are not closely connected to the academic program operations, which tend to be the most compartmentalized of institutional operations. Academic teaching staff may be informed about how to guide students to these services, but are otherwise disconnected and even protected from issues related to designing, implementing and evaluating the supports that surround the core instructional activities. Perhaps more notably, the growth of support services outside academic programs can lead to teaching staff feeling absolved of their responsibilities for tending to student needs, since other people (most notably, 'third-space' staff) and processes have stepped in to serve those needs. The deployment of learning management systems, distance learning, and

other technologies provide promising platforms for service provision and alignment, but they also complicate the institutional arrangement by bringing into the mix another set of organizational staff who focus on providing instruction and support to students.

The primary focus of this project can be described as establishing new concepts and their observable manifestations (data or evidence) that enhance the vocabulary and discourse for understanding student experience in order to promote student success. Enhancing the ability to communicate richly about student experience can only be useful 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 endeavor. 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 focus of this Enhancement Framework is to envision a 'new order' of institutional arrangements and capacities that support a more aligned focus on creating a culture for student success. The Framework describes pathways for realizing aspects of this vision.

Managing change within higher education institutions is fraught with peril. 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 Enhancement Framework

The Enhancement 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, we believe 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.

The Enhancement Framework includes five stages:

1. Identifying priority areas for improvement and developing a shared vision for enhanced quality;
2. Assessing the current status of the institution's inputs, processes and outcomes in relation to the vision for improved quality;
3. 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.

Sometimes characterized as a cycle (for example, 'plan, do, check, act' or 'plan, implement, review, improve'), 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 optimize overall performance.

1. Creating shared understanding and purpose

Overview

In his pioneering work on organizational quality improvement, W. Edwards Deming referred to such enhancement efforts as part of the 'system of profound knowledge' wherein complex adaptive systems, like higher education institutions, self-organize around the organization's identity, which includes vision, values, purposes, principles, history and culture (Deming, 1994). The degree to which the identity is shared is directly related to the ability of the organization to optimize performance.

Staff within institutions typically focus their attention on one or a few aspects of the student experience. Teaching staff focus on teaching and learning in their respective subject areas, advisors on the decisions that students must make as they progress through the curriculum, registrars on getting students scheduled into their classes, and so on. The count of professional roles involved in the total student experience is considerable, and each has its own perspective, culture and language. Enhancing the student experience requires first the development of shared understanding and purpose.

Institutional obstacles for cultivating a shared vision:

Competing priorities for information to support decision-making

*Too many areas are creating strategic priorities from different areas of the university.
Contradictory choices from different areas can arise and create noise and distraction*

There is a lack of coordinated effort as a University to help students to succeed. A different approach is used at each College

Developing shared understanding and purpose requires a common vision as to what excellence entails and the qualities that are of the highest order priority. The Nine Qualities (9Q) model for student success (Figure 1) provides a basis for developing this understanding.

Institutions, depending on size, mission and population served, will interpret these qualities as related to their own context and student needs. Certain qualities may be more salient or more important than others, but all of the qualities need to be tailored to the context and cultures of an institution. Used as a point of departure, institutions can identify the specific language around which their students and staff engage and so around which a shared vision of excellence can be developed.

