Student engagement in New Zealand's universities

Edited by Ali Radloff

AKO AOTEAROA NATIONAL CENTRE FOR TERTIARY TEACHING EXCELLENCE

AUSSE Australasian survey of student engagement

ACER

Contents

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A team of research and support staff manage the AUSSE at ACER. Associate Professor Hamish Coates is the AUSSE Director and Ms Ali Radloff manages the AUSSE. Other staff at ACER who have provided support and input into this report include Ms Yan Bibby, Mr Jim Carrigan, Mr Ali Dawes, Dr Daniel Edwards, Mr Craig Grose, Mr Rob Jinks, Mr David Rainsford, Dr Sarah Richardson, Dr Ling Tan, Mr David Tran and Ms Karen Wright.

Please contact ACER if you would like further information about the AUSSE. The team can be contacted at **ausse@acer.edu.au** or on **+61 3 9277 5742**. Further information about the AUSSE is available at **http://www.acer.edu.au/research/ausse**.

Foreword

By 2010, all eight universities in New Zealand had participated in the Australasian Survey of Student Engagement (AUSSE). Ako Aotearoa, New Zealand's National Centre for Tertiary Teaching Excellence organised a Student Engagement Enhancement Group meeting to explore ways of turning the findings from the AUSSE reports into practice. In April 2010, this led to New Zealand's first Institutional Research Colloquium, sponsored by Ako Aotearoa and jointly hosted by the University of Otago and the University of Canterbury. One outcome of this colloquium was a shared commitment to analyse and report on New Zealand AUSSE data. Rather than focusing on benchmarking, all New Zealand universities agreed to collaboratively study the aggregated AUSSE data for their sector, held by the Australian Council for Educational Research (ACER). The aim was to foster improved understanding of the results, and to advance follow-on initiatives for increasing student engagement throughout the sector.

Subsequently, New Zealand academics and institutional researchers met with representatives from ACER and finalised a list of topics of concern and interest arising from previous AUSSE results. A September 2010 writing retreat in Wellington, hosted by Massey University, helped accelerate research into these topics. The individual and collaborative research articles resulting from the writing and research activities, were subjected to review by both peers and ACER, and resulted in the chapters of this report. These collected studies help contextualise the issues for the entire New Zealand university sector; the various recommendations offer a range of approaches to begin addressing the issues.

Ako Aotearoa offers warm thanks to the Higher Education Development Centre at the University of Otago, the Academic Development Group at the University of Canterbury, and the Student Engagement and Evaluations Unit at Massey University for developing and hosting the colloquium and writing retreat that moved this research forward. We also would like to express our thanks to all New Zealand students who have responded to AUSSE questionnaires at participating universities. Finally, we would like to thank the staff at ACER, in particular Ms Ali Radloff, for providing the support to carry out the research activities that resulted in this publication.

Dr Sue Walbran
Interim Director, operations
Ako Aoteaora

Emeritus Professor Tom Prebble
Interim Director, strategy
Ako Aotearoa

Introduction

Ali Radloff & Hamish Coates
Australian Council for Educational Research

The number of students commencing undergraduate study at New Zealand's universities has been steadily increasing over the last decades (Ministry of Education, 2010a). While in 1991 only six per cent of New Zealanders aged 15 or older held a bachelors degree or higher qualification, by 2009 this had increased to 17 per cent (Ministry of Education, 2010b). Over 100,000 domestic and international students are currently enrolled in bachelor degree study at one of New Zealand's eight universities and the numbers of students enrolled has increased 17 per cent between 2002 and 2009 (Ministry of Education, 2010a).

Although the numbers of students entering bachelor level study in New Zealand is growing and is high relative to OECD averages, the number of students leaving with a qualification is low compared to many other countries (Scott & Gini, 2010). Data from the Ministry of Education show that completion rates are relatively low, particularly among certain groups of students. Around one-third of students who began a bachelor degree in 2002 had not completed the degree, or a degree at the same or a higher level, eight years after starting (Ministry of Education, 2010c). Completion rates are higher among Asian New Zealand students, but much lower among Māori and Pasifika students (Ministry of Education, 2010c). Eight-year completion rates are also much higher among students studying full-time (80%) than students studying part-time (52%) (Ministry of Education, 2010d).

It is clear that holding a bachelor or higher degree is valuable for an individual. New Zealanders with a bachelor or higher degree are more likely to be employed, with 82 per cent of the population holding a bachelor or higher qualification employed either full-time or part-time, compared with 63 per cent of the overall New Zealand population (Ministry of Education, 2010e). Only 2.5 per cent of New Zealanders with a bachelor or higher degree are unemployed, compared with 3.4 per cent of the overall population (Ministry of Education, 2010e). New Zealanders with a bachelor degree level qualification also earn on average around 60 per cent more than those with only a school-level qualification (Ministry of Education, 2010f). Increasing the proportion of the population that holds a bachelor or higher degree is not just beneficial for the individuals with the qualification, but also contributes to the overall economy of New Zealand by providing highly skilled workers.

As well as concerns surrounding the high numbers of students entering tertiary education but leaving without completing a qualification, concerns exist about low labour productivity relative to the qualification levels of the New Zealand population (Earle, 2010). As demand for highly skilled workers is increasing in New Zealand and the economy requires more people to have better skills, there are concerns about the quality of education people undertaking tertiary instruction receive (Earle, 2010). Enhancing the quality of tertiary education in New Zealand will address potential future skilled-worker shortages by reducing student attrition, improving the education students are receiving, and helping students graduate ready for employment. To improve the quality of education received by students studying at New Zealand's eight universities, there is a need to understand not only students' attrition and completion rates but also the way in which students are learning and engaging in their study – aspects of students' experience at university that are intrinsic to their success.

The Australasian Survey of Student Engagement (AUSSE) provides data that higher education providers throughout New Zealand and Australia can use to attract, engage and retain their students. Through measuring the time and effort students devote to educationally purposeful activities and other aspects of their experience at their institution the AUSSE provides a greater understanding of students' engagement with study and their learning. Instead of focusing on retention and completion rates, or upon student ratings of satisfaction with their education, the AUSSE focuses on the way in which students learn and on the outcomes they achieve. Having information about the way in which students are learning and their self-perceived outcomes allows institutions to gain a better understanding of the quality of education students are getting. Collecting this sort of information allows higher education institutions to understand what really counts in terms of quality.

The AUSSE is an annual survey managed by the Australian Council for Educational Research (ACER) in cooperation with participating tertiary education providers in Australia and New Zealand. The AUSSE builds upon a decade of development that has been done by the North American National Survey of Student Engagement (NSSE), which has been run for over a decade in the USA and Canada. The NSSE has been administered at more than 1,300 institutions throughout North America, and methodologies and research foundations developed in the NSSE have laid the foundations for the AUSSE.

The AUSSE was first run in 2007 within 25 institutions, and participation has grown each following year. In 2008, 29 institutions participated; in 2009, 35 institutions in Australasia; and in 2010 that increased to 55 institutions – including universities, TAFEs, private higher education providers, and institutes of technology and polytechnics. By providing information that is generalisable and sensitive to institutional diversity, and with multiple points of reference, the AUSSE generates information that institutions can use to monitor and enhance the quality of education. The AUSSE surveys students who are currently at two points of their higher education journey – in their first year of study and during a later-year of study (usually third-year of a bachelor level qualification).

Although in recent years more and more research has focused on student engagement worldwide, little focus has been given to the engagement of students studying at New Zealand's universities. Information on the engagement and outcomes of students studying at New Zealand universities can be used to better understand the sector, identify areas where improvements can be made and to celebrate students' successes.

This particular report explores student engagement among students studying at New Zealand's eight universities, and focuses on student groups that are of particular interest to the New Zealand higher-education sector, such as Māori and Pasifika students, students studying via non-traditional modes (such as part-time or extramurally), and international students. Other chapters in this report focus on student workload, differences in engagement between male and female students, students studying in different fields, and students' departure intentions.

Using the most recent results available at each of the eight New Zealand universities participating in the AUSSE from 2007 to 2009, this report provides an overview of the university sector and some answers to questions about students' experience of university and how they are learning.

The construct of student engagement

'Student engagement', which can be defined as students' involvement with activities and conditions that are likely to generate high-quality learning, is increasingly seen as important for positive learning outcomes. The concept of student engagement provides a practical lens for assessing and responding to the significant dynamics, constraints and opportunities facing tertiary education institutions. Measuring student engagement provides key insights into what students are doing, which helps provide information that can be used to enhance students' experience and generate continued improvement in school systems.

While student engagement is now seen as vital to quality tertiary education, information on student engagement has not been readily available to Australasian tertiary education providers until very recently. Prior to 2007, when the AUSSE was first run in New Zealand and Australia, existing data collections and surveys tended to focus on student satisfaction, quality of teaching and other aspects of students' experience at their institution. Now that the AUSSE is being used by many institutions, there is an increased ability to understand students' engagement, and institutions have more information on what matters for their students' experience.

Student engagement is an idea that specifically focuses on students and their interactions with their institution. While the concept has previously been considered behaviourally in terms of 'time on task', contemporary perspectives now touch on aspects of teaching, the broader student experience, learners' lives beyond the classroom, and institutional support. Students lie at the heart of conversations about student engagement – conversations that focus squarely on enhancing individual learning and development.

In short, 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. Such information enhances knowledge about learning processes, can be a reliable proxy for understanding students' learning outcomes and provides excellent diagnostic measures for learning enhancement activities.

The AUSSE explores six areas of student engagement. These include things that are related to students' institutional support as well as their involvement in certain types of educational activities. Table 1 details these six scales.

In addition to measuring student engagement, the AUSSE also measures several general and learning outcomes. The seven outcome measures in the AUSSE focus on broader forms of learning and development. These outcome measures are described in Table 2.

Table 1 AUSSE engagement scales

Engagement 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

Table 2 AUSSE outcome measures

Outcome measure	Description
Higher Order Thinking	Participation in higher order forms of thinking
General Learning Outcomes	Development of general competencies
General Development Outcomes	Development of general forms of individual and social development
Career Readiness	Preparation for participation in the professional workforce
Average Overall Grade	Average overall grade so far in course
Departure Intention	Non-graduating students' intentions on not returning to study in the following year
Overall Satisfaction	Students' overall satisfaction with their educational experience

AUSSE background and methodology

The AUSSE measures student engagement through administration of the Student Engagement Questionnaire (SEQ) to a representative sample of students at each institution. With formative links to the NSSE, the AUSSE provides data that complement and extend current collections that focus on satisfaction with teaching and support. It makes available to higher education institutions a new means for measuring and monitoring the effectiveness of learning and teaching.

The SEQ is based on the College Student Report, the instrument used at over 1,300 North American institutions that participated in the NSSE. The SEQ is designed for administration to undergraduate students in under 15 minutes, either online or in paper form. The same SEQ content is provided to all students. To manage and reduce levels of item-level non-response, sampled students were randomly distributed one of three different online versions, each containing different rotated orderings of the items. All students who submit

an online form are presented with an overview of student engagement, a summary of key findings, and information about what institutions have done with the results.

ACER further developed and validated the College Student Report before deploying it in Australia and New Zealand. Validation included item design and development, focus groups, cognitive interviews, pilot testing and expert review. A range of psychometric and conceptual analyses was conducted. This work builds on the extensive validation undertaken in the USA. The SEQ will further develop with ongoing 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 cross-national comparisons facilitated by the AUSSE are important. While tertiary 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.

When analysing the AUSSE item and scale statistics, various different technical perspectives could be and have been used in this report. Statistical significance, correlations and effect size are among some of the statistical techniques employed by authors in the chapters to interpret the data. Given the relatively large size of the sample and the magnitude of the scale standard deviations, using statistical significance alone can be somewhat misleading. With large samples, such as those used in this particular report, even small differences between groups can be statistically different. In these cases, a statistical difference does not necessarily indicate that a difference between two groups is meaningful or is of practical significance.

In order to determine the practical significance of differences between groups when using the AUSSE data, a 'rule of thumb' can be adopted and is utilised by many of the authors in this report to pin-point meaningful differences between groups. A scale score or percentage difference of five or more points on the reporting metric is likely to be both 'statistically significant' and indicate there is a meaningful difference between two or more groups' results.

Including different types of analysis in this report provides different perspectives. The types of statistical analyses and figures presented by the authors of the chapters in this report are varied, but reflect the number of different ways in which the data can be analysed. Analyses presented in this report include frequencies and mean responses for particular groups of students, significance testing, and effect–size calculations; however, there are many other types of analyses that could be used to interpret and explore the findings from the AUSSE.

Students at New Zealand's universities

For this particular report, data from each university's most recent AUSSE administration were merged into a single data file to provide an overall New Zealand AUSSE data file, which represents all universities in New Zealand rather than all New Zealand universities that participated during a particular year. This data file included the data from all eight New Zealand universities and includes data from the 2007, 2008 and 2009 administrations of the AUSSE. The administration year of the data included in the file for each New Zealand university is summarised in Table 3.

To ensure confidentiality of university responses, only staff at ACER had access to the combined New Zealand universities AUSSE data file. All analyses involving the use of this data file were conducted by ACER, and no analyses identified individual universities. Overall statistics, which included scale and item level statistics for particular student subgroups, were provided to all authors during a two-day meeting in Wellington in September 2010. Additional analyses requested by authors were also conducted by ACER.

The data file used for the analyses in the following chapters includes responses from 8,378 undergraduate first- and later-year students who completed the AUSSE survey at their university in 2007, 2008 or 2009. These include 4,223 first-year students and 4,155 later-year students.

Table 4 summarises the individual demographic characteristics of students at New Zealand universities

Table 3 New Zealand universities' results included in report

	2007	2008	2009
Auckland University of Technology	X		
Lincoln University			X
Massey University			X
The University of Auckland		X	
University of Canterbury			X
University of Otago			X
The University of Waikato		X	
Victoria University of Wellington			X

Table 4 Demographic characteristics of secured New Zealand response

		Secured response		
		n (unweighted)	n (weighted)	% (weighted)
Sex	Male	2,776	16,066	44.5
	Female	4,811	20,024	55.5
Age	Under 25	6,976	33,095	92.4
	25 or over	567	2,753	7.6
Residency	Domestic	7,070	33,558	93.4
	International	490	2,362	6.6
Language background	English	6,231	29,352	81.7
	Not English	1,326	6,556	18.3
Māori	Māori	674	2,957	9.1
	Non-Māori	3,501	29,426	90.9
Pasifika	Pasifika	380	1,776	5.5
	Non-Pasifika	6,782	30,559	94.5
Disability	Identified disability	413	1,975	6.1
	No disability	6,761	30,394	93.9

Table 5 Educational characteristics of secured New Zealand response

		Secured response		
		n (unweighted)	n (weighted)	% (weighted)
Field	Science	1,164	5,118	14.3
	Information technology	233	1,217	3.4
	Engineering	548	2,741	7.7
	Architecture and building	157	849	2.4
	Agriculture	237	731	2.0
	Health	908	3,975	11.1
	Education	598	2,522	7.1
	Management and commerce	1,252	6,111	17.1
	Humanities	1,995	9,963	27.9
	Creative arts	418	2,276	6.4
Attendance mode	Internal	7,068	33,764	93.7
	Extramural/mixed	518	2,283	6.3
Attendance type	Part time	529	2,654	7.4
	Full time	6,992	33,054	92.6
Residential status	Residential student	1,593	6,987	19.4
	Non-residential	5,970	28,973	80.6

and Table 5 provides a summary of these students' educational contexts and backgrounds.

Post-stratification weighting of AUSSE responses is used to ensure that responses represent the target population. As far as possible, given available information, AUSSE data are weighted within institutions for year level, attendance type, and sex.

Overall findings for New Zealand universities

The AUSSE findings provide information that New Zealand universities can use to better understand what their students are doing, and where improvements could be made to better ways in which students engage with their studies. Findings from the AUSSE can also be benchmarked internationally with responses from Australian university students who also took part in the AUSSE, South African university students who participated in the South African Survey of Student Engagement (SASSE), and USA undergraduate students who participated in the National Survey of Student Engagement (NSSE).

Comparing responses from New Zealand undergraduate university students with those of students in other countries reveals that compared to the USA, New Zealand students are far less engaged in their studies during both their first year and later year of study. Looking closer to home, it appears that when compared with undergraduate students from Australian universities, New Zealand students are doing a little better. As shown in Figure 1 and Figure 2, New Zealand students report very similar levels of engagement as their Australian peers. Two areas where there are significant and meaningful differences are between first-year students' engagement in active forms of learning (d=0.31) and involvement in work-integrated forms of learning (d=0.26). Although New Zealand students' involvement in work-integrated learning increases significantly between first- and later-years of study, later-year students studying at Australian universities continue to report significantly higher involvement in these types of activities (d=0.30).

A total of 12.8 per cent of New Zealand first-year students say that they 'never' ask questions or contribute to discussions in class or online. This is more than twice the proportion of Australian first-year students (5.6%). By later year, 40.7 per cent of New Zealand students report asking questions or contributing to discussions frequently, however this is still significantly lower than among Australian students (55.2%). New Zealand students are also far less likely to make a presentation. While 26.4 per cent of first-year and 16.4 per cent of later-year Australian students say that they have 'never' given a presentation in class or online, nearly half of New Zealand first-year students (48.4%) and a quarter of New Zealand later-year students (23.7%) report that they have 'never' made a presentation.

New Zealand students are also less likely to work with students during class, and to a lesser extent outside of class. However, New Zealand and Australian undergraduate students are just as likely as each other to have tutored other students or participated in a community-based project as part of their study. New Zealand students are slightly more likely to frequently discuss ideas from their classes with others.

While New Zealand students' involvement in work-integrated learning activities increases significantly from first- to later-years of study (d=0.42), Australian students are far more engaged in work-integrated types of learning than New Zealand students. By later years of study, 22.1 per cent of New Zealand students have participated in an industry placement or work experience; among Australian later-year students, 31.4 per cent have done this. Australian students are also more likely to feel that their experience at university has contributed at least quite a bit to their development of job- or work-related knowledge and skills (73.0%) by their later years of study than New Zealand later-year students (67.1%). Australian students are also more likely to frequently explore how to apply their learning in the workforce, to develop discipline-relevant communication skills and to improve knowledge and skills that will contribute to their future employability.

Another aspect of the student experience that is measured by the AUSSE is students' perceived outcomes from their university experience, including students' average grade, the types of thinking that their coursework emphasises, development of general learning skills, personal development, career readiness, satisfaction with their experience and non-graduating students' departure intentions.

Unsurprisingly, there appears to be a relationship between the length of time a student has been at university and their perceived outcomes of study. Later-year students generally report better outcomes than first-year students, although they are less satisfied than first-year students. This is particularly the case for higher order thinking (d=0.24), general learning outcomes (d=0.32) and career readiness (d=0.28).

There are fewer differences between New Zealand and Australian university students' perceived outcomes; however, New Zealand students report significantly lower levels of career readiness than Australian students during both first-year (d=0.24) and later-year (d=0.26) study. Furthermore, quite large proportions of both Australian and New Zealand students do not feel fully prepared for future careers. Rather high proportions of

