Attracting, Engaging and Retaining: New Conversations About Learning

Australasian Student Engagement Report
Australasian Survey of Student Engagement

Hamish Coates

AUSSE

Acknowledgements

Contents

Quick AUSSE facts

Objectives

The primary purpose of the Australasian Survey of Student Engagement (AUSSE) is to develop and support evidence-based conversations that enhance students' engagement with university education.

Participating institutions

Twenty-five higher education institutions — more than half of the universities in Australia and New Zealand — participated in the 2007 AUSSE. The institutions cover the range of each country's higher education providers.

The questionnaire

The AUSSE instrument is called the Student Engagement Questionnaire (SEQ). The SEQ is designed to be completed by for administration to undergraduate students in under 15 minutes in online or paper form. The same SEQ form is used for students from all backgrounds and courses.

The SEQ is designed to measure six important but relatively untapped areas of Australasian university education: Active Learning, Academic Challenge, Student and Staff Interactions, Enriching Educational Experiences, Supportive Learning Environment and Work Integrated Learning.

Validation of the SEQ has included conceptual review, focus groups, cognitive interviews, pilot testing, psychometric analyses and expert review.

AUSSE funding

The AUSSE reflects collaboration between the Australian Council for Educational Research (ACER) and participating higher education institutions. Data collection, analysis and reporting is funded by participating institutions and by ACER.

Significant new perspectives

Data gathered through administration of the AUSSE provides new insights into areas of higher education that are central to good practice, but which have not hitherto been the focus of wide-scale measurement in Australasia. It provides evidence about what students are actually doing, highlights the most critical aspects of learning and development, provides a 'learner-centred, whole-of-institution' perspective, and gives an index of students' involvement in study.

Administration

ACER has developed a robust survey methodology. Administration of the 2007 AUSSE was centrally managed by ACER and key activities were conducted by institutions. The AUSSE involves a sampling strategy and standardised survey support materials. ACER sampled students using a probabilistic strategy and dispatched materials to institutions. These materials were sent from institutions to students and completed responses were returned directly to ACER for processing.

Engagement reports

ACER produces AUSSE Institution Reports for participating universities, providing details about the responses from students in their institution and selected comparison groups. These reports provide a basis for publication and presentation of analyses within higher education communities, at conferences and in magazines and journals. ACER also produces this public report that provides more general results for a wider audience.

Data availability

In November 2007, participating institutions were provided with the AUSSE Institution Reports, which included a file of each institution's own survey data. The same file format was used for all institutions so that they can share and compile cross-institutional files. The file format mirrors that used by a large number of USA and Canadian institutions, enabling benchmarking across these countries.

New opportunities

As a large-scale survey of currently enrolled students, the AUSSE facilitates cross-institutional benchmarking and cross-national comparison. It provides data on growth in students' engagement in learning, and information for attracting, engaging and retaining students.

Executive Summary

New perspectives on engagement

'Student engagement', defined as students' involvement with activities and conditions likely to generate high-quality learning, is increasingly understood to be important for higher education quality. This report presents the first insights into students' engagement in higher education in Australasia.

The concept of student engagement provides a practical lens for assessing and responding to the significant dynamics, constraints and opportunities facing higher education institutions. It provides key insights into what students are actually doing, a structure for framing conversations about quality, and a stimulus for guiding new thinking about best practice.

The Australasian Survey of Student Engagement (AUSSE) is a new quality enhancement activity managed for Australasian higher education institutions by the Australian Council for Educational Research (ACER). The AUSSE builds on foundations laid by the North American National Survey of Student Engagement (NSSE) and provides data on phenomena that, while central to student learning and educational provision, have not hitherto been the focus of wide scale measurement in Australasia. The AUSSE was conducted for the first time in 2007 with a representative sample of 25 Australian and New Zealand higher education institutions, providing the first pictures of these aspects of higher education.
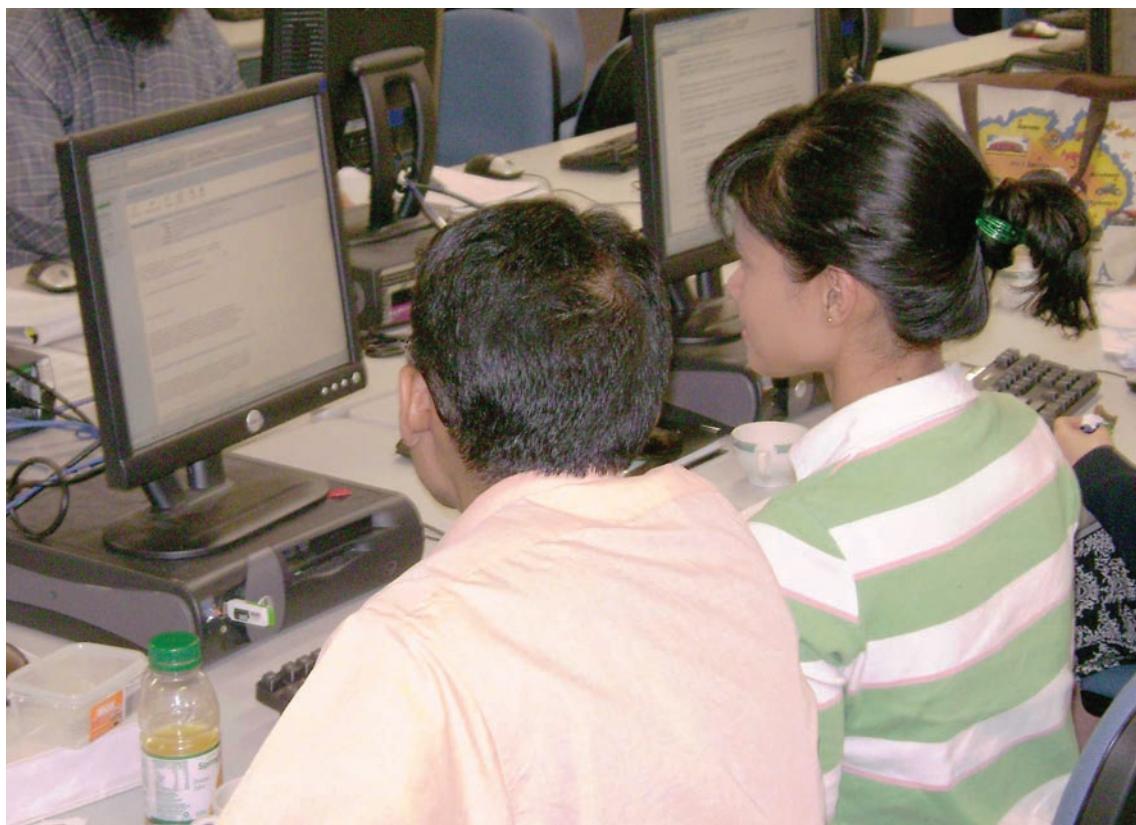
Institutions can use AUSSE data to attract, engage and retain students, as well as to understand and improve the quality of students' learning experiences and outcomes. Such data details the time and effort students devote to educationally purposeful activities and provides insight into students' perceptions of the quality of aspects of their university experience. By providing information that is generalisable and sensitive to institutional diversity, and with multiple points of reference, the AUSSE can play an important role in helping institutions monitor and enhance the quality of education.

This Australasian Student Engagement Report (ASER) presents an overview of the AUSSE, the key results, summary information on how institutions might use results for enhancement, and background on the AUSSE methodology. It complements the AUSSE Institution Report that is sent to participating institutions.

Patterns of Engagement

The ASER reviews students' engagement in terms of six scales that are measured by the Student Engagement Questionnaire (SEQ), the AUSSE survey instrument. The first five of these scales are aligned with reporting benchmarks used in the USA NSSE. The sixth, Work Integrated Learning, has been developed specifically for the AUSSE. These are summarised in the table below.

Scale	Description
Academic Challenge	Extent to which expectations and assessments challenge students to learn
Active Learning	Students' efforts to actively construct their knowledge
Student and Staff Interactions	Level and nature of students' contact with teaching staff
Enriching Educational Experiences	Participation in broadening educational activities
Supportive Learning Environment	Feelings of legitimation within the university community
Work Integrated Learning	Integration of employment-focused work experiences into study

The AUSSE collects data from samples of first- and later-year students. Scale results are scored on a metric ranging between 0 and 100. NSSE figures are provided below to contextualise AUSSE figures. These cross-national comparisons between Australasia and the USA are informative given the increasingly internationalised nature of contemporary higher education. Such comparisons highlight gaps and areas in need of investigation. The figures need to be read with reference to differences in systemic and institutional contexts, including that the AUSSE surveyed first- and third-year (refered to as 'later-year') students while NSSE surveyed first- and fourth-year students.

In summary, the 2007 Australasian results reveal that:

- The mean Academic Challenge score was 46.4, increasing from 45.1 for first-year students and 47.7 for later-year students. Both of these figures are slightly lower than the NSSE first- and fourth-year student means of 51.8 and 55.6. The Australasian standard deviation was 12.7.

- The AUSSE 2007 Active Learning mean was 35.7, increasing from 33.1 for first-year students to 38.1 for later-year students. The standard deviation of the Australasian figures was 15.2. The USA year-level figures were 41.3 and 50.1 respectively.

- The average score for the Student and Staff Interactions scale was just 21.1 – 18.3 for first years and 23.9 for later-year students, with a standard deviation of 15.0. Comparative figures for first- and fourth-year USA students are 32.8 and 41.2 respectively.

- While a considerable amount of learning at university takes place outside formal learning environments, results for the Enriching Educational Experiences scale are low, with the mean being 25.5 and standard deviation 12.9. This mean reflects a slight increase from 23.4 in first year to 27.7 in later year. In the USA, the gain is from 27.1 to 39.9 between the first and fourth years of study.

- The Australasian mean for the Supportive Learning Environment scale was 50.6, with a standard deviation of 17.2. This was the only scale that saw a decrease across year levels, with first-year Australasian students having a mean of 51.2 and later-year students 49.9.

Interestingly, this same decrease is evident in the NSSE year-level estimates, which decline from 59.9 to 56.9.

- The Work Integrated Learning scale had an average score of 44.4, with a standard deviation of 23.1. The mean reflects an increase from 39.3 in first year to 49.8 for later year students. This scale is unique to the AUSSE and, as such, there are no cross-national reference values for comparison.

These summary figures show that AUSSE results tend to be lower than comparative NSSE results. One explanation for this is that while student engagement data is new in Australasian higher education, USA institutions have been using the data to guide improvement activities for around a decade.

A range of demographic and contextual factors are measured, and linking these with engagement scores helps identify areas of good practice and where improvement is needed. Key findings include that:

- The institution that a student attends has the largest influence on Active Learning and Work Integrated Learning scores, and the least influence on perceptions of Supportive Learning Environment and Academic Challenge scores.

- Differences between first- and later-year results are most notable in terms of Work Integrated

Learning and Student and Staff Interactions scores. In terms of overall cross-national results, there is a weaker relationship between year level and Academic Challenge and Supportive Learning Environment scores.

- Student age, which is not directly correlated with year level, is most closely related to Work Integrated Learning scores. The relationship here is positive and increases with age. There is a milder positive relationship in terms of perceptions of Academic Challenge. Perceptions of Supportive Learning Environment decrease with age, while engaging in Active Learning, Student and Staff Interactions and Enriching Educational Experiences tends to be highest for students between 20 and 25 years of age.

- At the cross-national level, although not necessarily within all institutions, a students' gender and the way in which they financed their study explain only a small amount of variation in engagement.

- Field of education is most strongly related to Work Integrated Learning, and least to Supportive Learning Environment, Student and Staff Interactions and Enriching Educational Experience scores. Relationships vary across scales, but in general students in the Education and Health fields have the highest levels of engagement, and students in the Information

Technology field report the lowest levels of engagement.

■ Whether a student studies full time or part time, and whether they study off-campus or on-campus is linked most strongly with participation in Active Learning and Enriching Educational Experiences. In both, full-time and campus-based students report higher levels of engagement than others. Working for pay off campus, is also most directly associated with these two facets of engagement. Interestingly, students that work between one and 30 hours tend to report higher levels of engagement than students who do not work and those who work for more than 30 hours a week.

■ Working for pay on campus is linked most directly to variations in Enriching Educational Experiences and Student and Staff Interactions scores, and least with perceptions of Academic Challenge or Active Learning.

Links with outcomes

Student engagement data provides an important source of information on educational quality. Reviewing links between facets of student engagement and six outcome indicators helps build understanding of the factors that institutions, staff and students may use to enhance education. According to 2007 AUSSE data:

■ All aspects of engagement have a strong positive relationship with a range of general, specific, social, personal, ethical and interpersonal capabilities.

■ Engagement in higher order forms of learning that involve analysing, synthesising, evaluating and applying tends to be positively associated with most aspects of engagement. Greater engagement is related to more advanced forms of reasoning such as analysis, synthesis, evaluation and application.

■ Positive overall student course evaluations are related to all defined aspects of engagement, but most strongly to perceptions of academic support. When institutions offer students an environment that is supportive of their learning efforts, students are more likely to report satisfaction with the quality of academic advising, report positive evaluations of the 'entire educational experience', and report that they would attend the same institution if they were to start their course again.

- The results highlight small and positive correlations between self-reported achievement outcomes and the AUSSE scales. This is evident across all six scales, but most clearly in relation to Active Learning and Work Integrated Learning.

- Links between engagement and intentions to change courses or institutions are more modest, although generally negative. The strongest negative relationships are between perceptions of support and Work Integrated Learning and students' intentions to change either course or institution.

Pictures of change

Examining changes in student engagement between the first and later years provides insight into how different cohorts interact with university study. An increase in active learning activities, for instance, would indicate that learners are investing more time constructing new knowledge and understanding.

In terms of overall Australasian results, there is an increase in student engagement across year levels for Australasian students, with the exception of perceptions of support. For this, later-year students perceive less institutional support than their first-year counterparts.

In terms of specific subgroups:

- females tend to report greater increases in engagement than males;

- family education background accounts for little change in engagement, except in the area of Work Integrated Learning;

- part-time students tend to report greater change in perceptions of Academic Challenge, Active Learning and Supportive Learning Environment scores than do those studying full-time; and

- studying on-campus or by distance is linked with different patterns of student engagement.

This report is intended as a point of departure. While far from exhaustive in scope or conclusive in result, the findings given here offer a strong starting point for understanding the importance of student engagement and its relevance to key university concerns. The findings affirm that managing engagement provides an important means of enhancing the quality of education. The results provide a foundation for more integrated analyses of engagement and measures of student performance and success.

A New Approach to Measuring Higher Education Quality

A fresh perspective

'Student engagement', defined as students' involvement with activities and conditions likely to generate high-quality learning, is increasingly understood to be important for higher education quality. This report presents the first insights into students' engagement in higher education in Australasia.

The concept provides a practical lens for assessing and responding to the significant dynamics, constraints and opportunities facing higher education institutions. It provides key insights into what students are actually doing, a structure for framing conversations about quality, and a stimulus for guiding new thinking about best practice.

While central to many aspects of education, information on student engagement has not been readily available to Australasian higher education institutions. Existing collections tend to focus on satisfaction with provision and the broader aspects of the student experience. The lack of information on student engagement has limited the potential to plan and improve key aspects of student learning and development.

Student engagement is an idea specifically focused on university students and their interactions with university.[1] The idea touches on aspects of teaching, the broader student experience, learners' lives beyond university, and institutional support. Learners are central to conversations about student engagement, conversations that focus squarely on enhancing individual learning and development.

The concept of student engagement is based on the premise that learning is influenced by how an individual participates in educationally purposeful activities. While students are seen to be responsible for constructing their knowledge, learning is also seen to depend on institutions and staff generating conditions that stimulate and encourage involvement.

This perspective draws on decades of empirical research into higher education student learning and development. In addition to confirming the importance of ensuring appropriate academic challenge, this research has emphasised the importance of examining students' integration into institutional life and involvement in educationally relevant, 'beyond-class' experiences.

Measures of student engagement provide information about individuals' intrinsic involvement with their learning, and the extent to which they are making use of available educational opportunities. Student engagement data also provides information on learning processes, is a reliable proxy for learning outcomes, and provides excellent diagnostic measures for learning enhancement activities.

Overview of the AUSSE

The Australasian Survey of Student Engagement (AUSSE) provides data that Australia and New Zealand higher education institutions can use to attract, engage and retain students.[2] The AUSSE

---

1   Coates, H. (2006). *Student Engagement in Campus-based and Online Education*. New York: Routledge.

2   For further information, see www.acer.edu.au/ausse

reports on the time and effort students devote to educationally purposeful activities and on students' perceptions of the quality of other aspects of their university experience.

The AUSSE is a new quality enhancement activity managed for Australasian higher education institutions by the Australian Council for Educational Research (ACER).[3] It builds on foundations laid by the North American National Survey of Student Engagement (NSSE).[4] The AUSSE was conducted for the first time in 2007 with 25 higher education institutions in Australia and New Zealand. By providing information that is generalisable and sensitive to institutional diversity, and with multiple points of reference, the AUSSE plays an important role in helping institutions monitor and enhance the quality of education.

The AUSSE measures student engagement through administration of the Student Engagement Questionnaire (SEQ) to a representative sample of first-year and later-year students at each institution. With formative links to the NSSE, which has been used at around 1,200 different universities and colleges across the United States and Canada, the AUSSE provides data that complement and extend current collections that focus on satisfaction with the quality of teaching and the learning environment. It thereby makes available to Australasian higher education institutions a new means for measuring and monitoring the effectiveness of learning and teaching.

The AUSSE was developed to bring together existing work in the field and leverage benefits

---

3   Appendix 5 provides an overview of ACER.
4   See http://nsse.iub.edu

from a collaborative, multi-institutional approach. It is critical that surveys involve validated instruments and processes so that they provide the kind of high-quality data that can be used to improve practice. It is also critical to have meaningful points of reference to get the most value from reports, along with well-tested strategies for interpreting results and improving practice.

The cross-national comparisons facilitated by the AUSSE are important. While higher education is an increasingly internationalised activity, data limitations have to date constrained comparative analyses. Specifically, very little student-level and process- or outcomes-focused data is available. Through its links with the NSSE, the AUSSE represents a trend towards developing more educationally nuanced cross-national collections and interpretations.

The AUSSE is conducted by, for and with participating Australasian institutions. The intention is to provide institutions with new and significant perspectives for managing and enhancing the quality of education. Each participating institution is given an AUSSE Institution Report of its own results. This Australasian Student Engagement Report (ASER) provides a broader cross-institutional and cross-national perspective of the results.

The Student Engagement Questionnaire (SEQ)

The AUSSE survey instrument is called the Student Engagement Questionnaire (SEQ). The SEQ is based on the College Student Report, the instrument used in the USA NSSE. Links between the two instruments provide a basis for benchmarking. The College Student Report has

"By providing information that is generalisable and sensitive to institutional diversity, and with multiple points of reference, the AUSSE plays an important role in helping institutions monitor and enhance the quality of education."

been administered at over 1,200 higher education institutions across ten years.

The SEQ is designed for administration to undergraduate students in under 15 minutes in online or paper form. A copy of the 2007 survey instrument is provided in Appendix 1. This same SEQ form is used with all students.

The instrument contains items that tap a range of key educational phenomena. A selection of these items group together to measure six summary scales. These scales are summarised in Table 1. Appendix 2 lists the items that contribute to each scale.

Table 1 AUSSE scale descriptions

Scale	Description
Academic Challenge	Extent to which expectations and assessments challenge students to learn
Active Learning	Students' efforts to actively construct their knowledge
Student and Staff Interactions	Level and nature of students' contact with teaching staff
Enriching Educational Experiences	Participation in broadening educational activities
Supportive Learning Environment	Feelings of legitimation within the university community
Work Integrated Learning	Integration of employment-focused work experiences into study

ACER further developed and validated the College Student Report before deploying it in Australia and New Zealand as the Student Engagement Questionnaire. A range of new and redesigned items were included. Validation included focus groups, cognitive interviews, pilot testing and expert review. A range of psychometric and conceptual analyses were conducted. This work builds on the extensive validation in the USA of the College Student Report.

A critical feature of the SEQ is its foundation in empirically based theories of student learning.

Items in the SEQ are based on findings from decades of research on the activities and conditions linked with high-quality learning. This foundation helps assure the educational importance of the phenomena measured by the instrument.

The SEQ will grow with further development of the AUSSE. Evolution of the instrument depends on evidence of the kinds of engagement that are linked with high-quality learning outcomes. The format of the instrument will also continue to change, with the anticipated introduction of item sampling and other state-of-the-art techniques.