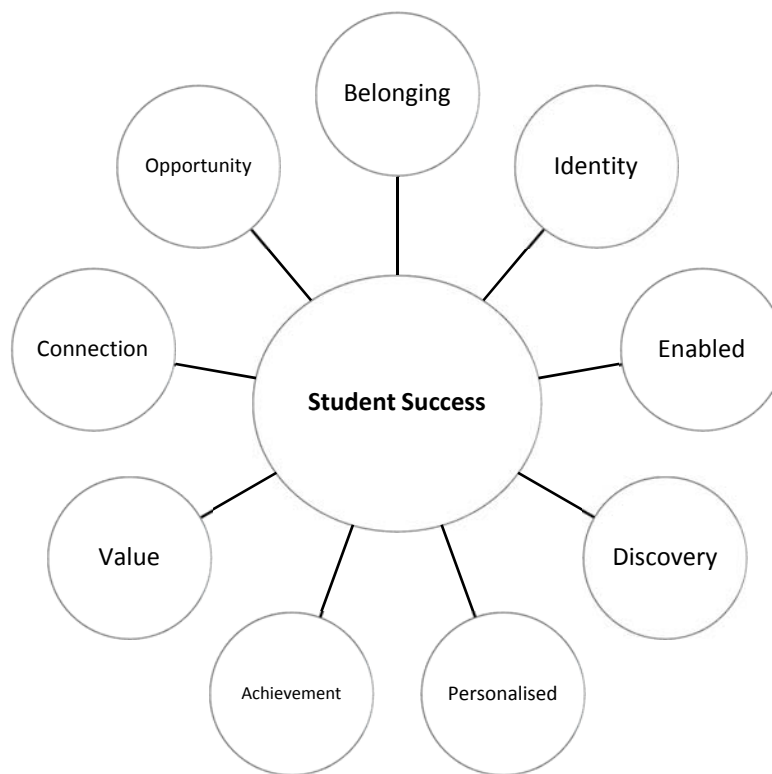


Figure 1: 9Q model for Student Success

→ *Strategies for developing shared purpose and understanding*

Higher education institutions strive to build community and purpose in many different ways. For instance:

- An increased focus on student success and degree completion has led many institutions to develop institution-wide units related to undergraduate education and undergraduate student success.
- New executive positions have begun to emerge which signal the importance of this new focus.
- Other institutions have utilized high-level, cross-divisional task groups.
- Academic teaching teams represent another strategy, wherein teaching staff collaborate with information support and student support staff to teach large introductory courses.
- Faculty learning communities have been formed to bring together, across disciplines, faculty who explore topics related to achieving core learning objectives or enriching the environment for student learning more broadly.

- Implementing new student and learning management systems (LMS, course advising, etc.) also require staff from various offices and units to work more closely together, such as, instructors, information technologists, advisors, and evaluation specialists.

All of these strategies enable individuals who usually don't work together to gain insight into how their colleagues contribute to student success, and how the differing roles are interconnected and interdependent in relation to the student experience. The differing perspectives, priorities, and jargon used within these groups can induce a level of tension that can undermine the development of shared understanding and purpose. However, if these interactions are intentionally accommodated by leadership, the tensions can be reduced so that the roles become more compatible and less competitive.

2. Taking stock

Overview

The development of common understanding and purpose is informed by assessment of the current perceptions and behaviours among students, staff and other important constituents as related to the student experience. Again, the Nine Qualities provide a framework for measurement and assessment, although various tools and techniques (climate surveys, analytical data mining of student and curricular systems) can be used to triangulate evidence toward a more robust understanding and concrete specification of the student experience. The evidence and measures derived from these assessments can serve then as the markers for monitoring improvements.

→ Strategies for taking stock

Traditional student and staff surveys have been, and continue to be used, for these purposes. However, limitations in their relevance and increasing problems with their reliability (for example as due to declining and biased response rates) require consideration of other tools and techniques. Data mining and student/learning analytics represent a potentially fertile source of evidence about the student experience. Unfortunately, initial efforts to expand upon these areas often uncover serious issues related to non-integrated information systems. Introducing new applications and platforms can exacerbate these issues as they can multiply the sources of data without bringing them into alignment, not least given problems with interoperability and proprietary systems.

Institutional obstacles for collecting student data

Systemic whole of university approaches to data collection, reporting and review

Data collected sporadically and across a range of different systems

Getting useful and timely data

Surveys only attract small response and are biased

More granular information is required about each student to provide the personalised learning that the we promise

In addition to taking stock of student experience, it is also useful to take stock of how the institution's culture can support or interfere with enhancement efforts. Kuh (2013) describes using cultural assessment to identify organizational assets that can be leveraged to amplify strengths and affect change. He also describes strategies for 'bending' culture to mitigate interference.

For a specialist higher education institution with deep links to industry, approaches to student success have not always been based on theoretical or educational principles. While information about students has always been an important part of the business model this was often anecdotal and under-analysed. The need to develop an institutional culture that would embrace theoretical and data-driven approach was identified as part of a teaching and learning project to enhance the student experience. Developing this culture required change including professional development, recruitment and the facilitation by academic leaders committed to evidence-based practice

Another aspect of 'taking stock' is assessment of institutional 'readiness'. Oster and colleagues (2016) describe readiness assessment as a reflective process, in which organizations take stock of their culture and their capacities as related to information technologies, analytics, and organizational communications. Their Learning Analytics Readiness Inventory (LARI) can be used as the basis of this assessment, identifying gaps that need to be addressed to support successful adaptation of analytical systems to support the enhancement of student experience. It is important to note that readiness requires not only technological competence, but also consideration of ethical and analytical competence. Recent Australian work by Colvin et al (2015) has honed similar assessment methods.

