



Shaping the 21st century student experience at regional universities

Final report: 2018

Lead institution: University of the Sunshine Coast

Partner institutions: Charles Sturt University, Central Queensland University, Federation University Australia, James Cook University, Southern Cross University, University of New England, University of Southern Queensland

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<http://shapingtheregionalstudentexperience.com.au/>



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Executive summary

Introduction

The Australian higher education system operates in an environment increasingly influenced by complex sociocultural, economic and political forces. As a demand-driven system, it offers choice and flexibility about what, where and how to study. However, census data show that participation and attainment rates for bachelor-degree qualifications for people in inner regional, outer regional and remote areas continue to lag behind metropolitan areas. Furthermore, national data (Australian Government Department of Education and Training, 2016) show that students enrolled in regional universities have higher attrition and lower completion rates than students who study in capital city universities. The poorer outcomes were a motivating concern for the project, which sought to thoroughly investigate the under-researched reasons underpinning the regional student experience using a three-stage research design.

We believed that the rhetoric aligning the characteristics of regional university students with their academic outcomes was masking a more complex and nuanced set of conditions influencing the experiences of regional university students. Recent contributions in the student engagement and student experience literature suggested that these conditions might include individual characteristics such as emotion, motivation, and proficiency as a student, how well institutions are attuned to meeting these needs, students' interest in the domain of study, and interactions between students and their teachers and institutions.

Student experience, the Kahu framework and national data

To investigate the many complex elements that influence the student experience, the project adopted a comprehensive framework of student engagement as its conceptual and analytical foundation (Kahu, 2014). Kahu's framework situates student engagement (affect, cognition and behaviour) as being influenced by structural and psychosocial factors arising from students, their backgrounds and university culture and practices. The proximal and distal consequences of student engagement are also included in the framework, as is the direct relationship between proximal consequences and psychosocial influences. In stage 1 of the project we used this framework to assess the types of information collected and determined that critical indicators that describe student experiences were missing from the existing national data sets.

Case studies

Stage 2 of the project sought to identify the unique features of the 21st century experiences of regional university students, and to reveal practices and insights not previously discovered. Each of the participating partner institutions selected a case study focused on an initiative (intervention, program or practice) that had been implemented to specifically enhance the student experience. The cases were then mapped onto the major structures in Kahu's (2014) framework to ensure that they would provide the insights the project was seeking. Qualitative data on students' experiences of the initiative were gathered and deductively analysed for each case.

Cross-case analysis

Stage 3 of the project focused on highlighting robust transferrable practices shown to improve the student experience, and to foreshadow emerging innovations and trends essential for strengthening the 21st century student experience.

The qualitative data from the case studies was amalgamated into one data set and a process to standardise the coding was conducted. A count of the codes against Kahu's framework revealed patterns in the data and six propositions were developed to describe these patterns by iteratively referring to the original qualitative data. The strength of each proposition was then assessed by identifying where an excerpt of data had been coded for more than one aspect of Kahu's framework, thus indicating conceptual links between different aspects of the student as described by participants. Five key findings emerged from this process and these are expressed as narratives below.

Findings

Stage 4 of the project refined and presented the five key findings, expressed as narratives about the 21st century student experience and their implications for practice:

Critical first encounters

When students encounter intentionally designed curriculum and support interventions, student emotion is enhanced and positive psychosocial (motivation, skills, self-efficacy and identity) responses are triggered. What this means in practice is that curricula and co-curricular initiatives should be intentionally designed and implemented to activate motivation, skills, identity and self-efficacy.

Compensatory effect

Positive psychosocial responses increase student engagement and reduce the impact of previous disadvantage and structural risk factors. What this means in practice is that initiatives designed and implemented to strengthen student motivation, skills, identity and self-efficacy will positively influence student engagement and mitigate previous disadvantage.

Constructive cycle

Positive psychosocial responses increase student engagement, which in turn increases learning outcomes, student satisfaction and well-being. What this means in practice is that institutions are responsible for creating environments that engage students to achieve positive learning outcomes.

Capacity building

Student engagement increases students' academic and social outcomes, and builds their capacity for citizenship, civic engagement, and personal growth. What this means in practice is that all disciplines should develop students' 21st century skills in context.

Cultural change

Achievement, satisfaction and retention generate enduring changes, which can break intergenerational cycles of disadvantage and therefore bridge sociocultural incongruence between under-represented groups and university cultures and practices. What this means in practice is that improving the outcomes for current students can also redress inherent inequalities.

Outcomes

Six recommendations for institutions and three pieces of advice for the sector arose from this project:

For institutions	<ul style="list-style-type: none"> • Intentionally design and enact administrative practices, including admissions pathways, to ensure all students are able to participate fully in the university's formal and informal activities. • Intentionally design all curricula and co-curricular activities to activate student motivation, build academic skills, promote discipline and student identity, and develop students' self-efficacy. • Design and universally implement curricula and co-curricular interventions to ensure that previous disadvantage and structural risk factors are mitigated through systematic institutional practices that privilege behavioural, cognitive and affective student engagement. • Assure quality in learning, teaching and student experience practices, measured by positive student learning outcomes and achievement, and high levels of student satisfaction and well-being. • Focus, within discipline curricula, on developing future-proof employability skills, including advanced digital literacy, enterprise skills and entrepreneurship. • Minimise the sociocultural incongruence between communities and higher education institutions, through sustained attention to cultural, structural and practical organisational change.
For the sector	<ul style="list-style-type: none"> • Provide access to information about students' movements, over time and among institutions. • Review the learner engagement scale in the Student Experience Survey, to ensure the collection of data is aligned with contemporary understandings of student engagement. • Review indicators in the Student Experience Survey, the Graduate Outcome Survey, the Course Experience Questionnaire and the Employer Satisfaction Survey to ensure the collection of information about students' engagement experience and skills is aligned with the key findings of this study.

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Chapter 1. Introduction

The Australian higher education system operates in an environment increasingly influenced by complex sociocultural, economic and political forces. As a demand-driven system, it offers choice and flexibility about what, where and how to study. At a national level the Australian system is approaching Trow's early 1970s vision of a universal access system (Trow, 1973).

The diversity of the student body attending regional universities reflects national aspirations for an inclusive higher education system (Universities Australia, 2013). When compared to metropolitan universities, students enrolled in regionally headquartered universities² are more likely to be from poorer socioeconomic backgrounds, the first in their family to undertake tertiary study, female, Indigenous, and entering university for the first time as a mature-aged student (Regional Universities Network, 2013). Unsurprisingly, given these characteristics, students studying at regional universities are also more likely to be involved in longer hours of paid and unpaid work, and studying part-time (Richardson & Friedman, 2010).

Census data show that participation and attainment rates for bachelor-degree qualifications for people in inner regional, outer regional and remote areas continue to lag behind metropolitan areas. Furthermore, national data (Australian Government Department of Education and Training, 2016) show that students enrolled in regional universities have higher attrition and lower completion rates than students who study in capital city universities, and these poorer outcomes are of particular concern to this project. There are correlations between cohort characteristics and completion rates, but these do not explain the underlying factors that cause students to leave. Despite much being made about the correlation between input characteristics and successful completion, the reasons underlying the discrepancies for the students attending regional and remote universities have not, to date, been comprehensively investigated.

In their longitudinal analysis of student completion rates, Edwards and McMillan (2015) found that students with some of these characteristics and modes of participation complete university at significantly lower rates than other groups. They also found that these characteristics have a compounding effect, which means that, over a six-year period, students with multiple 'non-traditional' indicators were even less likely to complete their studies than those students with a single indicator. However, no insights have been offered that comprehensively explain why some students with multiple risk factors stay and complete their studies while other students from similar backgrounds leave.

It is convenient to assume that the characteristics of students and poorer outcomes are more than a correlation, and that somehow the characteristics explain poorer performance. However, these characteristics have not been shown to be causal. In fact, previous studies have shown that the correlation between demographic characteristics and attrition rates is, at best, weak (Coates & Ransom, 2011). For example, being from low socioeconomic

² Although increasingly represented in higher education numbers, regional Australians with undergraduate tertiary education fall significantly behind the metropolitan population. The Regional University Network conducted an internal analysis based on 2011 Australian Bureau of Statistics data finding that 31% of metropolitan residents have a bachelor qualification, compared to 18% in inner regional areas, 15% in outer regional areas and 12% in remote communities (<http://www.run.edu.au/resources/Submission%20Review%20of%20DDS%20December%202013.pdf>).

background or being the first in family to attend university are not the determinative reasons that students do not complete; these attributes are pre-existing characteristics that describe students' geographical, family, social and educational backgrounds, not their potential to succeed at university.

The motivation for this project was a concern that rhetoric implying a relationship between the characteristics of regional university students and their higher education outcomes was actually masking a more complex and nuanced set of conditions influencing the experiences of regional university students. These conditions were thought to include interactions between students and their teachers and institutions, how well the institution is attuned to students' needs and individual characteristics such as emotion, motivation, proficiency as a student and interest. We believed that understanding the role of these factors, alongside the currently documented demographic data, could provide a richer appreciation of the varied and situationally contingent reasons for student success or otherwise at regional and at all universities.

This project was one of five projects commissioned by the Australian Government Office for Learning and Teaching all of which were aimed at enhancing the 21st century student experience. The eight regionally headquartered institutions involved in this project embarked on eight institutional case studies and collected qualitative data to investigate the 21st century experiences of diverse undergraduate student populations at regional universities.

The eight institutions involved in the project wanted to know more about how to design educational environments where geographical location, or previous social or educational conditions, do not determine students' outcomes. We aimed to identify strategies that could be put in place to encourage those students who have most to benefit to stay and complete their studies.

Aim, research questions, project objectives and deliverables

The overarching aim of this project was to conduct a comprehensive analysis of the student experience at regional universities with a view to informing and shaping the future student experience.