The research process

The AUSSE survey methodology is designed to be valid, efficient and innovative. It deploys methods that hitherto have been rarely, if ever, used in Australasian higher education.[5] The AUSSE reflects a collaboration between participating institutions and ACER. While largely centrally managed by ACER, key activities are conducted by institutions.

Preparation for the AUSSE is led by ACER. This involves refining instruments and systems, securing any necessary approvals, liaison with participating institutions, drawing the student sample, and despatching materials to institutions. Participating institutions and the AUSSE Advisory Group play an important role in shaping key aspects of survey design and management.

The AUSSE is conducted according to the ACER Code of Ethics and the 2007 National Statement on Ethical Conduct in Human Research.[6] ACER routinely collects sensitive test, evaluation and other data and has well-established and tested procedures for protecting sensitive materials. Participating institutions are responsible for securing any internal human research ethics or other approvals.

Rather than a census of all students, a sampling strategy is used to identify students at each

---

5   A detailed overview of the methodology is available on the AUSSE website at www.acer.edu.au/ausse

6   National Health and Medical Research Council, Australian Research Council, Australian Vice-Chancellors' Committee (NHMRC, ARC, AVCC) (2007). *National Statement on Ethical Conduct in Human Research.* Canberra: Australian Government.

institution who are invited to take part in the AUSSE. A stratified, systematic sampling strategy is deployed to produce powerful, generalisable and representative estimates of first- and later-year student engagement.

AUSSE fieldwork involves an iterative and multimodal approach, which is sequenced to maintain the momentum of student participation and survey returns. Survey administration materials are sent from institutions to students and completed responses are returned directly to ACER. ACER prepares and analyses the AUSSE data, and produces the institutional and cross-institutional reports.

Development of sound methodology for capturing insight on student engagement is an important part of the AUSSE. The research process is reviewed on an ongoing basis. This improvement process is shaped by feedback from institutions, technical reviews, data analyses and feedback from the AUSSE Advisory Group.

Evidence for enhancement

Interpreting, analysing and acting on survey results are the most significant components of the AUSSE process. As with all data collections, it is important that AUSSE results are used in technically and educationally appropriate ways. The AUSSE is intended to provide a source of evidence for each institution's conversations about engagement.

Developing strategies to use engagement data for internal quality improvement is a very important part of the AUSSE. Information about student engagement plays a valuable role in enhancing the quality of higher education, if only by stimulating conversations about how students engage in high-quality learning or exposing students to lists of good learning practices in the SEQ.

A series of quality enhancement resources are being developed to help institutions convert AUSSE data into ideas for improvement. The final chapter of this report summarises ways in which results could be factored into quality assurance activities.

2

Who Has Participated

AUSSE 2007 institutions

The AUSSE was conducted for the first time in 2007, building on nearly a decade of national use in the United States of America and Canada. In total, 25 higher education institutions participated in the 2007 AUSSE. This is more than half of the universities in Australasia. Two more institutions assisted with a pilot test but did not take part in the cross-institutional administration. Table 2 lists the 25 institutions that participated in the inaugural cross-institutional administration.

These institutions cover the nature and diversity of each country's higher education providers. This is important, as it facilitates the production of meaningful benchmarks and provides a solid foundation for cross-institutional conversations.

Table 2 AUSSE 2007 institutions

Australian institutions	New Zealand institutions
Australian Catholic University	Auckland University of Technology
Australian National University	Massey University
Central Queensland University	UNITEC New Zealand
Charles Sturt University	University of Canterbury
Curtin University of Technology	Victoria University of Wellington
Griffith University	
James Cook University	
La Trobe University	
Macquarie University	
Murdoch University	
Southern Cross University	
University of Ballarat	
University of Canberra	
University of Melbourne	
University of New England	
University of Newcastle	
University of Queensland	
University of South Australia	
University of the Sunshine Coast	
Victoria University	
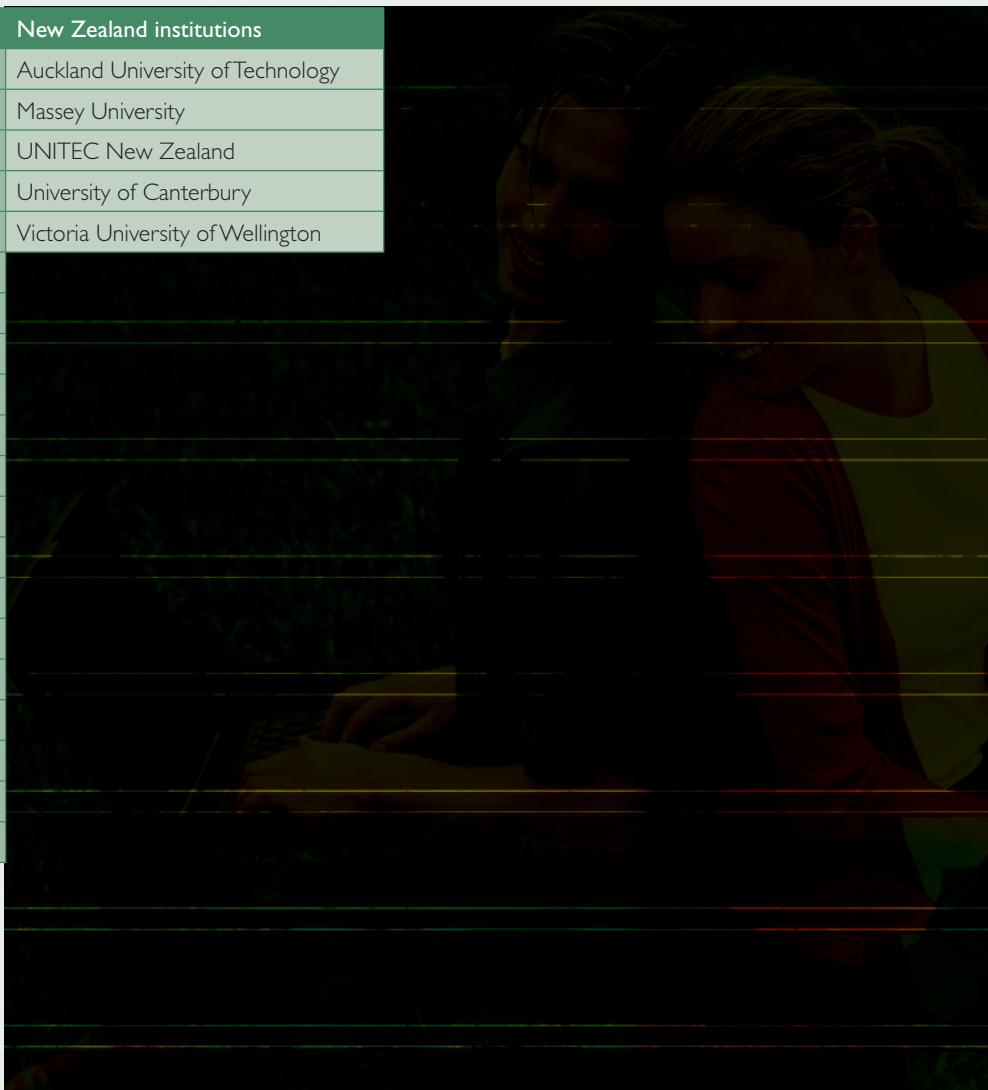
Sampling in the AUSSE

Conducting a census of all students is by far the most common means of collecting feedback from university students in Australasia. higher education. A census gives every student the chance to 'have a say', and can facilitate analyses of small sub-populations of students. When used indiscriminately, however, a census can lead to an enormous waste of resources, collection of data that adds little value to analysis, overburdening of potential respondents and results with unknown levels of bias or precision.

A stratified systematic sampling strategy is deployed in the AUSSE to produce estimates of first- and later-year student engagement. Oversampling is used to reduce the need for complex follow-up. Post-stratification weighting is used to ensure that responses represent the target population. This sampling strategy is important, as it reduces the number of students that need to be approached, allows for concentration of resources, and builds in control over the quality of results.

It is important to emphasise that response rate considerations differ between a census and a survey. With a census approach, high response rates provide a key means of assuring the quality and sufficiency of response. The concept of a response rate is different in a sampling context, where a scientific methodology has been designed to assure data requirements. In surveys, it is important that response rates meet the needs of the sample design.

The sampling process is a major form of quality assurance in the AUSSE design. The approach, in summary, involves the following steps:

- institutions compile a list of students in the defined target population and supply a de-identified copy of this list to ACER;

- ACER validates the list, draws the sample, and returns the list to institutions;

- institutions re-attach student contact details to the list and distribute online and paper survey forms to students;

- respondents send completed survey forms directly back to ACER; and

- ACER enters the data, prepares the analysis files, and weights the responses.

The target population for the AUSSE is not the same as the total Australasian higher education student population. In broad terms, it consists of:

- on-shore students in their first year of an undergraduate qualification who have not previously been involved in or completed a higher education qualification; and

- on-shore students in their third year of an undergraduate qualification who have completed around five full-time equivalent semesters of an undergraduate degree.

Third-year students are targeted as this year tends to be the last year of formal study in many Australasian undergraduate qualifications. While the SEQ contains questions to help confirm each respondent's year level, it is difficult for many institutions to precisely identify third-year students for sampling purposes. Sample verification analyses (of starting year and the number of years completed, conditioned on attendance type) indicated that the sampling strategy had indeed been successful in selecting third-year students. For clarity, and to reflect the ambiguity in this area, these students are referred to as 'later-year' students in this report.

Patterns of response

It is interesting to consider the characteristics of students who provided a response to AUSSE 2007, both to frame the presentation and document the generalisability of the results. Taking part in a survey of student engagement itself reflects a form of engagement, and the following demographics can be read in this light.

A total of 67,379 students at 25 institutions were invited to take part in the 2007 AUSSE. Around 310 mail surveys were undeliverable and returned to ACER. Feedback from institutions suggests that an average of 50 emails per institution (approximately 1,250 in total) were undeliverable. Assuming some overlap in these distributions, the target population was more likely to be around 66,000. A link to the online survey form was sent to all students. A total of 20,000 students were also sent a paper survey form.

A total of 9,585 responses were received prior to production of the final data file. This included 2,463 paper and 7,122 online responses. The sample design included a target response rate

of 25.0 per cent. The secured response rate, not adjusted for undeliverable contacts, was 14.2 per cent. The response rate varied from around 7.5 per cent at two institutions to 28.3 per cent at one institution, with a mean rate of 13.9. This lower than expected response rate can be attributed to other survey activities conducted at most institutions at the same time as the AUSSE, and the time at which the 2007 collection was undertaken.

In total, 80.7 per cent of responses were provided by students enrolled at Australian universities, with 19.3 per cent from students at New Zealand institutions. First-year students made up 47.7 per cent of the sample, while later-year students contributed 52.3 per cent to the weighted sample.

Prior analysis has shown that first- and later-year students, males and females, and full- and part-time students have differential survey response patterns and engagement characteristics. As noted, data has been weighted using these elements to enhance the generalisability of the results.

Table 3 lists demographic characteristics of the AUSSE 2007 student sample. Table 4 presents key educational characteristics. These weighted figures provide a point of reference for the results presented in this report.

The AUSSE 2007 shares many of the same demographic and educational characteristics as the target population. By way of example, the age and gender distributions reflect those in the target populations, as does the proportion of international students. It is slightly over-representative of full-time and internal students, and students in the Society and Culture and in the Health fields. It is slightly under-representative of the Management and Commerce and of the Information Technology fields.

Overall, the AUSSE 2007 sample of institutions and students provides a representative snapshot of the Australian and New Zealand higher education sectors. This is important, for it underpins the generalisability and authority of the following results. However, as with all large-scale surveys, the AUSSE offers indicative rather than definitive evidence of the phenomena being measured. Results should be treated with caution, especially when sub-group sizes are small.

Table 3 AUSSE 2007 sample demographic characteristics (per cent in sample)

		First year	Later year	All
Age	Under 20	66.4	3.6	35.7
	20 or over	33.6	96.4	64.3
Gender	Male	40.4	41.2	40.8
	Female	59.6	58.8	59.2
Permanent resident or citizen of Australia	Yes	81.4	72.2	76.9
	No	18.6	27.8	23.1
Permanent resident or citizen of New Zealand	Yes	17.3	21.3	19.2
	No	82.7	78.7	80.8
Aboriginal or Torres Strait Islander	Yes	1.1	1.0	1.0
	No	98.9	99.0	99.0
Maori or Pacific Islander	Yes	2.3	1.9	2.1
	No	97.7	98.1	97.9
Main language spoken at home	English	88.5	83.2	85.9
	Language other than English	11.5	16.8	14.1
Family highest education	Not applicable or not sure	1.5	1.9	1.7
	Secondary education	25.8	21.4	23.7
	Post-secondary vocational education	14.1	15.4	14.7
	Higher education	58.6	61.3	59.9

Table 4 AUSSE 2007 sample educational characteristics (per cent in sample)

		First year	Later year	All
Main way of financing study	Full or partial upfront HECS-HELP payment	31.4	25.9	28.7
	Defer all or part through HECS-HELP	45.8	42.6	44.2
	Defer all or part through FEE-HELP	0.9	1.1	1.0
	NZ Student Loan Scheme	11.8	14.3	13.0
	International fees	4.3	10.4	7.3
	Domestic fees	5.8	5.7	5.7
Attendance Type	Full time	88.2	86.0	87.1
	Part time	11.8	14.0	12.9
Proportion of study online	None	24.6	22.7	23.7
	About a quarter	43.6	41.3	42.5
	About half	22.4	23.5	23.0
	All or nearly all	9.3	12.4	10.8
Location of study	External/distance	9.3	11.9	10.5
	On one campus	84.4	80.4	82.4
	On two campuses	5.9	7.0	6.4
	On more than two campuses	0.4	0.7	0.6
Live on Campus	Yes	15.6	7.0	11.4
	No	84.4	93.0	88.6
Main field of study	Natural and Physical Sciences	9.7	9.3	9.5
	Information Technology	2.1	3.5	2.8
	Engineering and Related Technologies	6.0	5.8	5.9
	Architecture and Building	2.2	2.7	2.5
	Agriculture, Environmental and Related Studies	2.0	2.6	2.3
	Health	16.3	14.5	15.4
	Education	12.0	10.6	11.3
	Management and Commerce	16.1	20.6	18.3
	Society and Culture	25.4	23.5	24.5
	Creative Arts	7.8	6.7	7.2
	Food, Hospitality and Personal Services	0.4	0.3	0.3

3

Patterns of Engagement

The following analyses present a series of pictures that bring out key characteristics and qualities of student engagement. Clearly, a large number of analyses and findings could be reported given lack of existing information on student engagement in Australasia. In this report, attention is focused on summarising patterns of engagement in terms of the six scales measured by the Student Engagement Questionnaire (SEQ). The items underpinning each of these scales are provided in Appendix 2. Further scale-level statistics are provided in Appendix 3. Statistics for the scaled items are given in Appendix 4.

The Student Engagement Questionnaire invites students to respond to two open-ended questions: 'What are the best aspects of how your university engages students in learning?' and 'What could be done to improve how your university engages students?' The questions have been designed to be analysed using the CEQuery software.[7] A small selection of comments is reproduced in each of the following sections to frame the statistical results.

Academic Challenge

Appropriate levels of intellectual challenge and educational support play an important role in stimulating successful learning outcomes. The Academic Challenge scale brings together items that reflect the extent to which expectations and assessments challenge students to learn.

7 Scott, G. (2006). *Accessing the Student Voice: Using CEQuery to identify what retains students and promotes engagement in productive learning in Australian higher education*. Canberra: Department of Education, Science and Training.

Scores for each of the AUSSE scales are reported on a metric ranging from 0 to 100. The mean Academic Challenge score was 46.4, rising from 45.1 for first-year students to 47.7 for later-year students. Both of these figures are slightly lower than the NSSE first- and later-year means of 51.8 and 55.6 respectively. The Australasian standard deviation was 12.7.

High expectations of students and high standards, which I have found pushes me to work hard and gain good understanding of content covered and broaden my knowledge base. Course encourages critical and analytical thinking rather than rote learning. Challenging and rewarding.
– Later-year nursing student

The cross-national comparisons between Australasia and the USA are informative given the increasingly internationalised nature of contemporary higher education. Such comparisons highlight gaps and areas in need of investigation. They need to be read with reference to differences in systemic and institutional contexts.

Data on areas measured by the individual items provides a basis for understanding how contemporary students challenge themselves to learn. The results highlight areas in need of improvement, and areas for charting future growth.

Figure 1 Institutional emphasis given to spending significant time on academic work
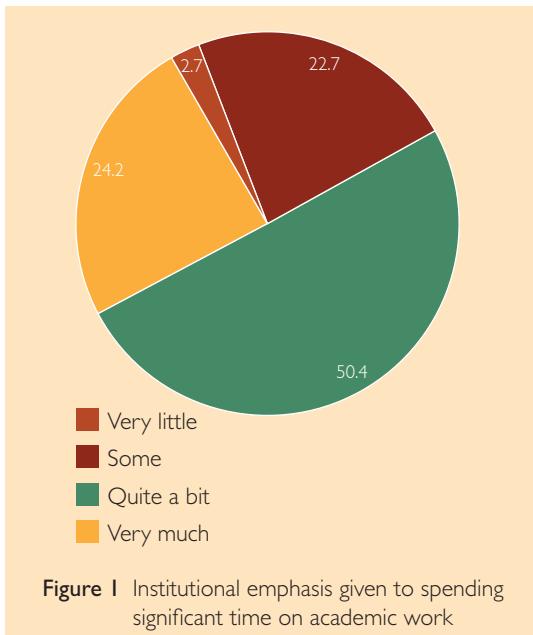
Figure 1 presents an encouraging finding regarding institutional emphasis given to spending significant time on academic work. Half (50.4%) of respondents reported that their institution places 'quite a bit' of emphasis on this issue, and just under a quarter (24.2%) reported this is 'very much' emphasised by their institution. These results suggest that Australasian students feel their institutions are encouraging them to learn.

Academic Challenge has learner as well as institutional dimensions. Reassuringly, Figure 2 shows that 36.4 per cent of learners reported

Figure 2 Extent to which learners worked harder than they thought they could
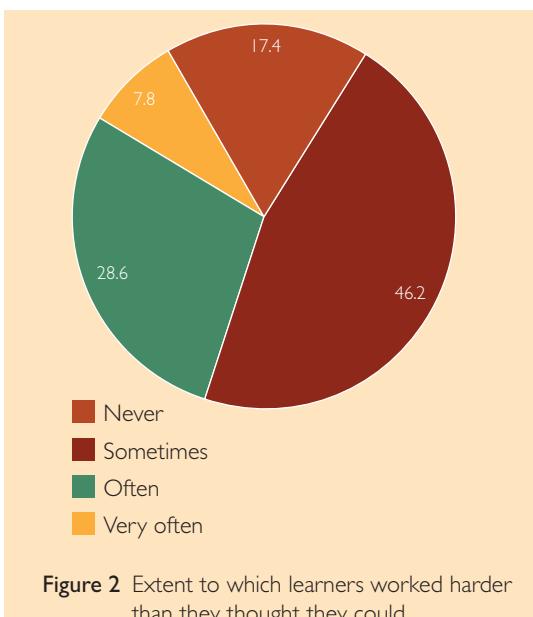
that they 'often' or 'very often' worked harder than they thought they could. The data shows that 46.2 per cent of respondents only pushed themselves to work in this way 'sometimes', the most common response. Clearly, there would be value in identifying the individual and educational characteristics linked with those 17.4 per cent of respondents who indicated that they 'never' pushed themselves to work harder than they thought they could.

As is often the case in analyses of teaching and learning data, institutions accounted for only a little of the variation in perceptions of challenge. At the institutional level, average scores ranged from 43.4 to 49.3. For the most part, score variations appear to be underpinned by other individual or contextual factors. A slight difference between year levels (45.1 for first-year students and 47.7 for later-year students) implies a small increase in students' perceptions of the extent to which they are being challenged to learn. While the relationship between Academic Challenge and age is not direct, a similar difference is evident between students under 20 years of age (45.0) and those 20 years and over (47.3). As a group, females reported experiencing a more challenging

Make lectures more entertaining, rather than a recital of information blasted at students for 2 hour period.
– First-year politics student

learning environment (47.4) than their male counterparts (45.2). By contrast, the difference in perceptions of challenge between students who spoke English as their main home language (46.4) and those who did not (47.5) is negligible.

Family educational background played a very small role in aggregate estimates of Australasian students' Academic Challenge, with average scores ranging from 45.3 for respondents' whose parents and siblings have secondary education as their highest education level, to 47.4 for those with a post-secondary vocational degree as their highest family education level.