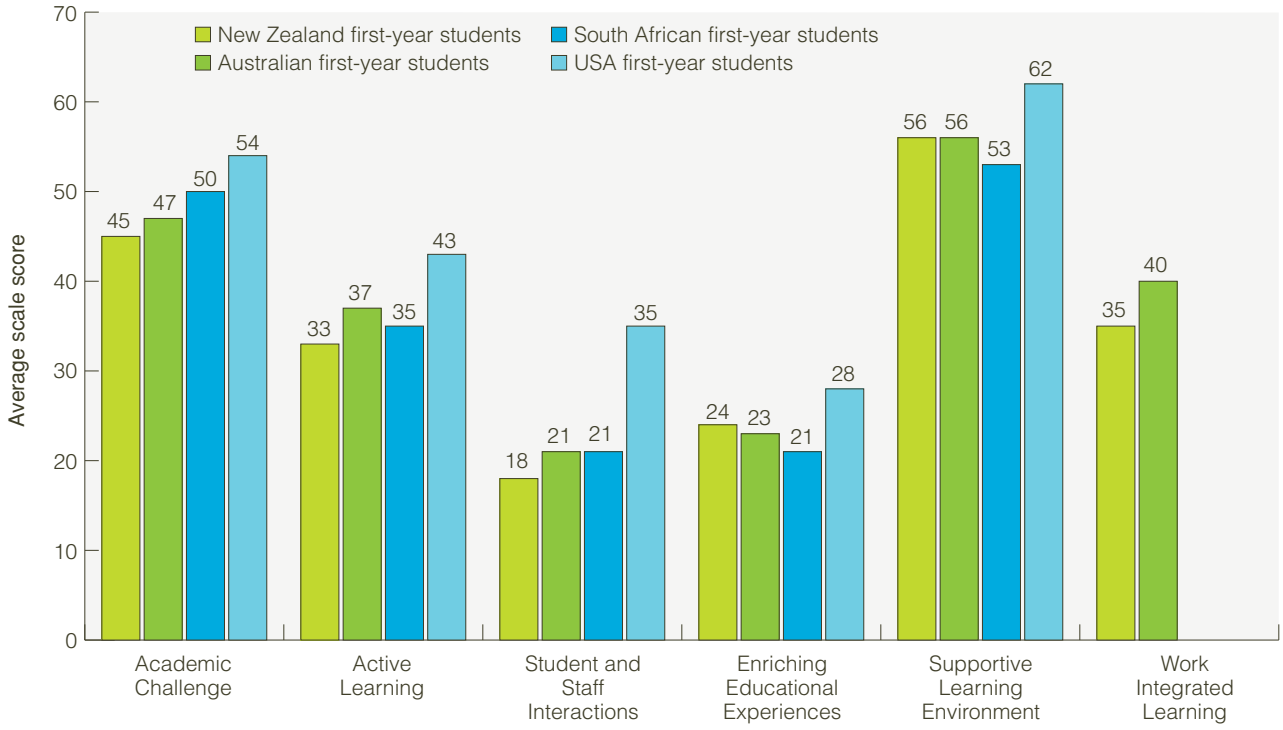

Figure 1 Student engagement scale scores among first-year students

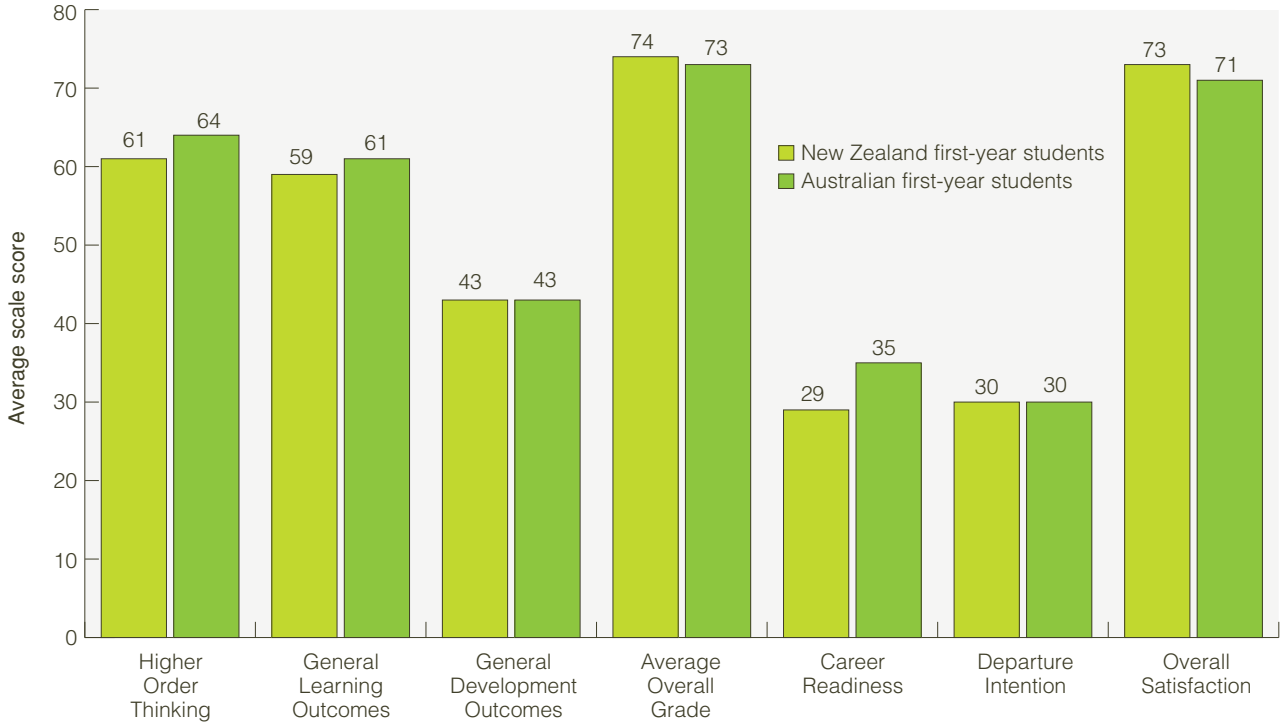

Figure 2 Outcomes measures scale scores among first-year students

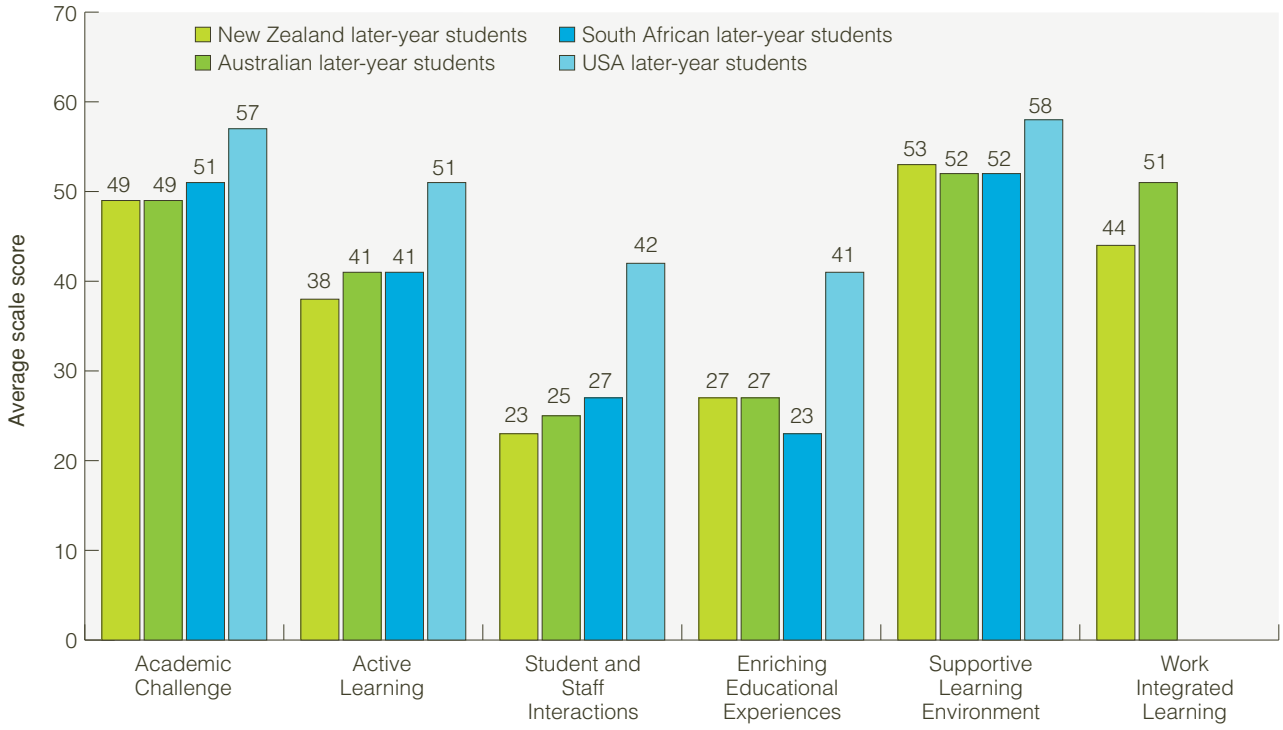

Figure 3 Student engagement scale scores among later-year students

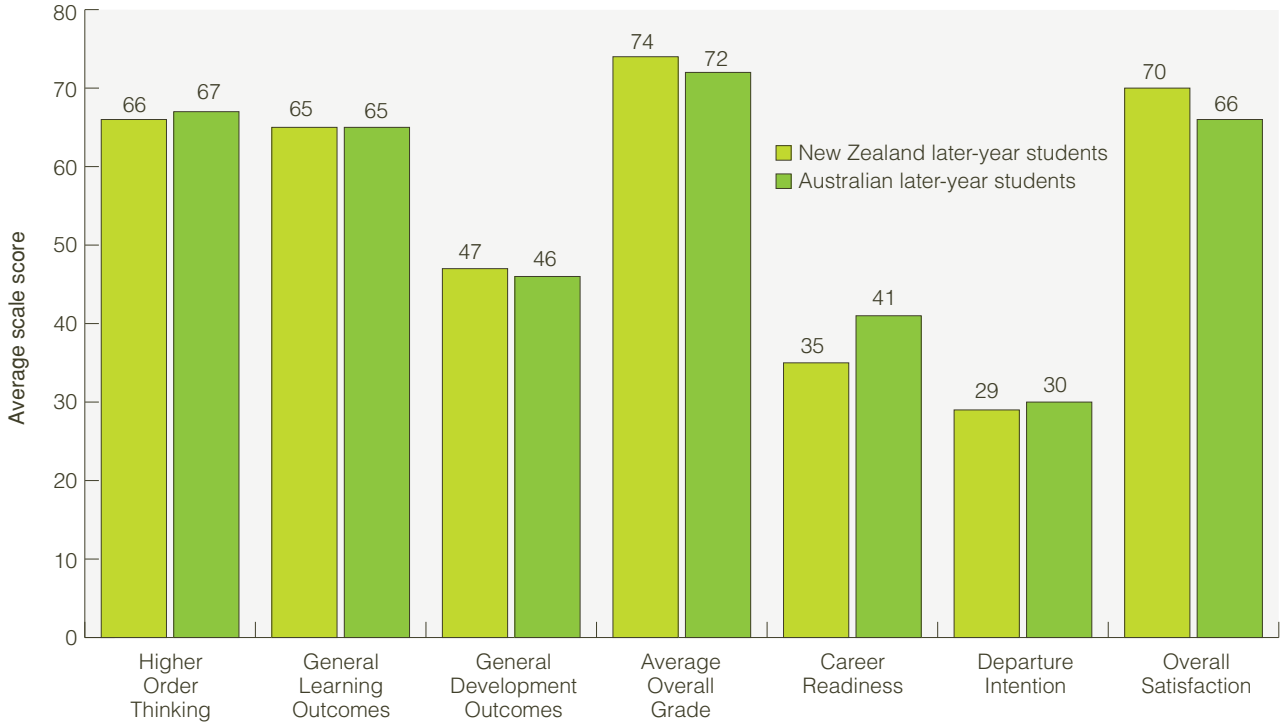

Figure 4 Outcomes measures scale scores among later-year students

Australian (37.9%) and New Zealand (47.6%) students report never keeping their resume up-to-date. A total of 40.1 per cent of New Zealand students reported never having networked to find job opportunities, 30.1 per cent have never set career development goals or plans, 28.6 per cent have never thought about how best to present themselves to potential employers, and 26.0 per cent have never explored where to look for jobs.

One area of great concern in New Zealand particularly is students' departure intentions. Given the relatively high rate of attrition from tertiary education and low completion rates internationally, exploring students' departure intentions can provide an interesting insight into the reasons why many students leave, and can help universities increase retention and subsequently student success. Australian and New Zealand students report similar levels of departure intentions, suggesting that the issue of retaining students in study is one that is not unique to New Zealand universities. Overall, 29.4 per cent of New Zealand university students have seriously considered or plan to leave their current institution prior to completing their qualification. Among New Zealand students with departure intentions, reasons given for considering leaving included convenience or practical reasons (27.2%), for academic reasons (26.8%), to improve career prospects (25.9%), for financial reasons (24.4%) and to obtain a better quality education (17.2%).

Although quite a number of New Zealand university students have seriously considered leaving, most of these students plan to stay on at university next year and continue with their current study (72.7%) or leave university having completed their qualification (16.1%). A smaller proportion of students plan to shift to a different qualification (14.2%) or shift to another university (17.8%), while only a small number of students who have seriously considered leaving plan to move to vocational education and training (3.2%), or leave university before finishing their qualification (7.3%).

While nearly one-third of New Zealand's university students have seriously considered leaving their university before completing their study, students are generally very satisfied with their experience at university. A total of 78.8 per cent of first-year and 74.8 per cent of later-year students rated the quality of academic advice received as 'good' or 'excellent'. A further 85.0 per cent of first-year and 82.3 per cent of later-year students were satisfied with their overall educational experience and rated it as 'good' or 'excellent'. The vast majority of New Zealand university students also indicated that given the chance to start over, they would attend the same university again (89.1%).

Recommendations based on the findings presented

The chapters presented in this report provide a more in-depth look at student engagement in New Zealand universities, focusing on specific student groups of interest and certain aspects of the student experience. Through sharing information and results with other universities and learning about different ways to improve the student experience, New Zealand universities will be able to effectively enhance students' engagement with learning, and increase students' success. Overall, the chapters suggest that providing university students with support in their studies is vital to ensuring student success.

Māori and Pasifika students

Māori and Pasifika students are of particular interest in the New Zealand university sector, and while the numbers of students enrolling in university study is increasing there are still widespread concerns about their high level of attrition and low completion rate relative to other students. Results from the AUSSE show that Māori and Pasifika students have a similar level of engagement with their studies to other students and also report similar outcomes overall; however, they are more likely to have difficulty keeping up to date with their study and more likely to have seriously considered leaving than other students.

For both Māori and Pasifika students, a key relationship emerges between support provided by their university, frequent and high-quality interactions with academic staff, and positive student outcomes including satisfaction with their educational experience, departure intentions, general development and learning skills. Although this relationship appears for all New Zealand university students, among Māori and Pasifika students this relationship is stronger. This suggests that providing greater support through programmes such as Peer Assisted Study Sessions (PASS) may help Māori and Pasifika students feel greater support from their institutions and peers, and may also assist them in keeping up to date with their studies.

Field of study

There is a great amount of variation in the way in which students in different fields of education are engaging in their study. Overall, students in many fields are reporting low levels of engagement with work-integrated forms of learning and low career readiness. Also, students in many fields of study reported relatively low levels of involvement in active forms of learning, particularly in terms of giving presentations.

While engineering students reported the lowest departure intentions, they were also the least likely to contribute to discussions in class or online, but at the same time reported frequently working with other students during and outside of class. Architecture students on the other hand, while strongly engaged in active forms of learning, reported the highest departure intentions of all fields of study. These examples show just some of the findings that reflect traditional academic disciplinary and curricular differences between the disciplines.

Sex

Although male students are less successful than female students in terms of their pass rates and successful and timely completion of qualifications, with a few exceptions, there are very few meaningful differences in the way in which male and female students engage in learning. Female students are somewhat more engaged than male students in academically challenging activities and enriching educational experiences, while male students are more engaged in certain active forms of learning such as working with other students during and outside of class and tutoring other students.

International students

International students are coming to New Zealand to study in increasing numbers. A lower proportion of international students drop out of study, and more complete within eight years. There are no large differences in engagement and outcomes between international and domestic students; however, international students report slightly higher interactions with staff, a greater focus on work integrated learning, and career readiness. International students are also slightly more likely to be involved in enriching educational experiences, and to feel that their experience at university has contributed to their personal development.

International students are slightly more engaged with learning than domestic students but also have somewhat higher departure intentions and lower rates of satisfaction. International students are also significantly less likely to have frequent interactions with students from a different background or of a different ethnic group and rate their relationships with other students more poorly than domestic students. A clear link emerges between international students' relationships and interactions with other students and their departure intentions and satisfaction.

Work and study balance

It is clear that university students in New Zealand, like those in other countries, are not spending sufficient time on their studies or in classes. Students who spend no time preparing for class are far less engaged in many areas of learning than students who spend a substantial amount of time studying.

As more and more students balance work with university study, there are concerns that employment is interfering with students' success at university. Results from the AUSSE suggest that students who are working for pay for 30 or more hours in a typical week are significantly less engaged with their studies; however, no negative effect appears for students who report working for pay for up to 25 hours a week.

Departure intentions

With 17 per cent of university bachelor degree students dropping out of their study during or immediately following their first-year of university, and nearly one-third of students not completing their bachelor degree within eight years of first enrolling, it is vitally important that we understand the various reasons students leave their study and how attrition can be mitigated.

Around 29 per cent of New Zealand university students have seriously considered leaving their current institution or plan to leave by the following year. The primary reason given by these students centres on practical reasons or reasons to do with convenience. Although many practical reasons may be outside the control of a university, some relationships between departure intentions and students' engagement and outcomes suggest that more could be done to mitigate student departure intentions and therefore their attrition from study.

A strong relationship emerges between students' satisfaction with their educational experience, academic advice received and students' departure intentions. There also appears to be a relationship between departure intentions, student grade, support provided by the university, and general learning skill development.

Part-time students

Part-time students have much lower completion rates than full-time students. For this reason it is interesting to explore whether the way in which part-time and full-time students are engaging with their study and university is different and whether this may be affecting their intentions to depart and actual attrition from university.

While data from the Ministry of Education show that part-time students are more likely to drop out of study, no meaningful difference emerges between part-time and full-time students' departure intentions from the AUSSE data. However, part-time students are much

more likely to cite financial reasons as being one reason for seriously considering leaving.

Part-time students have fewer opportunities to interact with other students, and have lower ratings of the quality of their relationships with other students than full-time students.

Extramural students

An increasing number of students are studying extramurally, but little is known about the differences in how these students are learning due to their different location of attendance. Although extramural students have fewer opportunities to engage in certain learning activities, such as interacting with fellow students and academic staff in traditional ways, students studying extramurally are actually more engaged overall than their peers studying on-campus.

References

Earle, D. (2010). How can tertiary education deliver better value to the economy? Wellington: Ministry of Education, Tertiary Sector Performance Analysis and Reporting Division.

Ministry of Education (2010a). Domestic and international students enrolled by qualification level and sub-sector 2002–2009, ENR.10, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Ministry of Education (2010b). New Zealanders aged 15 and over by highest tertiary qualification level 1991–2009, EAP.12, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010c). Eight-year qualification completion rates for domestic students by sub-sector, ethnic group, full- or part-time, period of study, and qualification level, COM.35, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010d). Eight-year qualification completion rates, LNR.6, Ministry of Education, Wellington, viewed 28 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010e). Distribution of the working age population by labour force status, highest qualification and ethnic group 2006 – counts, PSE.1, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/life_after_study>.

Ministry of Education (2010f). Region-wise distribution of weighted average of earnings of New Zealanders aged 15 and over by highest qualification 2006, PSI.1, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/life_after_study>.

Scott, D. & Gini, P. (2010). How does New Zealand's education system compare? OECD's Education at a Glance 2010. Wellington: Ministry of Education.

Māori and Pasifika students' academic engagement: What can institutions learn from the AUSSE data?

Jacques van der Meer
University of Otago

A focus on the academic achievement of Māori and Pasifika tertiary students has been and continues to be one of the key priorities of successive New Zealand governments. One of the key aims outlined in the Tertiary Education Strategy 2010–2015 (Tertiary Education Commission, 2010a) is to increase the success of Māori students and Pasifika students in tertiary education, particularly at higher qualification levels. In spite of this continued focus, Māori and Pasifika students are more likely to drop out of bachelor degree study, are less likely to complete and are also less likely to progress to higher study than other students.

A much smaller proportion of the Māori (6.3%) and Pasifika (4.9%) populations aged 15 and older hold a bachelor or higher qualification than European (14.6%) or Asian (27.2%) New Zealanders (Ministry of Education, 2010a). Although similar proportions of the Māori, Pasifika and European population are currently participating in bachelor level study (Ministry of Education, 2010b), Māori and Pasifika students are more likely to drop out during or after their first year of study (Ministry of Education, 2010c), are more likely to drop out of subsequent years of study (Ministry of Education, 2010d), and are less likely to complete their qualification or progress to a higher qualification within eight years of beginning than their European and Asian New Zealander peers (Ministry of Education, 2010e; Ministry of Education, 2010f).

Coupled with the lower success rate of Māori and Pasifika students, demographic trends suggest that the growth of these populations will see proportionately more Māori and Pasifika students entering tertiary institutions in the coming decades than is currently the case (Zepke, et al., 2005). More needs to be done to understand why Māori and Pasifika students are less likely to complete their studies, and to understand the factors that lead to Māori and Pasifika students' attrition and success. Māori and Pasifika achievement is not only of national social and economic importance, but is also considered the key to realisation of Pasifika and Māori potential (Durie, 2006).

Although findings relating to both groups will be discussed in the one chapter, Māori and Pasifika students cannot simply be considered part of the same group. Māori and Pasifika have different histories and occupy a different social and political status in New Zealand. What they do have in common, however, are contrasting academic achievement levels compared to other ethnic groups. While, overall, 81 per cent of

university students undertaking bachelor level study in 2009 successfully completed the courses that they were enrolled in, pass rates of European students (84%) and Asian students (80%) were substantially higher than among Māori (73%) and Pasifika (67%) students.

In addition to this, retention and degree completion statistics for the university sector show that Māori and Pasifika students are less likely to complete their degree level study and are more likely to drop-out than European or Asian domestic students (Clark, Van der Meer, & van Kooten, 2008). Not only is this of concern to both the New Zealand government and Māori and Pasifika people, it also partly explains the preoccupation of successive governments with finding ways to lift the academic achievements of Māori and Pasifika students.

Students themselves or their whānau (extended family) are often blamed for Māori and Pasifika underachievement in tertiary education. This apportioning of blame, be it implicit or explicit, has long been the dominant discourse of both educational researchers and policy makers. Although historical and systemic socioeconomic issues are frequently advanced to explain this trend of underachievement among Māori and Pasifika students, the focus is often on the under-preparedness of students – or other personal traits – rather than on educational practices or institutional factors. This focus has been defined as deficit theorising (R. Bishop, Berryman, Cavanagh, & Teddy, 2009; Shields, Mazawi, & Bishop, 2005).

In a New Zealand Ministry of Education funded multi-year, multi-school project that investigated ways to enhance the achievement of secondary school Māori students (Te Kotahitanga), researchers highlighted deficit theorising by teachers (R Bishop, Berryman, Cavanagh, Teddy, & Clapham, 2007). The researchers characterised the dominant classroom practices of teachers engaged in deficit theorising as 'transmission teaching' and describe the typical solution to students' underachievement given by teachers as providing remedial programmes for these students. Moving away from this traditional practice of transmission teaching, researchers advocated for, and successfully piloted, an approach that focused on more responsive and appropriate learner-centred classroom practices that would lift Māori students' achievement.

The findings from the Te Kotahitanga project showed that more frequent interactions with fellow students and teachers and use of active learning approaches increased Māori students' achievement. Although this project focused on enhancing student success among Māori secondary school students, many of the findings may translate to a tertiary education setting.

Research suggests that a relationship-focused and active approach to learning is likely to equally benefit students in universities (Earle, 2008; Greenwood & Te Aika, 2009). Indeed, other research on barriers and enablers to tertiary success have suggested that emphasising active forms of learning and student support may benefit university students (Greenwood & Te Aika, 2009; Ross, 2008).

Research evidence from across the world is categorical in identifying that retaining students during their first year is one of the keys to student success and ultimately degree completion (Krause, Hartley, James, & McInnis, 2005; Kuh, 2001; Pascarella & Terenzini, 2005; V. Tinto, 1993; V Tinto, 2002; Upcraft, Gardner, & Barefoot, 2005; Yorke & Longden, 2007, 2008; Zepke, et al., 2005). This chapter will explore the importance of the first-year experience for Māori and Pasifika students as well as look at how later-year students engage with their studies and what could be done to enhance both first- and later-year students' retention and success, using the findings from the Te Kotahitanga project. In this chapter, results from Māori and Pasifika students' first and later years of study will be reported separately.

Although internationally a great deal of research exists into the first-year student experience, and student success and retention, in undergraduate study, there is less research available that focuses on New Zealand students' – in particular Māori and Pasifika students' – experience, engagement and completion. Recently, some reports have been published that explore the particular issues Pasifika university students face while undertaking their studies (Anae, Coxon, Mara, Wendt-Samu, & Finau, 2002; Coxon & al, 2002), and the University of Waikato has published a number of primarily internally-focused reports on support for Māori students (Hunt, Morgan, & Teddy, 2001; Levy & Williams, 2003; Nikora, Levy, Henry, & Whangapirita, 2002; Rua & Nikora, 1999).

Enhancement opportunities offered by the AUSSE

The AUSSE is the first cross-national dataset available to New Zealand universities that provides an overall picture of students studying in universities in New Zealand and also enables institutions to compare their students' engagement and outcomes with other institutions (Coates, 2010). Comparisons can be made through benchmarking to compare groups of universities' results with those of an individual university. The data can also be used to help stimulate conversations between institutions to help identify areas where improvements could be made to enhance students' engagement and outcomes.

Certain aspects of the Te Kotahitanga project that were shown to influence students' success can also be examined in the AUSSE data to see whether the findings from the school sector might be mirrored in universities. As well as looking at some general findings from the AUSSE, this chapter will particularly focus on selected results to investigate whether aspects of the student experience identified in the Te Kotahitanga project as contributors to academic success in secondary education – including students' engagement in active forms of learning and their relationships and interactions with other students and with staff – may also be linked with positive outcomes among Māori and Pasifika students in universities.

The findings highlighted in this chapter serve to start ongoing conversations in the New Zealand university sector about enhancement initiatives relating to Māori and Pasifika students. It does not aim to present an exhaustive overview of all the AUSSE findings for Māori and Pasifika students, but instead highlights some key findings that suggest areas where improvements could be made and recommendations for action based on the findings presented. To amplify the benefit of conversations between institutions, a number of examples are used whereby institutional differences between de-identified universities are shown. Although differences within institutions are often bigger than between, in a country like New Zealand with a small higher education sector it can be especially advantageous to find ways to learn from each other. As all New Zealand universities seek to enhance the academic success of Māori and Pasifika students, good practices need to be shared.

Māori and Pasifika students' engagement and outcomes

On average, both Māori and Pasifika students report similar outcomes and engagement with learning as other students. Looking at the six student engagement scales, as shown in Table 6, there are few meaningful differences between the overall means between Māori, Pasifika and all students.

Māori and Pasifika students report a high level of satisfaction with their university experience and do not vary significantly from the average satisfaction rating given by all students (72.7%), with a mean score of 74.3 per cent for Māori and 73.9 per cent for Pasifika students. Pasifika students also report significantly higher levels of personal development than other students. In spite of their high levels of satisfaction, and similar levels of engagement with learning to other students, Māori and Pasifika students are significantly more likely to have seriously considered leaving or to be planning to leave their current institution prior to completing their degree, mirroring Māori and Pasifika students' higher attrition rates and lower completion as shown in data from the Ministry of Education.

Overall 29.4 per cent of New Zealand university students have departure intentions; however, among Māori students this increases to 36.5 per cent and to 32.4 per cent among Pasifika students. Although the proportion of students with departure intentions tends to decrease between first-year and later-year students, among Māori and Pasifika students there is a slightly higher proportion of later-year students who have seriously considered leaving their current institution.

Table 6 Average engagement scale scores among Māori and Pasifika students

	Academic Challenge		Active Learning		Student and Staff Interactions		Enriching Educational Experiences		Supportive Learning Environment		Work Integrated Learning	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
First-year students												
All	45.18	12.4	32.66	14.4	18.40	14.3	24.41	11.4	56.35	16.9	35.28	19.43
Māori	46.62	12.5	33.82	15.2	19.21	15.2	25.87	11.7	57.34	18.3	35.82	19.76
Pasifika	46.57	13.2	33.60	15.6	23.00	18.3	26.19	10.8	61.12	18.6	36.50	20.51
Later-year students												
All	48.68	12.5	38.35	15.7	23.46	16.0	27.14	13.6	53.36	16.2	44.06	21.95
Māori	47.93	11.4	38.16	15.7	21.84	16.5	26.77	13.2	54.13	16.1	44.04	22.79
Pasifika	48.75	13.8	37.64	16.4	23.56	16.7	27.21	13.6	55.57	18.5	40.22	20.93

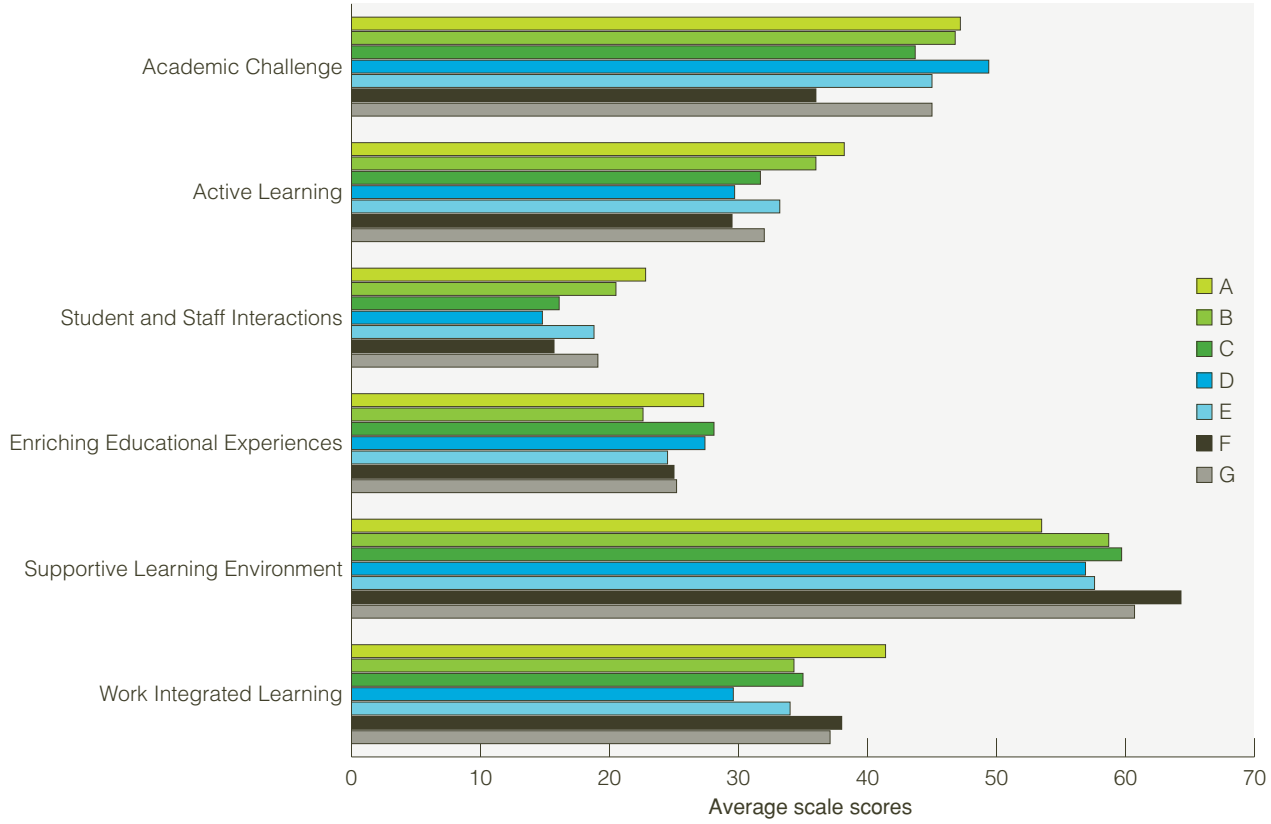

Figure 5 Difference between institutions for Māori first-year students

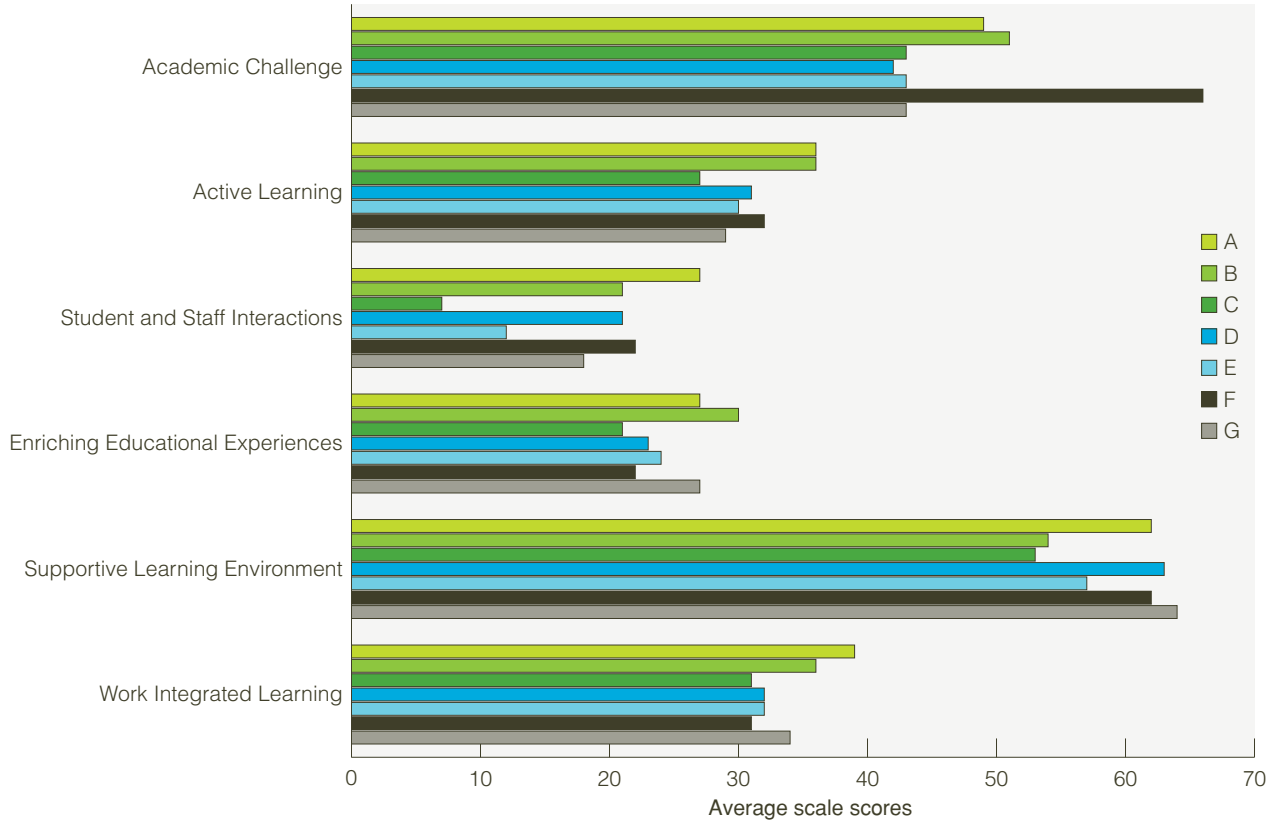

Figure 6 Difference between institutions for Pasifika first-year students

Table 7 Highest and lowest scores on interaction items for first-year students

	Tutored other students	Discussed ideas from classes with others	Conversations with students of different ethnic group	Conversations with students who are very different	Worked with students outside class	Worked with students during class
Māori in lowest scoring university	5.97	53.90	43.31	49.68	43.62	26.75
Māori in highest scoring university	14.63	67.50	73.01	66.03	53.08	51.14
Pasifika in lowest scoring university	4.78	50.37	54.90	38.40	33.33	32.07
Pasifika in highest scoring university	15.47	72.64	75.87	67.63	52.76	56.02

Because of the higher proportion of Māori and Pasifika students with departure intentions, coupled with the findings reported by the Ministry of Education that show that these students are more likely to drop out of study and less likely to complete their qualifications or progress to higher study, it is essential that we understand why, and explore how these students can be retained in study and supported to complete.