The four research questions we proposed and sought answers for were:

- What is the 21st century student experience in regional universities?
- What examples of current good practice exist, and can we draw from these insights to advise about which practices should be adopted to improve the 21st century experience of students enrolled in regional universities?
- What are the emerging challenges and trends for students enrolled in regional universities, and how can these be harnessed to enrich and strengthen the future 21st century student experience?
- Is an additional set of metrics required to ascertain the performance of regional universities and their graduates?

Practically, we identified a set of objectives to keep the large multi-institution project on track during its 18-month duration.

- Provide a comprehensive description of the unique features of the 21st century student experience in regional universities and to identify trends in the data for further investigation.
- Explore patterns in the regional student experience through a series of case studies to discover effective and innovative 21st century practices that positively influence the student experience and, through a cross-case analysis, identify practices that can be adopted across the sector.
- Forecast emerging trends and innovations in practice that will underpin an enriched and strengthened 21st century experience for students at regional universities.
- Understand if current measures are appropriate for understanding the complex reality of the 21st century regional student experience.

We undertook to deliver a comprehensive suite of resources, which were:

- a website to provide a public interface to the project, to share project work in progress and to provide access to a suite of resources produced by the project for use across the sector under a Creative Commons Attribution 3.0 Australia license
- a report of the analysis and meta-analysis of existing national and corporate data (e.g. attrition rates, graduate outcomes, withdrawal and fail rates, diversity of the student cohort, participation rates, modes of participation)
- a series of case study reports that highlight good practice and identify emerging trends and challenges as well as opportunities for improving the student experience at regional universities
- a series of good practice vignettes (extracts from the case study reports) that showcase specific examples of current and emerging practice in the participating institutions
- a comprehensive report, *The 21st century regional university student experience*, including recommendations for regional universities, the sector and government for future investigation
- a national symposium to provide an opportunity to discuss and engage with the project's findings and recommendations.

Chapter 2 of this report describes the approach to the project including the project structure, management and the project stages. Chapters 3–5 describe the three investigative stages of the project and report on the findings of each of these stages. Chapter 6 presents the key findings arising from the project and the project outcomes, which are presented as a series of six recommendations for institutions and three pieces of advice for the sector. The report concludes in chapter 7 by reconciling the project's activities with the aspirations set out here.

Chapter 2. Project approach

The approach to the project was collaborative and adopted a distributed leadership model. The University of the Sunshine Coast project leadership team (Nelson, Readman and Stoodley) provided overall support and guidance to each partner institution. Each of the eight participating institutions had an institutional project leader and funding to support a project officer. The institutional project leaders constituted the project team. Each institution (including University of the Sunshine Coast) had a member of the university executive on the project reference group. The responsibilities of each of these groups (project reference group, leadership team and project team) were outlined in terms of reference documents along with other project management activities during stage 0 of the project.

Project structure

The project had a leadership team, project team and reference group (Figure 1).

The project was led by University of the Sunshine Coast, through a project leadership team, which activated and coordinated activities. A project manager, employed by University of the Sunshine Coast, reported to the project co-leaders. The project manager oversaw the operational aspects of the project (including project planning, communications, reporting and monitoring progress), and was responsible for the coordination of project activities and the analysis of the data.

The project team comprised senior university staff from each of the institutional project teams. Each institutional project leader led project activities within their institution and was supported by an institutional project officer, who was employed locally and was responsible for facilitating access to corporate data, conducting the interviews for the case studies and liaising with the project manager to ensure project activities were conducted in a timely way, consistent with the project plan.

The project reference group provided strategic oversight and ensured alignment of project activities with sector priorities.

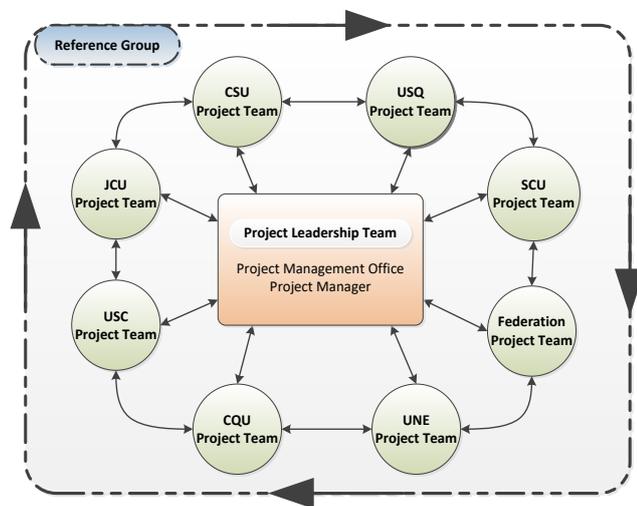


Figure 1. Project structure.

Project management

A project plan set out the details of key activities against the timeframe for each of the five project stages. Progress and milestone management were controlled, tracked and reported against the plan, using the project planning and reporting document provided in Appendix B.

The project leadership team met weekly for the duration of the project, usually in person although web conferencing was used when necessary to maintain communication. Extensive use was made of the web video-conferencing tool Zoom to increase opportunities for face-to-face collaboration while at the same time minimising routine travel costs for such a large and dispersed project. The project team met 10 times during the project. The leadership team met (virtually) with the project reference group four times during the project. An email update to the project reference group was provided between each virtual meeting. The project leadership team initiated regular email updates to the project team, between the face-to-face and virtual meetings.

Project stages

The five-stage project design is illustrated in Figure 2. The design incorporated mixed methods, and both quantitative and qualitative data were collected and analysed in stages 1–3, to provide a robust evidence base to develop the deliverables.

Stage 0: Project infrastructure and setup, including ethics applications, agreements and protocols. Terms of reference³ for the project team and reference group were discussed and agreed. A communication and authorship agreement was developed and accepted by all team members.

Stage 1: Analysis and meta-analysis of existing data sets to reveal what is known. The first stage consisted of an analysis and meta-analysis of existing national and university data, to identify trends that encapsulate the unique features of the regional student experience. Using Kahu’s (2014) framework as a tool to organise data, the antecedent and consequential factors influencing the student experience were identified. Trends in the data about the unique and shared

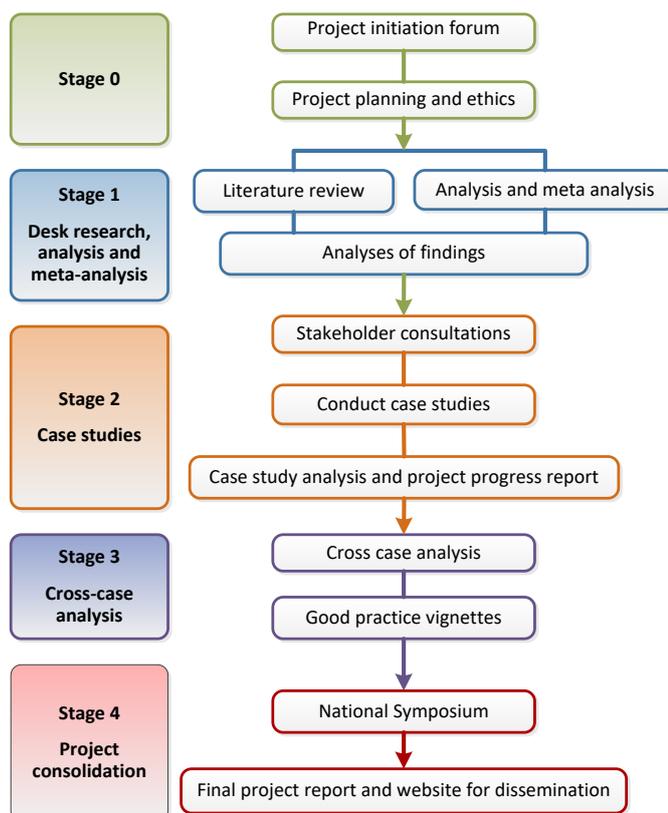


Figure 2. Project stages.

³ Available on the project website at <http://shapingtheregionalstudentexperience.com.au/introduction/operational-documentation/>

features of the student experience at regional universities emerged from this analysis and informed subsequent phases of the project.

Stage 2: Case studies to provide evidence of the influences impacting on the student experience. An exploratory case study was located in each of the participating institutions. The mapping of the case themes and topics against Kahu's framework (2014) showed that the cases had the potential to address the gaps in existing national data sets that had been identified during stage 1 of the project. A case protocol⁴ derived from the project research questions was adopted to ensure quality in the approach to the case. Descriptors for each of the 35 facets in the Kahu framework were provided in a coding guidelines document to ensure consistency in the interpretation of the qualitative data during coding. Each university was responsible for identifying a relevant institutional student experience practice as their case, conducting the case study, and analysing the data and reporting on findings. Each case profiled the characteristics of the institution to provide context and collected qualitative data through semi-structured individual or small-group interviews with students and staff who had participated or were stakeholders in the practice. Details of each group of participants are provided in the case study reports. The semi-structured interview questions were developed from the patterns that emerged from stage 1 of the project and these were used to guide the interviews.

In total, 99 interviews/focus groups were conducted, which consisted of 90 hours of interactions with 110 participants (65 students and 45 staff). Approximately 12 interviews were conducted per university (six with staff and six with students). Interviews were recorded and transcribed (following transcription guidelines) before being analysed using NVivo software (using the coding guidelines document), in a deductive process with reference to Kahu's (2014) framework. Each case study identified themes and produced a report highlighting the influence of the practice on students' experiences. Each case produced a full case study report, including appendices. A two-page case summary report was also produced for quick reference.

Each of the case studies also identified a practice already in place in each participating university that addressed the unique features of the student experience at that institution. These are reported as a series of good practice examples, which are also organised according to the influences in the Kahu framework.

Stage 3: Cross-case analysis to forecast emerging trends and innovations that enrich and strengthen the 21st century student experience. In stage 3 of the project the transcribed data sets from seven of the participating partner institutions were amalgamated into one qualitative data set.⁵ The project leadership team verified the coding with respect to the Kahu framework, to ensure consistency across the data set.