Ethical issues of data ownership and data portability are a key concern for a public research university making significant advances in the use of student data as a strategic priority. The university acknowledges that data forms evidence of student capability in much the same way as grades on a testamur, and should be able to be exported and used similarly in employment or further education. However, this is currently a contested issue, and many of the ethical concerns about learning analytics and data surveillance focus on who owns the data and how it is used. The university has considered potential solutions including a policy direction that sees student ownership rights of their own data and institutional use of data as partners to support their education.

3. Prioritizing enhancement initiatives

Overview

From whatever place and point an institution finds itself with regard to a shared vision of excellence, leaders and staff need to decide how to direct their time, attention and resources to make progress toward this vision. Within their action-inquiry framework, St. John and colleagues (2006), describe this activity as entailing three stages:

- Assessment
- Development
- Implementation

Look internally and externally for prospective solutions

Complex higher education institutions already have in place promising practices. Abundant examples are also available across the sector, nationally and internationally. While there are no guaranteed ‘best practices’, there are many approaches that can be employed, especially when interrogated against the institutions context, culture, and people.

1. **Assess possible solutions.** Identified promising practices can be evaluated for their potential applicability to the institution’s challenges and context. Resource requirements, cultural assets, ability to tailor, and ability to implement can all be considered.
2. **Develop action plans.** Once selected, institutions need to articulate how the proposed change or new processes and programs are intended to achieve the desired enhancements. This is the ‘program differentiation’ component of the next stage of the enhancement framework, implementation fidelity. Action plans also entail explicit commitment to the human, physical, technological and fiscal resources required for successful implementation.

3. **Implement pilot test and evaluate.** Formative assessment guides the fidelity of implementation, first conducted at a small-scale basis to ensure that the action theory is valid. Pilot testing also provides useful feedback to determine the resource requirements for scaling implementation to achieve broader impact.

→ *Strategies for prioritizing and selecting initiatives*

Identifying strategies for enhancing student experience often starts within an institution. Individual units and programs that appear to get good results within the institution may be good candidates for scaling up, since they are achieving those results within the context and culture of that institution. On the other hand, what works for one type of program or student, even in the same context, may not generalize to other programs. Institutions can often find useful examples and strategies at other institutions, and even in other industries. One of the limiting tendencies in higher education is to look only at institutions that are perceived as peers. While this has some merit, since those institutions have similar missions and likely serve similar students, it is possible to find excellent candidate practices and programs at all types of institutions and even in other industry sectors. Indeed common benchmarking studies often involve intentionally including one out-of-industry organization in their studies.

For one research-intensive university the need to develop new systems and capabilities to realise a 21st century university experience is fast becoming an institutional priority. As with other large complex universities, the challenges of operationalising the practical requirements including system capabilities and developing staff skills alongside cultivating an institutional culture for data-driven education are acknowledged as significant. As part of the strategy towards developing a data-driven culture to student success a dedicated unit was established, strategy documents were disseminated with reference to new staffing capabilities, consultations were conducted, and a senior position responsible for stewarding institutional data collection, analysis and dissemination was created. The university foresees that operationalizing the strategy for a data-driven approach to monitoring for improvement and identifying inefficiencies will be vital.

Selecting potential processes and programs to implement and enhance requires attention to general criteria:

- How relevant is the program or process to achieving desired objectives?
- How important are the objectives that the program or process impacts?
- To what degree do staff explicitly understand the 'action theory' that underlies the program or process (why and how it is believed to work) and accept that theory as being relevant to their context.
- Can the institution allocate sufficient human, physical and fiscal resources to implement the program or process?
- Does the program or process engage an important constituent group, so that even if it is not so important in and of itself, engaging those constituents is critical? This

consideration is often pertinent to efforts that have a good chance of engaging academic staff.

- How likely is it that the program or process can be replicated or at least tailored to other areas of the institution?