Although there are few meaningful differences between Māori, Pasifika and all students' engagement with learning overall, mean scores for the whole sector can mask underlying differences. When we analyse, for example, the differences in average engagement scale scores between different institutions for both Māori and Pasifika students, it is clear that some institutions perform better on some engagement indicators according to their students. The comparisons between different institutions potentially provide New Zealand universities with a starting point to guide conversations on enhancing Māori and Pasifika students' engagement.

As shown in Figure 5, Māori first-year students' average levels of engagement vary quite dramatically between institutions. For example, students at University A tend to be more engaged with academically challenging learning activities, active forms of learning, interactions with teaching staff, enriching educational experiences and work-integrated forms of learning, but these same students feel somewhat less support from their university. This variation is further shown among first-year Pasifika students in Figure 6.

While Figure 5 and Figure 6 indicate overall scale scores for groups of items, results for individual items can also be used to identify specific areas in which certain universities are performing better than others, or where certain groups of students are performing differently. Again, this information could be used to help universities enhance the student experience by learning from others. When, for example, a number of survey items broadly related to the interactions students might have are examined, it can be seen that the response patterns of the different groups of students is not very different (see Table 7). It is obvious that students are engaging reasonably well with other students – including with students who are different from themselves – but that the responses to questions around working academically with other students are less favourable, with few students tutoring or teaching other students, and only small proportions working with other students during or outside of class. The Te Kotahitanga report (R Bishop, et al., 2007) and other reports on mentoring of Pasifika and Māori students (for example, Ross, 2008) suggest that a discursive environment is particularly beneficial.

Support and student success

It is interesting to note that students' ratings of the level of support provided by their university (the Supportive Learning Environment scale) correlates significantly with all of the outcome scales except for Average Overall Grade. While many of these correlations are very modest, Supportive Learning Environment shows a moderate and significant relationship with students' General Learning Outcomes, General Development Outcomes and Overall Satisfaction, as shown in Table 8. These correlations are all stronger among Māori and Pasifika students. Importantly, there is a very modest but still significant correlation between support and students' departure intentions. This finding suggests there is an important relationship between the level of support given by an institution and students' retention and success, and that support plays an even more important role among Māori and Pasifika students.

The Supportive Learning Environment scale includes items relating to students' rating of the quality of relationships they have with teaching, administration and service staff as well as fellow students. The scale also includes items that ask students about the extent to which their institution provides support for them to succeed academically, to cope with non-academic responsibilities and to socialise. The stronger correlations between supportive learning environment and student outcomes among Māori and Pasifika students suggests that positive student outcomes for them are more closely related to the quality of interactions and supportiveness of the institutional environment than among other students. A similar relationship between support and positive outcomes can also be seen when looking at later-year students, which suggests that providing continued support to students, Māori and Pasifika students in particular, throughout a student's studies is important.

Although not as marked, this same relationship can be seen between the Student and Staff Interaction scale and the General Learning Outcomes scale, wherein the relationship between students' interactions with staff members appears to be linked with students' general learning outcomes, with this link stronger among Māori and Pasifika students (Table 9).These correlations then, could be seen as providing some support for the findings of Bishop et al. (2007) that when Māori students feel supported and have strong relationships with their teachers their academic achievement is also stronger and they exhibit stronger development of literacy and numeracy skills. However, the link between students' interactions with staff and their intentions to depart is not as clear.

A supportive learning environment, then, seems to be linked to better outcomes for students. This should come as no surprise to universities who already provide a wide range of support to students, both through formal student learning support services and less formal support programmes. In addition to general learning centres that can be found at most universities, many also provide specific centres for Māori and Pasifika students. Although the particular activities of these centres may differ between universities, they generally include some form of learning support and often provide opportunities for students to interact more closely with staff and other students. Considering these additional opportunities for Māori and Pasifika, it is not entirely surprising then that the results suggest that Māori and Pasifika first-year students use these learning support services more often than the average student. By later years, Pasifika students are still more likely than average to be accessing student learning support services, but Māori later-year students are not using these services more than the average later-year student, as shown in Table 10. This suggests that the support provided by Māori learning centres may be focused primarily on the first year of study, or that by later-years of study Māori students do not feel that they require as much support as they did initially.

Table 8 Correlations with the Supporting Learning Environment scale (first-year students)

Scale	Group	Correlation
General Learning Outcomes	All students	.505**
	Māori	.601**
	Pasifika	.558**
General Development Outcomes	All students	.472**
	Māori	.564**
	Pasifika	.551**
Overall Satisfaction	All students	.521**
	Māori	.559**
	Pasifika	.583**

**Correlation is significant at the 0.01 level (2-tailed).

Table 9 Correlation with the Student–Staff Interaction Scale (first-year students)

Scale	Group	Correlation
General Learning Outcomes	All	.321**
	Māori	.381**
	Pasifika	.365**

**Correlation is significant at the 0.01 level (2-tailed).

Table 10 Average scores 'used student learning support services'

	All students	Māori	Pasifika
First year all NZ universities	27.25	31.25	35.11
Later year all NZ universities	24.08	23.10	36.32

One challenge for many students especially in their first year of study is keeping up with their workload. In one New Zealand study (Zepke, et al., 2005) this issue clearly appears, and studies conducted internationally confirm this is a common concern for first-year students worldwide (Kantanis, 2000; Maguire, 2001; Prescott & Simpson, 2004; Smith, 2003; Yorke & Longden, 2008). While in first-year, 70.3 per cent of Māori students report

Table 11 Response difference to 'Kept up to date with your studies'

	University A		University B		Effect size
	Mean	St. Dev	Mean	St. Dev	Cohen's d
All first-year students	61.60	22.80	64.55	25.44	.12
Māori first-year	50.11	17.18	62.32	24.78	.57
Pasifika first-year	44.68	17.61	63.45	25.93	.85

that they keep up-to-date with their studies 'often' or 'very often' (compared with 71.8 per cent overall), but by the later years Māori students' are somewhat less likely than other students to report frequently staying on top of their studies, with 62.4 per cent of Māori later-year students saying they do so 'often' or 'very often' compared with 67.3 per cent overall. Among Pasifika students the differences are more marked, with 60.0 per cent of first-year students reporting they frequently keep up-to-date with their studies, and only 49.9 per cent of later-year students reporting a similar result.

This is a useful area where comparing results for different institutions provides some insights into why Māori and in particular Pasifika students may not be keeping up-to-date with their studies as regularly as other students. Comparing the results of two universities with high and low scores on this item, we can see that at some universities students seem to do better at keeping up.

With large datasets such as the AUSSE, testing for significance may not always be that useful as large sample sizes tend to inflate significance scores. Effect–size calculation between the results of the two institutions, however, can be more useful by explaining the size of the differences. Cohen (1988), in his seminal work on effect size in the behavioural sciences, defined an effect size 'small' (d=0.2), 'medium' (d=0.5), and 'large' (d=0.8). Using this as a guide suggests that the differences reported in Table 11 are meaningful for Māori and Pasifika students, and therefore that there are differences in the way in which students in University A and University B keep up-to-date with their studies.

This may be reflective of different approaches used in these particular universities to induct students into study, or of different programmes in place. Because of the large effect size for Pasifika first-year students' ability to keep up-to-date with their studies, this suggests that there may be some differences in the programmes offered for first-year Pasifika students in these universities. This is a clear example where institutions may be able to learn by sharing findings and data with each other.

Qualitative findings

Qualitative responses given by students responding to the AUSSE can provide additional information about students' participation in active forms of learning, interactions with students and staff, and institutional support, and how these impact positive student outcomes. Two open-ended questions are included in the AUSSE to elicit students' perceptions of the way in which their university has helped them engage in learning. The questions are: 'What are the best aspects of how your university engages students in learning?' and 'What could be done to improve how university engages students?' Over 60 per cent of Māori and Pasifika students responded to the first question, and close to fifty per cent to the second question. More than twenty per cent of the answers to the first question relate to the benefits of tutorials, with comments focusing primarily on the opportunities tutorials provide to discuss and hear different points of view in a small group. Table 12 provides a selection of comments relating to Māori and Pasifika students' involvement in tutorials.

Many comments that do not mention tutorials specifically mention the benefits of working in groups with other students, for example: 'Learning together and understanding other peoples point of view and accepting their opinions individually'. On the other hand, some students commented on the challenge of not being able to work with other students: 'on a whole it has a strong individualistic feel to it and I have to learn on my feet as I go. Very hard especially as English is my second language'. The high proportion of comments that point to tutorials as one of the best aspects of how their university engages students in learning provides further evidence that working with other students supports both Māori and Pasifika students' engagement with their studies.

In addition to the large number of comments provided by Māori and Pasifika students that related to the importance of tutorials, close to a third of the comments given by Māori and Pasifika students relate to the benefits of a supportive learning environment and the ability to approach teaching and other staff for help.

Table 12 Illustrative comments related to tutorials

Tutorials – encourage us to learn whilst speaking and engaging in converse with others ... make learning easier ... don't know what I would do without them.
The tutorials are an essential part of engaging students in learning. They have much smaller numbers than lectures and encourage a lot of group discussion and interaction.
Tutorials – They give everyone a chance to voice ideas and debate them and also learn and gain information and insight through others opinions and thoughts.

Table 13 Illustrative comments related to supportive environment

Allowing Māori students a place of their own where they mix their ideas and share their learning with each other and others.
Most probably tutorials and small group discussions, much better than large lectures – too intimidating to participate in discussions. Also, services such as the Student Learning Centre and those for Pasifika students, e.g. Tuakana study programmes.
Offers of academic and other support, in particular Tuakana Program (discipline specific workshops for Māori & Pacific Islanders)

Some examples of these comments are included in Table 13. Again, these comments provide additional weight to the proposed link between support, student and staff interactions and positive outcomes for Māori and Pasifika students, and suggest that providing Māori and Pasifika students with additional support and mentoring, for example, may help increase student success.

To a large extent comments about areas in need of improvement mirrored the comments in the question of how universities do engage students. Students wanted more interaction, more discussion, more tutorials and therefore smaller classes or help with setting up study groups.

Discussion and conclusion

The high proportion of Māori and Pasifika students who enrol in university study but do not successfully complete a bachelor degree is concerning. Findings from the AUSSE and from the Te Kotahitanga project suggest that providing support to Māori and Pasifika students is one of the keys to student success. Enhancing students' opportunities to participate in active forms of learning and to interact with other students and staff also appears to play an important role in increasing success among Māori and Pasifika students.

Much is already known about the benefits of learning environments with a greater focus on students interacting with each other and engaging in active learning. Many of these approaches can be broadly defined as 'constructivist' approaches to teaching and learning (Loyens & Gijbels, 2008; McGuire, 2006). Successful interventions such as Supplemental Instruction (generally known as PASS – Peer Assisted Study Sessions – in Australasia) draw on the benefits of students interacting with each other and learning from each other, both elements of the learning environment that are known to be beneficial. The effectiveness of PASS programmes has also been commented on in New Zealand literature (for example, Prebble, et al., 2004). Given the link between support, student interactions and positive outcomes for Māori and Pasifika students shown in this chapter and in other research such as the Te Kotahitanga project, it would be expected that universities in New Zealand who offer PASS or similar peer learning programmes, may better serve Māori and Pasifika students and impact positively on their retention, completion and success.

Universities in New Zealand have much to learn from closer collaboration and 'opening up their books'. The recent publication of institutional teaching performance indicators (Tertiary Education Commission, 2010b) suggest that accountability is not likely to go away in a hurry. Closer collaboration may result in greater student achievement gains for all. Collaboration does not mean that every university will necessarily perform at the same level; institutions draw on different cohorts and have to find solutions that serve their environment and the needs of their specific students. However, in a small country with limited resources, learning what has worked in other institutions and adapting it to New Zealand university environments would be valuable. The AUSSE provides the New Zealand university sector with the first cross-campus dataset that can start a process of communication and identifying each other's strengths using the same indicators. By sharing findings and data, institutions can learn from each other and enhance student retention, completion and success among Māori and Pasifika students at their university.

References

Anae, M., Coxon, E., Mara, D., Wendt-Samu, T., & Finau, C. (2002). *Pacific Peoples and tertiary education: issues of participation*. Wellington: Ministry of Education.

Bishop, R., Berryman, M., Cavanagh, T., & Teddy, L. (2009). Te Kotahitanga: Addressing educational disparities facing Māori students in New Zealand. *Teaching and Teacher Education, 25(5)*, 734–742.

Bishop, R., Berryman, M., Cavanagh, T., Teddy, L., & Clapham, S. (2007). *Te Kotahitanga Phase 3: Establishing a culturally responsive pedagogy of relations in Mainstream Secondary School Classrooms*. Wellington: Ministry of Education.

Clark, A., Van der Meer, J., & van Kooten, C. (2008). Establishing baseline data: using institutional data to learn more about completion factors at one New Zealand university. *Journal of Institutional Research*, *14(1).*

Coates, H. (2010). Development of the Australasian Survey of Student Engagement (AUSSE). *Higher Education*, *60(1)*, 1–17.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale Lawrence Erlbaum.

Coxon, E., et al. (2002). *Literature review on Pacific education issues*. Wellington: Ministry of Education.

Durie, M. (2006). *Whānau, education and Māori potential*. Paper presented at the Hui Taumata Mataurangа V, Taupo, 8th October 2006.

Earle, D. (2008). Hei titiro an i te whainga Māori achievement in bachelors degrees revisited. Wellington, New Zealand: Ministry of Education.

Greenwood, J., & Te Aika, L. (2009). Hei Tauira: teaching and learning for success for Māori in tertiary settings. Available from <http://akoaotearoa.ac.nz/download/ng/file/group-3846/n3866-hei-tauira---full-report.pdf>.

Hunt, H., Morgan, N., & Teddy, L. (2001). *Barriers to and supports for success for Māori students in the Psychology Department at the University of Waikato*. Hamilton: Department of Psychology, University of Waikato.

Kantanis, T. (2000). The role of social transition in students' adjustment to the first-year of university. *Journal of Institutional Research*, *9(1)*, 100–110.

Krause, K., Hartley, R., James, R., & McInnis, C. (2005). *The first year experience in Australian universities: findings from a decade of national studies*. Canberra: Australian Government Publishing Service.

Kuh, G. (2001). Organizational Culture and Student Persistence: Prospects and Puzzles. *Journal of College Student Retention: Research, Theory and Practice*, *3(1)*, 23–39.

Levy, M., & Williams, M. (2003). *Monitoring first year Māori students enrolled in selected Faculty of Arts and Social Sciences courses: A report prepared for the Dean of the Faculty of Arts and Social Sciences*. Hamilton Māori and Psychology Research Unit, University of Waikato.

Loyens, S., & Gijbels, D. (2008). Understanding the effects of constructivist learning environments: introducing a multi-directional approach. *Instructional science*, *36(5)*, 351–357.

Maguire, S. (2001). Approaches to Learning: a study of first-year geography undergraduates. *Journal of Geography in Higher Education*, *25(1)*, 95–107.

Martin, D., & Hurley, M. (2005). Supplemental Instruction. In M. Upcraft, J. Gardner & B. Barefoot (Eds.), *Challenging and supporting the first-year student: A handbook for improving the first year at college* (pp. 308–319). San Francisco: Jossey-Bass.

McGuire, S. (2006). The impact of Supplemental Instruction on teaching students how to learn. *New Directions for Teaching and Learning*, *2006(106)*, 3–10.

Ministry of Education (2010a). Distribution of New Zealanders aged 15 and over by highest qualification and ethnic group 2006 – percentages, EAP.5, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010b). Participation rates for domestic students by ethnic group, age group, gender and qualification level, 2009, PPN.2, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Ministry of Education (2010c). First-year attrition rates, LNR.5, Ministry of Education, Wellington, viewed 29 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010d). Eight-year qualification attrition rates for domestic students by ethnic group, age group, gender, full- or part-time, and qualification level, ARN.6, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010e). Eight-year qualification completion rates, LNR.6, Ministry of Education, Wellington, viewed 29 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010f). Eight-year qualification progression rates, LNR.7, Ministry of Education, Wellington, viewed 29 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Nikora, L. W., Levy, M., Henry, J., & Whangapirita, L. (2002). *An evaluation of Te Rau Puawai workforce 100: Addressing the recruitment and retention of Māori students in tertiary education institutions: A literature review (prepared for the Ministry of Health, Technical report no. 2)*. Hamilton: Māori and Psychology Research Unit, University of Waikato.

Pascarella, E. T., & Terenzini, P. T. (2005). How College Affects Students: A Third Decade of Research. Volume 2. Jossey-Bass, An Imprint of Wiley, 848.

Prebble, T., Hargraves, L., Leach, L., Naidoo, K., Suddaby, G., & Zepke, N. (2004). *Impact of student support services and academic development programmes on student outcomes in undergraduate tertiary study: a synthesis of the research*. Wellington: Ministry of Education.

Prescott, A., & Simpson, E. (2004). Effective student motivation commences with resolving 'dissatisfiers'. *Journal of Further and Higher Education*, *28(3)*, 247–259.

Ross, C. (2008). Culturally relevant peer support for Māori and Pasifika student engagement, retention and success. Retrieved 13 July 2009.

Rua, M. R., & Nikora, L. W. (1999). *An evaluation of the effectiveness of social equity strategies for Māori students in the School of Science and Technology. Report prepared for the Social Equity Office, School of Science and Technology, University of Waikato*. Hamilton: Māori and Psychology Research Unit, University of Waikato.

Shields, C., Mazawi, E., & Bishop, R. (2005). *Pathologizing practices: the impact of deficit thinking on education*. New York: Peter Lang.

Smith, K. (2003). School to University: Sunlit steps, or stumbling in the dark? *Arts and Humanities in Higher Education*, *2(1)*, 90.

Tertiary Education Commission (2010a). Tertiary Education Strategy 2010–2015. Wellington: Tertiary Education Commission. Retrieved 10 March 2010, from <http://www.minedu.govt.nz/TertiaryEducationStrategy>.

Tertiary Education Commission (2010b). Educational performance at individual tertiary providers. Retrieved 10 October 2010, from <http://www.tec.govt.nz/Learners-Organisations/Learners/performance-in-tertiary-education/>.

Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Chicago: University of Chicago Press

Tinto, V. (2002). Enhancing student persistence: Connecting the dots. *Optimizing the nation's investment: persistence and success in postsecondary education*.

Upcraft, M., Gardner, J., & Barefoot, B. (2005). *Challenging and supporting the first-year student: a handbook for improving the first year of college*. San Francisco: Jossey-Bass.

Yorke, M., & Longden, B. (2007). The first-year experience in higher education in the UK Retrieved 11 July 2008, from <http://www-new1.heacademy.ac.uk/assets/York/documents/ourwork/research/FYE/web0573_the_first_year_experience.pdf>.

Yorke, M., & Longden, B. (2008). The first-year experience in higher education in the UK: final report Retrieved 11 July 2008, from <http://www.heacademy.ac.uk/assets/York/documents/resources/publications/FYEFinalReport.pdf>.

Zepke, N., Leach, L., Prebble, T., Campbell, A., Coltman, D., Dewart, B., et al. (2005, 9 March 2006). Improving tertiary student outcomes in the first year of study. Retrieved 9 March 2006, from <http://www.tlri.org.nz/pdfs/9209_finalreport.pdf>.

Student engagement in relation to their field of study

Keith Comer & Erik Brogt
University of Canterbury

Students' field of study is one of the largest sources of variation in levels of student engagement. The programmes undertaken by students influence many aspects of students' university experience, including the way in which students are taught and how they engage in study. There are also some notable differences in the demographics of students who enrol in particular fields of study, as shown in Table 14, the most obvious of which is differences in the proportions of female and male students studying particular fields of study. However, there are also differences in the proportion of international students, mature-aged students and students of different ethnic backgrounds.

Because of the level of variation between different fields of study, exploring these differences may provide an insight into how students' engagement can be enhanced, and thus provide a way for different study areas to learn from each other. To explore these differences in student engagement, data from the AUSSE were analysed in relation to students' reported fields of study. Two different types of analyses were performed. First, the differences in item scores across different fields of study in the aggregate data (whereby students from first year and later years are pooled together) were examined. In the second part of the analysis the differences in responses from first year to later years were explored, focusing on items associated with the student engagement scales of Academic Challenge and Supportive Learning Environment. These particular scales were chosen because items on these scales showed large variations between fields of study. In addition, these scales measure activities that are most able to be influenced directly by universities through policy, resource allocation, as well as curriculum development initiatives and teaching and learning support. In other words, exploring these aspects of students' engagement provides information about where concrete changes can be implemented by institutions.

Items were selected for analysis based on the variance they showed across the different fields of study. Items for which the difference between the maximum and the minimum score was more than 20 points (on a 0 to 100 metric) across the different fields of study were selected for further analysis. The selected items fell broadly into four categories, as follows:

- Higher Order Thinking and Academic Challenge
- Supportive Learning Environment
- Enriching Educational Experiences
- Work Integrated Learning and Career Readiness

Table 14 Demographics by broad field of study for bachelor degree students studying at New Zealand universities

Field of study	% international students	% female (domestic students)	% over 25 years (domestic students)	% European (domestic students)	% Māori (domestic students	% Pasifika (domestic students)	% Asian (domestic students)
Natural and physical sciences	11.9%	51.7%	15.8%	67.6%	7.7%	5.2%	24.0%
Information technology	14.9%	37.4%	23.0%	61.7%	8.5%	5.6%	27.2%
Engineering and related technologies	14.6%	27.0%	22.7%	67.8%	6.8%	4.6%	22.1%
Architecture and building	9.6%	43.5%	19.7%	72.2%	7.6%	3.8%	20.5%
Agriculture, environmental and related studies	10.3%	53.1%	25.1%	83.6%	12.4%	2.5%	6.2%
Health	7.6%	73.4%	32.5%	67.4%	11.7%	6.0%	19.4%
Education	5.2%	84.7%	45.3%	71.9%	17.1%	8.7%	9.7%
Management and commerce	14.8%	52.5%	27.8%	64.6%	9.5%	6.4%	23.3%
Society and culture	9.9%	60.2%	27.3%	70.1%	13.0%	6.9%	16.8%
Creative arts	8.1%	62.1%	23.4%	72.9%	14.4%	6.9%	12.8%

Data sourced from the Ministry of Education (2010a; 2010b; 2010c)

Table 15 Distribution of high and low scores for items with maximum or minimum variance between fields of more than 20 per cent

Field of study	++	+	–	– –
Natural and physical sciences	0	2	9	4
Information technology	0	1	9	9
Engineering and related technologies	5	6	9	2
Architecture and building	3	5	3	2
Agriculture and environmental studies	3	9	6	2
Health	1	5	4	1
Education	14	7	3	1
Management and commerce	1	5	2	0
Society and culture	1	7	10	5
Creative arts	1	7	2	4

*The symbols used in the table designate the following:
- ++ Highest item score
- + Second or third highest item score
- – Second or third lowest item score
- – – Lowest item score

For each item that had a greater than 20 point difference between the maximum or minimum scores between different fields of study, the three fields with the highest and three with the lowest scores were noted. Table 15 shows the distribution of these highest and lowest scores by field of study.