The cross-case analysis enabled the project team to identify the combination of factors that contribute to the student experience in two or more of the institutional initiatives (cases), to compare the impact of the case initiatives, and to identify relationships and themes,

⁴ Available on the project website at

<http://shapingtheregionalstudentexperience.com.au/introduction/operational-documentation/>

⁵ The Ethics approval for one institution's case study did not allow the data to be shared with the project team.

commonalities and differences among the various initiatives that formed the case studies (Kahn & Van Wynsberghe, 2008).

Stage 4: Project consolidation. In the final stage the suite of deliverables arising from stages 1–3 were designed as reusable resources. The following resources were designed and produced as part of the package of materials provided to participants in the national symposium (also a deliverable) and were also loaded to the website (also a deliverable) as easy-access reusable resources:

- an overview of the project including summaries of each stage, key findings and the outcomes (preliminary recommendations and advice)
- a series of eight case summaries
- eight good practice examples.

In addition, the full reports from the eight case studies were loaded to the project website and are available to the sector.

The national symposium was held in Sydney on 8 September and was hosted by the chair of the reference group, Professor Andy Vann, Vice-Chancellor and President, Charles Sturt University. More than 100 people from 24 Australian and two international universities, two service providers to the higher education sector and one other institute attended the symposium. Mr Dom English (Group Manager, Higher Education Group) and Mr Paul Corcoran (Director Grants and Fellowship, Higher Education Group) from the Australian Government Department of Education and Training were also in attendance.

Thirty per cent of attendees provided feedback, which included:

- 'I am very much looking forward to the final report. I think what this project has found is significant beyond the (probable) original goals as definitely not confined to regional-ness and perhaps the findings suggest we should be more careful in our concept of this term when associated with aspects of higher education.'
- 'One of the best I have ever received. Clear, visual and relevant.'
- 'The most important information was the difference between the standard survey data on student experience, the interview data and the Kahu framework of student engagement – there seems a lot of missing information from the national surveys.'
- 'I think far-reaching and will be very informative. I hope it is actually used properly as an evidence base for decision-making.'
- 'I hope the findings will reach and be seriously treated at the very senior levels of university decision-making. The findings of this project have the potential to drive more intelligent decisions than are currently being recognised through 'simple' \$-related reactions.'
- 'Excellent case study format given by individual institutions. Panel discussions were helpful in understanding project context. The most useful information was seeing the cross case study analysis, the vignettes, the key summary points and thinking about how it related more broadly to the sector. Excellent work by the entire team.'

- ‘Thank you to all involved for generously sharing your findings. I appreciate the collaboration and think this framework of joint research is, in itself, a significant contribution the project has made to the tertiary sector. The symposium was particularly refreshing and inspiring.’

The majority of responses to Likert-scale questions (‘poor’/‘reasonable’/‘good’/‘excellent’), were ‘good’ or ‘excellent’ (Table 1) and responses to ‘yes’/‘no’ questions were predominantly positive (Table 2).

Table 1. Answers to Likert-scale questions (n=29)

	Poor	Reasonable	Good	Excellent
The venue and catering were ...	0	2	12	15
The agenda and topics covered were ...	0	2	8	19
The quality of the symposium pack (presentation and contents) was ...	0	1	7	21
The potential for the findings to transform sector practices is ...	0	4	14	11

Table 2. Answers to ‘yes’/‘no’ questions (n=29)

	No	Yes
The information presented at the symposium is useful to the sector.	0	29
I plan to apply something shared during the symposium at my institution.	1	27
The case studies that were presented will assist my institution shape the student experience.	1	27
The good practice examples will assist my institution to enhance the student experience.	0	27
The recommendations are useful to the sector.	0	29

Chapter 3. Stage 1 – Student experience, the Kahu framework and national data

Our project investigated many of the complex elements that influence the student experience and we adopted a comprehensive framework of student engagement as its conceptual and analytical foundation (Kahu, 2014). Kahu's framework situates student engagement (affect, cognition and behaviour) as being influenced by structural and psychosocial factors arising from students, their backgrounds and university culture and practices. The proximal and distal consequences of student engagement are also included in the framework, as is the direct relationship between proximal consequences and psychosocial influences (see the x-axis of Figure 3).

Two types of nationally available data sets were examined for this project. The first set comprised survey data including the 2014 University Experience Survey (continuing student data) and the 2015 Australian Graduate Survey (similar cohorts). The second set consisted of data made available by the eight participating institutions for the purposes of this project. The items in each of the surveys and the institutional student data items were mapped onto the 35 attributes in the Kahu framework. The mapping was independently verified by the project team and the project evaluator, and refined following that process. A simple count of items against the attributes in the framework was used to provide a visual representation of the available data (see 'national data' line in Figure 3). Using this process, we determined that key data that provide details of students' experiences of higher education were missing from the existing national data sets. Stage 1 of the project confirmed our initial contention that these missing data may be critical to developing a deeper understanding of the reasons students persist or leave university.

In particular, Kahu's framework points to the importance of students' emotions and well-being in contributing to a positive university experience. However, when the items from the two sets of existing data were mapped against the facets of the Kahu framework, we found there was a paucity of data available about these key influences on student engagement.

Usefully, this finding showed the types of data that needed to be collected by the case studies to be conducted in stage 2 of the project and it also indicated that a new set of metrics as we anticipated might be needed.

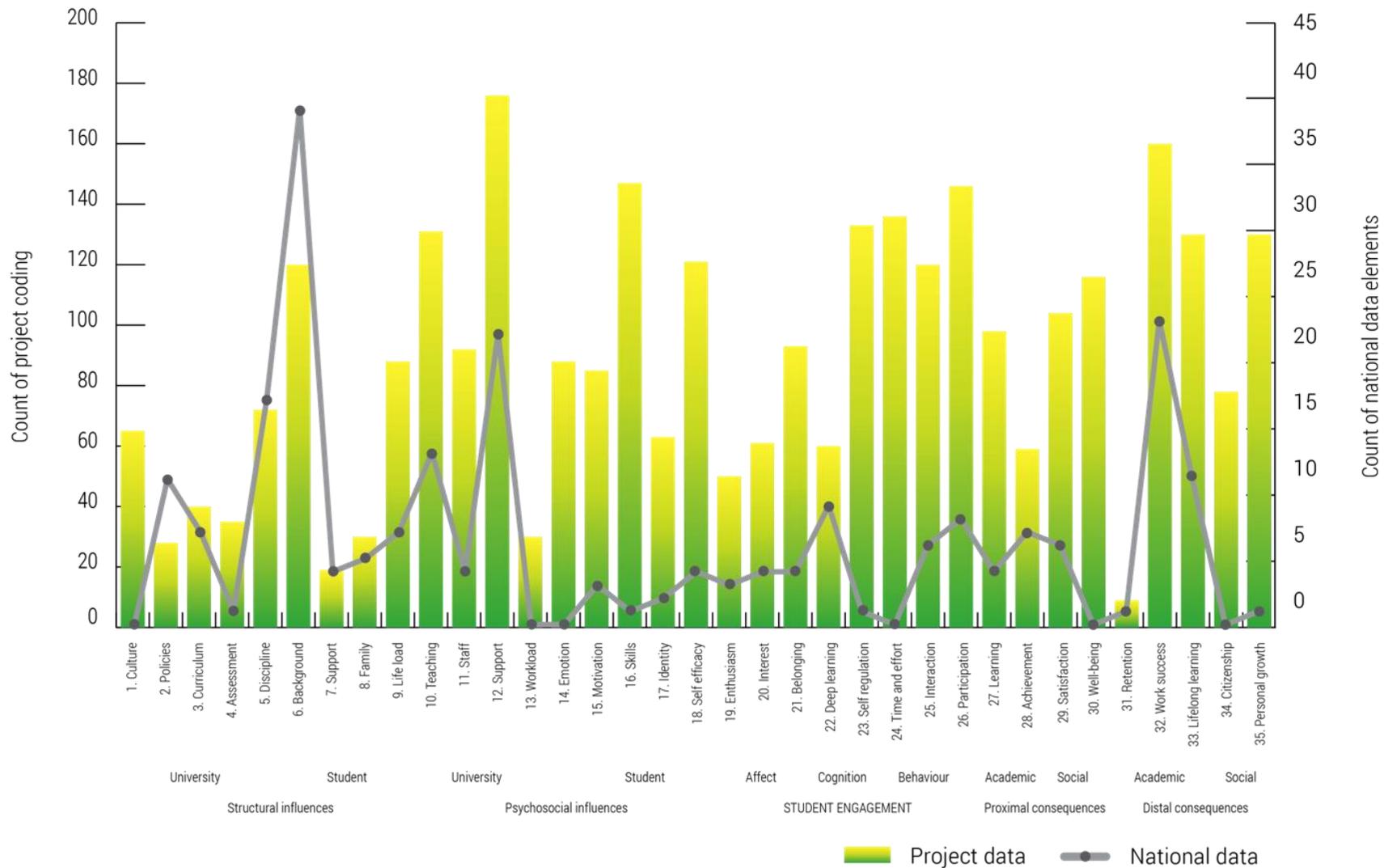


Figure 3. Current available data elements mapped to the Kahu framework of student engagement constructs.

Chapter 4. Stage 2 – Case studies

Based on the findings arising from stage 1 of the project, each of the participating partner institutions selected a student experience initiative that was believed to ‘shape the 21st century student experience’ as the focus of their case study. Table 3 shows how the eight cases were situated according to the Kahu framework. Detailed examples of most frequently used data codes situated according to the Kahu framework in comparison to other institutions are shown in Appendix C.

Table 3. Situating the case studies in the Kahu framework

University	Structural – university	Structural – student	Psychosocial – university	Psychosocial – student
Charles Sturt University	x			x
University of the Sunshine Coast	x			x
University of New England	x			x
Southern Cross University	x		x	
James Cook University	x		x	
University of Southern Queensland			x	x
Central Queensland University			x	x
Federation University Australia		x		x

Each case study gathered data on the initiative and its activities that positively influenced the student experience. After coding the data according to the Kahu framework, the counts of NVivo nodes for each attribute of the framework were mapped and compared with the national data sets. This mapping is shown in Figure 3.