Promising practices include:

- Thematic learning communities with instructional teams—that is, cohorts of students taking set of courses, with integration pedagogical strategies among instructors
- eAdvising systems—using predictive analytics to provide advisors and/or students with information on their prospects for success in specific courses and modules
- Posse programs—generally used for under-represented groups) bring in small cohort and provide integrated support
- High impact practices—undergraduate research; experiential and immersion learning; internships and coop programs
- Progress feedback systems—flip side of eAdvising, provides feedback to students on how well they are progressing through programme and provides guidance for ensuring or improving success
- Gateway initiatives—convening instructors of introductory courses, across the curriculum, to provide information and support for targeted efforts to improve student success in gateway courses
- Integrated service initiatives—review of service provision across units to identify effective practices, identify opportunity for collaboration, and work toward a more holistic view of the student experience

4. Implementing enhancements with fidelity

Overview

After deciding what to do, the next stage of quality enhancement pertains to implementing select enhancements effectively. That is, ‘doing the right things’ is necessary but not sufficient. It is also critical that institutions ‘do things right’. Attention to doing things right is often referred to as ‘implementation fidelity’.

Dane and Schneider (1998) have described five components to implementation fidelity that have been widely adopted and tailored to use in various health and education settings:

- Program differentiation: Articulating the essential features, processes, and resources required to fully implement the program, change or process, based on the action theory that describes how the program or process is expected to work.

- Adherence: Implementing the program or process as intended and described by the action theory that underpins its rationale and prescribed essential elements.
- Exposure: Ensuring that the targeted population receives the full 'treatment' that is intended.
- Quality: Delivering the program or process at the highest caliber, including the application of appropriate expertise, staff training, and resources.
- Responsiveness: Degree to which the targeted population is impacted or changed as expected by the program or process.

→ ***Strategies for implementing with fidelity***

There are many promising practices that have been demonstrated to work in a range of institutional settings. However, for each promising practice, there are as many or more examples of failure as there are of success. Research confirms that institutions are better off focusing their time, attention and resources on a relatively few initiatives, rather than spreading resources and attention too thinly.

The quality of implementation is not generally as challenging for higher education institutions as is focus. When it comes to designing prospective enhancements, the expert professionals employed in higher education can be very creative and innovate. However, there is a tendency for these professionals to pursue their own ideas without appropriate consideration of how all the ideas work together toward common objectives. Although it will never be possible nor desirable to completely shut down diffuse innovation within the academy, it is equally important when it comes to student success to coordinate and collaborate across units.

An integrated approach of one public research university:

- A whole-of-course approach to student success, which blends curricula transformation with the co-curricular
- Data usage and personalised service permeates university strategy and conceptions of identity and success
- Single digital platform for management of student success
- Students are involved in data-collection and analysis through individual student dashboards
- Re-design of physical spaces based on student wifi data to identify where students are and how they learn collaboratively
- Dedicated institutional intelligence unit with staff skilled in strategy, analysis, behavioural science, big data, decision science and effective communication that reports to the Vice-Chancellor for strategic planning

Higher education settings require a somewhat different approach to implementation fidelity than is commonly found in health care settings. Specifically, implementation generally requires more tailoring. The action theory behind a program or process first requires adaptation to a specific institutional context. This often entails organizational learning through iterative adaptation. Initial thinking as to how a program or process will work best

may not be evident until piloting is conducted and further piloting may then be needed to assure the adjustments are appropriate. Tailoring both action theory and implementation processes simultaneously can make it difficult to know whether a practice can work well, given appropriate time and adjustment. The decision to keep working through implementation issues or to abandon an initiative for alternative strategies requires considering many factors related to resources, staff training and staff morale.

5. Closing the loop: Assessing for improvement

Overview

The complementary action-inquiry and implementation fidelity frameworks described in the two prior sections can guide the selection, implementation and assessment of targeted enhancements intended to improve the student experience as articulated in the institution's shared vision for excellence. As this process for quality improvement is enacted, the middle and senior levels of institutional management must continue to appraise and monitor the attainment of broader outcomes objectives (as well as respond to the vagaries of environmental disruptions and other challenges). This brings us full circle to broader outcomes assessment activities that provide metrics connecting program improvements to broader institutional objectives. Broad outcomes metrics and program/process-level assessments are both necessary for quality enhancement, but neither is sufficient. Programs and processes that work but do not influence broader outcomes will waste resources. Similarly, improved outcomes that cannot be tied to specific programs and processes, do not enhance the institution's understanding of its effectiveness and cannot be used to guide resource allocation. Perhaps most importantly, a deep understanding of the relationship between processes, programs and outcome objectives provides a basis for using academic analytics can be used to guide student and staff behavior toward the attainment of desired outcome objectives.