As shown in Table 15, in each field of education there are areas of learning in which students are highly engaged and areas in which students are less engaged. Education has the greatest number of items for which students are reporting the highest levels of engagement, while Information Technology and Natural and Physical Sciences have the fewest number of areas where students report higher engagement than for other fields of study. It should be noted that for several items, students studying in the field of Education was a strong outlier and stands out positively, particularly in items related to students' involvement in enriching educational experiences, and especially items related to diversity (e.g. items that include diverse perspectives in class discussions or written assignments, and items that involve understanding people of other racial and ethnic backgrounds) and workplace preparation (e.g. items that involve participation in a practicum or internship, and acquiring job-related knowledge and skills). Low scores tended to be more clustered around one another, with no strong outliers.

This chapter will briefly discuss the ways in which students within each broad field of study are engaged in learning relative to other fields and will explore the differences in engagement for students in each field. It will then look at the changes in level of engagement from first-year study to later-years, and finally explore the implications of the overall findings for students' engagement and university experience.

Natural and Physical Sciences

Students studying Natural and Physical Sciences, such as chemistry, botany or physics, were more likely than students in other fields to report that their educational experience has helped them develop skills to analyse quantitative problems. On the other hand, these students had the lowest levels of participation among all fields in making presentations, with nearly half (47.7%) reporting that they had 'never' made a presentation in class or online. In terms of these students' participation in enriching, outside of class experiences, students studying in these fields were generally more likely to report having frequent conversations with students of different ethnic groups but were less likely to report that their university experience has helped them to contribute to the welfare of their community than other students.

Of potential concern for students studying in this field is the lack of support they feel from their institution and the low levels of interaction these students have with other students during and outside of class. Although these students reported somewhat higher levels of involvement in study groups (25.0% had participated in one with a further 20.0% planning to), they were less likely to ask questions or contribute to discussions in class or online, include diverse perspectives in class discussions or written assignments, or work with students during or outside of class. Only 25.0 per cent of Natural and Physical Science students reported frequently contributing to discussions or asking questions, and just over one-fifth (21.1%) of students said that they never work with other students during class. With nearly one-third (29.3%) of these students indicating they had seriously considered leaving or planned to leave before finishing their degree, it is interesting to note that those students who report that they work with other students during class 'very often' are significantly less likely to have considered leaving.

It was further found that Natural and Physical Science students were less likely to be engaged in work-integrated forms of learning and displayed lower levels of career readiness than students in other fields. Natural and Physical Science students reported the lowest levels nationally for exploring how to apply learning in the workforce, and blending academic learning with workplace experience. They also report the lowest level of relationship between their paid work and their academic study, which suggests that students from this field who work for pay tend to work in jobs that are unrelated to their study and future career plans.

Students studying Natural and Physical Sciences also reported lower involvement in industry placements or work experience at only 9.0 per cent. These students are also less likely to have thought about how to present themselves to potential employers and are less likely to feel that their university experience has helped them develop work-related knowledge and skills, with around one-in-ten students saying their experience contributed 'very little' to their development of these skills.

Students studying in this field will likely be future contributors to New Zealand's 'knowledge economy'. However, their low levels of career readiness and involvement in work-integrated learning suggest that more immediate contributions to the workforce by students in these fields may require incorporating work-integrated forms of learning, and developing career skills into the curricula.

Information Technology

Students studying in the field of Information Technology (IT), including computer science and information systems, reported on average the lowest engagement across a range of indicators. Perhaps, not surprisingly, due to the types of assessment tasks given to them, IT students are less likely to be engaged in academically challenging writing tasks and are less likely to report that their coursework emphasises higher order levels of thinking than other students.

Students in IT generally noted less engagement with writing tasks and were least likely to say that university helped them develop their writing skills, and they were less likely than many other students to read a large number of subject-related assigned texts.

IT students also indicated the lowest levels of library use on campus or online and were the least likely to have participated in a study group or learning community, with only 12.0 per cent having done so and 40.1 per cent who either are not aware of learning communities or study groups or who do not plan to participate in one. Responses were also lower than for many other fields of study for the frequency with which IT students contribute to discussions or ask questions in class and include diverse perspectives in discussions or assignments.

IT students were least likely to participate in community service or volunteer work (9.4%), to attend art galleries, concerts or other cultural events (52.2% indicating 'never'), to exercise or participate in physical activities (20.6% indicating 'never'), and to have conversations with students from a different ethnic group (only 57.8% do so frequently). IT students were also less likely to feel that their university experience has helped them to contribute positively to the welfare of their community or to understand people of other ethnic groups.

In terms of workplace preparation, while IT students did report thinking more frequently about how to present to potential employers than other students, they had the lowest rate of participation in practicum or internships (1.8%), reported lower levels of participation in work experience and industry placements (12.6%), and were less likely than many other students to blend academic learning with workplace experience, with 46.0 per cent indicating that they 'never' did this.

Taken together, these findings suggest that IT students are less likely to be interacting with a diverse student group, and are less likely to participate in extracurricular activities and work-integrated types of learning than other students. To further enhance IT students' engagement with learning and improve their university experience, efforts to incorporate more active forms of learning should be considered. These may involve incorporating higher participation in group activities and study groups into curricula, and there could be more emphasis on the integration of coursework with practical applications in the workplace, such as through work experience or practicum, that may prove beneficial.

Engineering and Related Technologies

Engineering students reported the highest engagement of all fields of study with many learning activities, particularly those related to academic challenge, such as their development of problem solving skills and ability to analyse quantitative problems. Engineering students also reported writing the greatest number of short written assignments (an average of five yearly) and the largest number of assignments of more than 5,000 words. Surprisingly, these students were much less likely to report that their university experience has helped them develop their writing skills and to write clearly and effectively.

Engineering students reported the lowest departure intentions of all fields, with only 20.7 per cent indicating that they had seriously considered or planned to leave their institution before completing their degree. This compares with an overall rate of 29.4 per cent.

Engineering students reported the highest rates of working with students outside of class (70.5% reported doing so frequently) and higher levels than most fields for the frequency of which they work with students during class (51.6% reported doing so frequently). However, engineering students were the least likely to ask questions or contribute to discussions in class or online (17.6% report 'never'), or to include diverse perspectives in their assignments. Engineering students were also low on their frequency in using library resources and reading subject-related assigned texts.

In general, engineering students report stronger engagement with work-integrated forms of learning than other students. Engineering students were more likely to participate in practicum, internships, and industry placements or work experience. A total of 16.4 per cent had already participated in a practicum or internship, and a further 46.0 per cent plan to do so. The vast majority (88.2%) have either completed or plan to do an industry placement or work experience. Engineering students are also more likely than others to feel that their university experience has helped them develop work-related knowledge and skills. This high level of involvement in work-integrated forms of learning is likely due to the requirements of engineering accrediting bodies to include practical/industry preparation as part of the engineering curriculum.

Although engineering students report higher levels of work-integrated learning and are more likely to have

applied their learning in the workplace, these students are less likely to have thought about how to present themselves to potential employers. This suggests that although these students are relatively highly engaged, having more opportunities to interact with industry and potential employers, and to have more opportunities to network, would be beneficial.

Architecture and Building

Students studying architecture or related papers noted very high engagement with particular academically challenging learning activities. Students studying architecture were most likely to be frequently giving presentations in class or online, with 50.9 per cent of architecture students reporting that they do so 'often' or 'very often'. These students were also more likely than most to report their experience at university had helped them develop skills to solve complex real-world problems and analyse quantitative problems.

Architecture students were also more likely than most other students to be engaged in active forms of learning. Out of all students in New Zealand, architecture students were most likely to report frequently working with other students during class (68.7%). Compared with other fields of study, architecture students reported among the highest levels of working with students outside of class (only 5.9% reported 'never') and asking questions or contributing to discussions during classes (only 7.7% reported 'never'). These students also frequently reported attending art galleries, concerts and other cultural events.

Although highly engaged in active forms of learning within class, and working with other students frequently outside of class, architecture students report the highest departure intentions of all fields, with 44.9 per cent of architecture students indicating that they have seriously considered leaving or plan to leave prior to completing their degree. In addition to this, architecture students are less engaged in work-integrated forms of learning and feel they are not as well prepared for their future career than students in other fields. Architecture students reported the lowest levels of thinking about how to present to potential employers and were also less likely than students in most other fields to have participated in a practicum or internship (only 7.9% have done so). While architecture students are involved in many active forms of learning, responses from the AUSSE suggest that more could be done to increase their engagement in work-integrated forms of learning and career preparedness, which would hopefully increase retention of these students.

Agriculture and Environmental Studies

Students studying agriculture or environmental studies were somewhat more likely than other students to feel their experience at university has contributed greatly to their ability to solve complex real-world problems, with only 9.2 per cent responding that their university experience has contributed 'very little' to their development of problem solving skills. Agriculture students are also more likely to report frequently using library services and resources with 82.5 per cent of students using the library 'often' or 'very often'. On the other hand, agriculture students were less likely to have given a presentation in class or online, with only 13.9 per cent of students doing so frequently. Agriculture students were also less likely than other students to work with students during or outside of class on coursework. This is likely in part due to the number of agriculture students studying extramurally or by distance, which at 8.0 per cent is higher than among all other fields except education. Results from the AUSSE affirm that extramural agriculture students are much more likely to report 'never' participating in active forms of learning, such as giving a presentation and working with others, than campus-based students.

Although agriculture students are not as engaged in many active forms of learning, they have much higher involvement in some enriching educational experiences and work-integrated forms of learning. Agriculture students were most likely to report a strong relationship between their studies and paid work. They also had some of the highest rates of participation in practicum and internships (19.9%), and one of the highest levels of involvement in industry placements or work experience (25.8%). Agriculture students were also more likely than most to blend academic learning with workplace experience and were more likely to feel that their university experience has contributed to their development of work-related knowledge and skills.

While agriculture students participated in exercise and physical activity more frequently than all other students (73.8% exercise 'often' or 'very often'), and are also more likely than many others to volunteer and attend campus events, they are less likely to have contact with a diverse student group or be involved in cultural activities than other students. Only 9.1 per cent of agriculture students felt that their experience at university had contributed 'very much' to their understanding of people of different ethnic backgrounds, whereas 59.3 per cent had conversations with students from a different ethnic background 'never' or only 'sometimes'.

Agriculture students appear to be well prepared for their future careers. They have among the highest

rates of participation in work experience, practicum and internships, and many frequently apply what they have learned in class to practical situations and in the workplace. On the other hand, agriculture students seem to be missing out on interacting with a diverse student group, and are also less likely than their peers to work with other students either during or outside of class. Incorporating more group assessment into the curricula may help increase these students' ability to work effectively in groups and to understand diverse viewpoints.

Health

Health students tend to be more engaged in work-integrated forms of learning, and many enriching educational activities and active forms of learning, than students in most other fields. On the other hand, students studying health report lower levels of engagement with academically challenging activities, especially writing assignments.

Slightly less than half (49.4%) of Health students feel that their experience at university has contributed 'quite a bit' or 'very much' to their ability to write clearly and effectively. Health students are also less likely to integrate ideas from various sources in written assignments, complete on average fewer written assignments both of fewer than 1,000 words and between 1,000 and 5,000 words than most other students. Yet Health students report reading an average of eight assigned textbooks or subject-related book-length packs of readings – higher than students in all other areas.

Students studying health papers are also more likely to report relatively high levels of interactions with other students and involvement in extracurricular activities, including participation in work-integrated learning activities. Health students were more likely than most to be involved with community service or volunteer work (25.0%) and to exercise frequently (56.5%). Health students were most likely to report having conversations with students from a different ethnic group, with 82.0 per cent of students doing so regularly. These students were also more likely to feel that their university experience has helped them understand people of different racial and ethnic backgrounds. In terms of their workforce preparation, health students indicated higher engagement with exploring how to apply learning in the workforce.

Education

As shown inTable 15 distribution of high and low scores for items with maximum or minimum variance between fields of more than 20 per cent5, there are many areas where students studying Education are engaging much more strongly than most other students. This is particularly the case for students' involvement in active types of learning and work integrated learning, but education students also report high engagement with many other activities linked with high-quality learning outcomes.

Education students' engagement with academically challenging activities and higher order thinking is somewhat mixed. Students studying education reported the highest frequency of integrating ideas from various sources into assignments and wrote on average the greatest number of assignments between 1,000 and 5,000 words. Education students were also more likely than students in most other fields to frequently make a presentation in class or online (only 16.6% have 'never' made a presentation), and are more likely to feel that their university experience has helped improve their writing skills. On the other hand, these students are less likely to report that their experience at university has helped them develop their problem solving skills or improve their ability to analyse quantitative problems, and Education students complete fewer lengthy written assessments on average than most other students.

Students studying Education were more likely than students from most other fields to be involved with active forms of learning, and to be strongly engaged with their learning environment. Education students were most likely to ask questions or contribute to class discussions, with 62.5 per cent of students doing so frequently. Students studying education were more likely than students in all other fields to use library resources on campus or online (83.5% of students report doing this 'often' or 'very often'), include diverse perspectives in assignments (71.9% do so frequently), and participate in a learning community or study group (38.7%). Education students also read the highest number of assigned textbooks, books and book-sized reading packs (an average of slightly more than 10 a year – double the number read by architecture students). These students are also more likely than students in most other fields to work with students during class, with over half (56.1%) doing so frequently.

Pleasingly, but not surprisingly, Education students had consistently high levels of engagement with work-integrated working and career preparedness. These students report sector highs for participation in practicum and internships (48.1%), industry placements and work experience (41.8%), and are most likely to report frequently exploring how to apply learning in the workforce (72.8%) and blending academic learning with workplace experience (50.6%). Education students are also most likely to feel that their university experience has contributed greatly to their development of work-

related knowledge and skills (84.2% indicating 'quite a bit' or 'very much'). These students are also more likely than most from other fields to have thought about how to present themselves to potential employers and are also more likely to be currently undertaking paid work that is related to their studies.

Students in Education are also more likely to be involved in enriching educational experiences such as volunteering and interacting with students from diverse backgrounds. A total of 29.5 per cent of Education students – the highest of all sectors – have participated in community service or volunteer work. This rate of participation in volunteer work is more than three times higher than among IT students, who report the lowest rates of participation. Furthermore, 70.3 per cent of education students, again the highest among all fields, report having frequent conversations with students of other ethnic groups. Given their high levels of interaction with students of different backgrounds, it is not surprising that Education students are also the most likely to say that their university experience has helped them understand people of other racial and ethnic backgrounds. Although Education students are involved in many types of extracurricular activities, they are the least likely to feel that their institution encourages students to attend campus events and activities, with 34.9 per cent of students saying that their university places 'very little' emphasis on this.

Management and Commerce

Students studying Management and Commerce reported greater levels of preparation for their future careers and were also engaged in more work integrated learning than students in other fields. However, for most other areas measured in the AUSSE, Management and Commerce students did not report substantially higher or lower levels of engagement.

Management and Commerce students were most likely to have thought about how to present to potential employers, with 83.3 per cent having done this at least 'sometimes'. They were also more likely to report a relationship between their work and study and to frequently blend academic learning with workplace experience. A total of 28.7 per cent of Management and Commerce students frequently blend their learning with workplace experience, which although much lower than among education students (50.6%) is still higher than all other fields.

Outside of class, Management and Commerce students are completing more lengthy written assignments than students from other fields of study. They are also more likely than most other fields to report frequently working with students outside of class (58.9%) to prepare assignments. On the other hand, these students are less likely than most to use library resources on campus or online, with only 69.0 per cent of students using the library frequently. This is more often than among IT and Engineering students, but less than among students in all other fields. Management and Commerce students also report higher levels of participation in exercise than students from many other fields, but are less likely than most other students to attend cultural and art events.

Society and Culture

Students studying Society and Culture papers tend to be more highly engaged in academically challenging activities than other students, but are less likely to report engagement in active forms of learning, have lower levels of interaction with other students, and are far less engaged with work-integrated forms of learning. Society and Culture students are most likely to report their university experience has contributed to their development of writing skills, with 75.2 per cent of students saying that their experience has contributed 'quite a bit' or 'very much' to their ability to write clearly and effectively. Students studying in this field are also more likely than students from most other fields to integrate ideas from various sources in assignments and write a higher number of medium-length assignments on average.

On the other hand, Society and Culture students also indicated that their university experience has not contributed as much to their ability to solve complex real-world problems or analyse quantitative problems than other students. Somewhat surprisingly, these students also write fewer lengthy written assignments than students from most other fields, and are less likely to give a presentation in class or online, with 46.1 per cent of students saying that they have 'never' given a presentation. More positively, society and culture students are more likely than most to use library resources, include diverse perspectives in assignments and read a greater number of subject-related texts than students from most other fields.

Society and Culture students report far fewer interactions with other students both during and outside of class than students from many other fields. These students are least likely to report regularly working with other students during class. Only 26.3 per cent of Society and Culture students report working with others in class 'often' or 'very often', and 29.0 per cent say that they 'never' work with others during class, which is over four times greater than among architecture students. Students studying in this field were also the least likely to work with others outside of class on assignments. Only 31.7 per cent do this frequently, and over one-fifth (22.8%) report 'never' doing this.

It is somewhat concerning to see the low rates of involvement in work-integrated forms of learning among Society and Culture students. These students report the lowest levels nationally for participation in industry placements and work experience, with only 8.6 per cent having participated in such a placement; however, a further 38.0 per cent plan to do some form of work experience before graduating. Society and Culture students also report the second lowest levels of involvement in practicum or internship, second to IT students, with only 3.6 per cent indicating such participation. Students studying in this field are also less likely to blend academic learning with workplace experience and explore how to apply their learning to the workforce. These students are also less likely to feel that their university experience has helped them develop work-related knowledge and skills. Students studying in the area of Society and Culture who work for pay also tend to be working in areas that are unrelated to their study.

Society and Culture students' involvement in extracurricular activities and their level of interactions with other students were mixed. These students are more likely than most others to attend art and cultural events, and are more likely to feel that their experience at university has contributed significantly to their ability to understand people of other racial and ethnic backgrounds. On the other hand, students studying in this field are less likely to exercise or participate in physical fitness activities and are also less likely to converse with students from a different ethnic group to their own.

The findings from the AUSSE emphasise the need to incorporate more work-integrated learning and career preparation exercises into the university experience of students studying generalist degrees, such as Society and Culture. Incorporating more active forms of learning into curricula, such as class presentations and group work, will also help increase these students' engagement with their learning.

Creative Arts

Students studying Creative Arts tend to report high levels of engagement with writing, some active forms of learning, and are more involved in certain extracurricular activities. Creative Arts students are more likely than most other fields to give presentations in class or online, with 38.6 per cent of students doing so frequently. These students are also more likely to feel that their university experience has helped them develop strong writing skills. Only 6.6 per cent of students say that their experience has contributed 'very little' to their ability to write effectively and clearly. These students were more likely than those in most other fields to frequently contribute to discussions, ask questions in class and include diverse perspectives in assignments.

Perhaps not surprising because of the types of papers Creative Arts students complete, these students were the least likely to feel that their university experience helped them develop the ability to analyse quantitative problems or solve complex real-world problems (Creative Arts students also wrote the fewest lengthy written assignments of more than 5,000 words).

Creative Arts students' career readiness and work-integrated learning participation was somewhat mixed. Creative Arts students showed relatively high engagement with exploring how to apply their learning in the workforce (41.8% do this 'often' or 'very often'). On the other hand, these students felt that their university experience contributed less than other students to their ability to acquire work-related knowledge and skills.

As could be anticipated, Creative Arts students had the highest sector participation in art and culture attendance and were relatively more likely to feel encouraged to attend campus events and activities. Creative Arts students report the lowest levels of participation in physical fitness activities and exercise, with only 42.3 per cent of these students frequently exercising.

Summary – all students

Reponses by students in the various fields of study often reflect traditional academic disciplinary and curricular practices. For example, the emphases on solving complex real-world problems and analysing quantitative problems in Engineering degrees, studio collaborations by students studying Architecture and Building, and the types of workplace preparation undertaken as part of teaching placements in schools for Education students, align with general, long-term practices in each of these fields of study.

Other results are more surprising and in some cases point to areas where improvements should be made. For example, there are a relatively few students giving presentations in class or online in various disciplines, suggesting that more needs to be done to incorporate presentations into assessment in many disciplines where few students have had the opportunity to speak. Surprisingly, Engineering and Architecture students not only report far stronger engagement in collaborative activities than students studying in the area of Society and Culture, but also among students in Science and Agriculture. It might be expected that including diverse perspectives' on assignments in Engineering, Science and IT fields would be less commonplace. Yet in a nation composed of nearly 25

per cent migrants (including permanent residents and citizens born overseas) and a significant international student enrolment, the lack of institutional emphasis on understanding people of other racial and ethnic backgrounds in most fields of study should be of concern.

Also common to students in many fields was a lack of involvement in work-integrated forms of learning and low preparedness for their future career. Whilst fields that traditionally incorporate practicum and work experience into their curricula, such as Education and Health, tend to have higher levels of work integrated learning, students in other areas have fewer opportunities to integrate their learning with workplace experience.

Progression from year one to later years

The ways in which students engage in learning changes between their first and later years of study. To explore the differences between first- and later-year students' engagement by field, the item scores of later-year students were subtracted from the scores of first-year students. This helps trace progression of engagement across the years of university. In general, there was a marked lack of shift in engagement for the items over the years in all fields of study. This is surprising as it is expected that students develop and grow over the course of their study.

Analyses focused on two areas: Academic Challenge and Supportive Learning Environment. These were given focus because these are aspects of students' experience over which universities may have the most direct influence. Items that showed trends or a lack of progression were of particular interest and are explored in more detail below.

Academic challenge

One would expect students to be engaged in developing and utilising greater levels of higher order thinking skills as they progress from first year to the later years of study. In the first year at university typically, a foundation for a discipline is laid (knowledge, comprehension, and application levels in Bloom's taxonomy of cognitive learning domains), whereas in later years one would expect students to be more engaged in tasks involving analysis, synthesis and evaluation. However, data from the AUSSE shows little evidence of this growth occurring in any fields of study in New Zealand universities. Though marked differences between fields exist on these items, it is important to note that within each field no significant growth was found.

On other items relating to higher order thinking skills, there was some difference between fields of study. Table 16 shows items for which a few fields showed considerably more growth (either positive or negative) than other fields.

Architecture and Building is an interesting case in this respect. While one would certainly hope that by their third year students would spend less time memorising facts, and more time involved in higher order forms of thinking, it could reasonably be anticipated that students are confronted with advanced ideas that challenge their understanding of basic principles of the discipline. While Architecture is less likely to place emphasis on memorisation by later years, later-year Architecture students are significantly less likely than first-year students to say that they learned something that changed their understanding.

Other items associated with the theme of academic challenge showed substantial differences across the fields of study. For example, the difference from first year to later years on the item 'integrating material from various sources' ranged from +5.5 and +5.6 for Creative Arts and Engineering to +20.3 and +23.3 for Health and Natural and Physical Sciences. This suggests that while students studying Creative Arts and Engineering are only slightly more likely to integrate materials from different sources in later years than in first year, Health and Natural and Physical Sciences students are far more likely to do this in later years compared to first year.

Table 16 Change in academic challenge and higher order thinking items from first year to later years

Item	Range across fields, year 1	Largest change from first year to later years	Mean change for other fields
Memorising facts	48.6 – 76.1	Architecture and building (–12.0)	–4.7 ± 1.9
Making judgments about value of information	46.4 – 62.9	Natural & physical sciences (9.4) Health (17.0)	2.9 ± 2.8
Learned something that changed your understanding	51.2 – 71.0	Architecture and building (–14.1)	0.2 ± 3.7

Other findings related to student engagement may seem contradictory. While students report no increase in the number of hours spent preparing for class across the years, with barely any increase for all fields of study, at the same time students also report a general slight decrease in the number of readings they complete. Students in Architecture report the largest negative shift in being able to keep up with study (–12.1) and perhaps as a result report slightly more, but not significantly more use of student support services (+1.1) in later years, whereas other fields uniformly report less use (–5.0 on average) of such services by later years.

Supportive learning environment

In terms of students' relationships with teaching staff, some small differences across the fields of study are observed from first year to later years. Natural and Physical Sciences and Creative Arts students' results show a slight increase (+5.6 and +5.1 respectively), while IT indicates a slight decrease (–4.2), with the remainder of the fields scattered around zero. Relationships with administrative and service staff show a slight decrease overall, with the exception of Health (+2.3) and Creative Arts (+2.8). Both these items have first-year values that are similar across the fields, with little spread. One may expect a more positive change in relationships with teaching staff, as class sizes typically get smaller in more advanced papers, offering greater opportunities for staff–student interaction; however, increased interactions with staff may be negative as well as positive.

Another important aspect of the student experience is advice and feedback sought and received on academic work. Naively, one would expect the amount of feedback students receive to increase over the years, as assignments should become longer and more complex, and smaller class sizes should provide staff with more time for richer feedback. Indeed, longer assignments seem to be more prevalent in later years, with all fields reporting more assignments of more than 1,000 words, though assignments of more than 5,000 words only show a modest increase across all fields. Medium-length assignments (between 1,000 and 5,000 words) show an overall increase, but this is more scattered, ranging from +6.3 in Creative Arts to +18.4 in Agriculture. The only field to show a drastic decrease in short written assignments (fewer than 1,000 words) is Agriculture. The other fields have more modest shifts. Although students are doing slightly more longer assessments by later years, students report little increase in the amount of written and oral feedback received from first year to later years.

Students rate the quality of academic advice they have received slightly more negatively by later years compared to first year, with Architecture as well as Creative Arts students being the most negative. Students also report an overall negative shift for the extent of support provided by their university to help them succeed academically, with Agriculture students showing the largest negative shift.

Generally across all fields of study, students report quite negative shifts both in terms of the ratings of their overall educational experience and the likelihood that they would attend the same institution again if they could start over. Architecture and Creative Arts students rate their overall educational experience significantly more negatively by later year than first year (–8.2 and –7.6 respectively), though only one field (Natural and Physical Sciences) reported a positive change for this item that is only minor. The initial scores for this item ranged from the upper 60s to low 70s across the various fields of study. Architecture, Creative Arts and Education report the most negative shift in the likelihood of attending the same institution again (–9.1, –8.2 and –7.3 respectively), though it should be noted that the score for first year was rather high across all fields, ranging from the upper 70s to lower 80s.

Discussion and conclusion

Examining AUSSE data at the level of field of study highlights some interesting differences among the various disciplinary groups that are disguised or invisible at the aggregate data level. But what can different fields of study in an institution do with these data? It is advisable that follow-up research be performed to try and determine causes for both the strengths and weaknesses according to field of study measures and differences. Potentially, other fields could be used to determine more beneficial practices – pedagogical and curricular – and to identify approaches worth emulating or adapting to fit one's own field. For example, in terms of diversity, social engagement and preparation for the workforce disciplinary fields may want to look at some of the practices employed by fields as diverse as Education and Engineering.