A comparison of the mapping of the national data and the data analysed by the case studies shows that it was possible to collect data that provide a deeper understanding of the processes shaping the student experience.

Case summaries and detailed reports of the case studies are available through the project website, <http://shapingtheregionalstudentexperience.com.au/deliverables/>.

The case studies developed findings relative to their context and each had a key finding that provides some explanation about how the institutional initiative was positively shaping the student experience. The case study initiative and key findings are summarised in Table 4.

Table 4. Partner institutions – case studies

Institution	Initiative investigated for case study	Case study key finding
Charles Sturt University	Workplace learning program at a regional university	Workplace learning shapes the student experience
Central Queensland University	Pre-enrolment interviews designed to communicate program requirements	Early people-rich intervention improves transition and first year retention
Federation University Australia	Centrally provided student academic and transition support services and programs	Student support promotes 21st century student engagement in a regional context
James Cook University	Peer-to-peer student mentoring program	Peer support and advising enhance the student experience
Southern Cross University	Preparing for Success Program (non-award enabling program)	Enabling pathways lead to successful outcomes
University of New England	New England Award Program	Citizenship and graduate attributes enrich the student experience
University of Southern Queensland	Compulsory first-year core courses that embed core online and university literacies	Embedded and scaffolded course design enhances students' online learning experiences
University of the Sunshine Coast	Work-integrated learning when it is not an embedded component of the program	Work-integrated learning enhances graduate capabilities, employment and career opportunities

The details in Table 3 were used to develop the series of eight good practice examples identified in the institutional case studies (Table 5).

Table 5. Case study good practices

Aspect of the Kahu framework and good practices that influence student engagement	Good practice examples
1. University structures and governance <i>Focus the culture, policy and curriculum on engaging students</i>	1.1 University of New England: institutionalise adaptable extra-curricular programs to inspire student to engage with their communities as part of their learning 1.2 University of Southern Queensland: Commit to whole –of-program, embedded approaches to enhancing digital literacy and fluency with online teaching and learning modes
2. Student background <i>Aim to lessen access challenges by increasing student engagement</i>	2.1 Central Queensland University: Begin students transition to university with personalised two-way interaction to discuss students' needs in relation to inherent program requirements 2.2 Federation University Australia: Select and support high-quality and enthusiastic student leaders to facilitate positive interactions among less experienced peers in the transition to university
3. University practices <i>Leverage quality teaching, staff engagement and student support to positively impact on student emotion</i>	3.1 Southern Cross University: Orient the curriculum and teaching in formal transition programs to enable student success while supporting them to manage life-load and other structural challenges 3.2 Charles Sturt University: Use technologies to support relationship development among students, supervisors and academics, and to strengthen work place learning experiences
4. Student psychosocial factors <i>Programs which activate students' motivation and self-efficacy assist in building identity and engagement</i>	4.1 James Cook University: Promote and resource mentor programs to support new students as they negotiate the structural environment of the university 4.2 University of the Sunshine Coast: Work with students to design opportunities for innovative authentic work integrated learning in programs where there is not an embedded placement component

Chapter 5. Stage 3 – Cross-case analysis

An amalgamation and re-analysis of the data sets from seven of the eight participating institutions produced a rich set of qualitative data and allowed the relationships between various aspects of the student experience to be explored. This process consisted of a number of steps (examples of the tools used during this process are in the appendices indicated):

- a simple count of codes against each of the attributes in the Kahu framework (Appendix D)
- identification of possible patterns indicated by clusters of associated codes (Appendix E)
- development of a set of six propositions to describe relationships between codes (Appendix F)
- a detailed assessment of the strength of the evidence for these relationships (Appendix G), which included:
 - intercoding – coding across two elements
 - continuous coding – coding linking facets across three elements
 - span coding – coding embracing three elements
 - intracoding – coding within the narrative elements
- development of tools to visualise the strengths of these relationships.
- refinement of the original six propositions into a final set of five key findings, expressed as narratives.

Chapter 6. Stage 4 – Findings and outcomes

Key findings

The key findings of this project are new and insightful information about the student experience, not just in regional universities but for all students and institutions irrespective of their makeup, history or strategic direction. Although numerous studies and reports have detailed positive outcomes of initiatives such as student support, peer programs, good teaching practices and well-designed curriculum (see Nelson, et al., 2012; for a summary of practices relevant to the first-year experience), to date no insights have been available about how these types of initiatives actually work and why it is that some students, irrespective of their backgrounds, persist to complete their studies and others do not. The key findings of this project provide that insight and explanation. Each of the key findings has been translated into implications for practice, making the findings from this study available for immediate take up across the sector.

Critical first encounters

When students encounter intentionally designed curriculum and support interventions, student emotion is enhanced and positive psychosocial (motivation, skills, self-efficacy and identity) responses are triggered.



What this means in practice is that curricula and co-curricular initiatives should be intentionally designed and implemented to activate motivation, skills, identity and self-efficacy.

Evidence: Of all the data collected, 46% were relevant to critical first encounters.

Compensatory effect

Positive psychosocial responses increase student engagement, which in turn increases learning outcomes, student satisfaction and well-being.



What this means in practice is that initiatives designed and implemented to strengthen student motivation, skills, identity and self-efficacy will positively influence student engagement and mitigate previous disadvantage.

Evidence: Of all the data collected, 50% were relevant to the compensatory effect.

Constructive cycle

Positive psychosocial responses increase student engagement, which in turn increases learning outcomes, student satisfaction and well-being.



What this means in practice is that institutions are responsible for creating environments that engage students to achieve positive learning outcomes.

Evidence: Of all the data collected, 54% were relevant to the constructive cycle.

Capacity building

Student engagement increases students' academic and social outcomes, and builds capacity for post-university contributions and civic life.



What this means in practice is that all disciplines should develop students' 21st century skills in context.

Evidence: Of all the data collected, 54% were relevant to capacity building.

Cultural change

Achievement, satisfaction and retention generate enduring changes, which can break intergenerational cycles of disadvantage and therefore bridge sociocultural incongruence between under-represented groups, and university cultures and systems.



What this means in practice is that improving the outcomes for current students also redresses inherent inequalities.

Evidence: Of all the data collected, 44% were relevant to cultural change.⁶

⁶ Images created by, in order: 1. Gerald Wildmoser 2. Wesley Hare 3. Hea Poh Lin 4. Marek Polakovic 5. Hea Poh Lin, all from the Noun Project.

Outcomes: recommendations and advice

Based on the key findings, and through a series of recommendations for institutions and advice for the sector, this project provides a robust evidence base and clear direction for shaping the 21st century student experience. This project has provided insights that were previously unknown about the regional student experience, which are relevant across the Australian higher education sector and beyond. The six recommendations provide direction for institutions while the three pieces of advice are directed more broadly at the sector to ensure that meaningful data are gathered and analysed to inform university decision making so that institutions are better able to meet the needs of their students and that the sector has a richer more reliable set of data with which to assess the impact of university practices on the student experience.

Recommendations for institutions

- Intentionally design and enact administrative practices, including admissions pathways, to ensure all students are able to participate fully in the university's formal and informal activities.
- Intentionally design all curricula and co-curricular activities to activate student motivation, build academic skills, promote discipline and student identity, and develop students' self-efficacy.
- Design and universally implement curricula and co-curricular interventions to ensure that previous disadvantage and structural risk factors are mitigated through systematic institutional practices that privilege behavioural, cognitive and affective student engagement.
- Assure quality in learning, teaching and student experience practices, measured by positive student learning outcomes and achievement, and high levels of student satisfaction and well-being.
- Focus, within discipline curricula, on developing future-proof employability skills, including advanced digital literacy, enterprising skills and entrepreneurship.
- Minimise the sociocultural incongruence between communities and higher education institutions through sustained attention to cultural, structural and practical organisational change.

Advice for the sector

- Provide access to information about students' movements, over time and among institutions.
- Review the learner engagement scale in the Student Experience Survey, to ensure the collection of data is aligned with contemporary understandings of student engagement.

Review indicators in the Student Experience Survey, the Graduate Outcome Survey, the Course Experience Questionnaire and the Employer Satisfaction Survey to ensure the collection of information about students' engagement, experiences and skills is aligned with the key findings of this study.

Chapter 7. Conclusion

The overarching aim of this project was to conduct a comprehensive analysis of the student experience at regional universities with a view to informing and shaping the experiences for future students. This aim was achieved by adopting a conceptual and analytical framework that was used throughout the study, conducting and quality assuring the case studies by adopting a shared case protocol, and iteratively developing a set of key findings using multiple assessments of the perceived relationships between constructs present in the data.

The project has created a rich evidence base about the 21st century student experience. In particular the 21st century student experience in regional universities has been described through a series of eight case studies, each of which provided insights into students' experiences of particular activities in their learning environment. Each case was focused on a specific initiative – such as work-integrated learning, peer-provided support or a specific curricular activity – that was widely regarded for enabling student success. However, very little was previously known about how these initiatives actually enable and support students' experiences. This project has provided this new knowledge and an improved understanding of how eight regional universities in Australia are responding to the demands of the 21st century that affect the undergraduate student experience.

Four good practices that positively influence the student experience were identified from the case studies. These have been expressed as eight examples of good practice that positively shape the experience of students enrolled in university. These practices are relevant to all universities, not just regional universities.

This project has identified effective strategies that can be deployed to help students, whatever their background, to complete their studies. The project's five key findings can be considered as challenges for institutions wishing to create environments that positively support and enable student learning. Each key finding is expressed as a narrative with implications for practice.

Our project has confirmed that while being a student at a regional university or being a regional university has distinctive features, neither of these are determinative of student success. The findings are relevant to all institutions that wish to maximise the opportunities for students to succeed and provide the best possible educational experience for their students.