Participation in paid work, either on or off campus, accounted for little variation in Academic Challenge scores. The small number of students (6.9%) with on-campus paid work had an average score of 48.6, compared with 46.3 for those with no on-campus paid work. The average score for
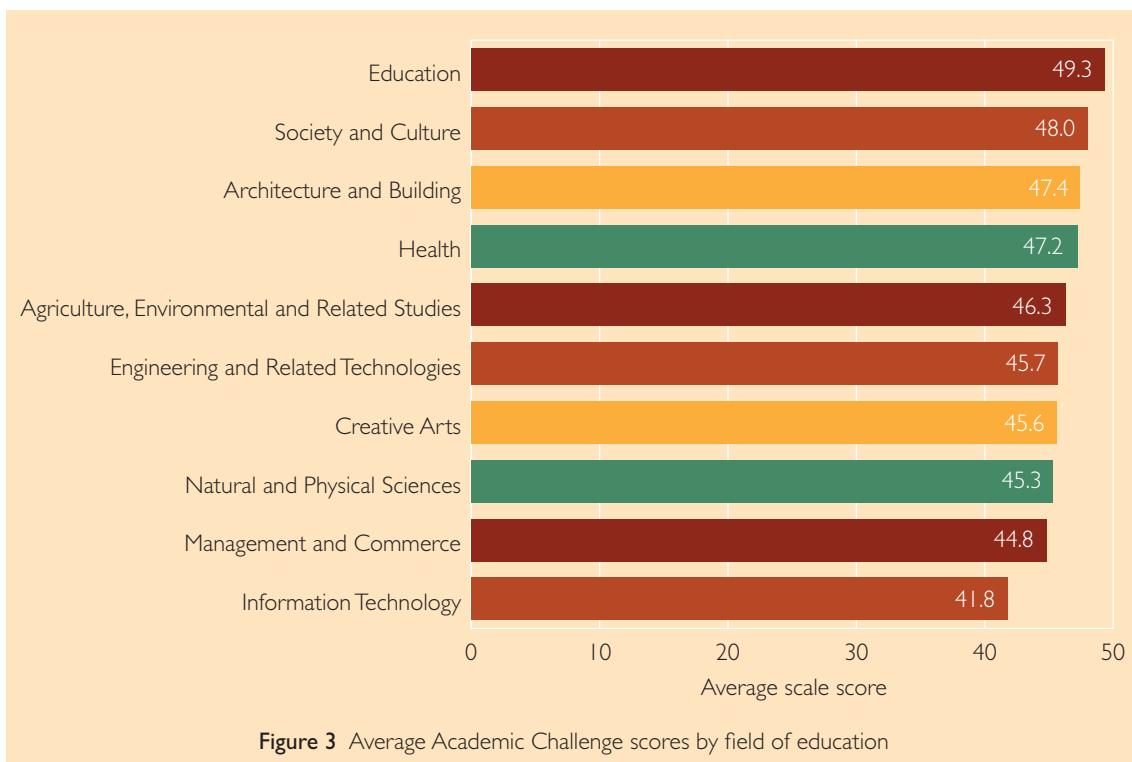
Figure 3 Average Academic Challenge scores by field of education

students with off-campus paid work ranged from 46.7 for those not working (only 32.6 per cent of the AUSSE sample), to 44.7 for those working more than 30 hours a week (7.8 per cent of the sample).

Compared with the demographic factors reviewed so far, broad field of education explains a relatively large amount of variation in Academic Challenge scores. Figure 3 shows that Australasian average scores varied from 41.8 for the Information Technology field to 49.3 for Education.

Full-time students (46.7) reported a slightly higher average score than their part-time peers (44.8). Interestingly, Academic Challenge scores increased with the proportion of study conducted online. Students reporting no online study had an average score of 45.0 on this scale, while those reporting that they undertook all or nearly all of their study online had an average score of 47.6. While online interactions correspond with modest increases in Academic Challenge scores, studying on-campus (46.5) or via distance (46.1) made little difference. Similarly, differences between those who lived on campus (46.7) and others (46.5) were trivial.

Active Learning

Active learning concerns students' participation in experiences that involve constructing new knowledge and understanding. Assessing and encouraging students' engagement in active learning practices is a central theme in the AUSSE. Seven items in the SEQ form the Active Learning scale (see Appendix 2).

I find tutorial discussions, group presentations and assignments, to be particularly effective in encouraging the learning process.
— First-year early childhood education student

On the 0 to 100 reporting metric, the Australasian Active Learning mean for this facet of student engagement was 35.7, increasing from 33.1 for first-year students to 38.1 for later-year students. The standard deviation of the Australasian figures was 15.2. The USA year-level figures were 41.3 and 50.1 respectively. As a point of reference, the USA mean was 45.7 with a standard deviation of 16.7, around two-thirds of a standard deviation higher.

Every subject has a different challenge. Some subjects are online, others provide lectures online, some are just a study guide. This ensures students are able to learn and gain information from different sources and learn what our study strengths are. I find I am stronger in some areas of learning than others.

— First-year management student

With the few courses that our university runs that are actually engaging, all the credit should go to the tutors and lecturers that actually have a passion for what they are teaching, not to mention real life experience they have in what they are teaching. The most unengaging thing is being taught by someone who one, doesn't have a clue about the subject and two, doesn't have any interest in the subject matter. The best tutors are the ones who have worked in their fields.

— First-year information technology student
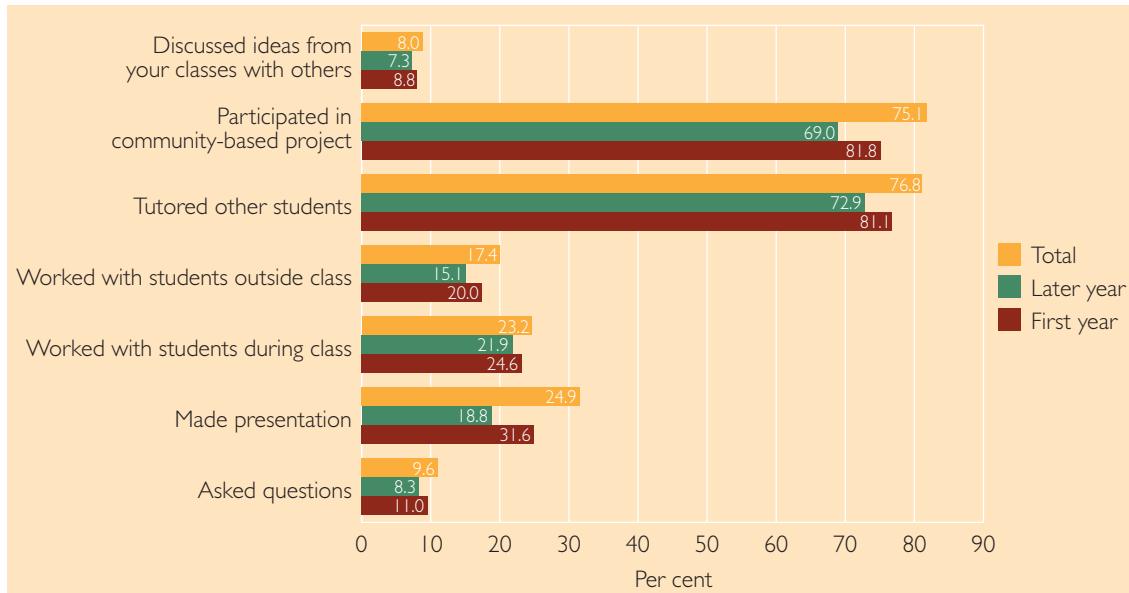
Figure 4 Reports of 'never' having engaged in active learning activities in the current academic year

Examining the percentage of students who reported 'never' being engaged in the seven activities measured by the items in this scale is useful for examining the dimensions underpinning the average score. Figure 4 shows that only 9.6 per cent of all students reported never asking a question in class, but a quarter (24.9%) of students reported never having made a class or online presentation. While the percentage of students who give presentations increases across year levels, given the importance of communication and interpersonal capabilities for university graduates, this result is concerning. Collaboration is also important in many areas of work, yet 23.2 per cent of Australasian students reported never having worked with other students during class, a figure which is slightly lower (17.4) for out-of-class work. While teaching others is an excellent way to learn, 76.8 per cent of all respondents indicated that they have never tutored or taught other students. Despite the known benefits of service learning, a similar number (75.1) reported never having taken part in a community-based project. This figure reduces from 81.8 in first year to 69.0 in the third year, but it is of concern that the vast majority of Australasian students have not had the opportunity to expand their learning through service or community work.

While country (Australia or New Zealand) explained only 0.5 per cent of the variation in Active Learning scale scores, the institution at which a student was enrolled explained 6.2 per cent of the variation, ranging from 29.1 at one institution to 45.1 at another. Regardless of their year of enrolment, students aged 20 years or older tended to have marginally higher results (36.8) compared with younger learners (34.6). The difference between males (35.8) and females

There are opportunities for learning everywhere in the university - you have to seek them out. Our residential college provides a lot of academic learning opportunities as well.
– Later-year political science student

(36.2) was small, as was the difference between students for whom English was the main home language (36.0) and those who spoke another language at home (36.5). Students who have parents or siblings with post-secondary vocational education or higher education reported slightly higher levels of Active Learning (36.3 and 36.6 respectively) than students who had family with secondary education only (34.8).

Broad field of education explained 3.6 per cent of variation in students' Active Learning scores. Students in the fields of Architecture and Building (41.5), Creative Arts (40.9) and Education (40.5) reported the highest levels of Active Learning,

while students in Information Technology (32.8), Society and Culture (32.9) and Natural and Physical Sciences (33.5) reported the lowest levels.

Full-time students scored higher on the Active Learning scale than did their part-time counterparts (37.1 compared to 28.9), as did on-campus students (37.2) compared with external or distance students (25.8).

Average Active Learning scores varied in terms of whether a student had on-campus paid work, with a mean score of 43.1 for those working on campus, compared to 35.5 for those not working on campus. This difference offers support to research findings that indicate that working on campus can help legitimate learners within academic communities.[8]

Slight differences were recorded in relation to off-campus employment. The difference between not working off campus (35.4) and working off campus for up to 30 hours per week (35.0) is slight. Working off campus for more than 30 hours a week, however, is associated with a lower mean Active Learning score of 28.6. While the perceptual nature of this data must be emphasised, these results are striking as they counter conceptions that off-campus work is linked with more passive forms of university study.

Student and Staff Interactions

Decades of empirical research on higher education has shown that student and staff interactions are one of the most important characteristics of high quality learning. The AUSSE Student and Staff Interactions scale measures the level and nature of students' contact with teaching staff.

On the 0 to 100 reporting metric, the average score for the Student and Staff Interactions scale was just 21.1 – 18.3 for first-year students and 23.9 for later-year students, with a standard deviation of 15.0. Comparative figures for the USA are 32.8 and 41.2 respectively.

Analysing item-level responses illuminates the characteristics of this aspect of engagement. Despite emphasis in policy-level conversations about research-led teaching, only 1.6 per cent of first-year students and 4.5 per cent of later-year

students reported working on a research project with a staff member outside of coursework requirements. While a range of factors limit student engagement in this area, clearly these numbers are very low.

Figure 5 reports on five items in the Student and Staff Interactions scale that all share the same response scale. Discussing grades with teaching staff is relatively common, although only a fifth of responding students report doing this 'often' or 'very often'. It is troubling, however, that 55.7 per

---

It is small, and the lecturers and tutors actually know your name and talk to you. – Later-year history student

---

cent of students report never talking about career plans with teaching staff or advisors, and that a similar number (55.6%) report never discussing ideas from readings or classes with teaching staff outside class. Higher education research has shown beyond-class interactions play a particularly formative role in student learning. In this area, 79.2 per cent of students reported they had never worked with teaching staff on activities other than coursework.

Year level and institution account for the most variation in students' interactions with staff. The Australasian average score for first-year students was 18.3, increasing to 23.9 for those students in third-year. Age-related averages were more conflated, with learners 20 years and under having a mean score of 18.5 and those aged 20 years or older a mean of 22.3. Institution scores ranged from 16.8 to 26.5, with just under two-thirds lying between 20.0 and 25.0.

Other demographic factors tended to explain relatively low levels of variation in Student and Staff Interactions scores. The influence of gender, for instance, was small, with average scores of 20.5 for females and 21.7 for males. Respondents with a language background other than English (23.8) had higher scores than their English-speaking counterparts (20.5). Students paying international fees (24.8) reported higher levels of interaction than students with domestic financing arrangements (21.0).

In relation to broad field of education, average Staff and Student Interactions scores ranged from 18.8 for respondents in engineering and related fields, to 25.8 in the creative arts. Full-time

---

8   Pascarella, E. T. & Terenzini, P. T. (2005). *How College Affects Students: Findings and insights from twenty years of research.* San Francisco: Jossey Bass.
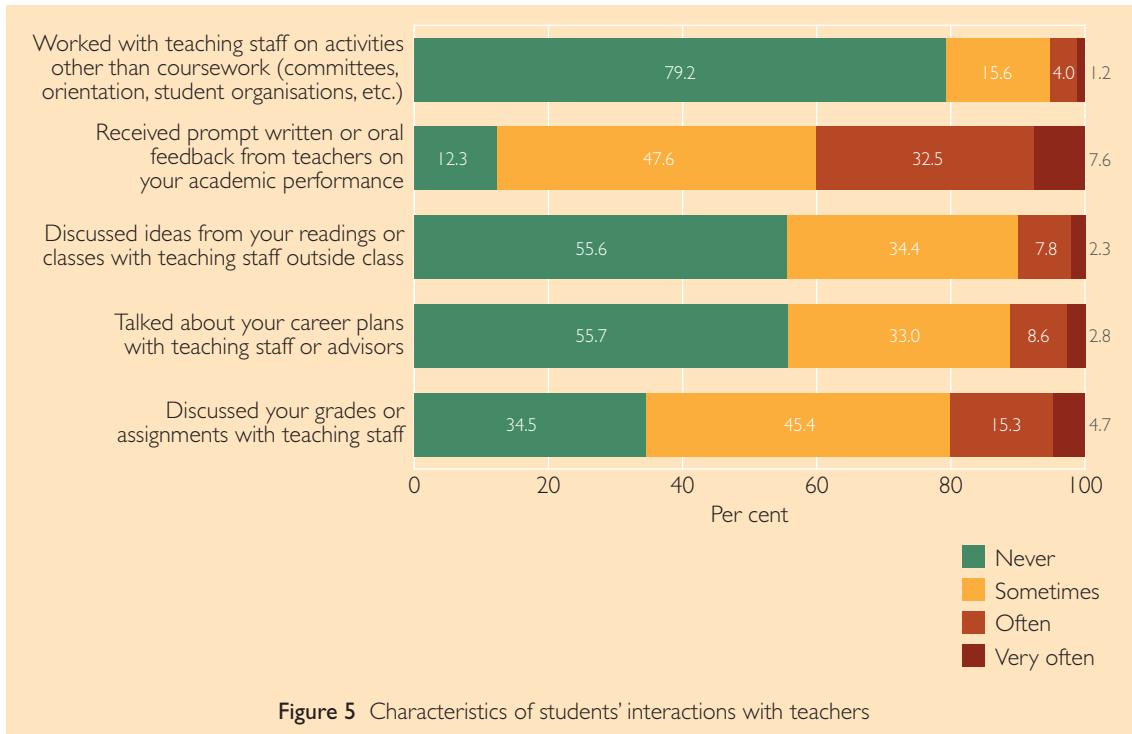
Figure 5 Characteristics of students' interactions with teachers

students (21.2) and part-time students (19.5) varied very little in terms of their interactions with staff, although people studying on-campus (21.3) had higher scores than those studying externally (17.9). As might be expected given their proximity to teaching staff, students living on campus (22.3) tended to interact with teachers more than those living off campus (20.8). Unexpectedly, given the emphasis on student-staff interaction in the online learning research literature, the proportion of study undertaken online had little relationship to this area of engagement. Respondents that reported taking no study online had a mean score of 20.6, while those taking all or nearly all of their study online had a mean score of 20.8 on the Student and Staff Interactions scale.

Students engaging in paid work on campus (30.5) had a higher average score than the 93.1 per cent who did not work on campus (20.3). This result is consistent with research insights that affirm the educational value of working on campus. On-campus employment is proposed to offer students a greater sense of community inclusion as well as opportunities directly related to interactions with academics. Working off campus had little relation to students' interactions with teaching staff, with average scores ranging between 19.2 for the 3.1 per cent working 26 to

30 hours a week, and 22.3 for the 7.4 per cent of students working between 1 and 5 hours a week.

Enriching Educational Experiences

A considerable amount of learning at university takes place outside formal learning environments.[9, 10] Participation in beyond-class experiences plays an important role in the broader developmental outcomes of higher education. The AUSSE Enriching Educational Experiences scale measures this aspect of student engagement.

Results for the Enriching Educational Experiences scale are low, with the cross-institutional mean being 25.5 and standard deviation 12.9. This mean reflects a slight increase from 23.4 among first-year students to 27.7 among later-year students. In the USA, first- and later-year mean scores increased from 27.1 to 39.9.

Of the six AUSSE scales, this area of engagement

9 Griffin, P., Coates, H., McInnis, C. & James, R. (2003). The development of an extended Course Experience Questionnaire. *Quality in Higher Education, 9*(3), 259-266.

10 Scott, G. (2006). *Accessing the Student Voice: Using CEQuery to identify what retains students and promotes engagement in productive learning in Australian higher education.* Canberra: Department of Education, Science and Training.

may be the most culturally specific. While USA first-year students routinely live on campus, often as a matter of institutional policy, only 15.6 per cent of Australasian first-year and 7.0 per cent of later-year students reported living on campus in a university college or hall of residence. In the USA context, many Australasian institutions could be stereotyped as 'large urban commuter institutions'. This has flow-on implications for students' participation in enriching educational experiences, most of which would likely occur in after hours on-campus or college of residence settings.

Lecturers could become a little more involved with students so that they become more familiar and thus seem more approachable.
– First-year speech pathology student

Australasian students report frequent interaction with students from different ethnic groups, and with those who have different religious beliefs, political opinions or personal values. This is encouraging, suggesting that universities provide space for people to encounter diversity and experience difference.

Less enthusiastic patterns of participation are evidenced in other potentially enriching aspects of university education. Figure 6 shows, for example,

that only a small number of students reported participating in internships, community service, learning communities and foreign language study. The number of students who take part in study abroad and exchange programs is also very low. Very few reported taking part in a culminating final-year experience, such as a 'capstone course'.

Figure 7 shows that Australasian students spend on average only a very small amount of time participating in extracurricular activities, with just under half (44.2%) reporting no such engagement.

Results hovered around the Australasian average of 25.5 for Australia and New Zealand, different age groups (24.7 for respondents under 20 years of age and 26.0 per cent for others), and males (24.9) and females (26.0). There was some variation in mean scores for extracurricular participation across institutions (ranging from 21.7 to 29.7), the means by which students financed their study (those paying international fees had a notably higher mean of 29.6), highest level of family education (ranging from 23.7 for secondary education to 26.5 for higher education) and language background (28.7 for those with a main home language other than English).