It is disconcerting that students report such limited increases in higher order thinking skills across the years and that the extent of emphasis placed by their coursework on memorisation does not decrease as much as one would hope. Though this is true across the fields of study, individual differences in engagement with higher order thinking skills differ substantially from field to field (the baseline score rather than the difference from year to year), and on some items – such as integrating research from various sources, as indicated earlier – vast differences exist as well.

Another general area of concern that, to a degree, can be influenced by the institution is the creation or

maintenance of a supportive learning environment. This goes further than just physical resources, including library collections, access to computers and beneficial physical learning spaces. Rather, a supportive learning environment also requires accessible teaching staff and learning-support staff to facilitate the creation of a social and learning community on campus. Thereby students become integrated in all aspects of academia, knowing a safety net is in place should they need assistance at any point in their academic life. The different fields of study have distinct traditions and customs in terms of student support, and as institutions we can learn from the various disciplinary cultures, departments and colleges.

References

Ministry of Education (2010a). Students enrolled in bachelors degrees by field of study, sub-sector, and whether domestic or international, 2009, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Ministry of Education (2010b). Domestic students enrolled in bachelors degrees by field of study and ethnic group, 2009, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Ministry of Education (2010c). Domestic students enrolled in bachelors degrees by field of study, age group and gender, 2009, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Engagement with learning: Differences between male and female students

Giselle Byrnes
The University of Waikato

This chapter draws on data from the most recent AUSSE results for New Zealand universities and focuses on the differences and similarities between female and male students, and whether a student's gender has an impact on their study engagement and outcomes. It offers an overview of the ways in which gendered practices and behaviours could be determinants in the student experience.

Women are enrolling in bachelor degree qualifications at a higher rate than men in New Zealand. A total of 60.1 per cent of bachelor degree students studying at a university are female (Ministry of Education, 2010a), and a slightly higher proportion of women (14.6%) than men (13.7%) currently hold a bachelor or higher degree (Ministry of Education, 2010b). The number of students enrolling in a bachelor degree at New Zealand's universities has been rising over the past decades, with the number of women enrolled growing even more than men – 18.5 per cent between 2002 and 2009 compared with 14.0 per cent for men (Ministry of Education, 2010c). The greater representation of women in bachelor degree qualifications is reflected in the AUSSE data, with females making up 63.4 per cent of raw responses, and 55.5 per cent of the weighted responses.

Once enrolled in bachelor level study, women are also somewhat more successful than men. Although first-year attrition rates are the same for both male and female bachelor level students at 17 per cent (2010d – LNR.5), female students have higher completion rates, with 62 per cent having successfully completed their degree or another qualification at the same or higher level within eight years, compared with 56 per cent of male students (2010e – LNR.6). Female university students enrolled in a bachelor degree also have a higher course pass rate of 84 per cent compared with 78 per cent of male students (2010f – CSC.5). In addition to female students' greater success while enrolled in a bachelor degree, female students are slightly more likely to progress to higher levels of study than male students (2010g – PRG.10).

Because of these differences between male and female students' achievement in terms of attrition, completion, and pass rates in their courses, it could be assumed that gender is a determinant of students' engagement with learning, or may at least play a role in the way in which students report their engagement with learning. As male students are less likely to complete their qualifications and are less successful in passing courses, it could be assumed that male students are less engaged with learning and that their lower engagement may be one of the reasons why

students are dropping-out or failing. Overall, however, the differences in student engagement, when seen through the lens of gender, appear to be minimal, suggesting that there are few differences in the way in which male and female students engage with learning, and that factors other than student engagement might also play a part in the greater success of female bachelor students.

In terms of the methodology of this current analysis, one of the key challenges these data therefore present is the question as to whether women or men are more likely to positively report on their engagement with learning than the opposite sex? In other words, are we looking at *actual* activity and *real* levels of engagement, or are we looking at gendered differences in the ways in which women and men report on their engagement with learning? Overall, there are not many differences between female and male students; however, these lack of differences are interesting in themselves. This chapter first summarises the experiences of men and women altogether and then looks at first- and later-year students separately.

Demographic differences

As shown in Table 17, female and male students surveyed in the AUSSE tend to be quite similar in terms of their demographics and backgrounds. Female students are slightly more likely to be older, have a Māori or Pasifika background, or be studying extramurally. Male students tend to report slightly higher levels of disability, speak a language other than English at home, or are more likely to be studying part-time. However, all these differences are only very small. The lack of differences between male and female students' demographics suggests that any differences between male and female students in terms of how they engage with their learning may be attributable to their gender rather than to other differences in their demographics.

One area where male and female students are quite different is in the broad fields of education that their study is related to. Male students are more likely to be studying in fields such as Engineering, IT and Business. On the other hand, female students are more likely to be studying Health, Education and the Humanities than male students. According to AUSSE results, less than one-third of students studying IT and Engineering are female, and less than or around one-third of students studying Education and Health are male. A similar pattern is shown among bachelor degree graduates, whereby a much smaller proportion of females than males have graduated with a bachelor degree in IT, Engineering, Agriculture, and Architecture (see Figure 7).

Table 17 Key demographics by sex

	Over 25	International	Māori	Pasifika	Non-English	Disability	Extramural	Part time
Female	8.2%	6.2%	10.1%	6.2%	17.0%	5.6%	6.7%	7.2%
Male	7.0%	7.0%	8.0%	4.7%	19.8%	6.7%	5.9%	7.7%

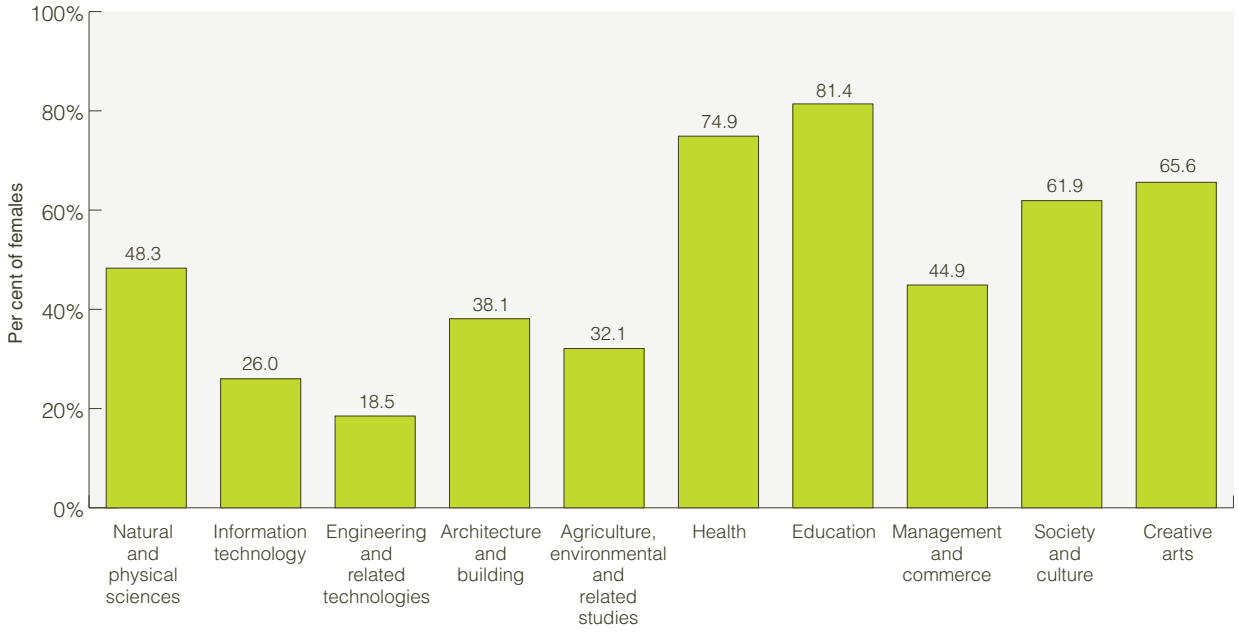

Figure 7 Proportion of female bachelor degree graduates by field of study (data sourced from Ministry of Education, 2010h)

Because of the occasionally large differences between the ways in which students from different fields of education engage with learning, differences in the way in which male and female students engage could be a result of the different areas that they are studying rather than due to gender differences. A similar pattern is shown in the proportion of female bachelor degree graduates' field of study.

How male and female students engage with learning – the overall cohort

Overall, within this cohort, there were several significant differences between responses given by men and women; however, many of these differences were slight and had a very small effect size ($d<0.20$), which suggests that most of these differences are not of practical significance. On the other hand, there were a handful of items for which there appear to be meaningful differences in the responses of male and female students, suggesting that for some learning activities there are differences between the sexes of practical or theoretical significance.

At a scale level, male and female students reported very similar levels of engagement (see Figure 8). Female students appear to be slightly more engaged than male students with academically challenging activities, enriching educational experiences and work integrated learning; however, although these differences are statistically significant, effect size calculations show that these differences only have small practical significance. For the other student engagement scales, even less of a difference can be seen between the sexes. Although there appear to be very few differences between male and female students at a scale level, gender differences in how students engage were somewhat more noticeable at an item level, but again most of the differences were not all that meaningful.

In general, women were ever so slightly more likely to report frequently working harder to master difficult content in their academic work. For instance, women students were more likely to prepare two or more drafts of an assignment before submitting the work for assessment, with 41.8 per cent of female students doing so frequently, compared with 33.1 per cent of male students. In addition, women were more likely to have used library resources – either on campus or online. A total of 78.9 per cent of female students accessed the library frequently compared to 70.2 per cent of male students. Female students were also more likely to have integrated their learning from various sources and to have included diverse perspectives in their learning than male students. When looking at these results for different fields of education, female students are still generally more engaged in these activities than men for most fields of education even though the rates of participation are quite different for students in different fields.

Female students were more likely to have used email or a similar forum to communicate with teaching staff. They also reflected that they were more likely to have worked harder than they thought they could; so, in effect, they surpassed their own expectations.

Overall, women were more likely to have discussed ideas from classes with others (students, family members, co-workers and so on). A total of 20.5 per cent of female students reported doing this 'very often', compared with 15.7 per cent of male students. Female students also reported more frequent conversations with students from different ethnic groups, although the differences are even more slight (69.8% of females and 65.5% of males), and reported more frequently making judgments about the value of information, key arguments, and methods. Women also tended to engage in more reading, both of subject-related assigned texts as well as books for personal enjoyment or enrichment.

However, women were more likely to have other external factors to manage, such as providing care for dependents, such as children, parents or a spouse living with them, and managing personal business, such as doing housework and shopping. As shown in Figure 9, female students spend an average of four-and-a-half hours caring for dependents and seven-and-a-half hours managing personal business – slightly higher than male students. While around four-in-ten female students spend at least an hour a week caring for dependents, only one-third of male students do the same. Conversely, male students appear to be spending more time on average relaxing and socialising, participating in extracurricular activities and also slightly more hours on campus than female students. However, again these differences are not great, suggesting there are few significant differences between men and women in how they spend their time on study and in non-study activities.

A slightly higher proportion of female students also report working for pay either on or off campus. This is the case among students enrolled both full-time and part-time. A total of 58.8 per cent of full-time female students and 52.9 per cent of male full-time students report spending at least one hour per week in paid work. This increases to 79.0 per cent of female and 72.9 per cent of male part-time students. Although a slightly higher proportion of female students report working for pay, the hours worked by working male and female students are very similar – male students spend on average thirteen-and-a-half hours working for pay in a typical week, while female students spend thirteen

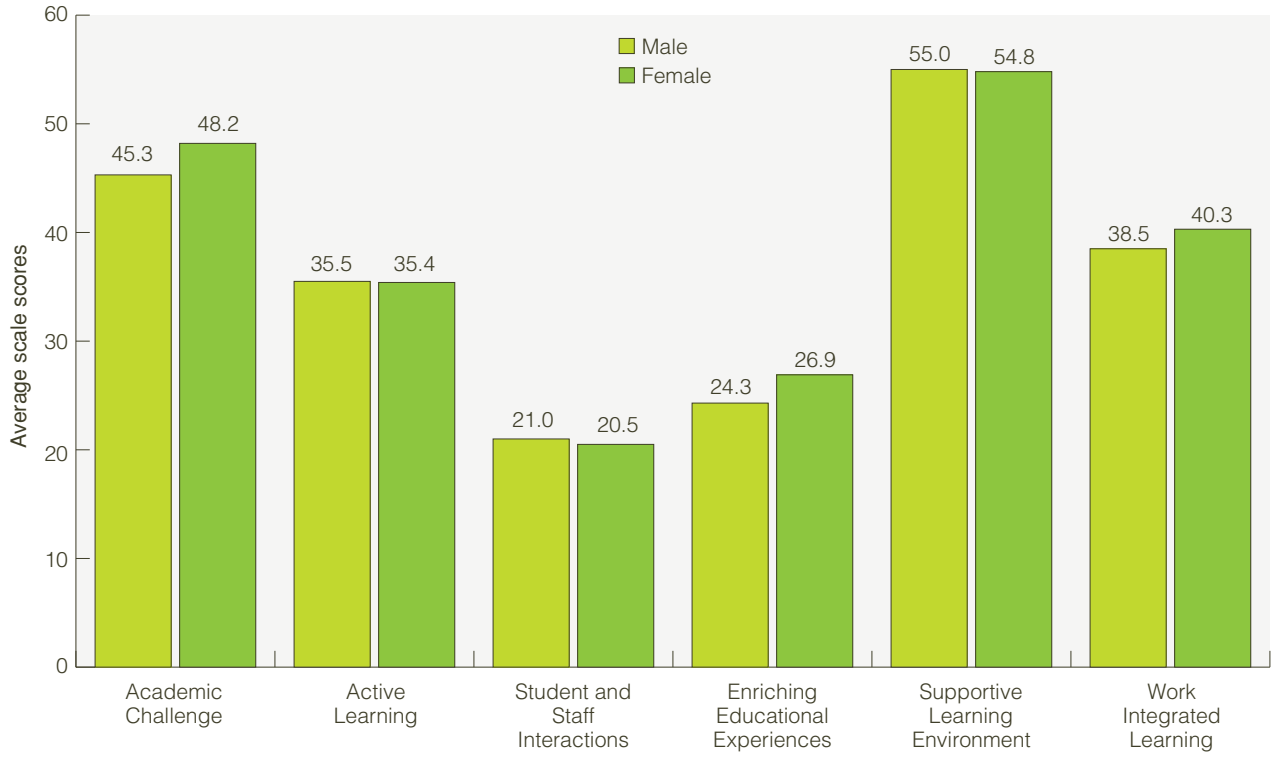

Figure 8 Average engagement scale scores by sex

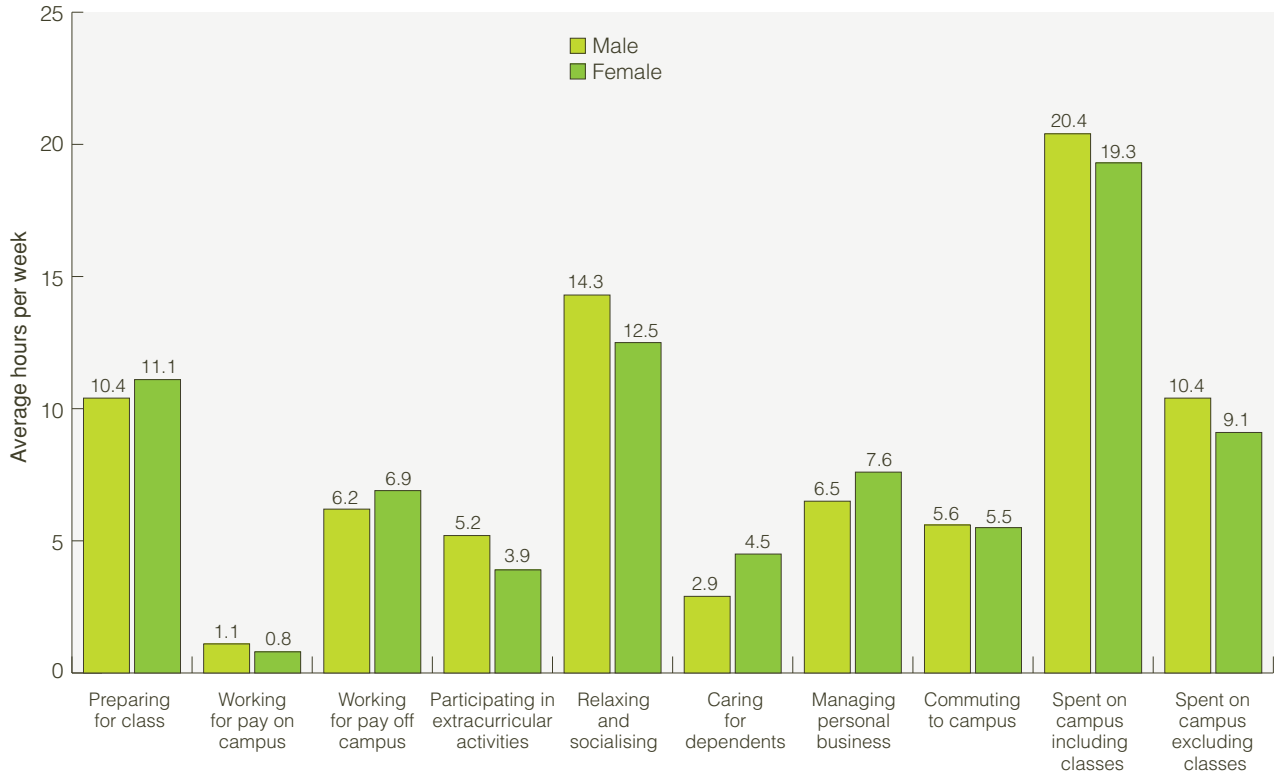

Figure 9 Hours spent on various activities by sex

hours in paid work. Again this suggests there are few differences in how male and female students spend their time outside of study.

Female students reported ever so slightly more frequent and planned involvement in community service or volunteer work, and were also more likely than men to participate in a learning community or study group, to study a foreign language, and to consult a university advisor for careers advice, as displayed in Figure 10.

In terms of student outcomes, as displayed in Figure 11, there were few differences between the sexes. There are some small statistically significant differences between the sexes, in terms of their general development and higher order thinking, but none of these differences have even a small effect size (d=0.20). Again, slightly more meaningful differences but with mostly nominal effect size differences emerge when looking at individual items.

When asked about the extent to which their institution provided them with support, females were more likely than males to emphasise that their university encourages students to spend significant time on academic work, with 82.4 per cent of female and 76.7 per cent of male students reporting 'quite a bit' or 'very much' emphasis. Women students also reported greater development in terms of their general learning skills and personal growth. They were more likely to say that their experience at university has helped them be able to write clearly and effectively, and increased their self-understanding, and typically female students believed that their experience had helped them understand people of other racial and ethnic backgrounds, develop a personal code of values and ethics, and contribute to the welfare of one's community.

As noted above, there are some very small differences between men and women, specifically that women are engaging with many types of learning – such as reading, writing, participating in enriching educational experiences, some active forms of learning, and interacting with staff more frequently than men. For the entire population under consideration here, there were also a number of areas where men reported somewhat higher levels of engagement than women. Typically, men reported working with students during class and with students outside the classroom more often than women. Male students were involved, at a slightly higher rate, in tutoring other students. They were also more likely to report frequently participating in exercise or physical activities and in extracurricular activities, and spent more time than women students relaxing and socialising. Although there were some differences between male and female students, these differences were all very modest and very few of these differences showed even a small effect size, which suggests that there are not many large differences in how male and female students engage with learning and their outcomes from study.

Differences among first- and later-year students

The pattern outlined above is generally reflected in the responses of first-year and later-year students. For instance, women reported that they typically prepared two or more drafts of work prior to submitting the work for assessment. More first-year women than first-year men used library resources on campus or online. Women tended (slightly more than men) to integrate their learning from various sources, include diverse perspectives in their work and used email or a forum to communicate with teaching staff. They also felt they had worked harder than they had anticipated. First-year women tended to discuss ideas from classes with others and spent slightly more time than their male colleagues in reading, both subject-related assigned texts and books for personal enjoyment.

More first-year women than first-year men reported having learned something that had changed their understanding, participated in a learning community or study group, spent time learning a foreign language, and devoted time to understand people from other ethnic and cultural backgrounds. First-year men were, however, more likely than first-year women to have tutored or taught other students, and more frequently discuss ideas from classes with teaching staff.

The same patterns found among first-year students are generally replicated for later-year students; though in some areas, women reported significantly higher levels of engagement than men. As later-year students, women thought that they had worked hard to master difficult content. They reported having prepared two or more drafts of work prior to assessment, having used library resources both on-campus or online, integrating their learning from various sources and including diverse perspectives in their work. More women than men reported that they were able to keep up to date with their study commitments, that they participated in a community-based project and that they had used email or a forum to communicate with teaching staff. More later-year women students considered they had worked harder than they thought they could, had discussed ideas from classes with others, and engaged in extra reading – either subject-related assigned texts or books for personal enjoyment or enrichment. In this cohort, more women than men explored how to apply their learning in the workforce, set career development goals and plans, and participated in some form of community service.

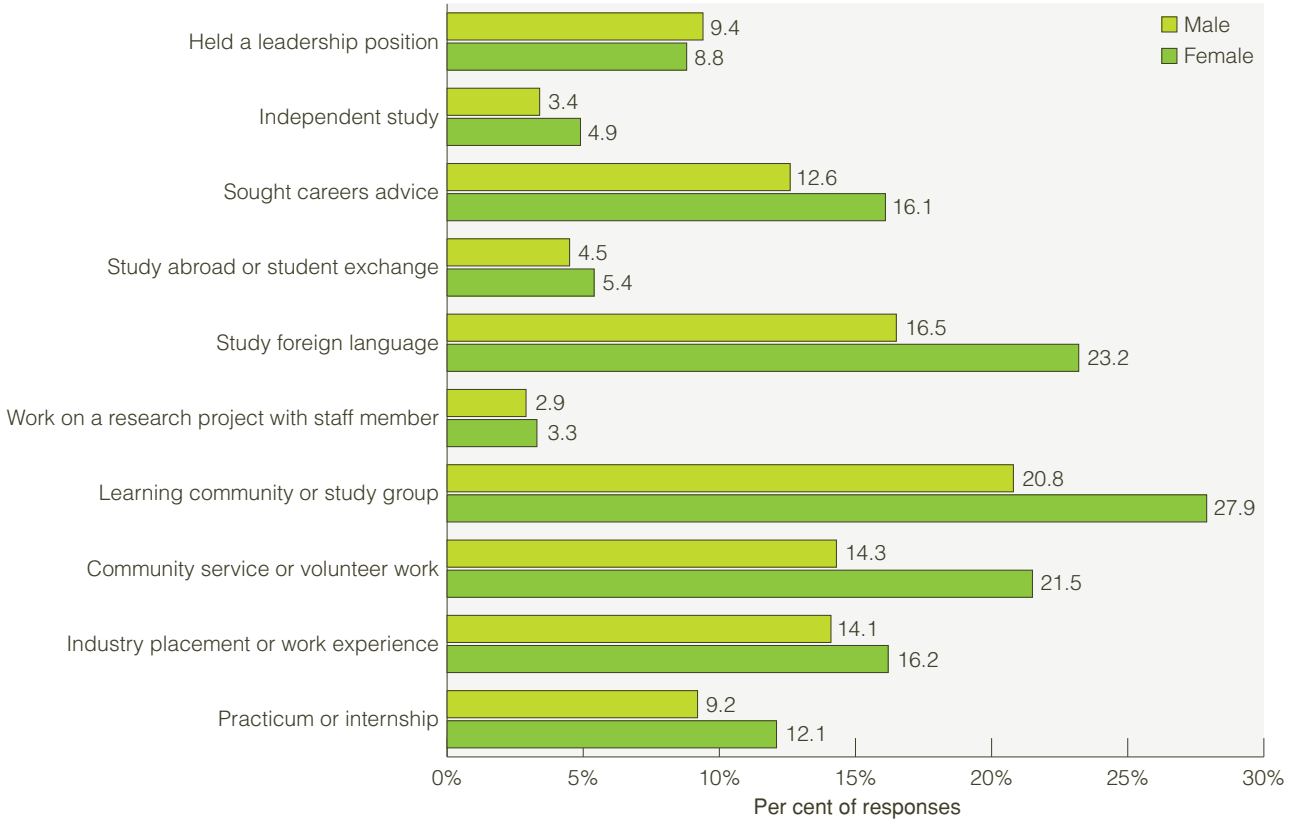

Figure 10 Proportion of students who have participated in engaging activities by sex

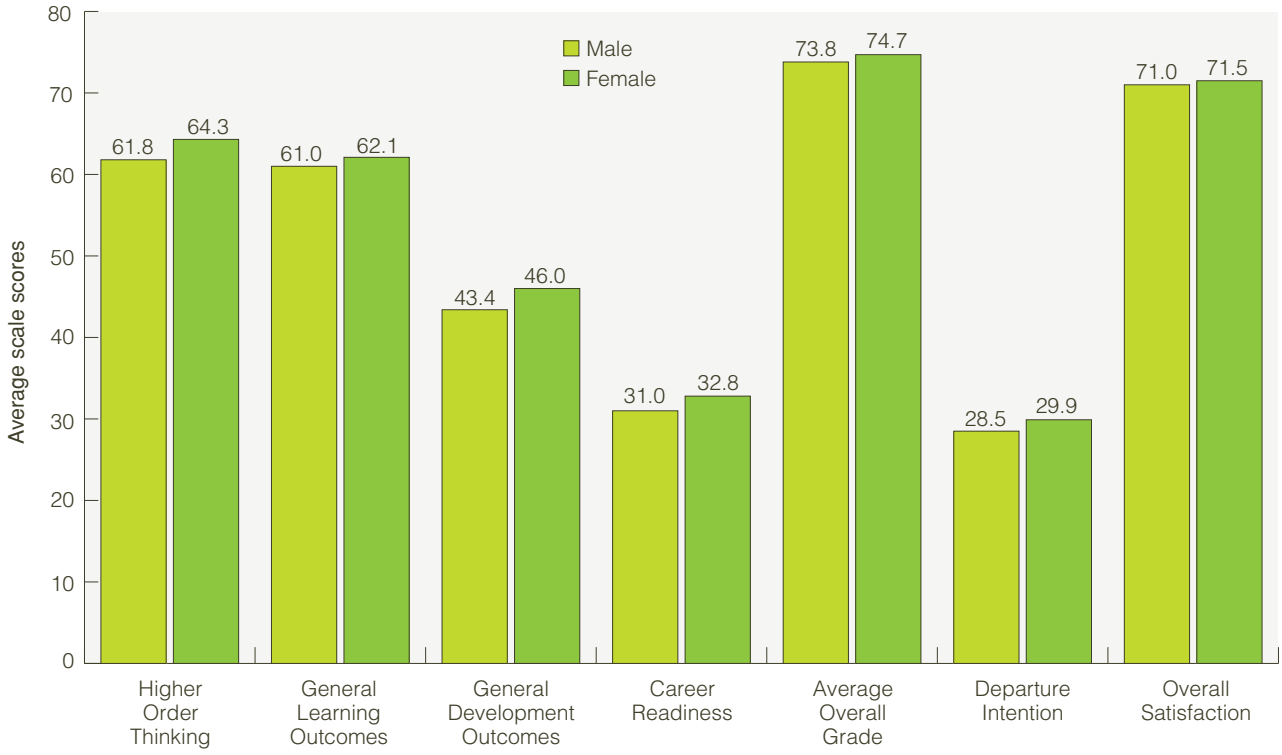

Figure 11 Average outcomes measures scores by sex

In addition, at this level, more women reported having a sense of understanding people from other cultural and ethnic backgrounds, developing a personal code of values and ethics, and either learning or having an interest in learning a foreign language.