The project has identified that the current data sets do not adequately measure key aspects of student experience and that an additional set of metrics is required to more accurately assess the impact of institutional practices on the student experience. These metrics are applicable to all students and institutions and should be part of routine national data collection processes.

The project outcomes include six recommendations for institutions and three pieces of advice for the sector. These arise from the project findings and provide clear direction for improving practices to better engage students in learning. The six recommendations focus attention on how institutions can design initiatives that shape students' learning experiences and positively impact on engagement, success and retention. The three pieces of advice offer

direction for the review of existing national data sets, to ensure that data to accurately measure student engagement are available to assess the efficacy of institutional practices.

All of the planned deliverables set out in chapter 1, and some additional methodological tools, have been produced and are housed on the project website.

The project has already begun to and will continue to raise awareness about the unique nature of the 21st century student experience in regional universities. As shown in Appendix H the findings are disseminated to a broad geographical audience through various event fora.

Importantly, this project has provided the capacity, through its robust research process and evidence base, for regional and all universities to design, establish and evaluate environments that support the experience and success of their student populations now and into the future. This project has provided clear evidence that institutional practices designed to positively influence student engagement enhance the student experience and mitigate previous disadvantage.

The recommendations, advice and practices made available through this project will help ensure the outcomes for students enrolled in regional institutions are equivalent to those of their city-based institutional peers.

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Appendix A. Certification

Certification by Acting Vice-Chancellor & President

I certify that all parts of the final report for this OLT grant provide an accurate representation of the implementation, impact and findings of the project, and that the report is of publishable quality.

Name: Professor Roland De Marco

Date: 5 June 2018

Signature:



Professor Roland De Marco

Acting Vice-Chancellor

University of the Sunshine Coast

Appendix B. Tracked timeline

Tracked timeline

Shaping the 21st Century Student Experience

22/09/16

Project/Stage	2015												2016										
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		
Setup																							
Employment of staff and ethics application	X																						
Develop principles of project data			X	X																			
Agree a publication protocol/set of principles			X																				
Agree final evaluation framework and activities			X																				
Meetings (F2F=Face to Face, V=Virtual)																							
Project team Leaders	F2F		2-Jun			F2F 7	V 8th	V 22nd				V 9th			V	V 21&23	V	V 24&29	V 9th				
Reference Group meetings			25-May						Chair 21st	V 10th		V 7&10		Chair 16th	V 15th		Chair 20th	V 10th					
Project Leadership team (weekly)	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F	F2F		
Project team members/officers																							
Evaluator			V			3rd, 24th			23rd			8th											
Activities																							
Develop and maintain the project website (D1)			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Match data against Kahui model		X	X	X																			
Conduct the meta-analysis and produce report (D2)			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Development of Case Studies (D3)																							
Central Queensland University								Prop	Eth			Int, Tr	An			Rep							
Charles Sturt University								Prop	Eth			Int	Tr, An			Rep							
Federation University of Australia									Prop, Eth			Int, Tr				Rep							
James Cook University								Prop	Eth			Int, Tr			An	Rep							
Southern Cross University									Prop, Eth			Int	Tr	An		Rep							
University of New England									Prop, Eth			Int, Tr	An			Rep							
University of Southern Queensland									Prop, Eth			Tr	Int, Tr, An			Rep							
University of the Sunshine Coast								Prop, Eth	Int							Rep							
Cross-case analysis														14-15	X	X							
Gather further qualitative data if necessary														X	X								
Develop series of good practice vignettes (D4)														X	X	X							
Interim project report								24th				23rd		5th									
Produce the final report (D5)																					30th		
Define additional set of metrics (D5)																X	X	X					
Finalise website resource (D1)																X	X	X			X		
Finalise information package for evaluator																		X	X		X		
Financial acquittal																					1st		
Dissemination events																							
HERDSA Conference																		4-7th					
STARSA Conference																	29/6 to 2/7						
CADAD Meetings/Conference		X								X				X									
National Symposium (D6)																				8th			
Communications																							
Project team Leaders				Email		Email			Email		Email			Email		Email		Email					
Reference Group						Email					Email												
Media Release									X												X		
											Colours:	On track	X	Caution	X	Missed	X	Adjustments	X				

Appendix C. Case studies and the Kahu framework

The case studies provided detailed examples of a range of Kahu framework aspects (see Table 1).

Table 6 Kahu codes most frequently used

	Structural influences		Psychosocial influences			Student Engagement			Proximal consequences		Distal consequences	
	<i>University</i>	<i>Student</i>	<i>University</i>	<i>Emotion</i>	<i>Student</i>	<i>Affect</i>	<i>Cognition</i>	<i>Behaviour</i>	<i>Academic</i>	<i>Social</i>	<i>Academic</i>	<i>Social</i>
CSU	Culture (1)** Policy (3)	Lifeload (2)	Teaching (2) Support (4)						Learning (2)	Well being (4)		
USC					Skills (1)		Deep learning (2)	Interaction (1) Participation (4)	Learning (4)		Work success (4)	Citizenship (3)
UNE	Culture (1)			Emotion (1)		Belonging (1)		Interaction (1) Participation (2)	Achievement (1)		Work success (1)	Citizenship (4) Personal growth (1)
SCU		Background (4) Support (2) Lifeload (4)			Motivation (2) Skills (4) Self-efficacy (4)							
JCU		Background (3)		Emotion (3)	Motivation (2)	Interest (1) Belonging (4)		Time and effort (4) Interaction (2)				
USQ	Policy (1) Curriculum (2)	Background (3)	Teaching (4)		Motivation (1) Skills (4) Self-efficacy (2)	Belonging (1)		Participation (2)				
CQU			Support (2)	Emotion (1)	Motivation (1)							Personal growth (1)
Fed Uni	Culture		Support	Emotion				Interaction	Well being			

**Quartile of student data coding in brackets, in comparison to other partner institutions (seven institutions only)... 1 = in lowest quartile, 4 = in highest quartile.

Appendix D. Coding count

Framework aspect			Count			
Element	Dimension	Facet	Facet	Dimension	Element	Framework
Structural influences	University	1. Culture	65	240	497	3113
		2. Policies	28			
		3. Curriculum	40			
		4. Assessment	35			
		5. Discipline	72			
	Student	6. Background	120	257		
		7. Support	19			
		8. Family	30			
		9. Lifeload	88			
Psychosocial influences	University	10. Teaching	131	429		
		11. Staff	92			
		12. Support	176			
		13. Workload	30			
	Emotion	14. Emotion	88	88		
	Student	15. Motivation	85	416		
		16. Skills	147			
		17. Identity	63			
18. Self efficacy		121				
Student Engagement	Affect	19. Enthusiasm	50	204		
		20. Interest	61			
		21. Belonging	93			
	Cognition	22. Deep learning	60	193		
		23. Self regulation	133			
	Behaviour	24. Time and effort	136	402		
25. Interaction		120				
26. Participation		146				
Proximal consequences	Academic	27. Learning	98	157		
		28. Achievement	59			
	Social	29. Satisfaction	104	220		
		30. Well-being	116			
Distal consequences	Academic	31. Retention	9	299		
		32. Work success	160			
		33. Lifelong learning	130			
	Social	34. Citizenship	78	208		
		35. Personal growth	130			

Appendix E. Coding analysis tools

NVivo provides visual representations of coding. Coding stripes alongside the text show where codes occur. By applying text or coding queries it possible to focus on specific text and coding.

Data was also exported from NVivo and imported into Excel, where specialist charts were developed. Slope charts graphed the links revealed in the coding and Ribbon graphs⁷ illustrated the relative strengths of the links. These tools were integrated into the Excel spreadsheet data file and were able to be filtered to show the relevant graphing for specific narratives and coding strengths.

NVivo coding stripes

In NVivo, coding stripes show where codes occur in the text. These provide an intuitive means of discerning coding density and where coding overlaps. For example, in Figure 1 coding for Citizenship and Work success co-locate in the text shown.

Interviewer

Can you give me some examples of the activities you did?

Participant

Through the I got involved in door knocking for the Salvation Army locally, work experience in different sectors in my employment, so I was able to leverage the to get some different work experience opportunities which was really awesome. Without the maybe I might have asked, but I really don't think I would have had that trigger to put the word on someone to say , hey I'm interested in doing this. Other fundraising things, something for LifeLine. I clearly remember the first one, because that keyed in really well because I didn't know anyone in my street.

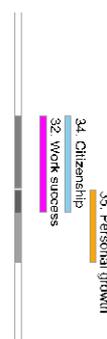


Figure 4 NVivo coding stripes example

Slope charts

In the Slope charts, graph lines provide an easily read mapping of connections, which we took with this data to indicate conceptual links in participants' experience. For example, in Figure 2 Emotion is linked to Belonging, which is in turn linked to Well-being. These charts also indicate influential facets, where multiple lines concentrate on a single facet, for example in Figure 2 with Participation linking to Learning, Satisfaction and Well-being.