As might be expected, full-time students reported participating in more Enriching Educational Experiences than part-time students (a mean score of 26.3 compared with 20.6), as did on-campus students compared with those

Figure 6 Students' engagement with enriching educational experiences
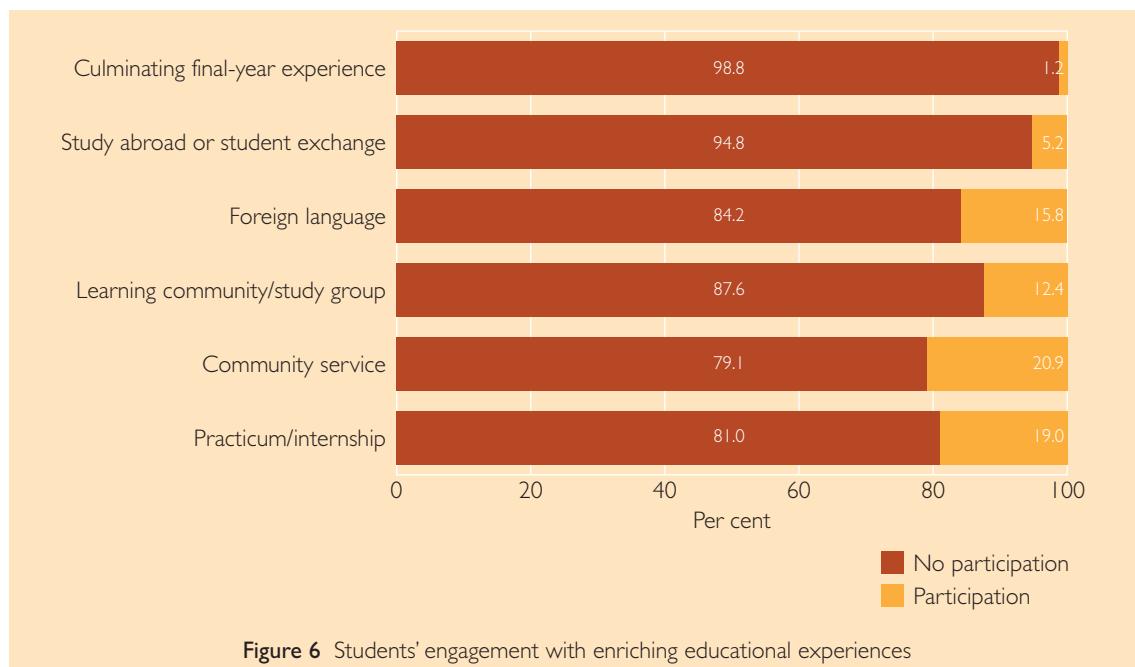
Cannot shake the feeling that I am just another student number in the university system, like everyone else with no sense of belonging. Institutions need to hear the students' voice and get students involved in campus activities. Student groups should not have all the responsibility.
– Later-year Japanese language student

studying by distance (mean scores of 26.1 and 20.5 respectively). Of interest was the finding that living on campus made little difference to this aspect of student engagement (27.3 compared with 25.4 for students living off campus).

Students in the Health and Education fields of education reported the highest levels of participation in Enriching Educational Experiences (28.6 and 27.2 respectively), compared with students in the Architecture and Building and Information Technology fields who reported the lowest levels of participation in Enriching Educational Experiences (24.3 and 22.3 respectively).

Participation in enriching activities remained constant irrespective of the number of hours spent in off-campus paid work, the exception

Figure 7 Hours per week students spend on extracurricular activities

being when paid work commitments were more than 30 hours per week. This latter group (7.8 per cent of students) had an average score of 20.8, down from around 25 for students who reported either not working or working up to 30 hours a week. As noted elsewhere, off-campus employment is not associated with decreased perceptions of engagement. In comparison, working for pay on campus is associated with greater participation in Enriching Educational Experiences. While students with such work had an average score of 29.6, those not working for pay on campus had a score of 25.2.

Supportive Learning Environment

Students' perceptions of the extent to which an institution has supported their learning is an important index of their sense of inclusion within a university learning community. Such support, measured by the AUSSE Supportive Learning Environment scale, balances the individual qualities of engaging with learning.

The Australasian mean on the 0 to 100 reporting metric for the Supportive Learning Environment scale was 50.6, with a standard deviation of 17.2. This was the only scale that saw a decrease across

More free events with healthier food and more flexible times for guest speakers and events that are beneficial for networking and professional development.
– Later-year social work student
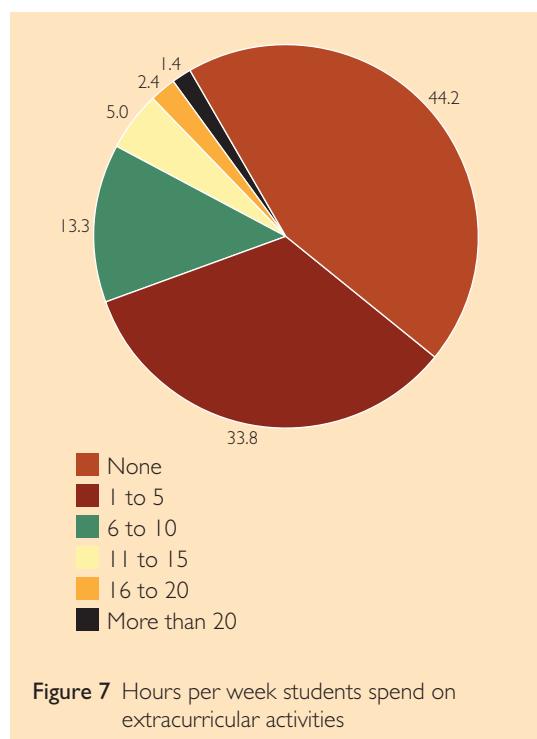
year levels, with first-year Australasian students having a mean of 51.2 and later-year students a mean of 49.9. Interestingly, this same decrease is evident in the NSSE year-level estimates, which decline from 59.9 to 56.9.

Figure 8 presents results from a selection of three of the six items in this scale, highlighting the degree to which respondents' reported their institution had emphasised a range of supports. A total of 56.6 per cent of Australasian students reported that their institutions provide them with the support they need to succeed academically 'quite a bit' or 'very much'. By contrast, only 15.7 per cent reported feeling the same level of support in relation to help coping with non-academic responsibilities. The responses suggest

that students do not generally feel that they are given supports that would help them to socialise. As before, this may be linked to the common lack of on-campus living and associated activities for the majority of students.

Very few individual or educational characteristics were associated with students' perceptions of institutional support. The institution at which a student was enrolled explained just 1.4 per cent of variation in this aspect of engagement on

The best aspects of my university in engaging students to learn is having someone you can speak to if you need help with anything.
– First-year primary education student

average, ranging from an average score of 48.5 at one institution to 55.9 at another. While students aged less than 20 years reported slightly higher average levels of engagement on this scale than their younger counterparts (51.9 compared with 49.7), the difference is small.

Differences between fields of education ranged from a score of 48.6 for Management and Commerce students to just 53.1 for Agriculture, Environmental and Related Studies (excluding the smaller field of Food, Hospitality and Personal Services). Respondents studying full time and part time tended to have similar perceptions of institutional support (50.8 and 48.6 respectively), as did those studying on-campus (50.8) and those

studying externally (48.1). As might be expected, one of the largest differences was between students living on campus (54.8) and their off-campus peers (50.0).

While students working for pay on campus reported feeling greater support from their institution (54.8) than those not taking part in such work (50.2), the hours spent working for pay off campus were correlated with slight, but steady, decreases in perceptions of support. While the 32.6 per cent reporting no off-campus work activities had an average score of 51.8, this dropped to 46.9 for those working more than 30 hours a week.

Work Integrated Learning

The Work Integrated Learning scale measures the extent to which learners have blended academic learning with workplace experience. Developing 'work ready' graduates is an increasingly important function of higher education, even in institutions and areas of study that emphasise more general or liberal forms of education.

The Work Integrated Learning scale had an average score of 44.4, with a standard deviation of 23.1. The scores rose from a mean of 39.3 for first-year students to 49.8 for later-year students. This scale is unique to the AUSSE and, as such, there are no reference values in the USA for comparison.

Figure 9 separates students' responses to the three items in this scale that ask students how

Figure 8 Perceptions of institutional support

Figure 9 Reports of Work Integrated Learning
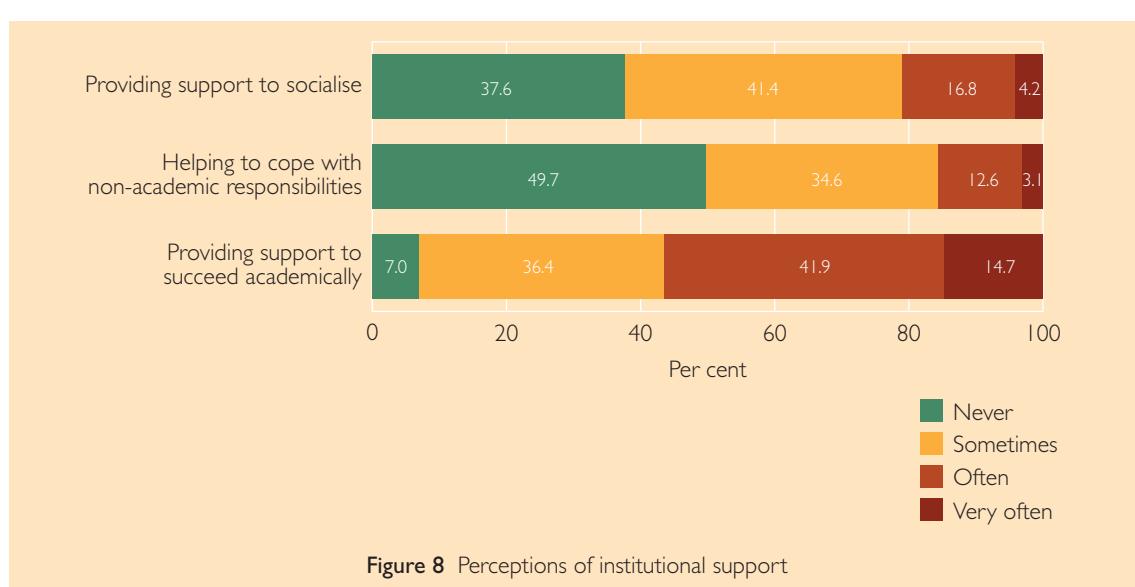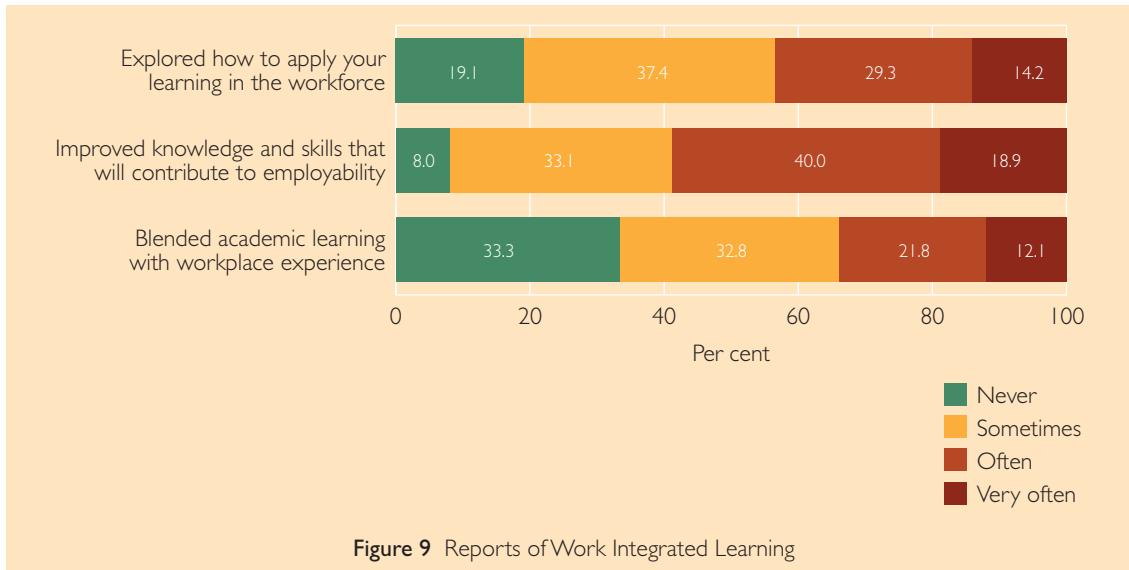
often they have done certain activities in the current academic year. Across Australasia, 19.1 per cent of all students reported that in the current academic year they have never explored how to apply their learning in the workforce. Of all students, 58.9 per cent reported 'often' or 'very often' improving knowledge and skills that will contribute to their employability. Only 33.9 per cent, however, reported blending academic learning with workplace experience.

Scale scores for this facet of student engagement varied considerably across institutions, ranging from 36.9 at one to 55.9 at another. Review of this variation does not suggest an obvious relationship between students' perceptions of their engagement in Work Integrated Learning and institutional mission.

While the cross-institutional mean was 44.4 for the Work Integrated Learning scale, this varied from 38.0 for learners under 20 years of age to 48.2 for those over 20. Such a difference might be expected given that older students are typically more advanced in their study and working lives and thus have had more access to opportunities to blend their learning with the workplace.

Similarly, later-year students had higher levels of Work Integrated Learning, compared with students in their first year of study, with mean scores of 49.8 and 39.3 respectively. Five per cent of the variation in scores on this scale was associated with year level, indicating that institutions are succeeding in developing students' awareness of the workplace and how it relates to

their academic learning as they progress in their courses.

By way of example, Figure 10 presents the proportion of first-year and later-year respondents indicating they had participated in industry placement or work experience as part of their education. The figure for first-year students is

---

By carrying out 'practical experiments' in real filmmaking, we can trial and error before such mistakes become costly in the work place.
– Later-year media student

12.6 per cent, rising to 32.4 per cent for later-year students. Even though the proportion of students taking part in such experiences has risen more than two and a half times, the overall percentage remains low, with just under a third of all later-year learners engaging in such experiences.

Females reported higher levels of Work Integrated Learning than their male counterparts (46.0 and 42.4 respectively). This difference remains after variation associated with field of education is removed (fields of education often display gender differences in enrolment patterns).

While family education background bore little relationship to respondents' perceptions of their Work Integrated Learning, students with English as the main home language (45.0) displayed higher levels than for those with other home languages (41.9).

Figure 10 Industry placement or work experience

As may be expected, participation in work-based learning activities varied across fields of education. Figure 11 shows that average scale scores range from 36.1 in the Natural and Physical Sciences to 57.2 in Education.

Results were higher for part-time students on this scale (47.0) compared with those studying full time (44.2) and for distance (50.2) as opposed to on-campus (43.8) students. Students living off campus had a marginally higher score (44.9) than those living on campus (42.0).

As might be expected, participation in paid employment, both on and off campus, was associated with higher Work Integrated Learning scores. Students with paid on-campus work had scores of 48.9, up from 44.1 for those with no campus-based employment. Average scores for off-campus paid work rose steadily from 40.3 for those without such work to 54.3 for those working more than 30 hours a week.

Practical classes involving you with cadavers and real people gives a chance to understand how the human body works and functions.
— First-year biomedical sciences student
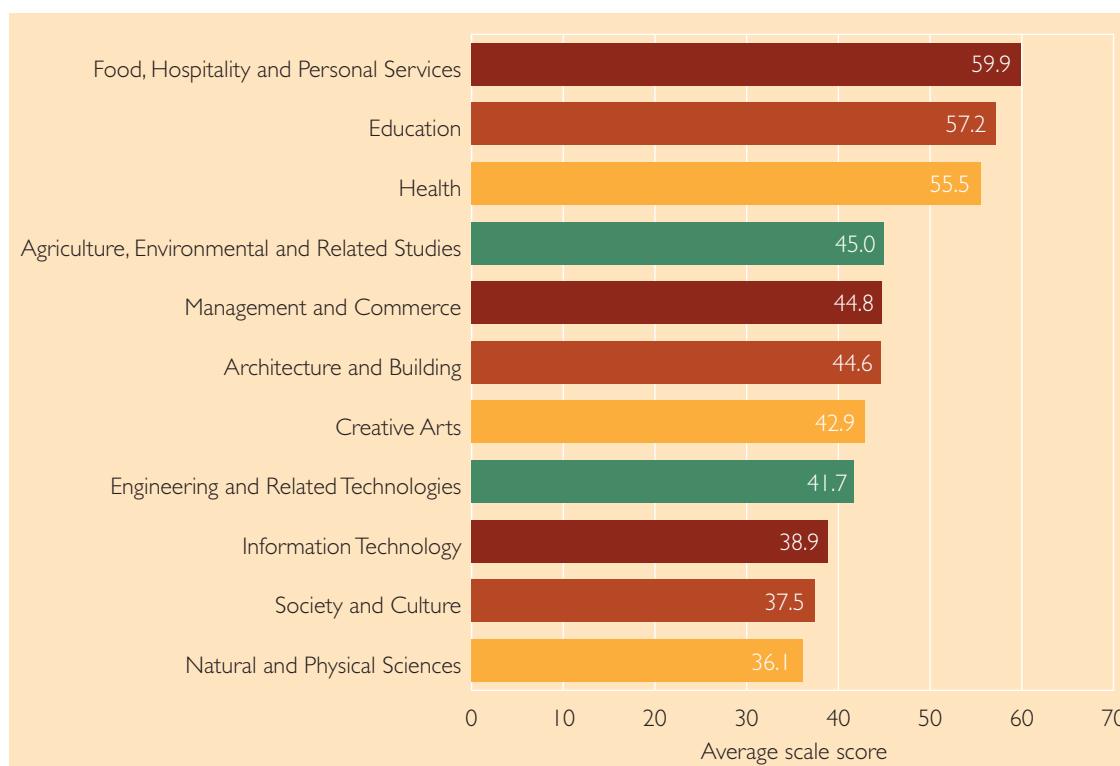
Figure 11 Work Integrated Learning scores by field of education

4

Pictures of Change

Connections with reported outcomes

Reviewing links between facets of student engagement and summary outcome indicators helps build understanding of the factors that institutions, staff and students may use to enhance education.

It is important not to oversimplify this area of research and practice, nor to overextend the current results. Clearly, a complex web of factors relates to observed outcomes of higher education, and the outcomes themselves are complex and varied. Many factors, outcomes and relationships are not amenable to direct measurement, making investigation of this area inevitably partial and complex.

In addition to aspects of student engagement, several broad 'outcomes' are measured by the Student Engagement Questionnaire (SEQ). The survey measures:

- self-reported learning outcomes (tapping a range of general, specific, social, personal, ethical and interpersonal capabilities);
- involvement in higher order thinking (analysing, synthesising, evaluating and applying);
- summative evaluations of educational quality;
- average overall grades; and
- institution and course change intentions.

As an initial summary, Figure 12 shows correlations scaled onto a 100-point metric between these five broad outcome indicators and the six student engagement scales. The correlation between higher order thinking and the Academic Challenge scores is omitted due to overlap between items in these scales.

Self-reported learning outcomes have medium correlations with engagement results. Importantly, the correlations are positive across the scales. The consistency and directionality of this relationship implies that increased student engagement in the key areas measured by these six scales is associated with increases in self-reported academic outcomes. More engaged students report doing better in their studies or, conversely, students who do better in their studies report being more engaged.

Engagement in higher order forms of learning tend to be associated with most aspects of engagement, with correlations in Figure 12 ranging between 28.9 and 33.3. The positive relationship indicates that greater engagement in key aspects of university education is related to more advanced forms of reasoning such as analysis, synthesis, evaluation and application.

Figure 12 shows that summative course evaluations are most strongly related to perceptions of academic support. When institutions offer students an environment that is supportive of their learning efforts, students are more likely to report satisfaction with the quality of academic advising, report positive evaluations of the entire educational experience, and report that they would attend the same institution if they were to start their course again.

Three SEQ items contribute to this global measure of educational quality. One item focuses on the overall quality of academic advising. Figure 13 charts mean scores for the six engagement scales by students' perceptions of this particular aspect of academic support. The relationship is positive for all scales, suggesting that quality

Figure 12 Scale score and outcomes correlations
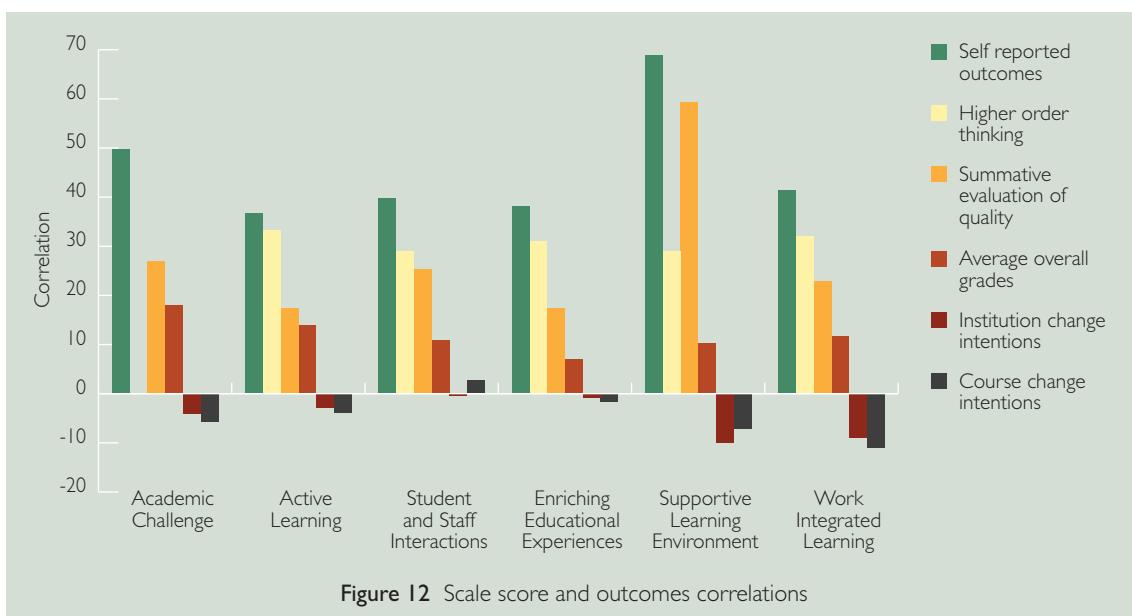
student advising is linked with higher student engagement. Higher quality academic advising appears to be most strongly correlated with Supportive Learning Environment means, followed by average scores on the Work Integrated Learning and Student and Staff Interactions scales.