Within this later year cohort, there were only two areas where men reported higher levels of engagement than women: in tutoring other students and in engaging in exercise.

Discussion and conclusion

Despite the large differences in the areas of study undertaken by female and male students, and the differences that there are between these fields, the different rates of participation in different fields of study do not seem to have impacted much upon students' engagement, as there are very few meaningful differences that are apparent. In summary, therefore, the differences reported by men and women across their first-year and later-year student experiences are less significant than might have been expected.

While there are differences in male and female students' success at university, female students are more likely to successfully complete their qualification within eight years than men, and also have greater course pass rates; there appear to be only very few, and mostly very slight, differences in how male and female students engage with learning and their outcomes. While male students overall report slightly lower levels of engagement in many areas, most of these differences have a very small effect size, suggesting that there are few meaningful or practical differences between the way in which male and female students are engaging with study. Taken together, this suggests that factors other than the way in which students are engaging with learning may be influencing male students' retention in study and that engagement may just be one part of the puzzle.

References

Ministry of Education (2010a). Number of students enrolled 2009, *LNR.1*, Tertiary Education Commission, Wellington, viewed 23 February 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010b). Distribution of New Zealanders aged 15 and over by highest qualification and ethnic group 2006 – percentages, EAP.5, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010c). Domestic students enrolled by sub-sector, gender and qualification level 2002–2009, ENR.13, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Ministry of Education (2010d). First-year attrition rates, LNR.5, Tertiary Education Commission, Wellington, viewed 28 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010e). Eight-year qualification completion rates, LNR.6, Tertiary Education Commission, Wellington, viewed 28 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010f). Estimated course pass rates by sub-sector, gender, and level of study for courses started in 2009, CSC.5, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010g). Eight-year progression rates for domestic students by sub-sector, gender, full- or part-time, qualification level and period of study, PRG.10, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010h). Distribution of New Zealanders aged 15 and over by highest qualification, gender and field of study 2006, EAP.8, Ministry of Education, Wellington, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

International students' experiences of engagement: Opportunities for enhancement

Jacques van der Meer
University of Otago

Keith Comer
University of Canterbury

International students make an important contribution to New Zealand universities. Economically, they contribute more than $2 billion annually to the domestic economy (Joyce, 2010), and the current minister responsible for tertiary education recently expressed the hope that 'further development of the sector will bring real benefits in terms of economic growth plus additional income to allow our tertiary institutions to grow' (Joyce, 2010).

International students, however, contribute more to the country than just financial returns. Interaction between students from different countries and ethnicities can significantly contribute to students' personal development and a greater understanding of cultural and social differences, and can help build bridges across divides. In commenting on the current level of international students in NZ universities at 12.6 per cent (Ministry of Education, 2010a) compared to the 27.6 per cent in Australian universities (Department of Education, Employment and Workplace Relations, 2010), the minister suggested that '[i]f universities grow their income from international students to levels approaching the levels of Australian universities, then the experience for all students will be enhanced' (Joyce, 2010).

Although the overall proportion of international students enrolled at New Zealand's universities is far less than the proportion enrolled in Australian universities, this varies greatly between institutions, from a low of 9.5 per cent at one university up to 31.1 per cent at another (Ministry of Education, 2010a). The numbers of international students enrolling in New Zealand's universities is also on the rise, up from 5,790 international students enrolling in bachelor degrees at New Zealand universities in 2000 to 15,088 international students in 2009, more than doubling over the last decade (Ministry of Education, 2010b). This compares with a strong, but comparatively modest growth of domestic bachelor degree enrolments at universities of 16 per cent over the same period of time.

Although they attend foreign universities for a variety of reasons, international students ultimately study to achieve academic aspirations and to gain a career in a certain field. In addition to the 'normal' challenges that all students experience in aiming for academic success in university, international students encounter additional challenges, especially if their countries of origin are vastly different, whether culturally, socially or educationally, to New Zealand.

International students do not face these challenges alone. Apart from a contractual obligation to provide appropriate educational opportunities, universities have an ethical obligation to provide a social and learning environment that affords all students opportunities to experience a beneficial university experience. Most universities in New Zealand provide specific services for international students, and monitor their satisfaction.

Regardless of the unique challenges faced by international students, it is interesting to note that international students are less likely to drop out of their qualification than domestic students (Ministry of Education, 2010c) and are more likely to complete their qualification or one at the same or higher level within eight years of first enrolling (Ministry of Education, 2010d). International and domestic bachelor students enrolled in New Zealand universities also report the same course pass rates of 81 per cent (Ministry of Education, 2010e). Taken together, this suggests that, overall, international students are as successful if not more so than domestic students.

'Student engagement' is a key construct that can be used to study the experiences of international students (Australian Council for Educational Research, 2010), and data from the AUSSE will be used in this chapter to explore international students' engagement with learning in New Zealand universities. Understanding how international students are engaging with learning and areas where improvements could be made may help improve the quality of education that international students in New Zealand universities are getting and may help increase the attractiveness of New Zealand universities to international students.

In classifying international students as a distinct cohort, it is necessary to look at those results that reflect the particular characteristics and issues for this group. First, as international students come from overseas to New Zealand with particular expectations and hopes of what they will experience, it is important to gauge whether their expectations are met. In other words, it is essential to establish their levels of educational engagement and satisfaction with their experience. Conversely, it is further important to understand whether their experiences have led them to consider leaving their university and leaving New Zealand.

Because many (although not all) international students come from a country with quite a different culture to that which exists in New Zealand, often with a different language and educational context, it is useful to explore international students' experience of New Zealand culture and educational contexts. Students' interactions with other students, as well as with academic staff and administrative personnel, all provide insights into how international students are engaging with a different educational context and culture.

Overall findings

Considering the scale means for all students suggests some intriguing questions. The data shown in Figure 12 and Figure 13 suggest that for many of the scales, the differences between domestic and international students are not great.

There are, however, some exceptions. On the one hand, there are small but meaningful differences between international and domestic students' engagement in certain areas and some outcomes. International students report greater engagement with student and staff interactions (d=0.39) and enriching educational experiences (d=0.23). International students also report much higher levels of career readiness (d=0.39) and general development (d=0.19). On the other hand, international students are more likely to have seriously considered leaving their university prior to completing their studies (d=0.20) and report lower levels of satisfaction (d=0.40). All of these aspects of international students' experience merit further exploration.

Career readiness and general development outcomes

International students attending New Zealand universities are much more likely than domestic students to report involvement in activities that prepare them for their future careers. Many of these significant differences also display a modest to moderate effect size, suggesting that there are practical differences between international and domestic students' outcomes. In particular, international students report more favourable experiences with respect to setting career development goals and plans (d=0.40) and networking for job opportunities (d=0.36), along with higher engagement scales for kept resume up-to-date (d=0.35), securing relevant work after graduation (d=0.26) and where to look for jobs (d=0.22). International students' focus on preparation for employment and workplace readiness corresponds with some overall trends seen in the North American National Survey of Student Engagement (Zhao, Kuh, & Carini, 2005).

Yet while 'all students' scale scores regarding career readiness provide evidence of greater participation in these activities by international students, they are, surprisingly, more the result of first-year student experiences than later-year ones. As Figure 14 illustrates, nearly all of these measures record slight decreases among later-year international students, while among domestic students, career readiness increases as students move from first year to later years.

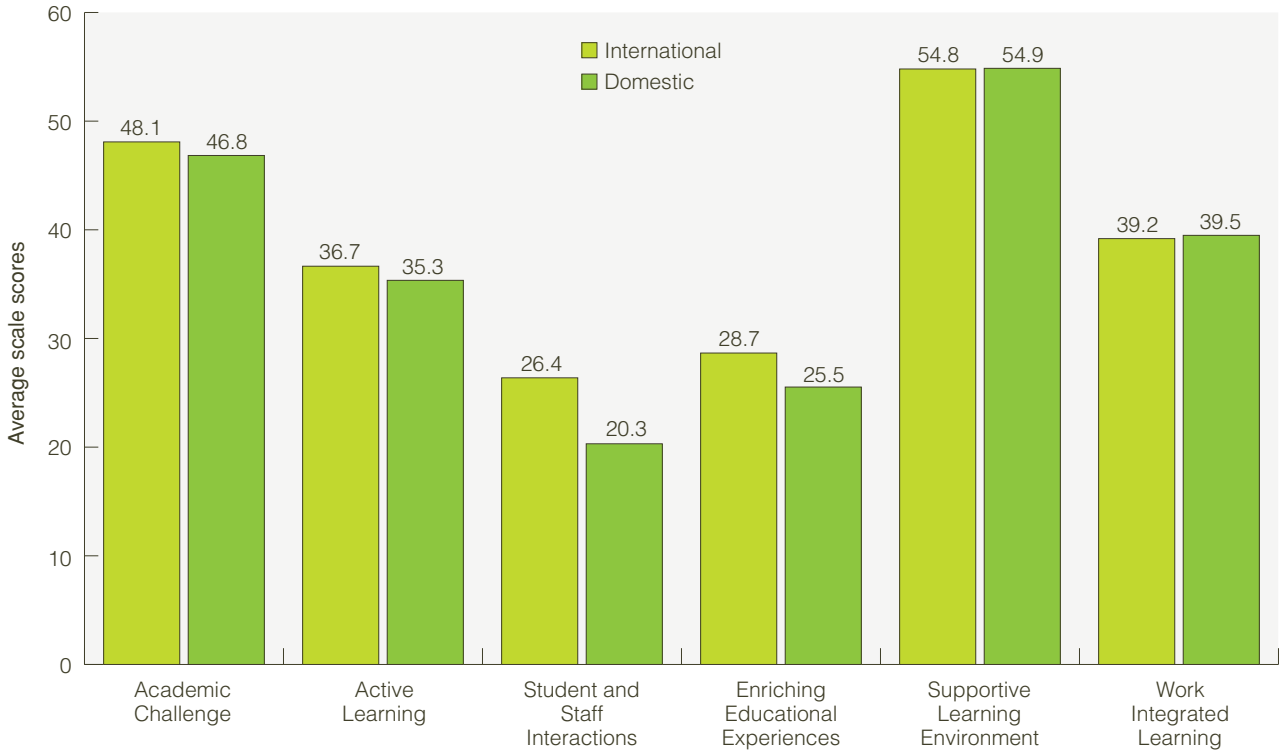

Figure 12 Average engagement scale scores for international and domestic students

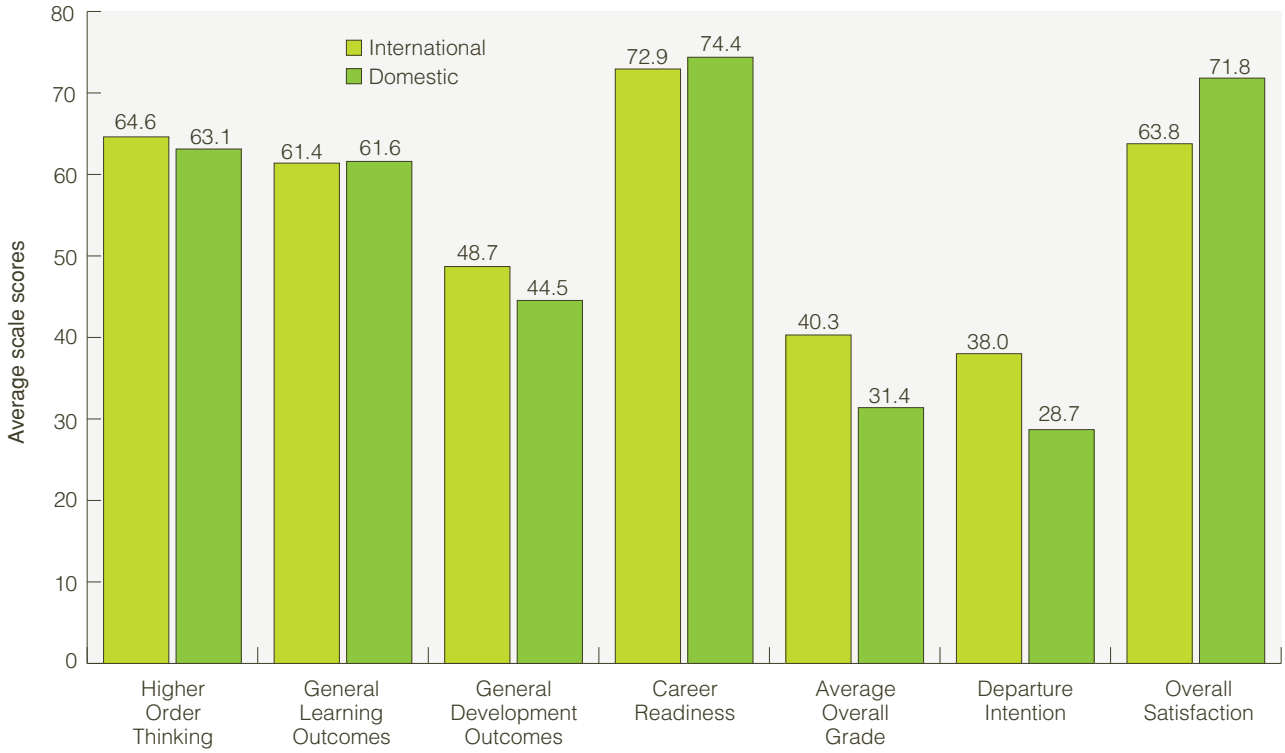

Figure 13 Average outcomes measures scores for international and domestic students

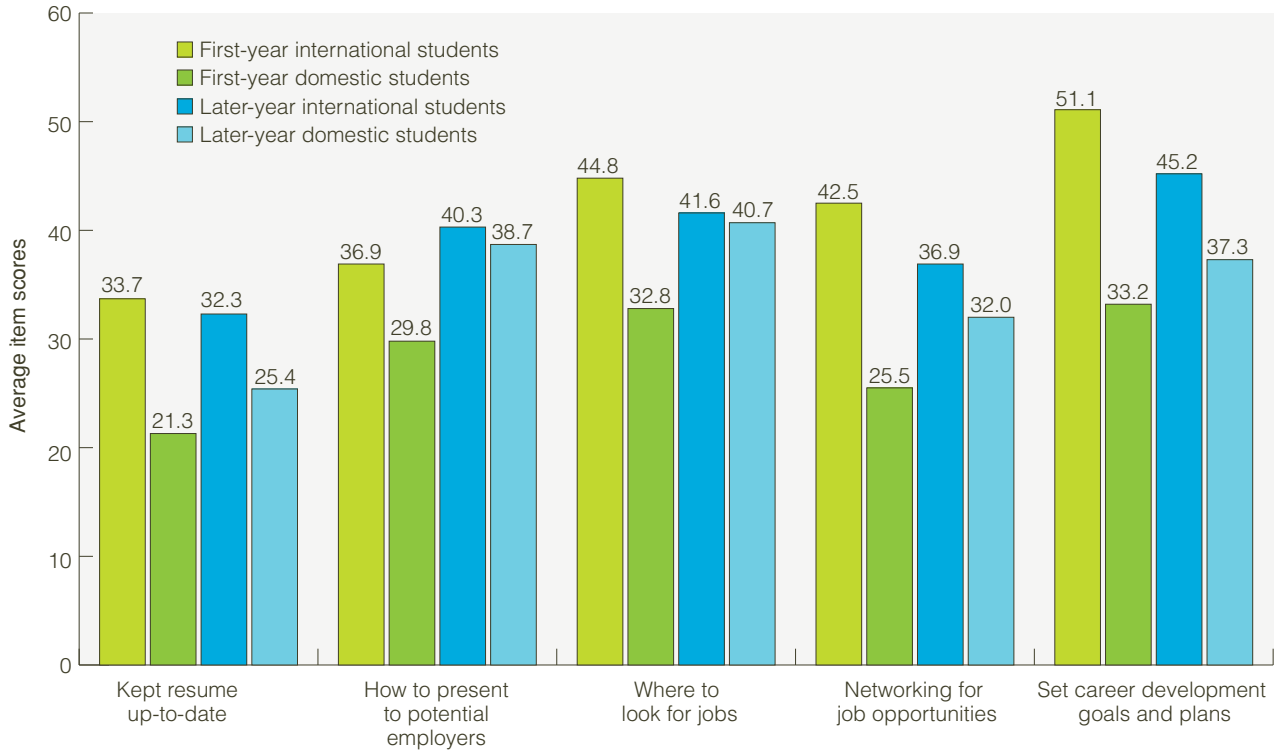

Figure 14 Average scores for career readiness items

Given the initial focus on career readiness and the departure intentions discussed below, these reported drops by later-year students with respect to these engagement indicators are particularly puzzling and merit further attention. Employability would become ever more important for later-year international students and, as such, this reduction may provide some explanation for the decreases in overall satisfaction evidenced among later-year students.

New Zealand international student responses are also clustered positively with respect to general development outcomes scales. Compared to domestic students, aspects rated more highly by international students include improving their understanding of people of other racial or ethnic backgrounds (d=0.24), understanding him or herself (d=0.23), and contributing to the welfare of your community (d=0.21).

International students' interactions with staff and students

As would be expected, given findings using the NSSE (Zhao, et al., 2005), international students in New Zealand universities report higher student and staff interactions than local students, particularly at the first year level. Figure 15 illustrates the particular areas of contrast in this engagement scale, showing that larger differences exist between domestic and international students in their first year of study.

Despite these positive findings, responses on individual items related to international students' interactions with other students reveal a more complex picture. Although international students are more likely to report that they tutor other students and work with other students during class, they are significantly less likely than domestic students to report that they have frequent conversations with students from a different ethnic group (d=0.17) or with students who are very different in terms of their background and beliefs (d=0.20). This finding is interesting given that international students are more likely to report that their experience at their institution has contributed to their understanding of people of different backgrounds (d=0.24), and that their institution encourages contact among students of different economic, social and ethnic backgrounds (d=0.13).

In addition to this, as shown in Figure 16, international students also rate their relationships with others less positively than domestic students. International students' ratings of their relationships with other students are particularly poor when compared with domestic students (d=0.29). Taken together, these findings suggest that international students do not have enough opportunities to interact with students from different ethnicities to themselves.

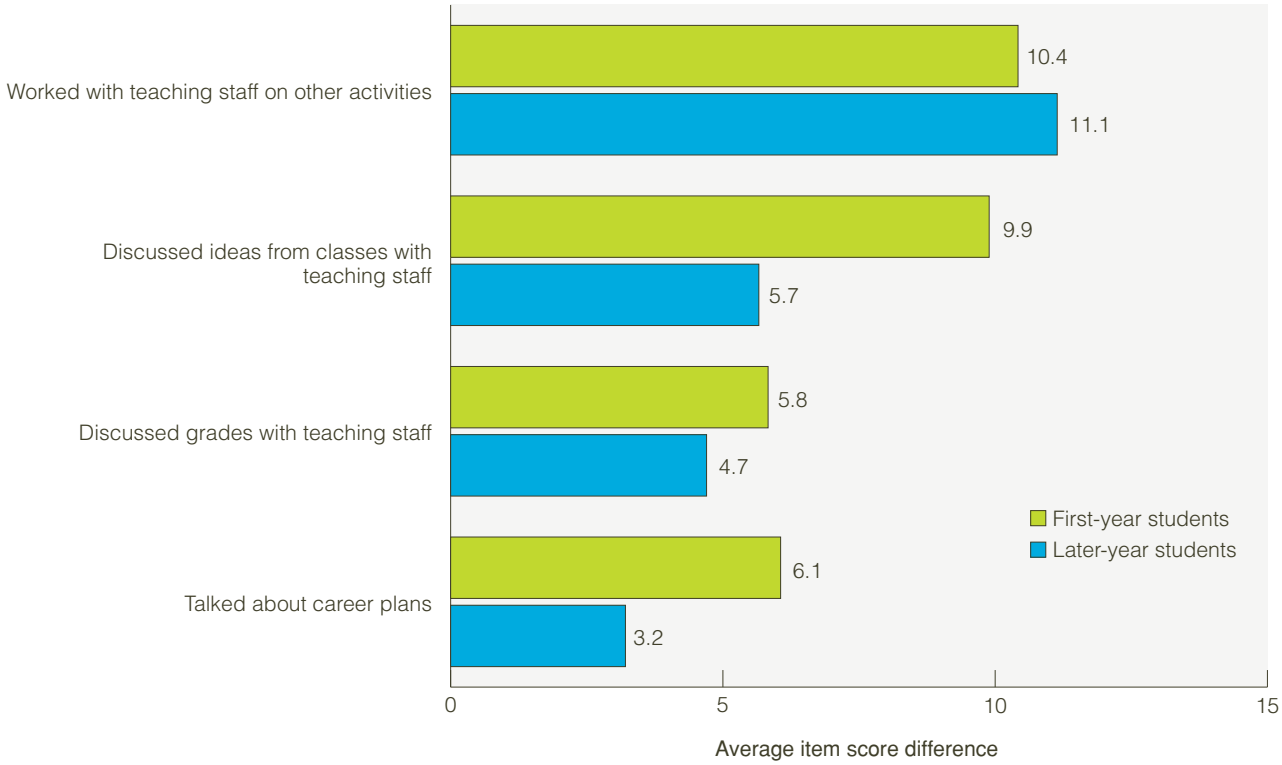

Figure 15 Average student–staff interaction score differences between international and domestic students

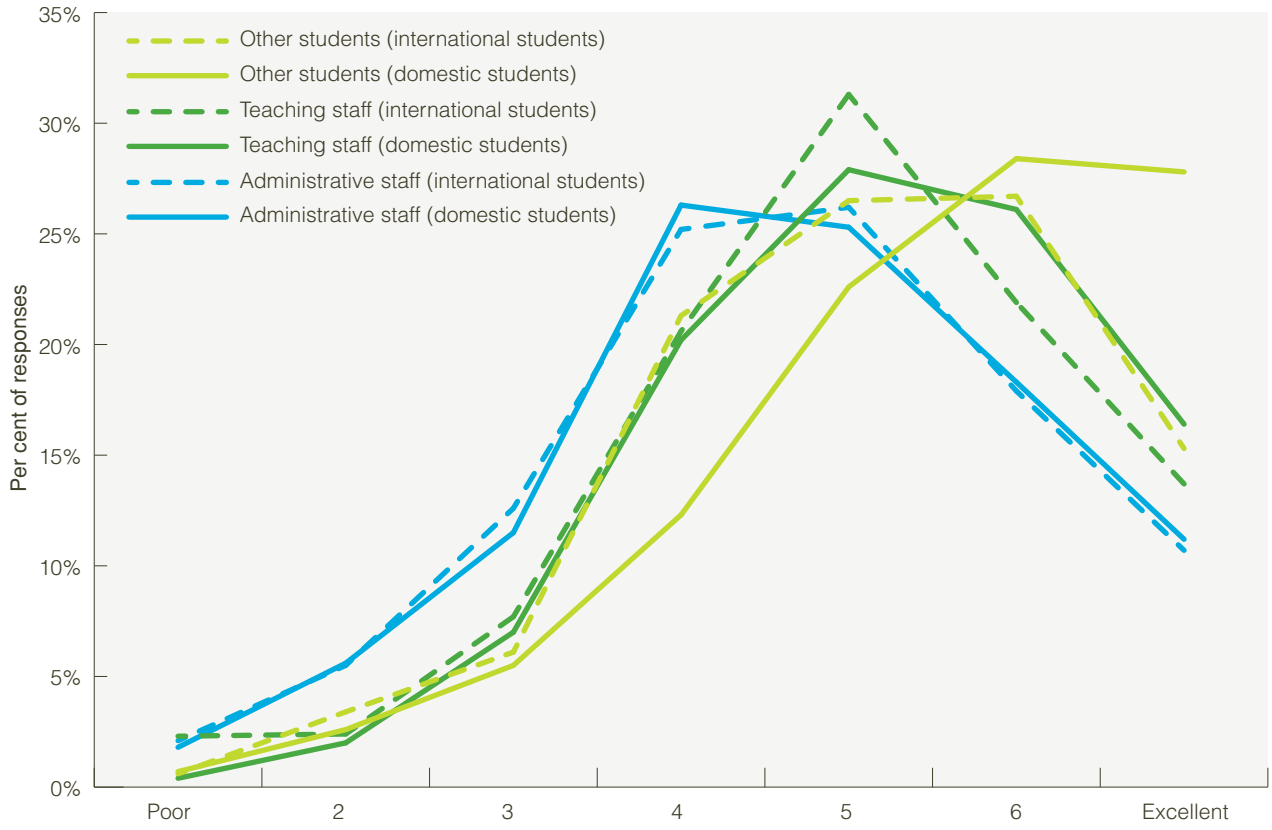

Figure 16 Ratings of quality of relationships by international and domestic students

Table 18 Examples of international students' open-ended responses related to interaction

Question: What could be done to improve how your university engages students?
• Giving more help for international students like social life, how to find a job, or communication with local society.
• Having more tutorial sessions to encourage interaction with tutors/senior students/lecturers.
• I think the university could organise more activities to improve the friendship between international students and kiwis. I find as an international student it is quite hard to make friends with kiwis. If they have more activities, this situation may be meliorated.
• I would say encourage more peer support groups, mentoring or counselling because it can get very stressful and personally, I feel that being a foreigner doesn't help make the learning situation any better (e.g. experiencing cultural barriers, language/ communication barriers).
• Mixing up with different ethnic groups of students more!
• More programs for international students to mingle with kiwis.
• Organize events to make students in a class get to know each other more. In my class there are students from different cultures, and my class is quite small. But it seems like we don't really get together or talk with each other often.
• Smaller classes, more personal.