⁷ Acknowledgements to The Frankens Team for sharing their charting <https://sites.google.com/site/e90e50/documento-plinius/frankens-team>

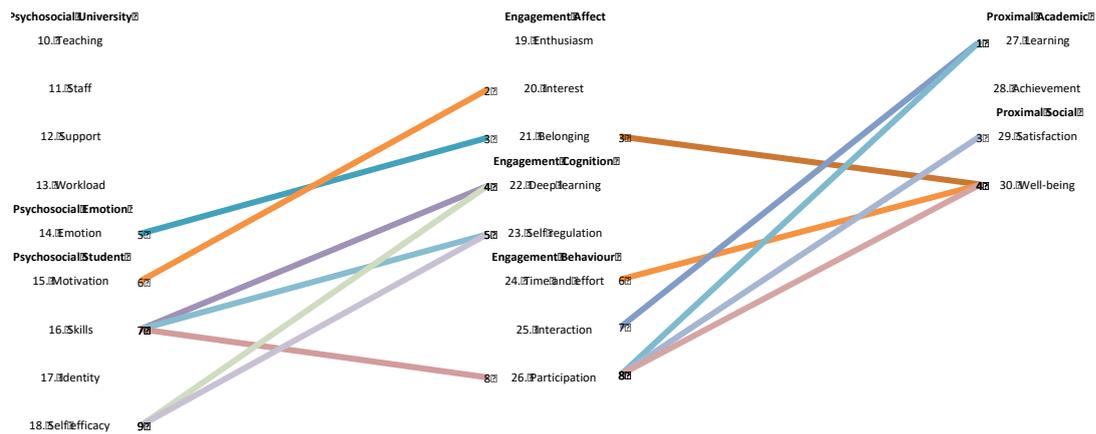


Figure 5 Constructive cycle 2nd quartile Slope chart example

Ribbon graphs

In the Ribbon graphs, the amount of the circle's circumference occupied by a facet indicates its proportion of the count of the links displayed in the graph – the larger the facet's arc the more links are associated with it. The thickness of the ribbon connecting the facets indicates the strength of the link between them (i.e. the count of cross-codes). For example, in Figure 3 it is apparent on the circumference that Self efficacy has more coding links than Motivation, and that the link between Skills and Self efficacy is stronger than the link between Skills and Motivation.

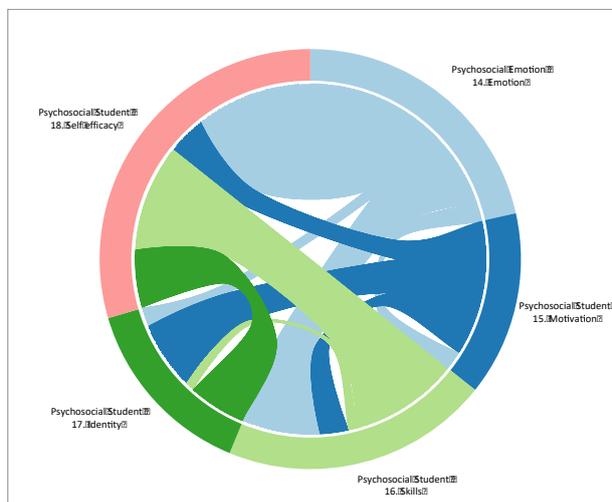


Figure 6 Constructive cycle 2nd quartile Ribbon graph example

Appendix F. The initial propositions

Critical first encounters - when students encounter intentionally designed curriculum and support interventions, student emotion is enhanced and positive psychosocial (motivation, skills, self-efficacy and identity) responses are triggered.

Compensatory effect - positive psychosocial influences increase student engagement and reduce the impact of previous disadvantage and structural risk factors.

Virtuous cycle - positive psychosocial responses increase student engagement, which in turn increases learning outcomes, student satisfaction and well-being.

Capacity building - student engagement increases students' academic and social outcomes and builds capacity for post-university contributions/life.

Enduring change - achievement, satisfaction and retention generate enduring changes which can break intergenerational cycles of disadvantage.

Bridging socio-cultural incongruence - success in higher education closes the gap between under-represented groups and university cultures and systems.

Appendix G. Coding Analysis

Introduction

This describes the method adopted to assess the strength of support in the data for each of the project narratives (key findings). The method traces the appearance of influences (data coded in NVivo) across the Kahu framework (which is organised in a hierarchy of Elements, Dimensions and Facets), by examining the relationships between relevant cross codes. Cross coding occurs when interview text is coded against two or more facets of the Kahu framework, indicating a conceptual association for the participant.

The data set was comprised of:

- Project case studies
 - 110 participants (65 students and 45 staff)
 - 90 hours of interactions
 - 99 interviews or focus groups
- Transcribed data sets from seven case studies
 - 390,000 words
 - 3,113 codes
 - 1,934 cross codes (where two codes coincide)

Evidence assessment method

Four kinds of coding were used to assess the strength of the conceptual associations in the data. An initial set of six propositions developed from the cross case analysis were reviewed using these four coding types and subsequently revised to the final set of five key finding narratives. The coding types are:

- Relationships between relevant framework Elements e.g. between Structural influences and Psychosocial influences (indicating connections between aspects of the narrative), named ***inter coding***
- Relationships within relevant framework Elements e.g. between facets of the Structural-Student Dimension (indicating the internal building cycle of the narrative), named ***intra coding***
- Continuity of relationships across relevant framework Elements (when crossing three Elements) e.g. between a Structural influence facet and a Psychosocial influence facet, then between that Psychosocial influence facet and a Student Engagement facet (indicating lines of influence through the narrative), named ***continuous coding***
- Relationships spanning relevant framework Elements (when crossing three Elements) e.g. between Structural influences and Proximal consequences (indicating overall cohesion of the narrative), named ***span coding***

The rationale used to assess evidence strength is in Table 1 (arranged by quartile) and Table 2 (arranged by coding type), determined by considering the presence of the four kinds of cross coding. Quartiles indicate increasing evidence strength, calculated by dividing the maximum relevant count into quarters. Thus, the 4th quartile is the top 25% of counts for the concept under examination.

Table 1 Rationale used to assess evidence strength – by quartile

Vocab	Presence*											
	2 nd quartile				3 rd quartile				4 th quartile			
	Inter	Span	Intra	Cont	Inter	Span	Intra	Cont	Inter	Span	Intra	Cont
Limited	1-4	1-3	1-2	1-2	1	1	1	1	0	0	0	0
Some	5-7	4-6	3-4	3-4	2	2	2	2	1	1	1	1
Good	8-10	7-8	5	5	3-4	3-4	3-4	3	2	2	2	2
Strong	11+	9+	6+	6+	5+	5+	5+	4+	3+	3+	3+	3+

Table 2 Rationale used to assess evidence strength – by coding type

Vocab	Presence*											
	Inter			Span			Intra			Cont		
	2 nd	3 rd	4 th	2 nd	3 rd	4 th	2 nd	3 rd	4 th	2 nd	3 rd	4 th
Limited	1-4	1	0	1-3	1	0	1-2	1	0	1-2	1	0
Some	5-7	2	1	4-6	2	1	3-4	2	1	3-4	2	1
Good	8-10	3-4	2	7-8	3-4	2	5	3-4	2	5	3	2
Strong	11+	5+	3+	9+	5+	3+	6+	5+	3+	6+	4+	3+

* Numbers refer to count of cross coding instances; Inter = Relationships between relevant framework aspects, Span = Relationships spanning relevant framework aspects, Intra = Relationships within relevant framework aspects, Cont = Continuity of relationships across relevant framework aspects

It is noteworthy that the evidence for the narratives, in accordance with this rationale, is *good or strong*.

Applying the method to the narratives

Each narrative below is assessed using the four kinds of cross coding.

Note that continuous and span coding only apply to those narratives embracing three elements of the framework. Also, some narratives include only some dimensions of some elements of the framework (according to what the data revealed about that aspect of the student experience).

All figures are counts of coding. The term ‘quartile’ is used to represent the coding count in levels of increasing frequency, which is taken to indicate increasing strength of relationship between the framework elements and thus increasing confidence of conceptual connection in the experience of the participants. The quartiles are cumulative, calculated by dividing the maximum count found for coding relevant to the narrative into quarters (Table 3).

Table 3 Code count quartile

Quartile	4 th	3 rd	2 nd	1 st
Calculation	75-100%	50-75%	25-50%	0-25%
Accumulation	Top 25%	Top 50%	Top 75%	All

The codes occurring only in the 1st quartile are excluded from the analysis, in order to account for chance occurrence.

Coding from the whole data set, both Students and Staff, is included. ⁸

Narrative A. Critical first encounters

When students encounter intentionally designed curriculum and support interventions, student emotion is enhanced and positive psychosocial (motivation, skills, self-efficacy and identity) responses are triggered.

The Kahu aspects relevant to this narrative are:

- Structural influences, and
- Psychosocial influences.

The assessment for Narrative A included:

- Inter coding to assess relationships between elements of the Kahu framework (Table 4)
- Intra coding to assesses relationships within one Element of the Kahu framework (Table 5)

The details of these assessments are below.

Table 4 Narrative A Inter coding that revealed relationships between Kahu Elements

	Structural	Psychosocial
4 th quartile	2 links	
	Background	Motivation
	Background	Skills
3 rd quartile	4 th quartile + 3 links	
	Background	Self efficacy
	Discipline	Teaching
	Discipline	Skills
2 nd quartile	3 rd & 4 th quartiles + 6 links	
	Culture	Staff
	Curriculum	Teaching
	Background	Teaching
	Background	Support
	Lifeload	Workload
Lifeload	Emotion	

⁸ Constraints associated with institutional ethics approvals mean that the consolidated data set contains data from seven of the eight participating universities.

Table 5 Narrative A Intra coding that revealed relationships within the Kahu Elements

	Structural		Psychosocial	
4 th quartile	3 links		4 links	
	Culture	Policies	Teaching	Skills
	Discipline	Background	Staff	Support
	Family	Lifeload	Emotion	Self efficacy
3 rd quartile	4 th quartile + 3 links		4 th quartile + 4 links	
	Culture	Background	Teaching	Support
	Background	Lifeload	Support	Emotion
	Support	Family	Emotion	Skills
			Motivation	Identity
2 nd quartile	3 rd & 4 th quartiles + 4 links		3 rd & 4 th quartiles + 5 links	
	Culture	Curriculum	Teaching	Staff
	Curriculum	Discipline	Support	Skills
	Assessment	Discipline	Support	Self efficacy
	Background	Family	Motivation	Skills
			Identity	Self efficacy

Narrative B. Compensatory effect

Positive psychosocial influences increase student engagement and reduce the impact previous disadvantage and structural risk factors.

The Kahu aspects relevant to this narrative are:

- Structural influences – Student dimension,
- Psychosocial influences – Emotion and Student dimensions, and
- Student engagement.