Figure 14 displays a strong relationship between engagement scale means and perceptions of the overall quality of the educational experience. The pattern of results is very similar to that in Figure 13, suggesting a close relationship between perceptions of individual support and overall educational quality. More highly engaged students report higher quality academic experiences.

One means of assessing people's global perspective of educational quality is to ask whether they would attend the same institution if they were beginning their studies again. While students can lack frames of reference in terms of comparative experiences upon which to base comparisons, such a question does access people's perceptions of whether an institution is delivering against expectations. Students choose institutions for a variety of reasons, and it is important that perceived returns align with the personal investments that are being made.

Figure 15 shows that students' perceptions of whether they would enrol at their current

Figure 13 Scale scores and the quality of academic advising

Figure 14 Scale scores and overall quality of the educational experience
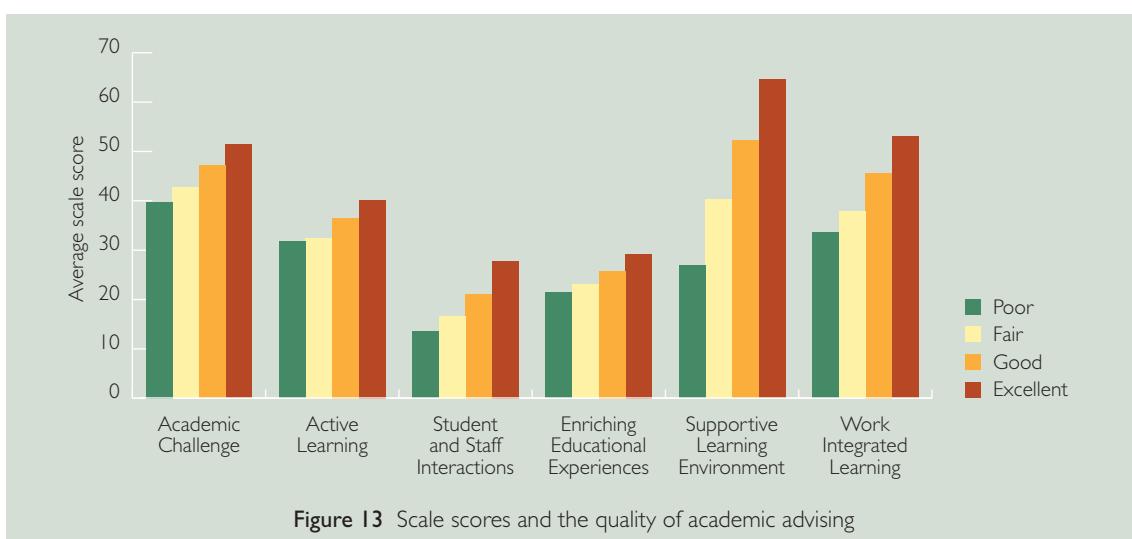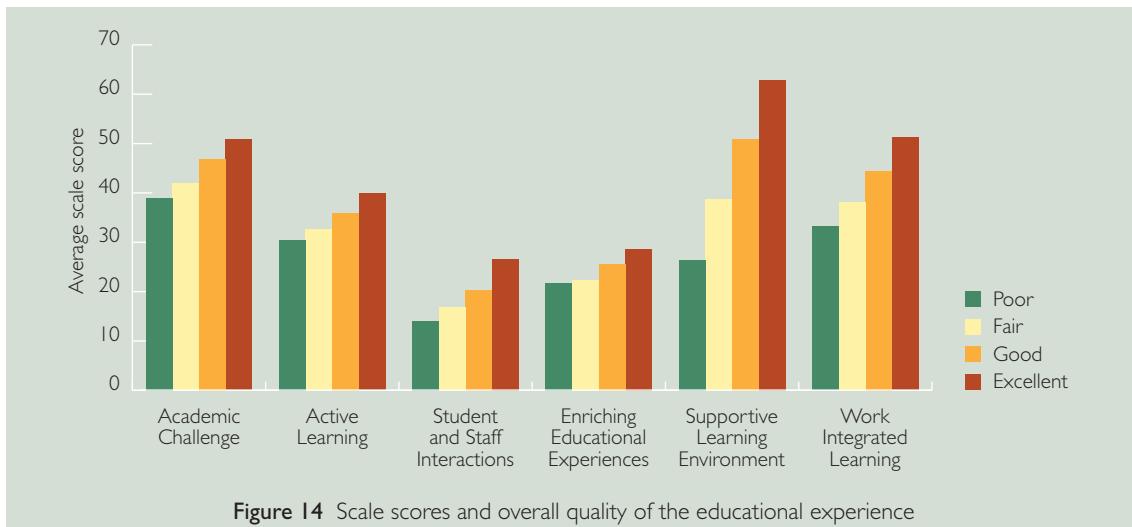
institution if starting again have a positive relationship with most engagement scales, with Academic Challenge, Supportive Learning Environment and Work Integrated Learning displaying the strongest relationships with this measure of student satisfaction. Links with the three AUSSE scales that are focused more squarely on the contribution of individual students (Active Learning, Student and Staff Interactions and Enriching Educational Experiences) are less convincing. The results suggest, in short, that students feel their educational experience has been most valuable when they are challenged to learn in a supportive environment and have encountered work-relevant learning experiences. These findings affirm conceptions of situated or authentic learning, and the value of learning environments that offer high challenge and high support.

Figure 12 shows small positive correlations between average overall grades and the AUSSE scales. This relationship is detailed further in Figure 16, which reports mean scale scores for each of the five categories used to classify different overall average grades. Across the scales, the increase between each category averages just over two scale points, with overall increases between lowest-grade and highest-grade categories of between 3.6 for Enriching Educational Experiences and 18.8 for Work Integrated Learning.

Mobility between courses or early departure from an institution are important higher education outcomes. Two items on the SEQ measure these

Figure 15 Scale scores and institution re-enrolment intentions

Figure 16 Scale scores and average overall grades
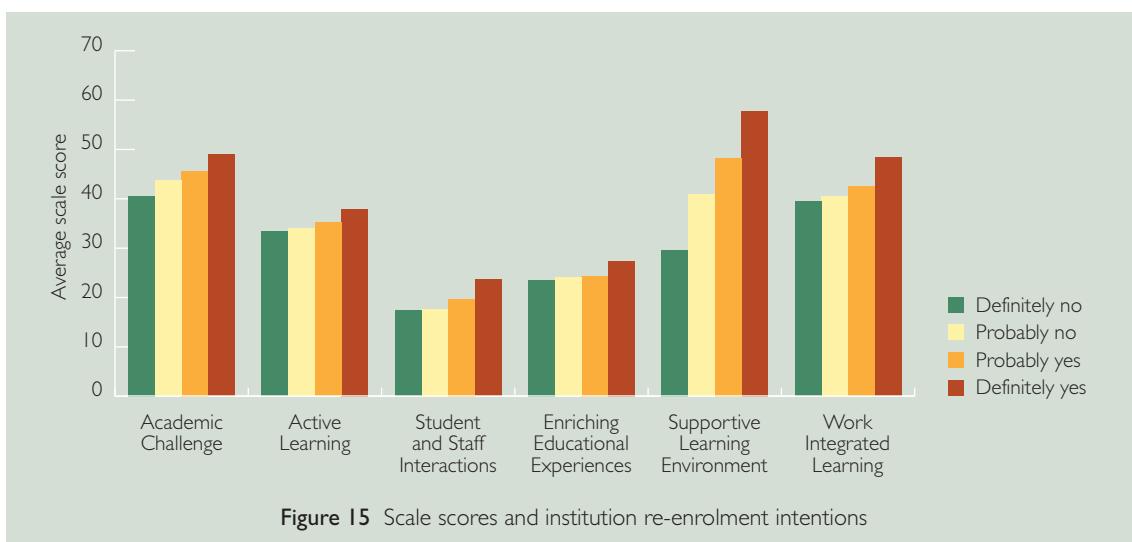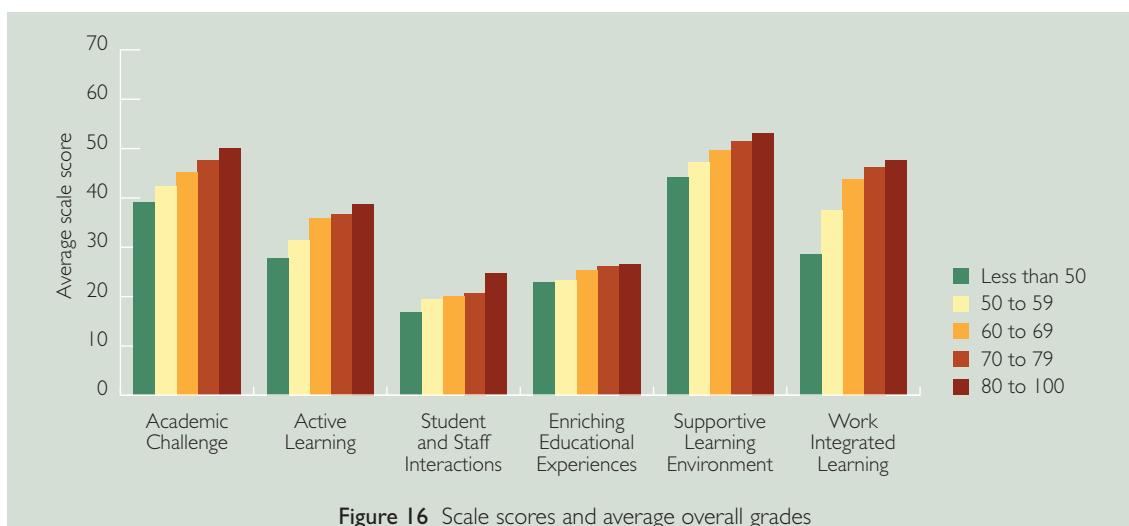
areas, each seeking feedback on whether students intended to stay at an institution or in their current course, or the reasons for possible course change or departure.

Figure 12 shows that links between engagement and intentions to change courses or institutions are modest, although generally negative. The strongest negative relationships are between perceptions of support and Work Integrated Learning and students' intentions to change either course or institution.

Figure 17 reports difference statistics for each of the engagement scales between responses provided by people who indicated they intended to change either course or institution, and those who indicated they would continue their current

enrolment. Positive scores indicate that those with no intention of changing have higher scale means than those with change intentions.

In general, students with change intentions have lower engagement scale means of between one and six scale points, with the exception of institution change intentions and Student and Staff Interactions mean scores. While the difference is small, those who intended to change had scores 1.1 units higher on this scale than those who intended to remain at the same institution. The largest differences were in the areas of Supportive Learning Environment and Work Integrated Learning, areas in which low levels of engagement tended to be associated with course and institution change intentions.
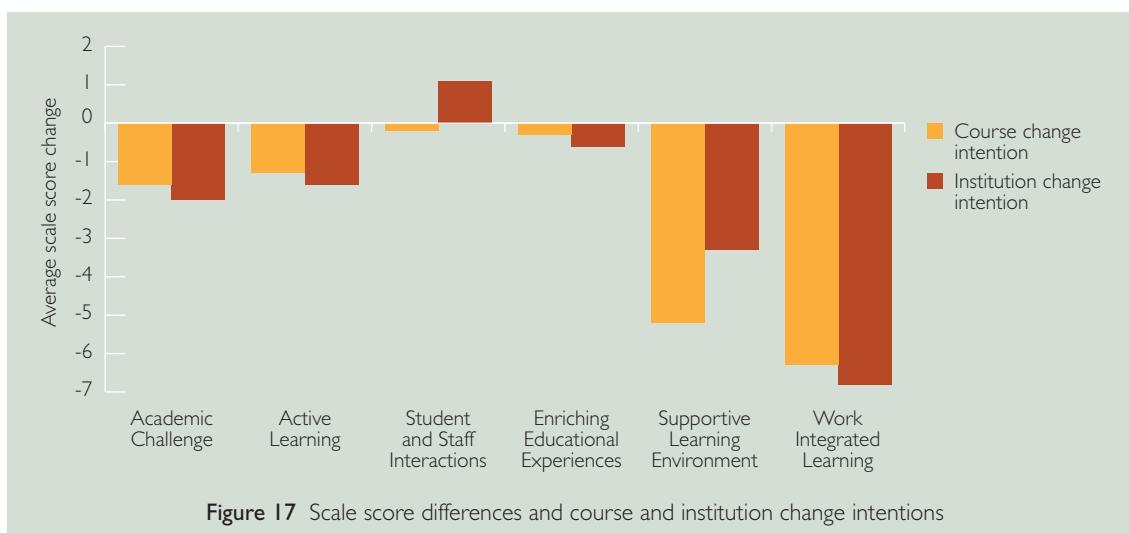
Figure 17 Scale score differences and course and institution change intentions

"More engaged students report doing better in their studies or, conversely, students who do better in their studies report being more engaged."

"When institutions offer students an environment that is supportive of their learning efforts, students are more likely to report satisfaction with the quality of academic advising, report positive evaluations of the entire educational experience, and report that they would attend the same institution if they were to start their course again."

Figure 18 Scale change scores for the whole sample
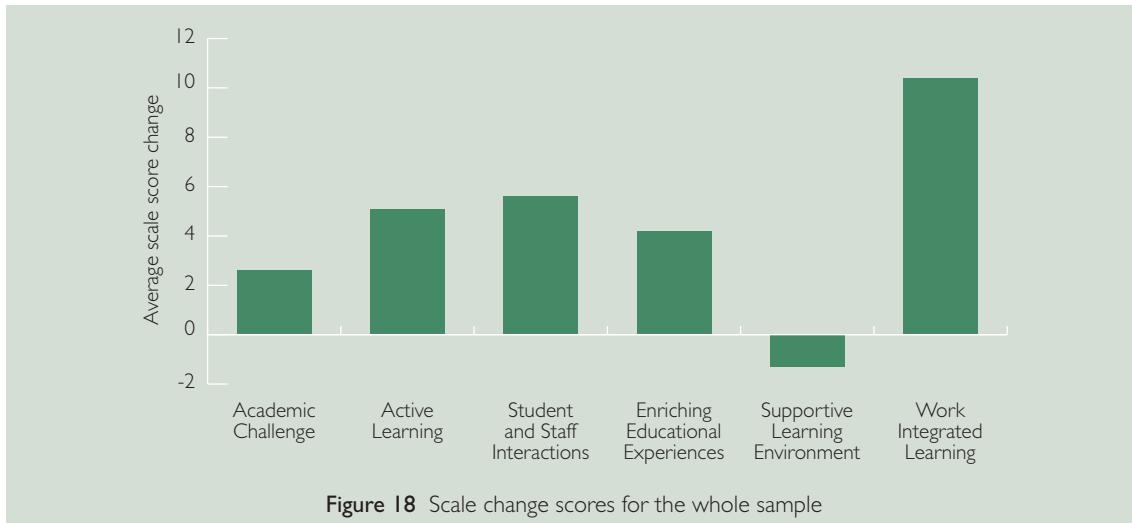
Linking engagement with growth

Examining changes in student engagement between the first and later years provides insight into how different cohorts interact with university study. An increase in active learning activities, for instance, would indicate that learners are investing more time constructing new knowledge and understanding.

A complex web of factors is likely to underpin reported changes in student engagement. Examples include individual maturation, environmental influences, institutional contexts, pedagogy, and changes in self-perception and efficacy. The current report does not seek to explicate the foundations for any changes, but simply to note areas of growth and decline.

It should be noted that the following findings review change across year-level cohort groups. The AUSSE is a cross-sectional survey and does not involve longitudinal surveying of the same individuals at different points of their academic careers.

Figure 18 to Figure 21 present a series of change scores. These scores are the simple difference between year-level averages for particular groups. While not the most statistically sophisticated means of assessing group differences, change scores offer a simple means of capturing the level and pattern of areas of growth and decline.

Figure 18 shows year level change across all scales and the whole sample. The change scores range from -1.3 for Supportive Learning Environment

Figure 19 Scale change scores by student gender

Figure 20 Scale change scores by family education background
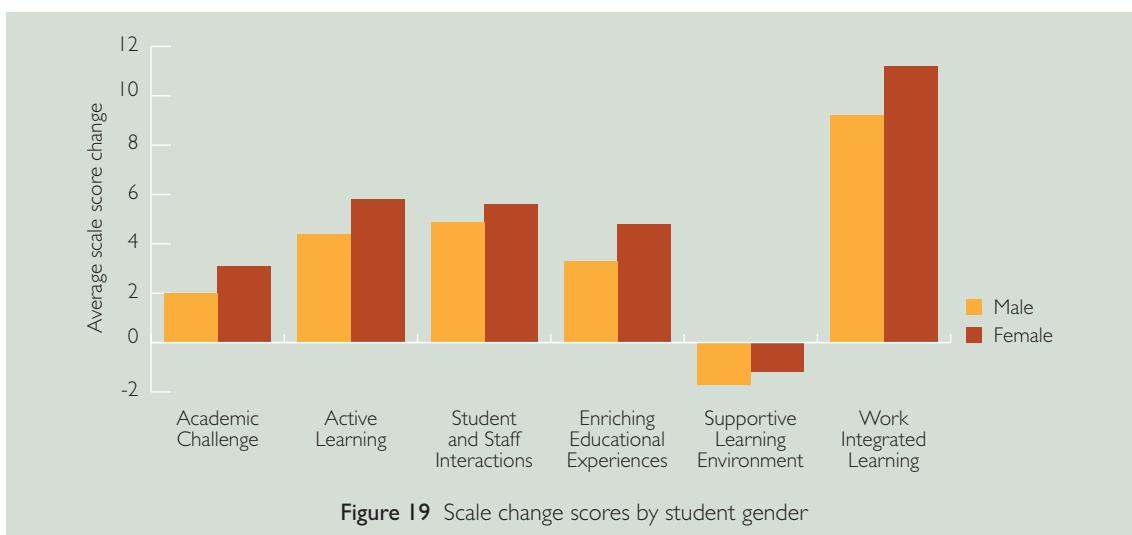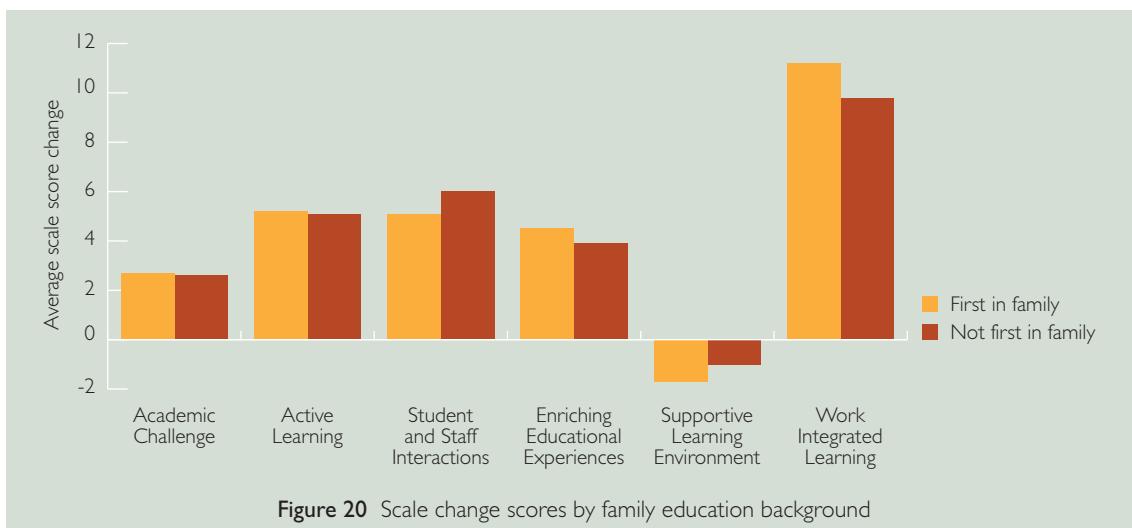
(decreasing from 51.2 to 49.9 from first to third year), to 10.4 for the Work Integrated Learning scale (rising from 39.4 in first-year to 49.8 for later-year students). In general, the differences tend to sit around five points on the 0 to 100 reporting metric. It is interesting that later-year students perceive less institutional support than their first-year counterparts.