This is confirmed by the open-ended responses given to two questions that ask students about what could be done to improve the way in which their university engages students, and how their university best engages students. Of the international students who provided a comment about improvements that could be made, close to one-third related to achieving a greater level of interaction between students, particularly between international and domestic students, including smaller classes and more tutorials. Table 18 provides some illustrative examples of open-ended responses from international students that relate to increasing interactions among students.

International students' overall satisfaction and departure intentions

Overall satisfaction ratings by international students, as shown in Table 19, were lower than the ratings by domestic students. What is of interest is that among both international and domestic students satisfaction is lower for later-year students than first-year students.

Comparing overall satisfaction scores of individual institutions shows that differences between international and domestic students' ratings, as well as first-year and later-year responses, are small in some universities but larger in some others. Although there are differences between universities, as shown in Table 20, international student satisfaction is lower than domestic student satisfaction at each university. This shows that international students have less favourable experiences than their domestic peers in all New Zealand universities, suggesting that international students' experience is different to domestic students' experience

Table 19 Overall satisfaction ratings for international and domestic students

		Mean	St. Dev	Effect size
First year	International	66.9	20.5	d=0.32
	Domestic	73.2	18.9	
Later year	International	61.6	21.0	d=0.42
	Domestic	70.3	20.3	

or that international students have higher expectations for their university studies.

Similar institutional differences can be found when looking at students' departure intentions. For example, looking at the proportion of students who intend to depart in two universities (calculated as effect size), it is clear that while in one university there is no difference between domestic and international students' departure intentions (d=0.04), for another the effect size is positively large (d=1.03). This suggests that institutions can have an impact on the experience of international students on their campus and that some do better in retaining international students than others. In addition, the differences in international students' engagement, departure intentions and satisfaction between institutions clearly show that universities have the potential to learn vital lessons from each other concerning international student engagement and support.

This then leads to the question whether there is a relationship between departure intention and satisfaction, and whether there are other correlations

Table 20 Satisfaction rates by institution

Higher education provider	International first year		Rating difference first-year and later-year students	Domestic first year		Rating difference first-year and later-year students
	Mean	Std. Dev.		Mean	Std. Dev.	
A	69.40	22.08	–7.90	72.79	18.51	–3.10
B	66.67	20.35	–8.66	74.04	17.91	–2.75
C	61.24	16.75	–4.09	70.47	20.18	–2.43
D	68.71	15.24	–6.92	71.66	18.61	–7.76
E	66.80	14.90	–6.04	72.90	18.12	–2.88
F	61.08	7.71	–11.11	75.79	20.81	–0.99
G	66.38	20.82	+0.98	76.69	18.44	+0.62
H	59.19	27.87	+1.23	70.54	21.47	–2.76
All	**66.95**	**20.52**	**–5.30**	**73.16**	**18.91**	**–2.85**

that may shed light on what impacts international students' satisfaction ratings. In examining the results in Table 21, there is unsurprisingly evidence of an inverse relationship between satisfaction and departure intentions. For both international and domestic students there is a relationship between their overall satisfaction and whether they have seriously considered leaving or plan to leave their current institution before completing their qualification.

A significantly higher proportion of international students have considered or plan to depart their university prior to completing their degree, with 38.0 per cent of international students planning or considering early departure, compared with 28.7 per cent of domestic students. Although there seems to be a similar relationship between satisfaction and departure intentions among international and domestic students, the reasons given for considering leaving show some differences. More international than domestic students say they have seriously considered leaving to obtain a better quality education, with 31 per cent of international students with departure intentions citing this as a reason why they have seriously considered leaving, compared to only 16 per cent of domestic students. Also, just over one-third of international students with departure intentions cited financial reasons or to reduce study costs as being a reason for considering leaving, compared to just over 23 per cent of domestic students.

Table 21 Correlation between students' departure intentions and satisfaction

First year	International	–0.293**
	Domestic	–0.328**
Later year	International	–0.257**
	Domestic	–0.253**

**Correlation is significant at the 0.01 level (2-tailed).

Table 5 shows some other scale correlations with students' satisfaction. For both first- and later-year international students, the correlation between satisfaction and student and staff interactions is significant but not large. Although findings from the AUSSE show that international students in both first year and later years report greater levels of student and staff interactions, this does not correspond to a stronger correlation between international students' level of student–staff interaction and their overall satisfaction.

Where international and domestic students do not differ is that their satisfaction appears to be closely linked to their feelings of support – students who report high levels of support also tend to report high levels of satisfaction. Another surprising difference was the relationship and apparent importance of first-year international students' overall grade to their level of satisfaction. This is less marked for domestic first-year students and for later-year students in both groups.

International students' satisfaction and departure intentions appear to also be linked to their interactions with other students and teaching staff and to the amount of interaction they have with students from a different ethnic background. Students who rate the quality of their relationships with other students, teaching staff or administrative personnel poorly have much lower ratings of overall satisfaction and are more likely to have departure intentions than students with higher quality relationships with others. International students

Table 22 Correlation of selected engagement and outcomes scales with satisfaction

Scale	Group	Correlation
Student staff interaction	International first year	0.089**
	International later year	0.193**
	Domestic first year	0.255**
	Domestic later year	0.193**
Supportive learning environment	International first year	0.414**
	International later year	0.528**
	Domestic first year	0.526**
	Domestic later year	0.522**
Average overall grade	International first year	0.446**
	International later year	0.134**
	Domestic first year	0.163**
	Domestic later year	0.139**

**Correlation is significant at the 0.01 level (2-tailed).

who feel that their institutions encourage them to make contact with people from different backgrounds and ethnicities also are more likely to be satisfied with their overall educational experience and less likely to have considered departing (see Figure 17). Providing more opportunities for international and domestic students to interact may then assist at increasing international students' satisfaction and improve retention.

Discussion and conclusion

There is clearly room to improve the experience and level of satisfaction of international students with their university experiences. A productive start could be for universities to look at practices in other sectors and regional institutions that yield good results. In considering improvements, it is also important to keep in mind that not all international students have the same needs. Arambewela and Hall (2006, 2009) emphasise that it is important to recognise differences and not consider international students as a single homogenous group. They advocate developing 'a segmented approach in targeting services to students from different countries' (Arambewela & Hall, 2006, p. 56). The success, they say, depends on 'organisational appreciation of the cultural diversity and the commitment to quality in service delivery'.

Interventions may need to include considering adopting what they call 'non-traditional teaching techniques' (Arambewela & Hall, 2009, p. 561). Sulkowski and Derakin (2009) stress that staff development is important to help teachers understand cultural differences: 'Failing to understand the implications of culture on students' approaches to learning, behavior towards lecturers and peers is likely to result in misconceptions about their motivation and intellectual abilities' (Sulkowski & Deakin, 2009, p. 155).

The findings relating to international students' interactions with staff and in particular with fellow students strongly suggest there is room for improvement. It appears that international students have a range of interactions with staff, but not as many with other students, particularly with domestic students. This is a worrying finding considering that research shows contact with domestic students is what many international students want (see, for example, Selvarajah, Chelliah, Meyer, Pio, & Anurit). Moreover, interaction is vital in all teaching and learning contexts. Retna, Chong and Cavana (2009) identify the importance of tutors encouraging the participation of international students in tutorials. This, they say, is beneficial to the development of critical thinking.

Another area where interaction can be increased is through group work. In their study on differences in learning approaches between international (mainly Asian) and Australian students, Ramburuth and McCormick (2001) found that international students had a preference for group learning. Although international students surveyed in the AUSSE were more likely to report working with students during class than domestic students, just over half of all international students report working with others in class infrequently or never. Ward and Masgoret (2004), in commenting on the results on the experiences of international students in New Zealand, recommend a greater use of cooperative learning approaches to promote interaction among students of different cultures. Accomplishing this, however, may require a greater focus on professional development for teachers (Clark & Baker, 2009). All too frequently, little training is provided for teachers to teach students with respect to effective small group learning and collaboration practices (van der Meer, 2009).

For international students, two additional trends in higher education contribute to current and potentially future concerns regarding interaction and international student engagement. As Zhao, Kuh & Carini (2005) observe, uses of technology in teaching and learning can contribute to international student isolation if used in place of face-to-face contact. Additionally, larger classes employed to reduce costs can further anonymise the educational experience, particularly at undergraduate level. This may reduce opportunities for students to interact with other students, and may isolate them from others. This point is reinforced by a range of

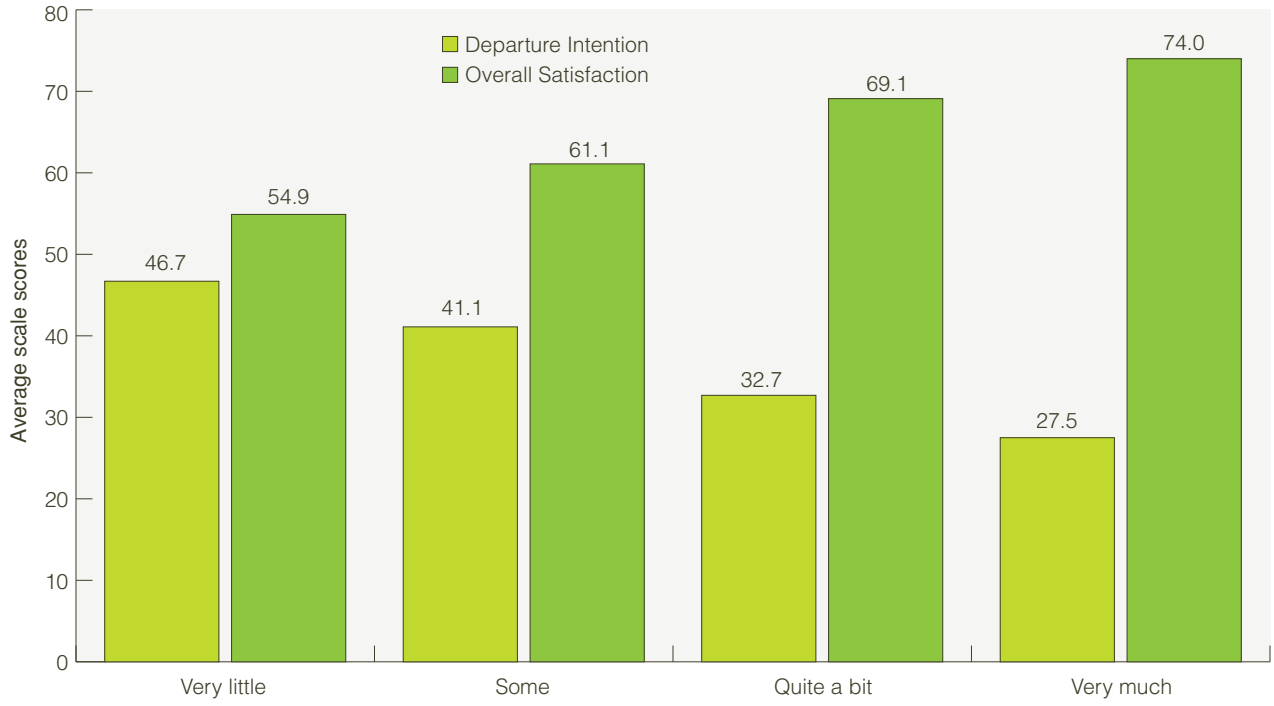

Figure 17 Relationship between encouraging contact with people of different background and international students' departure intentions and satisfaction

comments made in the AUSSE by international students who suggest that more needs to be done to increase interactions with students, and that more tutorials would help improve their engagement with learning. Consequently, blended learning initiatives and ongoing increases in class sizes need to be considered with regard to engagement consequences for international students if the sector is to perform more effectively.

Finally, it is important not to simply view international students as a source of income. International students have a great deal to contribute to the life of New Zealand universities, both in the time in which they study here and as ambassadors for our educational system when they return to their own nations or continue their international pathways. Universities also have an obligation to make the experience of international students as satisfying and rewarding as possible. As Zhao, Kuh & Carini (2005) note, efforts to increase the numbers of international students – such as those currently underway throughout the New Zealand sector – 'must also be accompanied by programs and services that induce these students and their [domestic] counterparts to engage with one another as well as in other educationally purposeful activities.' Such programs and services need to be maintained throughout the university experience and not confined to first-year initiatives, to ensure international students remain engaged throughout their university studies.

References

Arambewela, R., & Hall, J. (2006). A comparative analysis of international education satisfaction using servqual. *Journal of services research*, *6(3)*, 141–163.

Arambewela, R., & Hall, J. (2009). An empirical model of international student satisfaction. Asia Pacific *Journal of Marketing and Logistics*, *21(4)*, 555–569.

Australian Council for Educational Research (2010). International students' engagement with effective educational practices: A cross-national comparison. *The Australasian Survey of Student Engagement: Research Briefing number 5*.

Biggs, J. (2009). Asian learners through Western eyes: an astigmatic paradox. *Australian and New Zealand journal of vocational education research*, *2(2)*, 40–63.

Clark, J., & Baker, T. (2009). Research that works: a practical approach to student collaborative work. *Business Studies Conference Papers*. Paper 7. Retrieved from http://www.coda.ac.nz/whitireia_busstud_cp/7

Department of Education, Employment and Workplace Relations (2010). Students: Selected higher education statistics 2009, Department of Education, Employment and Workplace Relations: Canberra, viewed 28 March 2011, <http://www.deewr.gov.au/HigherEducation/Publications/HEStatistics/Publications/Pages/2009FullYear.aspx>.

Joyce, S. (2010). International student numbers increase. Retrieved 24 January 2011, from http://www.beehive.govt.nz/release/international-student-numbers-increase

Kember, D. (2000). Misconceptions about the learning approaches, motivation and study practices of Asian students. *Higher Education*, *40(1)*, 99–121.

Ministry of Education (2010a). Domestic and international student enrolments, EFTS and completions for providers 2004–2009, *PRO.1*, Ministry of Education, Wellington, Education Counts, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010b). Number of students enrolled, *LNR.1*, Ministry of Education, Wellington, Education Counts, viewed 28 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010c). Eight-year qualification attrition rates for domestic and international students by subsector, full- or part-time, period of study and qualification level, *ARN.7*, Ministry of Education, Wellington, Education Counts, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010d). Eight-year qualification completion rates for domestic and international students by sub-sector, full- or part-time, period of study and qualification level, *COM.34*, Ministry of Education, Wellington, Education Counts, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010e). Estimated course pass rates by sub-sector, domestic or international and level of study for courses started in 2009, *CSC.6*, Ministry of Education, Wellington, Education Counts, viewed 10 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ramburuth, P., & McCormick, J. (2001). Learning diversity in higher education: A comparative study of Asian international and Australian students. *Higher Education*, *42(3)*, 333–350.

Retna, K., Chong, E., & Cavana, R. (2009). Tutors and tutorials: students' perceptions in a New Zealand university. *Journal of Higher Education Policy and Management*, *31(3)*, 251–260.

Selvarajah, C., Chelliah, J., Meyer, D., Pio, E., & Anurit, P. The impact of social motivation on cooperative learning and assessment preferences. *Journal of Management & Organization*, *16(1)*, 113–126.

Sulkowski, N., & Deakin, M. (2009). Does understanding culture help enhance students' learning experience? *International Journal of Contemporary Hospitality Management*, *21(2)*, 154–166.

van der Meer, J. (2009). I don't even know what her name is: Considering the challenge of interaction during the first year. *Studies in Learning, Evaluation, Innovation and Development*, *6(1)*, 112–123

Ward, C., & Masgoret, A. (2004). The experiences of international students in New Zealand. *Report on the Results of a National Survey. Wellington: Ministry of Education*.

Zhao, C., Kuh, G., & Carini, R. (2005). A Comparison of International Student and American Student Engagement in Effective Educational Practices. *Journal of Higher Education*, *76(2)*, 209–232.

The relationship between engagement, student preparation for study and employment

Stephen Marshall
Victoria University of Wellington

The time that students choose to devote to their studies is a complex balance reflecting the available time, the demands of courses, and the ability and preferences of the students themselves. Recently, it has been suggested that modern students are no longer committing the same hours of work to their studies as previous generations have (Babcock & Marks, 2010; Bartlett, 2010). This represents a potential problem, as research suggests that students who are sufficiently engaged in their studies to invest additional time adopt a deeper approach to their learning (James, Krause & Jennings, 2010; Kember, Jamieson, Pomfret & Wong, 1995; Kuh, Kinzie, Schuh and Whitt 2010; Lizzio, Wilson & Simons, 2002) and achieve an improvement in grades (Kuh et al., 2010; Lahmers & Zulauf, 2000; Pascarella & Terenzini, 1991; Young, Klemz & Murphy, 2003). In part, this improvement may result from students having the opportunity to reflect on their learning (Scheja, 2006) and the absence of time pressures driving students towards less effective learning strategies (Chambers, 1992, 1994; Cope & Staehr, 2005; Fox & Radloff, 1998; Kreber, 2003; Race, 1995), including plagiarism (Devlin & Gray, 2007; Sheard, Markham and Dick, 2003; Whitley, 1998). It has also been suggested that students engaging in longer hours of paid work were more likely to consider deferring their studies and experience lower overall grades (James et al., 2010).

Examination of the first year experience of Australian students (James et al., 2010) suggests that students are spending less time on university campuses, with the majority of students spending four or fewer days on campus per week. Students are reporting a reduction both in contact hours and time spent in private study, with the majority of students indicating they are spending less than 30 hours per week on their studies. In contrast, and possibly contributing to this reduction, students report increased employment during their studies, with 61 per cent of full-time students working for an average of just under 13 hours per week.

The Australasian Survey of Student Engagement (AUSSE) asks a number of questions addressing ways in which students allocate their time (see Table 23) that are considered to influence their engagement with their studies. These include a wide range of personal activities outside of study, including employment,

Table 23 AUSSE items addressing student time allocation

Working for pay on campus
Working for pay off campus
Participating in extracurricular activities (e.g. organisations, campus publications, student associations, clubs and societies, sports, etc.)
Relaxing and socialising (e.g. watching TV, partying, etc.)
Providing care for dependents living with you (e.g. parents, children, spouse, etc.)
Managing personal business (e.g. housework, shopping, exercise, health needs, etc.)
Travelling to campus (e.g. driving, walking, etc.)
Being on campus, including time spent in class
Being on campus, excluding time spent in class
Preparing for class (e.g. studying, reading, writing, doing homework or lab work, analysing data, rehearsing and other academic activities)

as well as time spent on campus, in class, and in preparation for study. The following sections examine the relationship between time allocation and other engagement responses from New Zealand students.

Analysis of AUSSE responses relating to time allocation

Nearly 35,000 student responses to the AUSSE have been collected from 2007 to 2009. Analysis of these responses has not detected significant changes in the responses over this period and there has not been a significant change in eligibility for university study in this time, so the data reported here have been pooled and treated as a single sample. The vast majority of the students were in full-time study (93%). Interestingly, very little difference was noted between part-time and full-time students in their responses to time spent on campus and preparing for study, although part-time students reported a higher level of paid employment. The determination of individual student responses to combinations of items was made using SPSS software and is pooled in the following tables. The statistical significance of differences in response rates to individual questions was determined using the Chi^2 test at the 0.05 and 0.01 confidence levels.

Time spent on university studies by students

The AUSSE does not ask students directly how many hours they spend in scheduled classes (including labs, lectures, seminars etc.) in a typical week. Instead, the time can be estimated by subtracting the time spent on campus excluding class time from the total time spent on campus (see Table 24). New Zealand universities generally schedule between 12 and 20 hours per week for a full-time student with the exact amount varying significantly by discipline. The AUSSE results suggest that students are not, on average, attending all of the scheduled time, with only 18.4 per cent of first-year students spending more than 16 hours per week in class, consistent with the Australian first-year student responses (James et al., 2010). Interestingly, the results suggest that later-year students are on average spending less time in class than first-year students.

Preparation for class

Responses to the AUSSE item that addresses time spent preparing for study during a typical week are presented in Table 25. Nearly one-third of all students spend on average less than 5 hours per week in preparation for their studies.

Combining responses for Table 24 and Table 25 on a per student basis results in the data shown in Table 26. Very few students appear to be putting a full 40 hours per week into their studies (6.0% of first-year and 5.7% of later-year responses), while the median result is only 16–20 hours per week.

Student responses to all 115 items in the AUSSE were analysed by year and by the amount of time spent preparing for study (see Table 27). Students spending more than 30 hours per week in preparation reported a very positive response to the majority of items. First-year students reported more positive responses to 80 of the items with 72 of those being significant at the 0.01 level. Later-year students reported more positive responses to 84 of the items with 77 of those being significant at the 0.01 level. The one exception was working for pay off-campus (4.4% of students compared to 7.47%, $p < 0.05$).

In contrast, students who indicated that they spent no time preparing for class during an average week show a variety of negative results across the set of engagement questions. First-year students reported more negative responses to 58 of the items with 30 of those being significant at the 0.01 level. Later-year students reported more negative responses to 70 of the items with 55 of those being significant at the 0.01 level. The exceptions to the negative trend were for first-year students who were significantly more likely to spend time networking for job opportunities (35.37% of students compared to a mean of 26.32%, $p < 0.01$), and later-year students who were more likely to spend time relaxing and socialising (17.09% of students compared to mean of 13.38%, $p < 0.05$).

Table 24 Time spent in class reported by students

Student year	Time spent in class							
	No time in class	1–5 hours	6–10 hours	11–15 hours	16–20 hours	21–25 hours	26–30 hours	Over 30 hours
First year	11.0%	16.6%	24.2%	25.9%	12.7%	4.6%	1.1%	0.0%
Later year	12.5%	21.9%	26.9%	20.5%	9.2%	3.2%	1.2%	0.0%

Table 25 Student reported time spent preparing for class

Preparing for class	First-year Students		Later-year Students	
	Count	%	Count	%
None	166	0.9%	327	2.0%
1 to 5 hours	5875	32.3%	5505	33.3%
6 to 10 hours	4949	27.2%	4089	24.7%
11 to 15 hours	2936	16.1%	2455	14.8%
16 to 20 hours	1956	10.7%	1630	9.9%
21 to 25 hours	1042	5.7%	1052	6.4%
26 to 30 hours	574	3.2%	585	3.5%
Over 30 hours	702	3.9%	899	5.4%

Table 26 Student reported total time spent in class and preparing for class

Student year	Time spent in class and time preparing for class									
	None	1–5 hours	6–10 hours	11–15 hours	16–20 hours	21–25 hours	26–30 hours	31–35 hours	36–40 hours	Over 40 hours
First year	0.2%	3.9%	9.8%	14.5%	18.5%	18.0%	14.5%	9.3%	5.4%	6.0%
Later year	0.5%	4.6%	11.7%	16.5%	19.4%	15.3%	11.4%	9.7%	5.1%	5.7%

Table 27 Significant positive or negative differences in responses to AUSSE items for first- and later-year students reporting no preparation or > 30 hours preparation in a typical week

(▼ or ▲ indicates significance of 0.05, ▼▼ or ▲▲ indicates significance of 0.01, compared to the mean response to the item)

Item	First Year		Later Year	
	None	>30	None	>30
Academic Challenge	▼▼	▲▲	▼▼	▲▲
Active Learning		▲▲		▲▲
Student and Staff Interactions		▲▲		▲▲
Enriching Educational Experiences				▲▲
Supportive Learning Environment	▼		▼	
Work Integrated Learning		▲▲	▼	▲▲
Higher Order Thinking		▲▲	▼▼	▲▲
General Learning Outcomes	▼	▲▲	▼▼	▲▲
General Development Outcomes		▲▲	▼▼	▲▲
Average Overall Grade				
Career Readiness		▲		
Overall Satisfaction	▼▼		▼▼	
Asked questions or contributed to discussions	▼	▲▲	▼▼	▲▲
Sought advice from academic staff		▲▲	▼▼	▲▲
Made presentation		▲▲	▼▼	▲▲
Worked hard to master difficult content	▼▼	▲▲	▼▼	▲▲
Prepared two or more drafts	▼▼	▲▲	▼▼	▲▲
Used library resources on campus or online	▼▼	▲▲	▼▼	▲▲
Integrating from various sources	▼	▲▲	▼▼	▲▲
Used student learning support services		▲▲	▼	▲▲
Blended academic learning with workplace experience		▲▲	▼▼	▲▲
Included diverse perspectives	▼		▼▼	▲
Completed readings	▼▼	▲▲	▼▼	▲▲
Able to keep up to date with study	▼▼	▲▲	▼▼	▲▲
Worked with students during class	▼			▲▲
Worked with students outside class	▼▼			▲▲
Put together ideas or concepts	▼▼	▲▲	▼▼	▲▲
Tutored other students		▲▲		▲▲
Participated in community based project		▲▲		▲▲
Used an electronic medium for assignment		▲▲		▲▲
Used email or a forum to communicate with teaching staff		▲▲	▼	▲▲
Discussed grades with teaching staff	▼▼	▲▲	▼	▲▲
Talked about career plans		▲▲		▲▲
Discussed ideas from your classes with teaching staff	▼▼	▲▲		▲▲
Received feedback on academic performance	▼	▲	▼▼	▲▲
Worked harder than you thought you could	▼	▲▲	▼▼	▲▲
Worked with teaching staff on other activities	▼	▲▲		▲▲
Discussed ideas from your classes with others	▼▼	▲▲		▲▲

Item	First Year		Later Year	
	None	>30	None	>30
Conversations with students of different ethnic groups	▼▼	▲▲	▼▼	▲▲
Conversations with students who are very different	▼	▲▲		▲▲
Memorising facts	▼			
Analysing basic elements	▼▼	▲▲	▼▼	▲▲
Synthesising and organising ideas	▼	▲▲	▼▼	▲▲
Making judgements about value of information		▲▲	▼▼	▲▲
Applying theories or concepts		▲▲		▲▲
Less than an hour	▼	▲▲		
More than an hour	▼	▲▲	▼▼	▲▲
Subject related assigned texts	▼	▲▲	▼▼	▲▲
Books for personal enjoyment or enrichment	▼	▲▲		
Assignments fewer than 1,000 words	▼	▲▲		
Assignments between 1,000 and 5,000 words	▼			▲▲
Assignments more than 5,000 words		▲▲		▲▲
Examinations challenged to do best work	▼▼	▲▲	▼▼	▲▲
Art/culture attendance	▼		▼▼	
Exercise		▲	▼	
Examined own views on a topic or issue	▼	▲▲		▲▲
Improved knowledge and skills that will contribute to employability		▲▲		▲▲
Developed communication skills relevant to your discipline		▲▲	▼▼	▲▲
Explored how to apply your learning in the workforce		▲▲	▼▼	▲▲
Tried to better understand someone else's views		▲▲	▼▼	▲
Learned something that changed your understanding	▼	▲▲	▼	
Kept resume up-to-date		▲▲		
How to present to potential employers	▼			
Where to look for jobs			▼	
Networking for job opportunities	▲▲			▲▲
Set career development goals and plans		▲▲	▼	▲▲
Practicum/Internship		▲		▲▲
Industry placement or work experience	▼▼			▲
Community service	▼	▲▲		▲▲
Learning community/study group	▼▼		▼▼	▲▲
Work on a research project	▼▼		▼	▲▲
Foreign language	▼▼		▼▼	▲▲
Study abroad or student exchange	▼▼			▲▲
Culminating final-year experience			▼	▲▲
Independent study	▼	▲		▲▲
Careers advice		▲▲		

Item	First Year		Later Year	
	None	>30	None	>30
Leadership position		▲▲		
Relationships with other students	▼▼		▼	▲▲
Relationships with teaching staff	▼		▼▼	▲▲
Relationships with administrative personnel and services			▼	
Working for pay on campus		▲▲		
Working for pay off campus				▼▼
Participating in extracurricular activities				
Relaxing and socialising			▲	
Providing care for dependents		▲▲		
Managing personal business				
Travelling to campus				
Spent on campus including classes				▲▲
Spent on campus excluding classes		▲▲		▲▲
Paid work relationship to study		▲▲	▼▼	▲
Spending significant time on academic work	▼▼	▲▲	▼▼	▲▲
Providing support to succeed academically	▼▼	▲▲	▼	
Encouraging contact with people of different backgrounds		▲	▼▼	▲▲
Helping to cope with non-academic responsibilities			▼▼	
Providing support to socialise				
Attending campus events and activities			▼▼	
Using computers in academic work	▼▼	▲▲		▲▲
Acquiring a broad general education	▼	▲▲	▼▼	▲▲
Acquiring job-related 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 informedly in local, state or national elections			▼▼	
Learning effectively on your own	▼▼	▲▲	▼▼	▲▲
Understanding yourself		▲▲	▼▼	▲▲
Understanding people of other racial and ethnic backgrounds		▲▲	▼▼	▲
Solving complex real-world problems		▲▲	▼▼	▲▲
Developing a personal code or values and ethics		▲▲	▼▼	▲▲
Contributing to the welfare of your community		▲▲	▼▼	▲▲
Securing relevant work after graduation		▲	▼▼	▲▲
Overall rating: Quality of academic advising	▼▼		▼▼	▲
Overall rating: Educational experience	▼▼		▼▼	▲
Attend same institution if starting over	▼▼		▼▼	

Working for pay off-campus

Table 28 summarises responses from students for the question addressing the amount of time students spend in paid employment off-campus. A significant proportion of students responding to the AUSSE (50.1% of first-year and 39.9% of later-year) do not work at all off campus, and a very small number of students work more than 20 hours per week for pay (5.1% of first-year and 7.6% of later-year students). There is a small but significant ($p < 0.001$) increase in the amount of paid work being done by later-year students, but the overall distribution is very similar, so the remainder of the analysis was conducted using pooled data (no significant differences were noted in the sub-population analyses).