The assessment for Narrative B included:

- Inter coding to assess relationships between elements of the Kahu framework (Table 6)
- Continuous coding to assess relationships across three elements of the Kahu framework (Table 7)
- Span coding to assess relationships between codes in three elements of the Kahu framework (Table 8)
- Intra coding to assesses relationships within one Element of the Kahu framework (Table 9)

The details of these assessments are below.

Table 6 Narrative B Inter coding that revealed relationships between Kahu Elements

	Structural-Student	Psychosocial-Emotion & -Student	Engagement
4 th quartile	2 links		2 links
	Background	Motivation	Motivation Interest
	Background	Skills	Skills Self regulation
3 rd quartile	4 th quartile + 1 link		4 th quartile + 5 links
	Background	Self efficacy	Emotion Belonging
			Skills Deep learning
			Skills Participation
			Self efficacy Deep learning
		Self efficacy Self regulation	

2 nd quartile	3 rd & 4 th quartiles		3 rd & 4 th quartiles + 11 links	
			Emotion	Self regulation
			Emotion	Interaction
			Emotion	Participation
			Motivation	Self regulation
			Motivation	Time & effort
			Skills	Interaction
			Identity	Interest
			Identity	Self regulation
			Identity	Interaction
		Self efficacy	Time & effort	
		Self efficacy	Participation	

Table 7 Narrative B Continuous coding that revealed continuous relationships across Kahu Elements

	Structural-Student	Psychosocial-Emotion	Engagement
4 th quartile	2 strings		
	Background	Motivation	Interest
	Background	Skills	Self regulation
3 rd quartile	4 th quartile + 4 strings		
	Background	Skills	Deep learning
	Background	Skills	Participation
	Background	Self efficacy	Deep learning
	Background	Self efficacy	Self regulation
2 nd quartile	3 rd & 4 th quartiles + 5 strings		
	Background	Motivation	Self regulation
	Background	Motivation	Time & effort
	Background	Skills	Interaction
	Background	Self efficacy	Time & effort
	Background	Self efficacy	Self regulation

Table 8 Narrative B Span coding that revealed relationships spanning 3 Kahu elements

	Structural-Student	Engagement
4 th quartile	1 link	
	Lifeload	Time and effort
3 rd quartile	4 th quartile + 0 links	
2 nd quartile	3 rd & 4 th quartiles + 2	
	Background	Interest
	Lifeload	Self regulation

Table 9 Narrative B Intra coding that revealed relationships within Kahu Elements

	Structural-Student		Psychosocial-Emotion & -Student		Engagement	
4 th quartile	1 link		2 links		1 link	
	Family	Lifeload	Emotion	Self efficacy	Self regulation	Time & effort
			Skills	Self efficacy		
3 rd quartile	4 th quartile + 2 links		4 th quartile + 2 links		4 th quartile + 1 link	
	Background	Lifeload	Emotion	Skills	Belonging	Interaction
	Support	Family	Motivation	Identity		
2 nd quartile	3 rd & 4 th quartiles + 1 link		3 rd & 4 th quartiles + 2 links		3 rd & 4 th quartiles + 5 links	
	Background	Family	Motivation	Skills	Interest	Participation
			Identity	Self efficacy	Belonging	Participation
					Self regulation	Participation
					Time & effort	Participation
				Interaction	Participation	

Narrative C. Constructive cycle

Positive psychosocial responses increase student engagement, which in turn increases learning outcomes, student satisfaction and well-being.

The Kahu aspects relevant to this narrative are:

- Psychosocial influences – Emotion and Student dimensions,
- Student engagement, and
- Proximal consequences.

The assessment for Narrative C included:

- Inter coding to assess relationships between elements of the Kahu framework (Table 10)
- Continuous coding to assess relationships across three elements of the Kahu framework (Table 11)
- Span coding to assess relationships between codes in three elements of the Kahu framework (Table 12)
- Intra coding to assesses relationships within one Element of the Kahu framework (Table 13)

The details of these assessments are below.

Table 10 Narrative C Inter coding that revealed relationships between Kahu Elements

	Psychosocial-Emotion & -Student	Engagement	Proximal
4 th quartile	2 links		2 links
	Motivation	Interest	Belonging Well-being
	Skills	Self regulation	Time & effort Well-being
3 rd quartile	4 th quartile + 5 links		4 th quartile + 4 links
	Emotion	Belonging	Interaction Learning
	Skills	Deep learning	Participation Learning
	Skills	Participation	Participation Satisfaction
	Self efficacy	Deep learning	Participation Well-being
2 nd quartile	3 rd & 4 th quartiles + 11 links		3 rd & 4 th quartiles + 14 links
	Emotion	Self regulation	Enthusiasm Satisfaction
	Emotion	Interaction	Enthusiasm Well-being
	Emotion	Participation	Deep learning Learning
	Motivation	Self regulation	Deep learning Satisfaction
	Motivation	Time & effort	Self regulation Learning
	Skills	Interaction	Self regulation Achievement
	Identity	Interest	Self regulation Satisfaction
	Identity	Self regulation	Self regulation Well-being
	Identity	Interaction	Time & effort Achievement
	Self efficacy	Time & effort	Time & effort Satisfaction
	Self efficacy	Participation	Interaction Satisfaction
			Interaction Well-being
		Participation Achievement	

Table 11 Narrative C Continuous coding that revealed continuous relationships across Kahu Elements

	Psychosocial-Emotion & -Student	Engagement	Proximal
4 th quartile	None		
3 rd quartile	4 th quartile + 4 strings		
	Emotion	Belonging	Well-being
	Skills	Participation	Learning
	Skills	Participation	Satisfaction
2 nd quartile	3 rd & 4 th quartiles + 47 strings		
	Emotion	Self regulation	Learning
	Emotion	Self regulation	Achievement

	Emotion	Self regulation	Satisfaction
	Emotion	Self regulation	Well-being
	Motivation	Self regulation	Learning
	Motivation	Self regulation	Achievement
	Motivation	Self regulation	Satisfaction
	Motivation	Self regulation	Well-being
	Motivation	Time & effort	Achievement
	Motivation	Time & effort	Satisfaction
	Motivation	Time & effort	Well-being
	Skills	Deep learning	Learning
	Skills	Deep learning	Satisfaction
	Skills	Self regulation	Learning
	Skills	Self regulation	Achievement
	Skills	Self regulation	Satisfaction
	Skills	Self regulation	Well-being
	Skills	Interaction	Learning
	Skills	Interaction	Satisfaction
	Skills	Interaction	Well-being
	Skills	Participation	Achievement
	Identity	Self regulation	Learning
	Identity	Self regulation	Achievement
	Identity	Self regulation	Satisfaction
	Identity	Self regulation	Well-being
	Self efficacy	Deep learning	Learning
	Self efficacy	Deep learning	Satisfaction
	Self efficacy	Self regulation	Learning
	Self efficacy	Self regulation	Achievement
	Self efficacy	Self regulation	Satisfaction
	Self efficacy	Self regulation	Well-being
	Self efficacy	Time & effort	Achievement
	Self efficacy	Time & effort	Satisfaction
	Self efficacy	Time & effort	Well-being
	Self efficacy	Interaction	Learning
	Self efficacy	Interaction	Satisfaction
	Self efficacy	Interaction	Well-being
	Self efficacy	Participation	Learning
	Self efficacy	Participation	Achievement
	Self efficacy	Participation	Satisfaction
	Self efficacy	Participation	Well-being

Table 12 Narrative C Span coding that revealed relationships spanning 3 Kahu elements

	Psychosocial-Emotion & -Student	Proximal
4 th quartile	1 link	
	Skills	Learning
3 rd quartile	4 th quartile + 0 links	
2 nd quartile	3 rd & 4 th quartiles + 6 links	
	Skills	Learning
	Emotion	Well-being
	Skills	Achievement
	Self efficacy	Learning
	Self efficacy	Satisfaction
	Self efficacy	Well-being

Table 13 Narrative C Intra coding that revealed relationships within the Kahu Elements

	Psychosocial-Emotion & Student	Engagement	Proximal	
4 th quartile	2 links		1 link	
	Emotion	Self efficacy	Self regulation	Time & effort
	Skills	Self efficacy		
			Achievement	Satisfaction
			Satisfaction	Well-being
3 rd quartile	4 th quartile + 2 links		4 th quartile + 1 link	
	Emotion	Skills	Belonging	Interaction
	Motivation	Identity		
2 nd quartile	3 rd & 4 th quartiles + 2 links		3 rd & 4 th quartiles + 5	
	Motivation	Skills	Interest	Participation
			Learning	Achievement

	Identity	Self efficacy	Belonging	Participation		
			Self regulation	Participation		
			Time & effort	Participation		
			Interaction	Participation		

Narrative D. Capacity building

Student engagement increases students' academic and social outcomes, and builds capacity for post-university contributions/life.

The Kahu aspects relevant to this narrative are:

- Student engagement,
- Proximal consequences, and
- Distal consequences.

The assessment for Narrative D included:

- Inter coding to assess relationships between elements of the Kahu framework (Table 14)
- Continuous coding to assess relationships across three elements of the Kahu framework (Table 15)
- Span coding to assess relationships between codes in three elements of the Kahu framework (Table 16)
- Intra coding to assesses relationships within one Element of the Kahu framework (Table 17)

The details of these assessments are below.