Cost-benefit considerations

Initiatives undertaken to enrich the environment for student learning and success all come at a cost. Determining cost is not always simple, as it requires consideration of the human, technological, fiscal and physical resources required, as well as opportunity costs. Calculating the benefit is even more challenging, since the objectives of higher education are not directly measurable in economic terms. Nonetheless, it is critical to consider the whether the benefits are worth the investment. This occurs at several points of the Enhancement process. In the early stages, cost consideration relate to resource availability, resource substitution possibilities, and the perceived value of the outcomes that are expected (or the range required to make the expected investment worthwhile. Whereas identifying and analyzing expected resource requirements against gains is part of the

selection process, appropriating adequate resources is a component of implementation fidelity. Cost-benefit considerations also arise as part of 'closing the loop' to ensure that enhancements can be sustained at a level that assures a level of improved student outcomes that continues to justify the investment.

Leading enhancement

Undertaking enhancement as described in this framework requires sustained collaboration among academic and support staff not commonly found within higher education institutions. Leadership plays a critical role in developing the common vision, forging collaboration, allocating sufficient resources and sustaining focused organizational attention. The distributed and often segmented leadership structures common to large institutions of higher education, as well as leadership turnover rates, make this a particular challenge. Enlightened, sustained leadership is desired but not always possible. It is particularly critical for transforming toward a collaborative culture of student success. However, once cultural transformation occurs, it is relatively easier to sustain the culture.

The role of senior leadership is to advocate for the quality of student experience as a core component of institutional mission and values and to ensure that the priority carries through to resource allocation decisions. But there is also a significant need for enlightened distributed leadership, wherein these values carry through across the administrative and academic divisions of an institution, along with sufficient empowerment (with appropriate accountability) to undertake the processes described in this Framework: promoting shared vision; taking stock; selecting priority enhancements; implementing with fidelity, and closing the loop through continuous assessment for improvement. Central resources may be utilized to facilitate and support such efforts (individuals and support offices that assist with intelligence gathering, assessment and evaluation, etc.) but within higher education institutions, it is perhaps more important that centralized administrators assist with connecting expert resources often found within higher education institutions to the kinds of activities described herein. Ultimately, leadership is required to strike the appropriate balance between providing centralized supports and promoting collaboration among decentralized resources and activities.

Improving the student experience

The 9Q Model articulated earlier encapsulates a holistic approach that considers the following qualities instrumental to individual success for each student:

- Belonging
- Identity
- Enabled
- Discovery
- Personalised
- Achievement
- Value
- Connection
- Opportunity

In applying the Enhancement Framework to improve the student experience each institution may consider the following questions:

- What information do we have about each student and how do we use it?
- In what ways can we collect better information about each student and what are the best ways to use this information towards student success?
- What commitments do we need to make to operationalize a new approach towards collecting, integrating, analyzing and utilizing information to enhance the student experience?

While institutions have different missions, business models, budgets, technological capacity, and staffing profiles, students entering higher education do not adjust their individual goals or expectations for the future around these organizational characteristics. Relative to size and scale institutions need to tailor an approach towards understanding each student in ways that align with institutional character.

Central to the Framework is leadership to influence institutional culture for a shared vision towards understanding who students are, what they seek to achieve and the contexts that will contribute to their experience. On an operational level, leadership is required to commit to the necessary resources that will facilitate systems, develop staff and connect institutional units to create a personalised environment where students can navigate easily through what are currently often disconnected and opaque institutionalized systems and processes.