The decline in perceptions of support warrants investigation. Australasian institutions have developed sophisticated first-year support programs in the last decade to enculturate students into academic life. The results demonstrated in this report may reflect learners' perceptions of the withdrawal of such support in later years, or they may reflect a lack of engagement in later-year supports as students become more self-reliant. Alternatively, the results may simply highlight a relative lack of such support programs. Clearly, it is important that institutions support learners' transitions into post-educational activities.

Figure 19 reports change scores for males and females. Across all scales, females tend to report greater increases in engagement than males. The difference is small, but consistent.

Family education background accounts for little difference in change in engagement on all scales except the Work Integrated Learning scale. For this, as Figure 20 shows, respondents who are first in their family to attend higher education tend to report lower scores than those with university-

Figure 21 Scale change scores by type of attendance

Figure 22 Scale change scores by mode of attendance
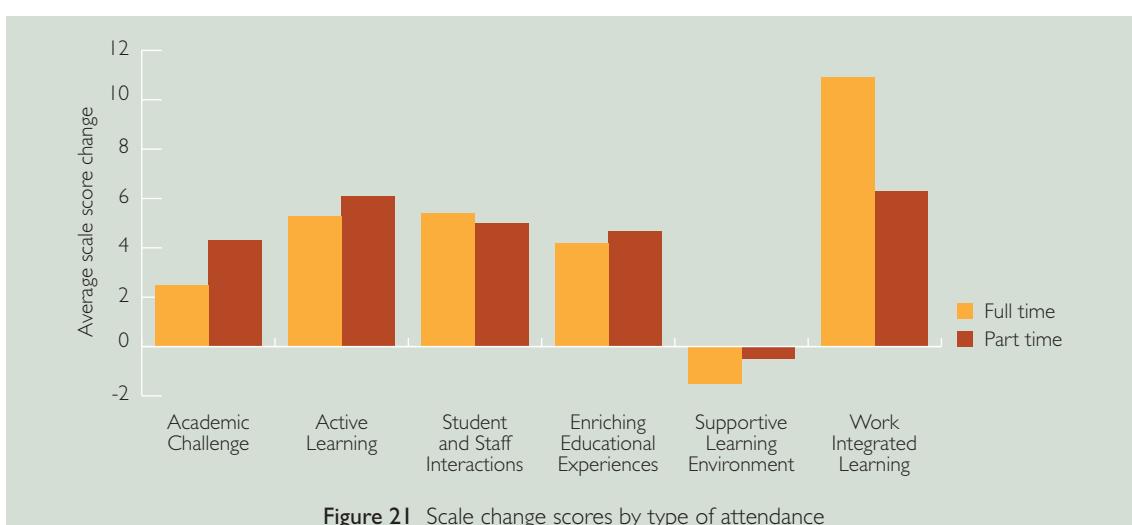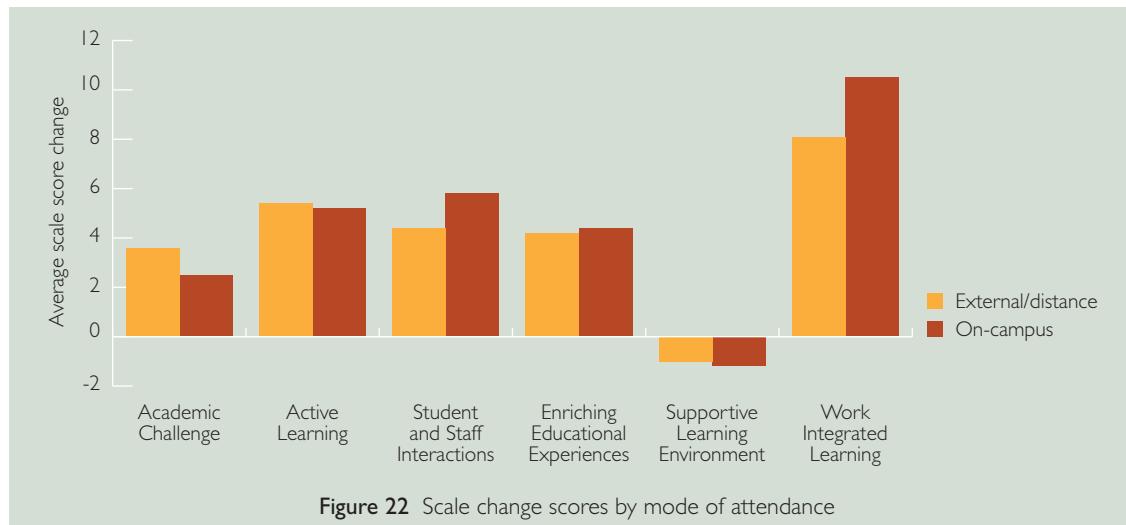
educated family members. Interestingly, those with university-educated family members report slightly higher increases in Student and Staff Interactions.

Figure 21 indicates that part-time students report greater change in Academic Challenge, Active Learning and Supportive Learning Environment scores than do those studying full time. Differences in pedagogical interaction and participation in Enriching Educational Experiences are small. The most striking change across year levels in terms of mode of study is that full-time students report greater growth in Work Integrated Learning than the cohort of part-time learners.

Studying on-campus or by distance appears to be linked with varying levels of change in student engagement. External students report greater change in perceptions of Academic Challenge. Conversely, on-campus students report greater change in contact with teaching staff and Work Integrated Learning. Differences between groups in terms of Active Learning, Enriching Educational Experiences and perceptions of Supportive Learning Environment were small.

Clearly, these results offer just a snapshot of broad patterns in the change in students' engagement with university study across year levels. Encouragingly, such change is generally positive at Australasian institutions, with the exception of perceptions of the supportiveness of the learning environment.

5

Evidence-based Quality Enhancement

As experience in the USA and Canada has shown, the analysis of 'student engagement' provides a practical lens for addressing the significant dynamics, constraints and opportunities facing higher education institutions. It provides key insights into what students are actually doing, a structure for framing conversations about quality, and a stimulus for guiding new thinking into practice.[11, 12]

The most important role institutions play in the AUSSE is in determining how best to leverage survey results for internal quality improvement. Simply reporting AUSSE results will not, by itself, necessarily lead to action. While AUSSE results are designed primarily for internal use by institutions, institutions may choose to use their AUSSE data for a variety of external purposes.

Using AUSSE insights internally

Focusing educational strategy and reviews

Ideas about student engagement can be infused into strategic plans on research, internationalisation, community engagement, infrastructure, resources, and student access and equity.

University-wide goals and strategies might be directly derived from aspects of engagement.

That is, 'enhancing engagement' might itself be set as a goal, with a series of derivative strategies concentrated on: enhancing challenging, active and collaborative learning; enhancing students' interaction with staff; enhancing development of individual student talent; developing supportive and responsive learning environments; enhancing the online experience; and developing adaptive and online pedagogies.

Alternatively, the idea of engagement might be infused across a range of different areas in an institution. For example, engagement ideas could be distributed through strategies pertaining to educational quality, internationalising learning experiences, promoting an institutional 'ethos of learning', or developing online pedagogy.

In a more applied way, evaluations of student engagement can and should be woven into cycles of institutional evaluation and research. The information about key learning processes, which are captured in measures of engagement, should occupy a critical position in performance indicator systems that integrate information on student-, teacher- and institution-level inputs, processes and outcomes. At an operational level, the measurement of student engagement can be conducted alongside the measurement of phenomena such as teaching quality, the teaching qualifications of academic staff, institutional resources, levels of prior academic performance, and academic outcomes.

Timely information about student engagement provides coincident data on the participation of a particularly significant group of stakeholders in institutional and educational processes. Without

---

11 Kuh, G., Kinzie, J., Schuh, J.H. & Whitt, E.J. (2005). *Assessing Conditions to Enhance Educational Effectiveness: The inventory for student engagement and success.* San Francisco: Jossey-Bass.

12 Kuh, G., Kinzie, J., Schuh, J.H., Whitt, E.J. & Associates (2005). *Student Success in College: Creating conditions that matter.* San Francisco: Jossey-Bass.

such information, institutional managers and leaders are left to rely on assumptions or *ad hoc* anecdotal reports about how students are interacting with valuable resources and with their learning.

Linking institutional data

Linking engagement data with data in administrative systems provides a means of studying issues such as student retention and attrition. Engagement data provides rich information on key aspects of students' interactions with their institutions. Analysing engagement data in light of information about attrition and retention may well expose specific patterns of interaction that are distinctive to students who choose to discontinue their courses. This might help develop strategies and practices for preventing student attrition or at least managing student retention.

Institution teaching and learning collaborations

Institutions are encouraged to hold internal meetings and workshops. These might bring together people from across an institution. These people may be involved in teaching, supporting students, developing policy and strategy, managing staff and learning resources, and managing relationships with external stakeholders.

Institution-wide committees, partnerships or interest groups can be a powerful means of managing, taking responsibility for, and promoting discussions about engagement. Engagement is a broad idea that brings together a range of ideas, activities and people. Engaging students in beyond-class collaboration, for instance, may require the people who design and develop spaces around campus, and who develop online tools that support specific interactions within groups, to support such work. Equally, it is also necessary to engage teaching and student support staff. Such developments typically require co-ordination of ideas, work and people across an institution, and may benefit from the direction and support that institution-wide committees provide.

Academic staff development

Explicit steps can be taken to infuse the idea of 'student engagement' into both formal and colloquial discussions about teaching. The induction and development of new and experienced academic staff can include discussion of student engagement and its importance to educational outcomes, as well as offer pedagogical strategies and practices for enhancing engagement.

Discussions about teaching in departmental seminar series and colloquia can emphasise the value of stimulating engagement. Academic staff can be encouraged to record evidence of their 'capacity to engage students' into the academic or teaching portfolios that are used for appointment, confirmation and promotion procedures. Clearly, if criteria used to judge applications for employment and advancement include evidence of contributions to student engagement, this would be ideal as efforts to this end could be recognised and rewarded.

Institutions can do much to develop the capacity of teaching staff to enhance engagement. Incorporating key ideas about engagement into staff development policies, particularly those pertaining to supportive and adaptive teaching practices, is one strategy. Academic development activities provide a key means of embedding perspectives on engagement into teaching processes, and helping faculty and support staff understand how to manage and lead effective forms of engagement.

Other ways in which AUSSE insights might be used internally include teaching and learning summits and other fora where discussion of initiatives to target the increase of student engagement might be facilitated. Teaching grant schemes might specifically target the development of initiatives that promote student engagement.

Involving students in improvement activities

Students are an often under-utilised source of assistance in efforts to improve student engagement. Students can provide insightful first-hand interpretation of AUSSE results, which can assist institutions in raising awareness of and interest in the phenomenon.

Learners can be involved in conversations about engagement in a range of ways. They can have representation on groups developed to stimulate and manage organisational conversations about engagement. Focus groups can be held with students from target cohorts, or from a cross-section of the institution. Student fora and colloquia may be useful, and/or students can be given a voice in staff fora or colloquia. Finally,

targeted reports can be factored into student publications and academic or administrative communications.

Developing resources for students

One of the most immediate steps that institutions can take to enhance student engagement is to develop resources and other strategies to help students learn about engagement.

The incorporation of seminars and classes about engagement into orientation and transition activities, and the dissemination of key ideas through first-year lectures, laboratories and tutorials are some of the ways in which students can learn about how to help themselves make the most of their educational experiences. Thus it may be useful to supply academic staff with generic materials about engagement, and perhaps even disseminate resources and 'useful tips' via online learning management systems. Multimedia resources could be developed to give life to findings about students' engagement at a particular institution.

The process of simply using the SEQ to measure students' perceptions of their university study may in itself be one of the most effective means of enhancing overall engagement. Responding to student engagement questionnaires provides students with an opportunity to reflect actively on university study. Along with exposing students to a list of good online and general educational practices, students may value the opportunity to participate in organisational feedback processes.

General staff development

Students' engagement with university cuts across a range of academic and administrative activities and areas. Managing student engagement is a whole-of-institution activity. In particular, managing beyond-class interactions plays a critical role in enhancing students' engagement in learning and development activities.

General staff play a significant role in shaping the student experience and are central in student engagement activities. Specific activities, such as briefings or internal conferences, focused on how general staff might contribute to improving student engagement might be worth considering in some institutions. There would be considerable value in hosting combined events for both general and academic staff.

Survey engagement

Research has shown that there is great value in taking active steps to enhance students' participation in survey processes.[13] Staff at institutions can use a range of approaches to engage students in the AUSSE, including:

- informing potential respondents about the AUSSE during general teaching activities;
- affirming the importance of the survey and student feedback during the collection period; and
- disseminating feedback about the survey to all relevant stakeholders.

The scope of the AUSSE is institution-wide, and much value is derived from providing institutional stakeholders other than students with an overview of the survey. Such stakeholders might include senior staff, teaching staff, interested researchers, support staff, and relevant committees.

There might be value in targeting information at particular cohorts or groups of students. First-year students, 'at risk' students, students in equity groups, and students who are first in their family to attend higher education may benefit from knowing about how to engage with university, and about opportunities that exist to provide feedback.

These stakeholders can be provided with basic information about the AUSSE.[14] There would also be value in stimulating more substantive conversations with these groups as they can play a critical role in enhancing conversations about and the improvement of student engagement.

Survey engagement is critical. The quality of survey responses influences the quality of survey results, which then influence important decisions about educational quality and provision. ACER is developing a suite of survey engagement resources that institutions can use to enhance students' participation in the feedback process.

---

13 Coates, H., Tilbrook, C., Guthrie, B. & Bryant, G. (2006). *Enhancing the GCA National Surveys: An examination of critical factors leading to enhancements in the instrument, methodology and process*. Canberra: Department of Education, Science and Training.

14 See www.acer.edu.au/ausse

Using results externally

Stakeholder engagement meetings

The AUSSE offers an opportunity to stimulate new conversations about student engagement. These conversations focus on learners and their interactions with their university.

In the USA and Canada, communities of practice have developed to help people share insights and resources for enhancing student engagement. In 2008, ACER will hold a series of workshops to stimulate these conversations by facilitating analysis and interpretation of AUSSE data, and identifying the best ways of using AUSSE data to enhance institutional practice.

The AUSSE is intended to provide a basis for publication and presentation of analyses within higher education communities and, more generally, at conferences, and in magazines and journals.

Public reporting considerations

Whether a participating institution makes public its student engagement results is up to the institution. ACER does not make institutional scores available to third parties. Institutions may do so if they wish.

Institutions may choose, over time, to report AUSSE findings publicly. When doing so, particular care should be taken to ensure that the data on which the report is based has been analysed in technically appropriate ways, that privacy and confidentiality considerations are respected, and that reports are likely to support appropriate and informative interpretations.

ACER encourages public disclosure of student engagement results in ways that increase understanding of educational quality and support institutional improvement efforts.

Releasing institutional results from the AUSSE provides an opportunity to help educate the wider tertiary education community and the public about the value of student engagement as a new metric for defining and examining higher education quality. ACER especially supports public reporting of student engagement results in ways that enable thoughtful, responsible institutional comparisons while encouraging and celebrating institutional diversity.

After thoroughly vetting the results, institutions are encouraged to:

- focus on educationally meaningful indicators that are linked to student success in the context of the institution's mission;

- provide a rationale for selecting institutions included in any comparison groups so that people can draw their own conclusions about the merits of the comparisons; and

- explain what types of students, kinds of behaviours, and institutional characteristics and actions the indicators represent and what they do not represent, as well as what can and cannot be concluded from them.

ACER does not support the use of student engagement results for the purpose of rankings. Reducing student engagement to a single indicator obscures complex dimensions of student behaviour and institutional activity. Comparisons become particularly problematic in the case of institutions that differ in terms of mission, resources and student mix.

Benchmarking between groups

Institutions are able to benchmark measures of student engagement within the institution and between institutions. Benchmarking can formalise assessment and evaluation activities by placing them in more enduring and generalisable frameworks. It can provide an impetus to assure the quality of measurement activities, generate methodological discussions about the measurement, analysis and reporting of student engagement, and generate collaborative interaction between organisations, consortia and networks focused on student engagement.

The cross-national and cross-institutional scope of the AUSSE offers institutions the potential to partake in broader regional, sectorial, national and international conversations about student engagement. Key activities here include linking data and benchmarking results, giving presentations at conferences about engagement, documenting and disseminating initiatives, programs and resources that have a record of fostering engagement, and cataloguing and distributing novel pedagogies and resources.

Several forms of data-focused benchmarking activities might be considered. Institutions could

compare their results with like-institutions if collaborations are formed. Such comparisons would help identify areas of strength and those in need of improvement. Alternatively, institutions might work from engagement results, and seek out institutions with similar student engagement profiles. Benchmarking student engagement profiles can bring out complementarities in student mixes and educational practices that institution-level comparisons can mask.

A matter to consider is whether to take a normative or criterion approach to benchmarking. The normative approach involves comparing results across groups. A criterion-referenced approach focuses instead on comparing results against targets. Such targets may have been derived from past practice, institutional strategy or the performance of like-institutions.

There may be value in coordinating the reporting of AUSSE results. Coordinated NSSE reports have been used with a range of networks and consortia in the USA. Interesting reports could also be produced for various fields of education. Combined reports can help build more synthesised understanding of the nature and characteristics of student engagement in a range of institutional or course environments.

Scholarly research

Ideally, the study of engagement within universities will flow beyond institutional research into academic research activities. Stimulating research about student engagement that is scholarly in nature has the potential to expand conversations about student engagement into institutional learning. Research-driven inquiry about the nature and trends in student engagement within an organisation has the potential to stimulate forms of organisational activity that will enhance the effectiveness of education.

ACER will be working to develop research-based papers and resources that provide insight into contemporary students' engagement with university. ACER encourages individual institutions to use their own data to document patterns of student engagement.

Communicating with potential students

Data on student engagement can be used to communicate with potential students. While such practices will depend on an institution's student markets and mix, internal contexts, and general operating environments, a few key approaches can be sketched.

Information on student engagement can be added to relevant sections of an institution's website and course promotion materials. Student engagement data can be included in materials specifically prepared for distribution to potential students. Such materials, which may be distributed through schools, recruitment agencies and networks, or industry and employer organisations, can provide information on the characteristics of cohorts and learning environments at an institution.

Engagement data can be used to shape informational materials. Knowledge of student characteristics and activities helps understand how to pitch and deliver course information. It can also be used to set expectations and suggest possibilities for student involvement in key educational activities.

External quality assurance activities

Measures of student engagement are being increasingly woven into conversations about educational quality. It is becoming common for determinations about the quality of university education to be made with information about whether students are engaging with the kinds of practices that are likely to generate productive learning, and about whether institutions are providing the kinds of conditions that, based on many years of education research, seem likely to stimulate such engagement. Such analysis is possible if institutions have valid data on the nature and level of student engagement.

Appendices

Appendix 1: 2007 Student Engagement Questionnaire (SEQ)

Australasian Survey of Student Engagement 2007

ACER AUSSE — Australasian survey of student engagement

Please complete this form using a black or blue pen. Print neatly in CAPITAL letters as shown. Place a clear 'X' inside the box. If you make a mistake, fill in the entire box and mark the correct box. Example: ☒ ☐ ☐ or ▣ ☒ ☐

1 In your experience at your institution during the current academic year, about how often have you done each of the following?