Table 14 Narrative D Inter coding that revealed relationships between Kahu Elements

	Engagement	Proximal		Distal
4 th quartile	2 links		1 link	
	Belonging	Well-being	Satisfaction	Lifelong learning
	Time & effort	Well-being		
3 rd quartile	4 th quartile + 4 links		4 th quartile + 6 links	
	Interaction	Learning	Learning	Work success
	Participation	Learning	Learning	Lifelong learning
	Participation	Satisfaction	Learning	Personal growth
	Participation	Well-being	Satisfaction	Citizenship
2 nd quartile	3 rd & 4 th quartiles + 15 links		3 rd & 4 th quartiles + 7 links	
	Enthusiasm	Satisfaction	Achievement	Lifelong learning
	Enthusiasm	Well-being	Achievement	Citizenship
	Deep learning	Learning	Achievement	Personal growth
	Deep learning	Satisfaction	Satisfaction	Work success
	Self regulation	Learning	Well-being	Work success
	Self regulation	Achievement	Well-being	Lifelong learning
	Self regulation	Satisfaction	Well-being	Citizenship
	Self regulation	Well-being		
	Time & effort	Achievement		
	Time & effort	Satisfaction		
	Interaction	Satisfaction		
	Interaction	Well-being		
Participation	Achievement			

Table 15 Narrative D Continuous coding that revealed continuous relationships across Kahu Elements

	Engagement	Proximal	Distal
4 th quartile	0 strings		
3 rd quartile	4 th quartile + 12 strings		
	Belonging	Well-being	Personal growth
	Time & effort	Well-being	Personal growth
	Interaction	Learning	Work success
	Interaction	Learning	Lifelong learning
	Interaction	Learning	Personal growth
	Participation	Learning	Work success
	Participation	Learning	Lifelong learning
	Participation	Learning	Personal growth
	Participation	Satisfaction	Lifelong learning
2 nd quartile	3 rd & 4 th quartiles + 59 strings		
	Enthusiasm	Satisfaction	Work success
	Enthusiasm	Satisfaction	Lifelong learning
	Enthusiasm	Satisfaction	Personal growth
	Enthusiasm	Well-being	Work success
	Enthusiasm	Well-being	Lifelong learning
	Enthusiasm	Well-being	Citizenship
	Enthusiasm	Well-being	Personal growth
	Belonging	Well-being	Work success
	Belonging	Well-being	Lifelong learning
	Belonging	Well-being	Citizenship
	Deep learning	Learning	Work success
	Deep learning	Learning	Lifelong learning
	Deep learning	Learning	Personal growth
	Deep learning	Satisfaction	Work success
	Deep learning	Satisfaction	Lifelong learning
	Deep learning	Satisfaction	Citizenship
	Deep learning	Satisfaction	Personal growth
	Self regulation	Learning	Work success
	Self regulation	Learning	Lifelong learning
	Self regulation	Learning	Personal growth
	Self regulation	Achievement	Lifelong learning
	Self regulation	Achievement	Citizenship
	Self regulation	Achievement	Personal growth
	Self regulation	Satisfaction	Work success
	Self regulation	Satisfaction	Lifelong learning
	Self regulation	Satisfaction	Citizenship
	Self regulation	Satisfaction	Personal growth
	Self regulation	Well-being	Work success
	Self regulation	Well-being	Lifelong learning
Self regulation	Well-being	Citizenship	
Self regulation	Well-being	Personal growth	
Time & effort	Achievement	Lifelong learning	
Time & effort	Achievement	Citizenship	
Time & effort	Achievement	Personal growth	
Time & effort	Satisfaction	Work success	
Time & effort	Satisfaction	Lifelong learning	
Time & effort	Satisfaction	Citizenship	
Time & effort	Satisfaction	Personal growth	
Time & effort	Well-being	Work success	
Time & effort	Well-being	Lifelong learning	
Time & effort	Well-being	Citizenship	
Interaction	Achievement	Lifelong learning	
Interaction	Achievement	Citizenship	
Interaction	Achievement	Personal growth	
Interaction	Satisfaction	Work success	
Interaction	Satisfaction	Lifelong learning	
Interaction	Satisfaction	Citizenship	
Interaction	Satisfaction	Personal growth	
Interaction	Well-being	Work success	

	Interaction	Well-being	Lifelong learning
	Interaction	Well-being	Citizenship
	Interaction	Well-being	Personal growth
	Participation	Achievement	Lifelong learning
	Participation	Achievement	Citizenship
	Participation	Achievement	Personal growth
	Participation	Satisfaction	Work success
	Participation	Well-being	Work success
	Participation	Well-being	Lifelong learning
	Participation	Well-being	Citizenship

Table 16 Narrative D Span coding that revealed relationships spanning 3 Kahu elements

	Engagement	Distal
4 th quartile	1 link	
	Self regulation	Lifelong learning
3 rd quartile	4 th quartile + 2 links	
	Deep learning	Lifelong learning
	Self regulation	Work success
2 nd quartile	Self regulation	Personal growth
	3 rd & 4 th quartiles + 11 links	
	Enthusiasm	Work success
	Enthusiasm	Lifelong learning
	Belonging	Citizenship
	Belonging	Personal growth
	Deep learning	Work success
	Self regulation	Lifelong learning
	Self regulation	Personal growth
	Time & effort	Work success
	Time & effort	Lifelong learning
Time & effort	Citizenship	
	Interaction	Work success

Table 17 Narrative D Intra coding that revealed relationships within the Kahu Elements

	Engagement		Proximal		Distal	
4 th quartile	1 link		2 links		1 link	
	Self regulation	Time & effort	Achievement	Satisfaction	Work success	Personal growth
			Satisfaction	Well-being		
3 rd quartile	4 th quartile + 1 link		4 th quartile + 0 links		4 th quartile + 3 links	
	Belonging	Interaction			Work success	Lifelong learning
					Lifelong learning	Personal growth
2 nd quartile+					Citizenship	Personal growth
	3 rd & 4 th quartiles + 5 links		3 rd & 4 th quartiles + 1 link		3 rd & 4 th quartiles + 1 link	
	Interest	Participation	Learning	Achievement	Work success	Citizenship
	Belonging	Participation				
	Self regulation	Participation				
	Time & effort	Participation				
	Interaction	Participation				

Narrative E. Cultural change

Achievement, satisfaction and retention generate enduring changes, which can break intergenerational cycles of disadvantage and therefore bridge sociocultural incongruence between under-represented groups and university cultures and systems.

The Kahu aspects relevant to this narrative are:

- Distal consequences, and
- Structural influences.

The assessment for Narrative E included:

- Inter coding to assess relationships between elements of the Kahu framework (Table 18)
- Continuous coding to assess relationships across three elements of the Kahu framework (Table 19)
- Intra coding to assesses relationships within one Element of the Kahu framework (Table 20)

The details of these assessments are below.

Table 18 Narrative E Inter coding that revealed relationships between Kahu Elements

	Proximal	Distal	Structural
4 th quartile	1 link		2 links
	Satisfaction	Lifelong learning	Work success Curriculum
3 rd quartile	4 th quartile + 6 links		4 th quartile + 4 links
	Learning	Work success	Work success Policies
	Learning	Lifelong learning	Lifelong learning Assessment
	Learning	Personal growth	Lifelong learning Discipline
	Satisfaction	Citizenship	Personal growth Background
	Satisfaction	Personal growth	
Well-being	Personal growth		
2 nd quartile	3 rd & 4 th quartiles + 7 links		3 rd & 4 th quartiles + 1 link
	Achievement	Lifelong learning	Personal growth Support
	Achievement	Citizenship	
	Achievement	Personal growth	
	Satisfaction	Work success	
	Well-being	Work success	
	Well-being	Lifelong learning	
Well-being	Citizenship		

Table 19 Narrative E Continuous coding that revealed continuous relationships across Kahu Elements

	Proximal	Distal	Structural
4 th quartile	0 strings		
3 rd quartile	4 th quartile + 10 strings		
	Learning	Work success	Policies
	Learning	Work success	Curriculum
	Learning	Work success	Discipline
	Learning	Lifelong learning	Assessment
	Learning	Lifelong learning	Discipline
	Learning	Personal growth	Background
	Satisfaction	Lifelong learning	Assessment
	Satisfaction	Lifelong learning	Discipline
	Well-being	Personal growth	Background
2 nd quartile	3 rd & 4 th quartiles + 15 strings		
	Learning	Personal growth	Support
	Achievement	Lifelong learning	Assessment
	Achievement	Lifelong learning	Discipline
	Achievement	Personal growth	Background
	Achievement	Personal growth	Support
	Satisfaction	Work success	Policies
	Satisfaction	Work success	Curriculum
	Satisfaction	Work success	Discipline
	Satisfaction	Personal growth	Support
	Well-being	Work success	Policies
	Well-being	Work success	Curriculum
Well-being	Work success	Discipline	
Well-being	Lifelong learning	Assessment	

	Well-being	Lifelong learning	Discipline
	Well-being	Personal growth	Support

Table 20 Narrative E Intra coding that revealed relationships within the Kahu Elements

	Proximal		Distal		Structural	
4 th quartile	2 links		1 link		3 links	
	Achievement	Satisfaction	Work success	Personal growth	Culture	Policies
	Satisfaction	Well-being			Discipline	Background
				Family	Lifeload	
3 rd quartile	4 th quartile + 0 links		4 th quartile + 3 links		4 th quartile + 3 links	
			Work success	Lifelong learning	Culture	Background
			Lifelong learning	Personal growth	Background	Lifeload
			Citizenship	Personal growth	Support	Family
2 nd quartile	3 rd & 4 th quartiles + 1 link		3 rd & 4 th quartiles + 1 link		3 rd & 4 th quartiles + 4 links	

Appendix H. Dissemination

Presentations

Event	Title/topic	Location	Date	Attendance
USC Learning and Teaching Week	Project overview	Sippy Downs	September, 2015	30
UNE Learning and Teaching Week	Influencing regional students' experiences in new ways	Lismore	November, 2015	30
OLT Conference	Poster	Melbourne	28-29 April, 2016	
Bond Uni Commissioned Project Symposium	Initial findings	Gold Coast	2016	100
STARS Conference	Shining the spotlight on regional students' experiences	Perth	June, 2016	100
HERDSA Conference		Fremantle	4-7 July, 2016	
National Symposium	Release of Project Findings & Outcomes	Sydney	8 September, 2016	100
QUES	Shaping the 21 st Century Student Experience	Brisbane	27 September 2016	130

Publications

Media	Title/topic	Date
Campus Review/Higher Education Supplement	Discussion prompt	TBA
SHE/HE/HERD/HEQ	Project detail	TBA
HEQ	Regionality	TBA
STARS/HERDSA	Methodology	TBA

Website

- All resources