Features	Components	Techniques	Pitfalls, obstacles and barriers	Principals
Creating shared understanding and purpose	<ul style="list-style-type: none"> Tailoring the Nine Qualities to the institutional context Identifying common priority objectives around which to coalesce collaborative action Articulating an initial action theory for how the institution can enhance the student experience 	<ul style="list-style-type: none"> Creation of centralized unit focusing on student success Cross-division task group of student liaison or support staff Purposive rather than representative for early efforts Student-developed videos on student life, shared with staff Instructional teams 	<ul style="list-style-type: none"> Lack of interest in student success Diffusion of responsibility across decentralized institution Conflicting views of staff and student responsibilities with regard to student experience 	<ul style="list-style-type: none"> Key 'champion' from institutional leadership Institution-wide and faculty-based teaching and learning staff leaders Student support or liaison leaders from central administration and faculties
Taking stock: Assessing the current status	<ul style="list-style-type: none"> Assessing perceptions of students, staff, other critical stakeholders on current state of student experience in relation to vision of excellence Cultural assessment to identify assets and obstacles 	<ul style="list-style-type: none"> Surveys of student experience followed by staff focus groups Instructors teamed with support staff interview students Data mining and analytics incorporating LMS, activity tracking systems 	<ul style="list-style-type: none"> Non-integrated student and course information systems Low response rates for traditional surveys Competing assessment priorities Proprietary systems 	<ul style="list-style-type: none"> Information professionals with knowledge of primary academic and student systems Evaluation or assessment professionals
Prioritizing and selecting strategies for enhancement (doing the right things)	<ul style="list-style-type: none"> Identification of possible strategies Evidence- and culture-informed selection of strategies Commitment of resources (generally through substitution) with support and accountability 	<ul style="list-style-type: none"> Intra-institutional review of related programs and initiatives Extra-institutional identification and review of promising practices Small pilot projects 	<ul style="list-style-type: none"> Disconnected, uncoordinated student support programs and initiatives Competing investment priorities 	<ul style="list-style-type: none"> Institution-wide and faculty-based teaching and learning staff leaders Student support or liaison leaders from central administration and faculties
Implementing with fidelity (doing things right)	<ul style="list-style-type: none"> Design and implementation aligned with action theory Allocation of sufficient and appropriate resources (human, physical, fiscal) Ensure targeted students and staff exposed to implementation 	<ul style="list-style-type: none"> Strategies for design and allocation (e.g. vendor versus in-house solutions) Refer to example programs 	<ul style="list-style-type: none"> Spreading resources thinly Lack of interest in collaboration across faculties Competing process priorities 	<ul style="list-style-type: none"> Senior operational staff in units responsible for implementation Budget officers from units and central administration IT support for programs and initiatives requiring new or enhanced systems
Closing the loop: Assess for improvement	<ul style="list-style-type: none"> Collect and assess action-theory-aligned 'throughput' indicators Assess outcomes to monitor progress toward vision Engage leadership, staff, and students in use of information and analytics to reinforce behaviors key to vision of excellence 	<ul style="list-style-type: none"> Systematic assessment using validated instruments Periodic interviews of staff and students to assess experience of programs and initiatives Formal program evaluation techniques (CIPP model; constructivist; utilization-focused) 	<ul style="list-style-type: none"> Lack of valid instrumentation Resistance to evaluation Time requirements Lack of expert staff 	<ul style="list-style-type: none"> Assessment staff, both with both quantitative and qualitative methods expertise Process managers IT for deploying information and analytics related to monitoring progress on overall outcomes for individual students, courses, faculties and institution

References

Colvin, C., Rogers, T., Wade, A., Dawson, S., Gasevic, D., Buckingham Shum, S., Nelson, K., Alexander, S., Lockyer, L., Kennedy, G., Corrin, L. & Fisher, J. (2015). Student retention and learning analytics: A snapshot of Australian practices and a framework for advancement. Office for Learning and Teaching.

Dane, A.V. & Schneider, B.H. (1998) Program integrity in primary and early secondary prevention: are implementation effects out of control? *Clinical Psychology Review*, 18, 23–4.

Deming, W.E. (1994). *The New Economics for Industry Government and Education*. Cambridge, MA: MIT Press.

Kuh, G. (2013). Culture bending to foster student success. In: McLaughlin, G., Howard, R., McLaughlin, J. & Knight, W.E. (Eds.) *Building Bridges for Student Success: A sourcebook for colleges and universities*. Norman: Consortium for Student Retention Data Exchange at the University of Oklahoma.

Mintzberg, H. (1992). *Structure in Fives: Designing effective organizations*. Upper Saddle River: Prentice Hall.

Oster, M., Lonn, S., Pistilli, M.D. & Brown M.G. (2016). The learning analytics readiness instrument. In *Proceedings of the Sixth International Conference on Learning Analytics & Knowledge* (pp. 173-182). ACM.

St. John, E., McKinney, J.S. & Tuttle, T. (2006). Using action inquiry to address critical challenges. In: St. John, E.P. & Wilkerson, M. (Eds.). *Reframing Persistence Research to Improve Academic Success. New Directions for Institutional Research*, 130 (63-76). San Francisco: Jossey-Bass.

Swenk, J. (1999). Planning failures: Decision cultural clashes. *Review of Higher Education*, 23 (1), 1–21.