	Never	Some-times	Often	Very often
Asked questions in class or contributed to online discussions	☐	☐	☐	☐
Sought advice from academic staff	☐	☐	☐	☐
Made a class or online presentation	☐	☐	☐	☐
Worked hard to master difficult content	☐	☐	☐	☐
Prepared two or more drafts of an assignment before handing it in	☐	☐	☐	☐
Used library resources on campus or online	☐	☐	☐	☐
Worked on an essay or assignment that required integrating ideas or information from various sources	☐	☐	☐	☐
Used student learning support services	☐	☐	☐	☐
Blended academic learning with workplace experience	☐	☐	☐	☐
Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or written assignments	☐	☐	☐	☐
Come to class without completing readings or assignments	☐	☐	☐	☐
Was unable to keep up to date with studies for work, personal or family reasons	☐	☐	☐	☐
Worked with other students on projects **during class**	☐	☐	☐	☐
Worked with other students **outside class** to prepare assignments	☐	☐	☐	☐
Put together ideas or concepts from different subjects when completing assignments or during class discussions	☐	☐	☐	☐
Tutored or taught other university students (paid or voluntary)	☐	☐	☐	☐
Participated in a community-based project (e.g. volunteering) as part of your study	☐	☐	☐	☐
Used an electronic medium (e.g. Blackboard or WebCT) to discuss or complete an assignment	☐	☐	☐	☐
Used email to communicate with teaching staff	☐	☐	☐	☐
Discussed your grades or assignments with teaching staff	☐	☐	☐	☐
Talked about your career plans with teaching staff or advisors	☐	☐	☐	☐
Discussed ideas from your readings or classes with teaching staff outside class	☐	☐	☐	☐

	Never	Some-times	Often	Very often
Received prompt written or oral feedback from teachers on your academic performance	☐	☐	☐	☐
Worked harder than you thought you could to meet a teacher's standards or expectations	☐	☐	☐	☐
Worked with teaching staff on activities other than coursework (committees, orientation, student organisations, etc.)	☐	☐	☐	☐
Discussed ideas from your readings or classes with others outside class (students, family members, co-workers, etc.)	☐	☐	☐	☐
Had conversations with students of a different ethnic group than your own	☐	☐	☐	☐
Had conversations with students who are very different from you in terms of their religious beliefs, political opinions or personal values	☐	☐	☐	☐

2 During the current academic year, how much has your coursework emphasised the following intellectual activities?

	Very little	Some	Quite a bit	Very much
Memorising facts, ideas or methods from your subjects and readings so you can repeat them in pretty much the same form	☐	☐	☐	☐
Analysing the basic elements of an idea, experience or theory, such as examining a particular case or situation in depth and considering its components	☐	☐	☐	☐
Synthesising and organising ideas, information or experiences into new, more complex interpretations and relationships	☐	☐	☐	☐
Making judgements about the value of information, arguments or methods, such as examining how others gather and interpret data and assessing the soundness of their conclusions	☐	☐	☐	☐
Applying theories or concepts to practical problems or in new situations	☐	☐	☐	☐

3 In a typical week, how many exercises, lab reports, problem sets and tutorial questions do you complete?

	None	1 to 2	3 to 4	5 to 6	More than 6
Number of pieces of work that take **one hour or less** to complete	☐	☐	☐	☐	☐
Number of pieces of work that take you **more than an hour** to complete	☐	☐	☐	☐	☐

■

4 During the current academic year, about how much reading and writing have you done?

	None	1 to 4	5 to 10	11 to 20	More than 20
Number of assigned textbooks, books or book-length packs of subject readings	☐	☐	☐	☐	☐
Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	☐	☐	☐	☐	☐
Number of written essays or reports of fewer than 1,000 words	☐	☐	☐	☐	☐
Number of written essays or reports of between 1,000 and 5,000 words	☐	☐	☐	☐	☐
Number of written essays or reports of more than 5,000 words	☐	☐	☐	☐	☐

5 Which box best represents the extent to which your examinations during the current academic year have challenged you to do your best work?

Very little						Very much
☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

6 During the current academic year, about how often have you done each of the following?

	Never	Some-times	Often	Very often
Attended an art exhibition, play, dance, music, theatre or other performance	☐	☐	☐	☐
Exercised or participated in physical fitness activities	☐	☐	☐	☐
Examined the strengths and weaknesses of your own views on a topic or issue	☐	☐	☐	☐
Improved knowledge and skills that will contribute to your employability	☐	☐	☐	☐
Developed communication skills relevant to your discipline	☐	☐	☐	☐
Explored how to apply your learning in the workplace	☐	☐	☐	☐
Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	☐	☐	☐	☐
Learned something that changed the way you understand an issue or concept	☐	☐	☐	☐

7 Which of the following have you done or do you plan to do before you graduate from your institution?

	Do not know about	Have not decided	Do not plan to do	Plan to do	Done
Practicum, internship, fieldwork or clinical placement	☐	☐	☐	☐	☐
Industry placement or work experience	☐	☐	☐	☐	☐
Community service or volunteer work	☐	☐	☐	☐	☐

	Do not know about	Have not decided	Do not plan to do	Plan to do	Done
Enrol in a formal program where students take the same classes together	☐	☐	☐	☐	☐
Work on a research project with a staff member outside of coursework requirements	☐	☐	☐	☐	☐
Study a foreign language	☐	☐	☐	☐	☐
Study abroad or student exchange	☐	☐	☐	☐	☐
Culminating final-year experience (honours thesis, comprehensive exam, etc.)	☐	☐	☐	☐	☐

8 Which of these boxes best represent the quality of your relationships with people at your institution?

Relationships with **other students**

Unfriendly, unsupportive, sense of alienation						Friendly, supportive, sense of belonging
☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Relationships with **academic staff**

Unavailable, unhelpful, unsympathetic						Available, helpful, sympathetic
☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

Relationships with **administrative personnel and offices**

Unhelpful, inconsiderate, rigid						Helpful, considerate, flexible
☐	☐	☐	☐	☐	☐	☐
1	2	3	4	5	6	7

9 About how many hours do you spend in a typical seven-day week doing each of the following?

Preparing for class (studying, reading, writing, doing homework or lab work, analysing data, rehearsing and other academic activities)

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Working for pay **on campus**

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Working for pay **off campus**

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Participating in extracurricular activities (organisations, campus publications, student government, clubs and societies, sports, etc.)

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Relaxing and socialising (watching TV, partying, etc.)

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Providing care for dependents living with you (parents, children, spouse, etc.)

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

■

Managing personal business (housework, shopping, exercise, health needs, etc.)

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Travelling to campus (driving, walking, etc.)

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Being on campus, **including** time spent in class

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

Being on campus, **excluding** time spent in class

None	1 to 5	6 to 10	11 to 15	16 to 20	21 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐	☐

10 To what extent does your institution emphasise each of the following?

	Very little	Some	Quite a bit	Very much
Spending significant amounts of time studying and on academic work	☐	☐	☐	☐
Providing the support you need to help you succeed academically	☐	☐	☐	☐
Encouraging contact among students from different economic, social and racial or ethnic backgrounds	☐	☐	☐	☐
Helping you cope with your non-academic responsibilities (work, family, etc.)	☐	☐	☐	☐
Providing the support you need to socialise	☐	☐	☐	☐
Attending campus events and activities (special speakers, cultural performances, sporting events, etc.)	☐	☐	☐	☐
Using computers in academic work	☐	☐	☐	☐

11 To what extent has your experience at this institution contributed to your knowledge, skills and personal development in the following areas?

	Very little	Some	Quite a bit	Very much
Acquiring a broad general education	☐	☐	☐	☐
Acquiring job or work-related knowledge and skills	☐	☐	☐	☐
Writing clearly and effectively	☐	☐	☐	☐
Speaking clearly and effectively	☐	☐	☐	☐
Thinking critically and analytically	☐	☐	☐	☐
Analysing quantitative problems	☐	☐	☐	☐
Using computing and information technology	☐	☐	☐	☐
Working effectively with others	☐	☐	☐	☐
Voting informatively in local, state or national elections	☐	☐	☐	☐
Learning effectively on your own	☐	☐	☐	☐
Understanding yourself	☐	☐	☐	☐
Understanding people of other racial and ethnic backgrounds	☐	☐	☐	☐

	Very little	Some	Quite a bit	Very much
Solving complex, real-world problems	☐	☐	☐	☐
Developing a personal code of values and ethics	☐	☐	☐	☐
Contributing to the welfare of your community	☐	☐	☐	☐

12 Do you plan on changing institutions next year? Mark all that apply.

Graduating this year	☐
Staying at the same institution	☐
Changing to improve career prospects	☐
Changing for convenience or practical reasons	☐
Changing for personal reasons	☐
Changing to improve academic results	☐
Changing for financial reasons or to reduce study costs	☐
Changing to reduce study load	☐
Changing to obtain better quality education	☐
Changing to pursue first preference	☐
Changing for other reasons	☐

13 What are your plans for next year regarding your studies at your current institution? Mark all that apply.

Graduating this year	☐
Staying in the same qualification	☐
Changing to improve career prospects	☐
Changing for convenience or practical reasons	☐
Changing for personal reasons	☐
Changing to improve academic results	☐
Changing for financial reasons or to reduce study costs	☐
Changing to reduce study load	☐
Changing to obtain better quality education	☐
Changing to pursue first preference	☐
Changing for other reasons	☐

14 Overall, how would you evaluate the quality of academic advice that you have received at your institution?

Poor	Fair	Good	Excellent
☐	☐	☐	☐

15 How would you evaluate your entire educational experience at this institution?

Poor	Fair	Good	Excellent
☐	☐	☐	☐

16 If you could start over again, would you go to the same institution you are now attending?

Definitely no	Probably no	Probably yes	Definitely yes
☐	☐	☐	☐

17 How old are you in years?

Under 18	18 to 19	20 to 21	22 to 23	24 to 25	26 to 30	Over 30
☐	☐	☐	☐	☐	☐	☐

■

18 Are you female or male?
☐ Female ☐ Male

19 Are you a permanent resident or citizen of Australia?
☐ Yes ☐ No

20 Are you of Aboriginal or Torres Strait Islander origin?
☐ Yes ☐ No

21 Are you a permanent resident or citizen of New Zealand?
☐ Yes ☐ No

22 Are you a Maori or Pacific Islander?
☐ Yes ☐ No

23 What is the main way in which you have financed your study?

☐ Full or partial upfront HECS-HELP payment
☐ Defer all or part through HECS-HELP
☐ Defer all or part through FEE-HELP
☐ NZ Student Loan Scheme
☐ International fees
☐ Domestic fees

24 What is the main language you speak in your home?
☐ English ☐ Language other than English

25 What is the highest level of education completed by these family members?

Mother

☐ Not applicable or not sure
☐ Some but not all of secondary school
☐ All of secondary school
☐ Post-secondary certificate diploma
☐ Under-graduate university degree
☐ Post-graduate university degree

Father

☐ Not applicable or not sure
☐ Some but not all of secondary school
☐ All of secondary school
☐ Post-secondary certificate diploma
☐ Under-graduate university degree
☐ Post-graduate university degree

Sisters or Brothers

☐ Not applicable or not sure
☐ Some but not all of secondary school
☐ All of secondary school
☐ Post-secondary certificate diploma
☐ Under-graduate university degree
☐ Post-graduate university degree

26 What type of qualification are you currently enrolled in?
☐ Bachelor Degree (pass) ☐ Bachelor Degree (honours) ☐ Other undergraduate qualification

27 In what year did you first start university?
☐ Before 2003 ☐ 2003 ☐ 2004 ☐ 2005 ☐ 2006 ☐ 2007

28 Since starting at university, have you been enrolled mainly full time or part time?
☐ Full time ☐ Part time

29 How many years of your qualification have you completed?
☐ None, currently in first year ☐ Completed first year ☐ Completed second year ☐ Completed third year ☐ Completed more than three years

30 How much of your study do you do online?
☐ None ☐ About a quarter ☐ About half ☐ All or nearly all

31 Where has your study been mainly based in the current academic year?
☐ External/distance ☐ On one campus ☐ On two campuses ☐ On more than two campuses

32 Which category best represents your average overall grade so far?
☐ No results ☐ Less than 50 ☐ 50 to 59 ☐ 60 to 69 ☐ 70 to 79 ☐ 80 to 100

33 Do you live on campus in a university college or hall of residence?
☐ Yes ☐ No

34 What are your field(s) of study? Mark all that apply.

☐ Natural and Physical Sciences
☐ Information Technology
☐ Engineering
☐ Architecture and Building

☐ Agriculture or Environmental Studies
☐ Medical Studies
☐ Health
☐ Veterinary Science

☐ Education
☐ Management and Commerce
☐ Humanities and Social Sciences
☐ Law
☐ Creative or Performing Arts

35 What is your main area of study (e.g. accounting, primary education, psychology, law)?

36 What are the best aspects of how your university engages students in learning?

37 What could be done to improve how your university engages students?

Thank you for sharing your views. After completing the questionnaire, please put it in the supplied reply-paid envelope and deposit it in any mailbox. For further information, see: www.acer.edu.au/ausse

■

Appendix 2: AUSSE scales and SEQ items

AUSSE scale	SEQ item
Academic Challenge *Extent to which expectations and assessments challenge students to learn*	Number of assigned textbooks, books or book-length packs of subject readings
	Number of written essays or reports of fewer than 1,000 words
	Number of written essays or reports of between 1,000 and 5,000 words
	Number of written essays or reports of more than 5,000 words
	Analysing the basic elements of an idea, experience or theory, such as examining a particular case or situation in depth and considering its components
	Synthesising and organising ideas, information or experiences into new, more complex interpretations and relationships
	Making judgements about the value of information, arguments or methods, such as examining how others gather and interpret data and assessing the soundness of their conclusions
	Applying theories or concepts to practical problems or in new situations
	Worked harder than you thought you could to meet a teacher's standards or expectations
	Preparing for class (studying, reading, writing, doing homework or lab work, analysing data, rehearsing and other academic activities)
	Spending significant amounts of time studying and on academic work
Active Learning *Students' efforts to actively construct their knowledge*	Asked questions in class or contributed to online discussions
	Made a class or online presentation
	Worked with other students on projects during class
	Worked with other students outside class to prepare assignments
	Tutored or taught other university students (paid or voluntary)
	Participated in a community-based project (e.g. volunteering) as part of your study
	Discussed ideas from your readings or classes with others outside class (students, family members, co-workers, etc.)
Student and Staff Interactions *Level and nature of students' contact with teaching staff*	Discussed your grades or assignments with teaching staff
	Discussed ideas from your readings or classes with teaching staff outside class
	Talked about your career plans with teaching staff or advisors
	Received prompt written or oral feedback from teachers on your academic performance
	Worked with teaching staff on activities other than coursework (committees, orientation, student organisations, etc.)
	Worked on a research project with a staff member outside of coursework requirements

AUSSE scale	SEQ item
Enriching Educational Experiences *Participation in broadening educational activities*	Had conversations with students who are very different from you in terms of their religious beliefs, political opinions or personal values
	Had conversations with students of a different ethnic group than your own
	Encouraging contact among students from different economic, social and racial or ethnic backgrounds
	Participating in extracurricular activities (organisations, campus publications, student government, clubs and societies, sports, etc.)
	Used an electronic medium (e.g. Blackboard or WebCT) to discuss or complete an assignment
	Practicum, internship, fieldwork or clinical placement
	Community service or volunteer work
	Enrol in a formal program where students take the same classes together
	Study a foreign language
	Study abroad or student exchange
	Culminating final-year experience (honours thesis, comprehensive exam, etc.)
Supportive Learning Environment *Feelings of legitimation within the university community*	Providing the support you need to socialise
	Providing the support you need to help you succeed academically
	Helping you cope with your non-academic responsibilities (work, family, etc.)
	Relationships with other students
	Relationships with teaching staff
	Relationships with administrative personnel and offices
Work Integrated Learning *Integration of employment-focused work experiences into study*	Blended academic learning with workplace experience
	Improved knowledge and skills that will contribute to your employability
	Explored how to apply your learning in the workplace
	Industry placement or work experience
	Acquiring job or work-related knowledge and skills

Appendix 3: Summary scale statistics

Table 5 to Table 10 provide summary statistics for the six AUSSE scales. Figures are shown for first-year, later-year and all students. For each cohort, the first report provides information about scale averages (means), medians (middle values), variation (standard deviations), range (spread of scores), and minimum and maximum values. The second report for each cohort provides percentile tables that report the score below which a certain percentage of scores lie. By way of example, Table 6 shows that 30 per cent of Australasian first-year students scored 38.7 or below on the Academic Challenge scale.

Table 5 AUSSE scale first-year student summary statistics

	Mean	Median	Variation	Range	Minimum	Maximum
Academic Challenge	45.1	45.0	12.3	94.7	2.3	97.0
Active Learning	33.1	33.3	14.2	100.0	0.0	100.0
Student and Staff Interactions	18.3	16.7	13.4	94.4	0.0	94.4
Enriching Educational Experiences	23.4	21.2	11.8	80.1	0.0	80.1
Supportive Learning Environment	51.2	50.0	17.1	100.0	0.0	100.0
Work Integrated Learning	39.3	40.0	20.8	100.0	0.0	100.0

Table 6 AUSSE scale first-year student benchmark percentiles

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Academic Challenge	2.3	29.3	34.6	38.7	42.0	45.0	48.4	51.6	55.6	60.9	97.0
Active Learning	0.0	14.3	19.0	23.8	28.6	33.3	38.1	38.1	42.9	52.4	100.0
Student and Staff Interactions	0.0	5.6	5.6	11.1	11.1	16.7	16.7	22.2	27.8	33.3	94.4
Enriching Educational Experiences	0.0	9.1	13.4	16.5	19.5	21.2	24.7	28.6	32.9	39.4	80.1
Supportive Learning Environment	0.0	30.6	36.1	41.7	47.2	50.0	55.6	58.3	66.7	73.3	100.0
Work Integrated Learning	0.0	13.3	20.0	26.7	33.3	40.0	40.0	46.7	53.3	66.7	100.0

Table 7 AUSSE scale later-year student summary statistics

	Mean	Median	Variation	Range	Minimum	Maximum
Academic Challenge	47.7	47.5	13.1	100.0	0.0	100.0
Active Learning	38.1	38.1	15.7	100.0	0.0	100.0
Student and Staff Interactions	23.9	22.2	15.9	100.0	0.0	100.0
Enriching Educational Experiences	27.7	26.8	13.7	100.0	0.0	100.0
Supportive Learning Environment	49.9	50.0	17.3	97.2	2.8	100.0
Work Integrated Learning	49.8	46.7	24.2	100.0	0.0	100.0

Table 8 AUSSE scale later-year student benchmark percentiles

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Academic Challenge	0.0	30.6	36.7	40.7	44.4	47.5	50.9	54.4	59.0	64.6	100.0
Active Learning	0.0	19.0	23.8	28.6	33.3	38.1	42.9	44.4	52.4	57.1	100.0
Student and Staff Interactions	0.0	5.6	11.1	13.3	16.7	22.2	26.7	27.8	33.3	44.4	100.0
Enriching Educational Experiences	0.0	11.7	15.2	19.5	22.5	26.8	30.3	34.6	39.0	45.9	100.0
Supportive Learning Environment	2.8	27.8	36.1	41.7	44.4	50.0	55.6	58.3	63.9	72.2	100.0
Work Integrated Learning	0.0	20.0	26.7	33.3	40.0	46.7	53.3	60.0	73.3	83.3	100.0

Table 9 AUSSE scale all student summary statistics

	Mean	Median	Variation	Range	Minimum	Maximum
Academic Challenge	46.4	46.3	12.7	100.0	0.0	100.0
Active Learning	35.7	33.3	15.2	100.0	0.0	100.0
Student and Staff Interactions	21.1	16.7	15.0	100.0	0.0	100.0
Enriching Educational Experiences	25.5	24.2	12.9	100.0	0.0	100.0
Supportive Learning Environment	50.6	50.0	17.2	100.0	0.0	100.0
Work Integrated Learning	44.4	40.0	23.1	100.0	0.0	100.0

Table 10 AUSSE scale all student benchmark percentiles

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Academic Challenge	0.0	30.0	35.5	39.7	43.3	46.3	49.6	52.8	57.0	63.0	100.0
Active Learning	0.0	19.0	23.8	28.6	33.3	33.3	38.1	42.9	47.6	57.1	100.0
Student and Staff Interactions	0.0	5.6	11.1	11.1	16.7	16.7	22.2	27.8	33.3	38.9	100.0
Enriching Educational Experiences	0.0	10.4	14.7	18.1	21.2	24.2	27.3	31.6	36.4	42.9	100.0
Supportive Learning Environment	0.0	27.8	36.1	41.7	44.4	50.0	55.6	58.3	63.9	72.2	100.0
Work Integrated Learning	0.0	13.3	26.7	33.3	33.3	40.0	46.7	53.3	66.7	80.0	100.0

Appendix 4: Summary statistics for scaled items

Table 11 to Table 16 report weighted response category numbers (n) in thousands (eg: 1.5 equals 1,500 responses) and percentages (%) for the items included in the six AUSSE scales. Figures are given for first-year students, later-year students, and for all students.

Table 11 Academic Challenge item response category statistics

		First year		Later year		All	
		n	%	n	%	n	%
Number of assigned textbooks, books or book-length packs of subject readings	None	2.0	3	3.1	5	5.1	4
	1 to 4	24.9	37	27.3	41	52.2	39
	5 to 10	26.3	40	22.0	33	48.4	36
	11 to 20	8.3	12	8.1	12	16.4	12
	More than 20	5.1	8	6.6	10	11.7	9
	Total	66.6	100	67.1	100	133.7	100
Number of written essays or reports of fewer than 1,000 words	None	14.7	22	22.7	34	37.4	28
	1 to 4	35.7	54	29.4	44	65.1	49
	5 to 10	11.8	18	9.5	14	21.3	16
	11 to 20	3.2	5	3.4	5	6.5	5
	More than 20	0.9	1	1.7	2	2.6	2
	Total	66.3	100	66.6	100	133.0	100
Number of written essays or reports of between 1,000 and 5,000 words	None	7.4	11	5.4	8	12.8	10
	1 to 4	34.6	52	27.4	41	62.0	46
	5 to 10	19.9	30	24.3	36	44.1	33
	11 to 20	4.1	6	8.2	12	12.4	9
	More than 20	0.6	1	1.8	3	2.4	2
	Total	66.6	100	67.1	100	133.7	100
Number of written essays or reports of more than 5,000 words	None	56.6	86	47.0	71	103.7	79
	1 to 4	7.2	11	15.0	23	22.1	17
	5 to 10	1.0	2	2.3	4	3.4	3
	11 to 20	0.5	1	0.9	1	1.5	1
	More than 20	0.2	0	0.6	1	0.8	1
	Total	65.6	100	65.9	100	131.5	100
Course work emphasised: **Analysing** the basic elements of an idea, experience or theory, such as examining a particular case or situation in depth and considering its components	Very little	2.0	3	1.6	2	3.6	3
	Some	15.1	23	13.5	20	28.6	21
	Quite a bit	31.6	47	30.2	45	61.8	46
	Very much	18.2	27	22.0	33	40.3	30
	Total	66.9	100	67.3	100	134.3	100
Course work emphasised: **Synthesising** and organising ideas, information or experiences into new, more complex interpretations and relationships	Very little	5.8	9	5.1	8	10.9	8
	Some	23.8	36	21.4	32	45.1	34
	Quite a bit	26.5	40	26.4	39	52.9	39
	Very much	10.7	16	14.3	21	25.0	19
	Total	66.8	100	67.1	100	133.9	100

Table 11 Academic Challenge item response category statistics (continued)

		First year		Later year		All	
		n	%	n	%	n	%
Course work emphasised: **Making** judgements about the value of information, arguments or methods, such as examining how others gather and interpret data and assessing the soundness of their conclusions	Very little	5.7	8	5.0	7	10.6	8
	Some	21.3	32	19.0	28	40.4	30
	Quite a bit	26.7	40	26.8	40	53.5	40
	Very much	13.1	20	16.4	24	29.5	22
	Total	66.8	100	67.1	100	134.0	100
Course work emphasised: **Applying** theories or concepts to practical problems or in new situations	Very little	3.6	5	3.1	5	6.7	5
	Some	16.8	25	14.2	21	31.0	23
	Quite a bit	26.2	39	26.4	39	52.6	39
	Very much	20.3	30	23.5	35	43.8	33
	Total	66.9	100	67.1	100	134.1	100
Worked harder than you thought you could to meet a teacher's standards or expectations	Never	12.8	19	10.5	16	23.4	17
	Sometimes	31.8	47	30.5	45	62.3	46
	Often	17.8	27	20.7	31	38.6	29
	Very often	4.6	7	5.9	9	10.5	8
	Total	67.1	100	67.6	100	134.8	100
Hours per typical seven-day week spent preparing for class (studying, reading, writing, doing homework or lab work, analysing data, rehearsing and other academic activities)	None	0.9	1	1.0	2	1.9	1
	1 to 5	20.6	31	18.4	29	38.9	30
	6 to 10	18.0	27	15.4	24	33.5	26
	11 to 15	10.8	16	9.6	15	20.4	16
	16 to 20	7.0	11	7.9	12	14.9	11
	21 to 25	3.6	5	4.6	7	8.1	6
	26 to 30	2.3	3	3.0	5	5.3	4
	More than 30	2.6	4	3.8	6	6.3	5
	Total	65.7	100	63.6	100	129.3	100
Institutional emphasis: Spending significant amounts of time studying and on academic work	Very little	1.8	3	1.7	3	3.4	3
	Some	14.2	22	14.9	24	29.2	23
	Quite a bit	34.4	53	30.3	48	64.8	50
	Very much	15.1	23	16.0	25	31.2	24
	Total	65.5	100	63.0	100	128.5	100

Table 12 Active Learning item response category statistics

		First year		Later year		All	
		n	%	n	%	n	%
Asked questions in class or contributed to online discussions	Never	7.5	11	6.2	8	13.7	10
	Sometimes	33.8	50	34.5	46	68.3	48
	Often	18.8	28	20.8	28	39.6	28
	Very often	7.8	12	12.9	17	20.7	15
	Total	68.0	100	74.3	100	142.4	100
Made a class or online presentation	Never	21.4	32	13.9	19	35.4	25
	Sometimes	29.0	43	31.1	42	60.1	42
	Often	13.8	20	20.2	27	34.0	24
	Very often	3.6	5	9.0	12	12.6	9
	Total	67.8	100	74.1	100	142.0	100
Worked with other students on projects **during class**	Never	16.8	25	16.2	22	32.9	23
	Sometimes	28.4	42	29.2	40	57.6	41
	Often	18.5	27	21.0	28	39.5	28
	Very often	4.4	6	7.5	10	11.9	8
	Total	68.0	100	73.8	100	141.9	100
Worked with other students **outside class** to prepare assignments	Never	13.6	20	11.2	15	24.8	17
	Sometimes	25.7	38	27.0	37	52.8	37
	Often	22.2	33	24.3	33	46.6	33
	Very often	6.5	10	11.5	15	18.0	13
	Total	68.1	100	74.0	100	142.1	100
Tutored or taught other university students (paid or voluntary)	Never	55.2	81	53.8	73	109.1	77
	Sometimes	9.5	14	13.9	19	23.4	16
	Often	2.7	4	4.7	6	7.4	5
	Very often	0.6	1	1.4	2	2.1	1
	Total	68.1	100	73.8	100	142.0	100
Participated in a community-based project (e.g. volunteering) as part of your study	Never	55.6	82	50.9	69	106.5	75
	Sometimes	8.0	12	14.0	19	22.1	16
	Often	3.1	5	5.7	8	8.8	6
	Very often	1.2	2	3.2	4	4.5	3
	Total	68.0	100	73.8	100	141.9	100
Discussed ideas from your readings or classes with others outside class (students, family members, co-workers, etc.)	Never	5.9	9	4.9	7	10.8	8
	Sometimes	27.0	40	28.7	43	55.7	41
	Often	22.7	34	23.6	35	46.3	34
	Very often	11.6	17	10.2	15	21.8	16
	Total	67.1	100	67.4	100	134.6	100

Table 13 Student and Staff Interactions item response category statistics

		First year		Later year		All	
		n	%	n	%	n	%
Discussed your grades or assignments with teaching staff	Never	27.4	40	21.5	29	48.9	35
	Sometimes	29.2	43	35.2	48	64.4	45
	Often	8.8	13	12.8	17	21.7	15
	Very often	2.4	4	4.3	6	6.7	5
	Total	67.8	100	73.8	100	141.7	100
Discussed ideas from your readings or classes with teaching staff outside class	Never	42.6	63	36.2	49	78.8	56
	Sometimes	20.1	29	28.8	39	48.8	34
	Often	4.3	6	6.8	9	11.1	8
	Very often	1.2	2	2.0	3	3.2	2
	Total	68.1	100	73.8	100	141.9	100
Talked about your career plans with teaching staff or advisors	Never	43.7	64	35.4	48	79.1	56
	Sometimes	19.1	28	27.6	37	46.8	33
	Often	4.1	6	8.1	11	12.2	9
	Very often	1.2	2	2.7	4	3.9	3
	Total	68.1	100	73.8	100	141.9	100
Received prompt written or oral feedback from teachers on your academic performance	Never	9.8	15	6.8	10	16.6	12
	Sometimes	31.6	47	32.6	48	64.2	48
	Often	20.9	31	23.0	34	43.9	33
	Very often	4.9	7	5.3	8	10.2	8
	Total	67.2	100	67.7	100	135.0	100
Worked with teaching staff on activities other than coursework (committees, orientation, student organisations, etc.)	Never	57.2	85	49.3	73	106.5	79
	Sometimes	7.6	11	13.3	20	20.9	16
	Often	1.7	3	3.7	6	5.4	4
	Very often	0.4	1	1.2	2	1.6	1
	Total	67.0	100	67.5	100	134.5	100
Worked on a research project with a staff member outside of coursework requirements	Do not know about	24.0	36	16.0	25	40.0	31
	Have not decided	17.8	27	12.2	19	30.0	23
	Do not plan to do	16.5	25	25.8	40	42.2	32
	Plan to do	6.7	10	7.3	11	14.0	11
	Done	1.1	2	2.9	4	3.9	3
	Total	66.0	100	64.1	100	130.1	100

Table 14 Enriching Educational Experiences item response category statistics

		First year		Later year		All	
		n	%	n	%	n	%
Had conversations with students who are very different from you in terms of their religious beliefs, political opinions or personal values	Never	6.7	10	5.9	9	12.5	9
	Sometimes	25.3	38	26.1	39	51.4	38
	Often	19.7	29	20.7	31	40.4	30
	Very often	15.4	23	14.8	22	30.2	22
	Total	67.1	100	67.4	100	134.6	100
Had conversations with students of a different ethnic group than your own	Never	6.6	10	6.2	9	12.9	10
	Sometimes	23.3	35	23.1	34	46.4	35
	Often	20.2	30	21.4	32	41.6	31
	Very often	16.9	25	16.8	25	33.7	25
	Total	67.0	100	67.5	100	134.5	100
Institutional emphasis: Encouraging contact among students from different economic, social and racial or ethnic backgrounds	Very little	16.3	25	19.7	31	36.0	28
	Some	26.0	40	24.5	39	50.6	39
	Quite a bit	16.3	25	13.2	21	29.6	23
	Very much	6.7	10	5.4	9	12.1	9
	Total	65.3	100	62.8	100	128.2	100
Hours per typical seven-day week spent participating in extracurricular activities (organisations, campus publications, student government, clubs and societies, sports, etc.)	None	30.3	46	27.1	42	57.4	44
	1 to 5	22.2	34	21.6	34	43.8	34
	6 to 10	8.4	13	8.8	14	17.3	13
	11 to 15	3.1	5	3.4	5	6.5	5
	16 to 20	1.3	2	1.7	3	3.1	2
	21 to 25	0.3	0	0.7	1	1.0	1
	26 to 30	0.2	0	0.1	0	0.3	0
	More than 30						
	Total	66.0	100	63.8	100	129.8	100
Used an electronic medium (e.g. Blackboard or WebCT) to discuss or complete an assignment	Never	20.3	30	19.6	27	39.9	28
	Sometimes	21.2	31	23.7	32	44.9	32
	Often	14.6	21	16.9	23	31.5	22
	Very often	12.0	18	13.6	18	25.6	18
	Total	68.2	100	73.7	100	141.9	100
Practicum, internship, fieldwork or clinical placement	Do not know about	13.9	21	9.3	15	23.2	18
	Have not decided	10.5	16	7.0	11	17.5	13
	Do not plan to do	5.3	8	10.2	16	15.5	12
	Plan to do	29.6	45	19.7	31	49.3	38
	Done	6.9	10	17.9	28	24.8	19
	Total	66.1	100	64.1	100	130.3	100

Table 14 Enriching Educational Experiences item response category statistics (continued)

		First year		Later year		All	
		n	%	n	%	n	%
Community service or volunteer work	Do not know about	8.0	12	5.2	8	13.1	10
	Have not decided	18.3	28	13.4	21	31.7	24
	Do not plan to do	11.4	17	15.8	25	27.2	21
	Plan to do	19.3	29	11.5	18	30.8	24
	Done	9.0	14	18.1	28	27.1	21
	Total	65.9	100	64.0	100	129.9	100
Enrol in a formal program where students take the same classes together	Do not know about	30.3	46	21.6	34	51.9	40
	Have not decided	13.7	21	9.8	15	23.4	18
	Do not plan to do	10.3	16	17.3	27	27.6	21
	Plan to do	5.4	8	5.3	8	10.7	8
	Done	6.3	10	9.7	15	16.1	12
	Total	66.0	100	63.6	100	129.7	100
Study a foreign language	Do not know about	6.2	9	5.6	9	11.8	9
	Have not decided	13.7	21	9.3	15	23.0	18
	Do not plan to do	22.6	34	25.5	40	48.1	37
	Plan to do	14.0	21	12.7	20	26.7	21
	Done	9.6	15	11.0	17	20.6	16
	Total	66.2	100	64.1	100	130.3	100
Study abroad or student exchange	Do not know about	6.2	9	5.9	9	12.1	9
	Have not decided	20.0	30	11.5	18	31.6	24
	Do not plan to do	21.2	32	33.1	52	54.3	42
	Plan to do	16.5	25	8.8	14	25.3	19
	Done	2.0	3	4.7	7	6.8	5
	Total	66.0	100	64.0	100	130.0	100
Culminating final-year experience (honours thesis, comprehensive exam, etc.)	Do not know about	13.2	20	7.6	12	20.8	16
	Have not decided	24.4	37	16.6	26	41.0	32
	Do not plan to do	8.8	13	18.4	29	27.2	21
	Plan to do	19.4	29	20.1	31	39.5	30
	Done	0.2	0	1.4	2	1.6	1
	Total	66.0	100	64.0	100	130.1	100

Table 15 Supportive Learning Environment item response category statistics

		First year		Later year		All	
		n	%	n	%	n	%
Institutional emphasis: Providing the support you need to socialise	Very little	22.8	35	25.2	40	48.0	38
	Some	26.9	41	26.1	42	53.0	41
	Quite a bit	12.2	19	9.3	15	21.5	17
	Very much	3.3	5	2.0	3	5.3	4
	Total	65.1	100	62.7	100	127.9	100
Institutional emphasis: Providing the support you need to help you succeed academically	Very little	3.7	6	5.2	8	8.9	7
	Some	22.9	35	23.9	38	46.8	36
	Quite a bit	28.8	44	24.9	40	53.8	42
	Very much	10.1	15	8.8	14	18.9	15
	Total	65.5	100	62.9	100	128.5	100
Institutional emphasis: Helping you cope with your non-academic responsibilities (work, family, etc.)	Very little	30.2	46	33.5	53	63.8	50
	Some	24.1	37	20.2	32	44.4	35
	Quite a bit	8.9	14	7.3	12	16.2	13
	Very much	2.2	3	1.8	3	4.0	3
	Total	65.4	100	62.9	100	128.3	100
Quality: Relationships with other students	1 Unfriendly, unsupportive, sense of alienation	0.9	1	0.7	1	1.7	1
	2	2.3	3	2.4	4	4.7	4
	3	3.8	6	4.2	7	8.0	6
	4	8.9	13	8.3	13	17.2	13
	5	16.3	25	13.4	21	29.6	23
	6	19.4	29	20.6	32	40.0	31
	7 Friendly, supportive, sense of belonging	14.7	22	14.5	23	29.2	22
	Total	66.3	100	64.1	100	130.4	100
Quality: Relationships with teaching staff	1 Unavailable, unhelpful, unsympathetic	0.8	1	1.1	2	1.9	1
	2	3.4	5	3.2	5	6.6	5
	3	6.3	9	5.0	8	11.3	9
	4	15.1	23	11.3	18	26.4	20
	5	18.8	28	17.9	28	36.7	28
	6	14.2	21	15.9	25	30.1	23
	7 Available, helpful, sympathetic	7.8	12	9.7	15	17.4	13
	Total	66.3	100	64.2	100	130.4	100

Table 15 Supportive Learning Environment item response category statistics (continued)

		First year		Later year		All	
		n	%	n	%	n	%
Quality: Relationships with administrative personnel and offices	1 Unhelpful, inconsiderate, rigid	1.6	2	2.1	3	3.7	3
	2	4.4	7	5.4	8	9.9	8
	3	9.2	14	8.2	13	17.4	13
	4	18.0	27	15.3	24	33.2	25
	5	15.5	23	14.5	23	30.1	23
	6	11.2	17	11.4	18	22.6	17
	7 Helpful, considerate, flexible	6.4	10	7.1	11	13.5	10
	Total	66.2	100	64.1	100	130.4	100

Table 16 Work Integrated Learning item response category statistics

		First year		Later year		All	
		n	%	n	%	n	%
Blended academic learning with workplace experience	Never	27.2	40	20.1	27	47.3	33
	Sometimes	22.2	33	24.2	33	46.4	33
	Often	12.7	19	18.2	25	31.0	22
	Very often	5.9	9	11.3	15	17.1	12
	Total	68.0	100	73.8	100	141.8	100
Improved knowledge and skills that will contribute to your employability	Never	5.8	9	5.0	7	10.8	8
	Sometimes	23.5	35	20.9	31	44.4	33
	Often	26.7	40	27.0	40	53.7	40
	Very often	11.2	17	14.2	21	25.3	19
	Total	67.0	100	67.2	100	134.3	100
Explored how to apply your learning in the workplace	Never	15.5	23	10.2	15	25.6	19
	Sometimes	26.3	39	23.8	36	50.1	37
	Often	18.2	27	21.1	31	39.3	29
	Very often	7.1	11	11.9	18	19.0	14
	Total	67.0	100	67.1	100	134.1	100
Industry placement or work experience	Do not know about	8.9	13	6.9	11	15.8	12
	Have not decided	10.2	15	6.5	10	16.7	13
	Do not plan to do	5.8	9	9.7	15	15.5	12
	Plan to do	32.9	50	20.2	32	53.1	41
	Done	8.3	13	20.8	32	29.1	22
	Total	66.1	100	64.1	100	130.2	100
Acquiring job or work-related knowledge and skills	Very little	8.6	13	5.7	9	14.3	11
	Some	19.3	30	14.0	22	33.4	26
	Quite a bit	23.5	36	22.4	36	46.0	36
	Very much	13.8	21	20.6	33	34.4	27
	Total	65.2	100	62.8	100	128.1	100

Appendix 5: Australian Council for Educational Research (ACER)

The Australian Council for Educational Research (ACER) is one of the world's leading educational research centres. Its mission is to create and promote research-based knowledge, products and services to improve learning across the lifespan.

ACER was established in 1930 and for more than 75 years has built a strong reputation as a provider of reliable support and expertise to education policy makers and professional practitioners. As a not-for-profit organisation, independent of government, ACER receives no direct financial support and generates its entire income through contracted research and development projects and through products and services that it develops and distributes. ACER has experienced significant growth in recent years and now has around 250 staff located in Melbourne, Sydney, Brisbane, Perth, Dubai and New Delhi.

ACER is a leader in the provision of quality educational research, both within Australia and internationally. As a national, independent research body, ACER brings a high level of expertise and objectivity to its work.

In recent times ACER has expanded on its program of research and development in support of learning in vocational education and training and in higher education institutions while maintaining and expanding work undertaken in support of schools.

Blending solid experience and creative talent with established methodologies, ACER is a full-service research consultancy specialising in collecting and interpreting information to shape strategic decision making. Researchers bring many years of experience and expertise in a range of disciplines and research methods to their projects. ACER has seven research programs.

Research into transitions and post-school education and training explores influences on the educational and occupational pathways of young people as they progress from school to further education, training and work. Studies investigate the labour market and social outcomes of different pathways as well as evaluations of particular policies and programs.

The assessment and reporting program conducts research into a wide range of educational outcomes (academic and social).

This work, undertaken for clients nationally and internationally and in support of ACER's own tests and assessment programs, includes the refinement of test constructs; studies of test validity and reliability; assessment methods and formats; psychometric analyses of test data; and methods for item banking, online test delivery and reporting.

Research in the national and international surveys area draws on staff expertise in sampling, survey management, the analysis of survey data, and the interpretation and reporting of results in conducting large-scale survey research. Current work includes the leadership of three major programs of international surveys including the OECD Programme for International Student Assessment, the IEA Civics and Citizenship Education Study, and the IEA Teacher Education Study.

The system-wide testing program identifies more effective ways of monitoring achievement across entire education systems.

Research into teaching and leadership focuses on the relationship between teacher professional development and improved student learning.

The learning processes program investigates cognitive, affective and behavioural processes and factors that affect learning.

The policy analysis and program evaluation unit explores education policy issues and conducts program evaluation.

In addition to being a national centre for educational policy research and advice, ACER develops and provides a range of research-based products and services to support the work of professional practitioners.

ACER provides secure, fee-for-service testing programs to schools, universities, employers and professional organisations. These programs include selection tests for entry to schools and universities, scholarship tests and tests for diagnostic and monitoring purposes, and recruitment tests.

The organisation also encompasses ACER Press, the Cunningham Library, the Centre for Professional Learning, the International Institute, and the ACER Leadership Centre.

acer.edu.au