Table 29 shows the responses from the students to the three study-related workload questions, cross-tabulated by responses to the paid employment question. Both of the time-on-campus questions show a clear trend of reducing time on campus as paid employment hours increase, although there is only a significant decline ($p < 0.01$) for students working more than 30 hours per week. There is no such pattern in the responses to the question regarding preparation time.

Table 30 explores the relationship between paid work and time spent in class (as determined above in Table 24). Clearly, working more than 30 hours per week has a significant impact on the hours students spend in class, with more than 64 per cent of students working more than 30 hours putting in less than 5 hours of time in class. However, the pattern of responses is broadly similar for all students reporting paid employment of less than 25 hours per week. A similar pattern is seen in the time spent preparing for class (see Table 31) although the impact is less substantial.

Table 28 Student reported time spent in paid employment off-campus

Working for pay off-campus	First-year students		Later-year students	
	Count	%	Count	%
None	8355	50.1%	6298	39.9%
1–5 hours	1689	10.1%	1733	11.0%
6–10 hours	2645	15.9%	2566	16.3%
11–15 hours	2006	12.0%	2455	15.6%
16–20 hours	1131	6.8%	1532	9.7%
21–25 hours	341	2.0%	571	3.6%
26–30 hours	194	1.2%	245	1.6%
Over 30 hours	320	1.9%	383	2.4%

Table 29 Cross-tabulation of responses to student reported time spent in paid employment off campus against time on campus and time preparing for class

Working for pay off-campus	Spent on campus including classes			Spent on campus excluding classes			Preparing for class		
	Count	Mean	Std Dev	Count	Mean	Std Dev	Count	Mean	Std Dev
None	14653	20.77	8.12	14653	10.02	9.10	14653	11.55	8.84
1–5 hours	3422	19.65	8.95	3422	10.22	8.53	3422	9.85	8.32
6–10 hours	5211	19.38	8.23	5211	9.55	7.62	5211	9.77	8.09
11–15 hours	4461	19.65	7.58	4461	9.45	7.11	4461	9.91	7.44
16–20 hours	2663	19.15	7.73	2663	9.04	7.66	2663	10.18	7.87
21–25 hours	912	18.09	8.39	912	9.37	8.02	912	11.13	7.92
26–30 hours	439	14.92	7.64	439	8.04	7.23	439	9.66	8.31
Over 30 hours	703	9.42	9.59	703	5.00	8.25	703	9.76	9.19

Table 30 Cross-tabulation of responses to student reported time spent in paid employment off campus against time in class

Working for pay off-campus		Hours in class								Total
		No time in class	1–5 hours	6–10 hours	11–15 hours	16–20 hours	21–25 hours	26–30 hours	Over 30 hours	
None	Count	1651	2415	3307	3518	1854	704	246	10	14268
	%	11.6%	16.9%	23.2%	24.7%	13.0%	4.9%	1.7%	0.1%	100.0%
1–5 hours	Count	497	684	851	734	320	88	31	0	3306
	%	15.0%	20.7%	25.7%	22.2%	9.7%	2.7%	0.9%	0.0%	100.0%
6–10 hours	Count	531	1036	1423	1152	494	172	30	2	5021
	%	10.6%	20.6%	28.3%	22.9%	9.8%	3.4%	0.6%	0.0%	100.0%
11–15 hours	Count	396	834	1230	1091	458	95	25	0	4304
	%	9.2%	19.4%	28.6%	25.3%	10.6%	2.2%	0.6%	0.0%	100.0%
16–20 hours	Count	199	485	722	630	234	113	29	0	2573
	%	7.7%	18.8%	28.1%	24.5%	9.1%	4.4%	1.1%	0.0%	100.0%
21–25 hours	Count	122	178	253	189	55	29	0	0	878
	%	13.9%	20.3%	28.8%	21.5%	6.3%	3.3%	.0%	0.0%	100.0%
26–30 hours	Count	33	164	112	52	20	4	5	0	425
	%	7.8%	38.6%	26.4%	12.2%	4.7%	0.9%	1.2%	0.0%	100.0%
Over 30 hours	Count	201	214	122	37	13	19	0	0	645
	%	31.2%	33.2%	18.9%	5.7%	2.0%	2.9%	0.0%	0.0%	100.0%

Table 31 Cross-tabulation of responses to student reported time spent in paid employment off campus against time preparing for class

Working for pay off-campus		Hours in class								Total
		No time	1–5 hours	6–10 hours	11–15 hours	16–20 hours	21–25 hours	26–30 hours	Over 30 hours	
None	Count	202	4347	3512	2474	1547	951	545	868	14446
	%	1.4%	30.1%	24.3%	17.1%	10.7%	6.6%	3.8%	6.0%	100.0%
1–5 hours	Count	61	1292	869	451	302	123	122	145	3365
	%	1.8%	38.4%	25.8%	13.4%	9.0%	3.7%	3.6%	4.3%	100.0%
6–10 hours	Count	66	1918	1467	577	463	268	140	191	5090
	%	1.3%	37.7%	28.8%	11.3%	9.1%	5.3%	2.8%	3.8%	100.0%
11–15 hours	Count	61	1416	1257	736	443	189	110	106	4318
	%	1.4%	32.8%	29.1%	17.0%	10.3%	4.4%	2.5%	2.5%	100.0%
16–20 hours	Count	29	907	720	361	270	191	66	71	2615
	%	1.1%	34.7%	27.5%	13.8%	10.3%	7.3%	2.5%	2.7%	100.0%
21–25 hours	Count	4	272	215	187	92	65	47	17	899
	%	.4%	30.3%	23.9%	20.8%	10.2%	7.2%	5.2%	1.9%	100.0%
26–30 hours	Count	8	177	94	71	43	4	15	21	433
	%	1.8%	40.9%	21.7%	16.4%	9.9%	.9%	3.5%	4.8%	100.0%
Over 30 hours	Count	34	278	141	93	34	43	4	54	681
	%	5.0%	40.8%	20.7%	13.7%	5.0%	6.3%	.6%	7.9%	100.0%

Table 32 shows a summary of the significant relationships between hours of paid employment for students reporting no paid work, 26 to 30 hours of paid work, and more than 30 hours of paid work, and the AUSSE items relating to employment outcomes. Interestingly, these show that students working more than 30 hours gave far more positive responses than students who are not in work, suggesting students are being supported in the maintenance or development of existing employment but not in attainment of employment.

Later-year students who are not employed report a significant increase in their chance of securing relevant work after graduation when compared to students already working; however, these students also report more negative responses to the item regarding improvement of their knowledge and skills that will contribute to employment. This suggests that it is graduating with a qualification that students see is relevant rather than their improved knowledge and skills.

Table 33 shows a summary of the significant relationships between hours of paid employment for students reporting no paid work, 26 to 30 hours of paid work, and more than 30 hours of paid work, and the AUSSE items relating to interaction with other students. The data suggests that employment for more than 30 hours significantly reduces the opportunities (or possibly desire) for contact with other students. No such relationship was seen with contact with staff.

Table 34 shows a summary of the significant relationships between hours of paid employment for students reporting no paid work, 26 to 30 hours of paid work, and more than 30 hours of paid work, and the AUSSE items relating to the use of campus facilities. The data suggests that employment for more than 30 hours significantly reduces the opportunities (or possibly desire) for students to use campus facilities in their studies.

Discussion and conclusion

The AUSSE results for New Zealand students' time allocation are not encouraging. On average, students report spending less time on their studies than universities expect, with nearly one-third of all students spending less than five hours in preparation for their studies during a typical week. It is also a concern that later year students are reporting less time in

Table 32 Impact of paid employment on responses to AUSSE items relating to employment

	First Year			Later Year		
	None	26–30	>30	None	26–30	>30
Work Integrated Learning	▼▼	▲▲	▲▲	▼▼	▲▲	▲▲
Career Readiness	▼▼		▲▲			▲▲
Blended academic learning with workplace experience	▼▼	▲▲	▲▲	▼▼	▲▲	▲▲
Improved knowledge and skills that will contribute to employability	▼▼	▲▲	▲▲	▼▼	▲▲	▲▲
Explored how to apply your learning in the workforce	▼▼	▲▲	▲▲	▼▼	▲▲	▲▲
Kept resume up-to-date		▼▼			▼▼	▲▲
How to present to potential employers	▼▼		▲▲	▼▼	▼▼	▲▲
Where to look for jobs		▲▲	▲▲		▲▲	▲▲
Networking for job opportunities	▼▼		▲▲	▼▼	▲▲	
Set career development goals and plans			▲▲	▼▼	▲▲	▲▲
Practicum/Internship			▲▲	▲	▲▲	▲▲
Industry placement or work experience	▼▼	▲▲	▲▲	▼▼	▲▲	▲▲
Careers advice		▼▼	▼▼	▼▼	▼▼	
Paid work relationship to study			▲▲	▲▲	▲▲	▲▲
Acquiring job-related or work-related knowledge and skills			▲▲	▲▲		▲
Securing relevant work after graduation				▲▲	▲▲	▼▼

Table 33 Impact of paid employment on responses to AUSSE items relating to interaction with other students

	First Year			Later Year		
	None	26–30	>30	None	26–30	>30
Student and Staff Interactions						
Worked with students during class					▲▲	▼▼
Worked with students outside class			▼▼	▲		▼▼
Tutored other students					▼	▼▼
Discussed ideas from your classes with others						
Conversations with students of different ethnic groups			▼▼			▼▼
Conversations with students who are very different			▼▼			
Relationships with other students			▼▼	▲▲		▼
Encouraging contact with people of different backgrounds			▲▲		▲▲	
Working effectively with others			▼▼	▲▲		▼▼

Table 34 Impact of paid employment on responses to AUSSE items relating to the use of campus facilities

	First Year			Later Year		
	None	26–30	>30	None	26–30	>30
Used library resources on campus or online		▲▲	▲▲			▼▼
Used student learning support services						▼▼
Spent on campus including classes			▼▼	▲	▼	▼▼
Spent on campus excluding classes			▼▼			▼▼
Attending campus events and activities						▼▼

class, as they should, in theory, be more involved with their studies.

The results presented in Table 27 show that preparation for study can serve as a good general indicator of student engagement. Students spending more than 30 hours per week in preparation are, not unexpectedly, significantly more engaged in their studies as measured by the AUSSE items, while students who are spending no time are substantially less engaged. This trend is apparent in most items and is positively correlated with the number of hours spent in preparation. This result suggests that institutions concerned about student engagement could usefully identify at-risk students by asking how many hours they use to prepare for class in a typical week.

Financial pressures leading to students having to work while studying are often cited as having a negative consequence for students. Interestingly, these results show that a significant proportion of students (50.1% of first-year and 39.9% of later-year) do not work at all off campus, while a very small number of students work more than 20 hours per week for pay (5.1% of first-year and 7.6% of later-year students).

The data suggest that working less than 25 hours appears to have no negative consequence for engagement for the majority of students. There is a clear relationship between employment and time spent on campus, but significant reductions in time in class and preparation only become apparent for students working more than 25 hours per week. Students working more than 30 hours per week in paid employment are clearly having a different experience of university study, reporting a reduction in contact with other students and use of campus facilities, as well as having less time to engage in their studies.

The New Zealand Government is increasingly focused in ensuring economic benefits (particularly future employment) arise from undertaking a tertiary

education. With this in mind, it is interesting to see that responses from later-year students not already in employment anticipate benefits resulting from their obtaining a qualification rather than from improvement in their knowledge and skills (Table 32). This may reflect a pragmatic recognition that an undergraduate qualification is merely a starting point for future development within a profession. The Government's focus on high school leavers continuing directly into tertiary education is also interesting given the much more positive responses seen from students already in paid employment for more than 30 hours per week, where it is apparent that university study is seen as having a range of positive benefits in furthering their careers.

In conclusion, the AUSSE results suggest that students are not committing the time to their studies that universities expect, but that employment does not explain this reduction for most students. For the vast majority of students, employment does not have negative consequences for engagement in their study and may well ensure they are financially better off when they complete their qualification. There also appears to be a risk that universities are not demonstrating clearly to students the relevance of their studies to future employment, beyond the mere attainment of a qualification. This may be a problem as government further examines the economic rationale for supporting universities.

References

ACER. (2009). *Doing more for learning: Enhancing engagement and outcomes*. Camberwell, VIC, Australia: Australian Council for Educational Research Ltd.

Babcock, P.S. & Marks, M. (2010). *The Falling Time Cost of College: Evidence from Half a Century of Time Use Data*. National Bureau of Economic Research, Working Paper No. 15954. Retrieved 31 August 2010, from http://www.nber.org/papers/w15954

Bartlett, T. (2010). Why Don't Students Study Anymore? *The Chronicle of Higher Education*, 30 April 2010. Retrieved August 31, 2010, from http://chronicle.com/blogPost/Why-Dont-Students-Study/23631/

Chambers, E. (1992). Work-load and the quality of student learning, *Studies in Higher Education*, *17*, 141–153.

Chambers, E. (1994). Assessing learner workload. In *Materials Production in Open and Distance Learning*, (ed.) F. Lockwood, 141–153. London: Paul Chapman Publishing.

Cope, C. & Staehr, L. (2005). Improving students' learning approaches through intervention in an information systems learning environment. *Studies in Higher Education*, *30*, 181–197.

Devlin, M. & Gray, K. (2007). In their own words: A qualitative study of the reasons Australian university students plagiarise. *Higher Education Research and Development*, *26*, 181–198.

Fox, R. & Radloff, A. (eds.) (1998). *No time for students to learn important skills? Try 'unstuffing' the curriculum*. Oxford: the Oxford Centre for Staff and Learning Development.

James, R., Krause, K-L. & Jennings, C. (2010). 'The first year experience in Australian universities: Findings from 1994–2009'. Melbourne, Australia: Centre for the Study of Higher Education, the University of Melbourne.

Kember, D., Jamieson, Q., Pomfret, M. & Wong, E. (1995). Learning approaches, study time and academic performance. *Higher Education*, *29*, 329–343.

Kreber, C. (2003). The relationship between students' course perception and their approaches to studying in undergraduate science courses: A Canadian experience. Higher *Education Research and Development*, *22*, 57–75.

Kuh, G.D., Kinzie, J., Schuh, J.H. and Whitt, E.J. (2010). *Student success in college: Creating conditions that matter (2nd Ed.)*. Jossey-Bass.

Lahmers, A.G. & Zulauf, C.R. (2000). Factors associated with academic time use and academic performance of college: A recursive approach. *Journal of College Student Development*, *41*, 544–556.

Lizzio, A., Wilson, K. & Simons, R. (2002). University Students' Perceptions of the Learning Environment and Academic Outcomes: implications for theory and practice. *Studies in Higher Education*, *27*, 27–52.

Pascarella, E. & Terenzini, P. (1991). *How college affects students*. San Francisco: Jossey-Bass.

Race, P. (1995). What has assessment done for us and to us? In *Assessment for learning*, (ed.) P. Knight, 61–74. London: Kogan Page.

Scheja, M. (2006). Delayed understanding and staying in phase: Students' perceptions of their study situation. *Higher Education*, *52*, 421–445.

Sheard, J., Markham, S. & Dick, M. (2003). Investigating differences in cheating behaviours of undergraduate and graduate students: The maturity and motivation factors. *Higher Education Research & Development*, *22*, 91–108.

Whitley, B.E. (1998). Factors associated with cheating among college students: A review. *Research in Higher Education*, *39*, 235–274.

Young, M., Klemz, B. & Murphy, J. (2003). Enhancing learning outcomes: The effects of instructional technology, learning styles, instructional methods, and student behavior, *Journal of Marketing Education*, *25*, 130–142.

New Zealand university students' departure intentions

Trudy Harris & Richard Coll
The University of Waikato

When considering the data from the AUSSE collected at New Zealand universities, one of the main findings that cause great concern in an era of Education Performance Indicators (EPIs) is that of students' departure intentions. Some 28.4 per cent of undergraduate students studying at New Zealand universities indicated they had seriously considered leaving their current institution. Exploring the reasons why students have seriously considered leaving their university may provide some answers and ideas for ways to reduce the number of students dropping out of university study in New Zealand.

While the number of students entering bachelor level study at New Zealand's universities is most certainly on the rise (Ministry of Education, 2010a), quite a high proportion of students who enter higher education do not complete a qualification. First-year attrition rates are relatively high, with around 17 per cent of students dropping out during or after their first year of bachelor level study (Ministry of Education, 2010b). First-year attrition is even higher among older students, and among Māori and Pasifika students again.

Data from the Ministry of Education (2010c) show that around one-third of all bachelor level students who first enrolled in a bachelor degree in 2000 had not completed a bachelor degree or higher degree, and were no longer enrolled in study nine-years later. Akin to first-year attrition rates, eight-year attrition rates were higher among part-time students, Māori and Pasifika students, older students, and, to a lesser extent, male students.

Overall, 34 per cent of all students who enrolled in 2002 had dropped out of study by 2009; this total is much higher among part-time students (45%) compared to full-time students (20%) (Ministry of Education, 2010d). Domestic students are also more likely to have dropped out (35%) during this eight-year period compared to international students (28%) (Ministry of Education, 2010d). Rates of attrition are highest among Māori and Pasifika students, with 51 per cent of these students dropping out within the eight years since first enrolling in a bachelor degree (Ministry of Education, 2010e). This rate compares with 33 per cent among European students and 27 per cent among Asian students (Ministry of Education, 2010e).

Looking at students' departure intentions as recorded in the AUSSE, there is relatively little difference in departure intentions between years of study, with 29.0 per cent of first-year students and 27.8 per cent of later-year students indicating they had seriously

considered departing university prior to completing their degree. It is worthwhile to note that these responses, although already a bit disconcerting, may actually under-emphasise the extent of this problem, especially among later-year students as many have already dropped out of study at the time of the survey.

Like with the different attrition rates for different groups of students, there appear to be some differences in the rate at which students from different demographic groups seriously consider leaving their university. Part-time students recorded a slightly higher intention to depart (29.7%) compared to full-time students (28.1%); however, the Ministry of Education data show that over twice the proportion of part-time students are dropping out than full-time students. Extramural or distance students were slightly more likely to plan or seriously consider leaving (31.0%) than on-campus students (28.1%), and, unlike the findings reported by the Ministry of Education (2010d), international students were slightly more likely to plan or consider leaving before completing their degree (31.8%) than domestic students (28.0%). Again, interestingly given the findings reported by the Ministry of Education (2010b), more female students (29.9%) said they had considered leaving compared to males (26.2%). Māori students had higher departure intentions (35.0%) than non-Māori students (27.5%) and this finding is supported by the higher rate of attrition reported by the Ministry of Education (2010e); however, Pasifika students are slightly less likely to report seriously considering leaving (27.9%), which is surprising given their relatively high eight-year attrition rates.

Students' broad area of study also seems to influence students' departure intentions. Students who had recorded the highest intention to depart were those studying Architecture and Building (40.0%), while the lowest departure intentions were among students studying Engineering and Related Technologies (19.6%). Looking at Architecture and Building students' reasons for considering departure shows that the most popular reason given is to 'improve career prospects'. This suggests this high level of departure intention is perhaps related to the global financial crisis, which adversely affected construction industries in New Zealand.

Reasons for considering departure and plans for next year

Exploring the reasons why such high proportions of students are seriously considering leaving their current university can help us understand students' needs and can help universities to improve students' retention, completion and success. Table 35 outlines the main reasons given by students for intending to depart their studies. The data shown have been filtered to display only students who have seriously considered leaving. The data in this table suggest that reasons for considering departure are many and varied, and are often related to personal circumstances (for example, financial or convenience reasons) rather than issues within an institution's direct control, such as educational quality.

Convenience or practical reasons were the most cited, overall; however, this was closely followed by academic reasons, reasons relating to improving career prospects and financial reasons. Among first-year students, convenience or practical reasons were most often cited by students who seriously considered leaving early in their studies, but later year students most often cited academic reasons.

Students' plans for the following year vary among those considering early departure. Most students who have seriously considered leaving actually plan to remain at their current institution and continue with study. This suggests that while students who have seriously considered leaving are at risk of dropping out of study, most of these 'at risk' students will likely continue their study. More respondents planned to shift to another university, or contemplated a change of qualification, than those who considered moving out of the university sector completely to vocational education and training (see Table 36). When looking at these responses,

Table 35 Reasons given for early departure intentions

Reasons for seriously considering leaving	All years (%)	First year (%)	Later years (%)
For convenience or practical reasons	28.3	31.1	25.1
To improve career prospects	25.1	23.3	27.3
For financial reasons or to reduce study cost	24.3	24.1	24.5
To obtain better quality education	16.6	13.7	20.0
For academic reasons	27.0	24.9	29.6

Table 36 Plans for following year among students considering early departure

Destination	All years (%)	First year (%)	Later years (%)
Continue with current study	74.6	79.0	69.3
Shift to another university	17.7	19.1	16.0
Move to vocational education and training	3.0	2.2	4.0
Leave university before finishing qualification	6.7	8.8	4.1
Change to another qualification	13.8	17.3	9.7
Leave university having completed qualification	14.6	3.9	27.0

it is clear that although a substantial proportion of students have seriously considered leaving their current institution, few of these students (6.7%) plan to leave university before completing their degree or plan to move to vocational education and training (3.0%). The vast majority plan to either continue with their current study (74.6%) or leave university having completed their qualification (14.6%). This suggests that although there are a worrying number of students who seriously consider leaving their university, most continue with their current study, or at least remain in higher education and shift to a different university (17.7%) or qualification (13.8%).

There are some differences in plans of students who have seriously considered leaving between first year and later years. A higher proportion of first-year students indicated that they intended to change to another qualification, rather than dropping out of study completely. Also, unsurprisingly, later-year students are much more likely to say that they will be leaving university having completed their qualification than first-year students. It is interesting to note that similar proportions of first-year and later-year students who have seriously considered leaving their institution plan to shift universities, and nearly 10 per cent of later-year students who have considered early departure plan to change qualifications.

Academic issues and departure intentions

By combining the data for students who have seriously considered leaving their current institution and those who plan to leave higher education prior to completing their studies, an overall departure intention score can be obtained. This data can be used to explore the correlations within departure intentions, to further understand what may cause these student intentions.

A close examination of the relationship between academic issues and departure intentions is provided in Table 37. These data reveal some interesting issues and significant differences between first- and later-year students. The correlations reported are made overall, both for students with and without early departure intentions and are listed by size.

As shown in Table 37, there is a moderate and significant relationship between students' overall satisfaction and departure intentions. Perhaps not a very surprising finding is that students with early departure intentions are less likely to be satisfied with their overall educational experience, the quality of academic advice they've received, and would be less likely to attend the same institution again given the chance to start over. Students who have seriously considered leaving their institution are more than two-and-a-half times more likely to rate their overall educational experience as 'poor' or 'fair' compared to students who have not seriously considered leaving, and while one-third of students who have not seriously considered leaving their current institution rate their overall experience as 'excellent', only 17.9 per cent of those who have considered leaving give their experience the same rating (see Figure 18).

A total of 22.9 per cent of students who have seriously considered leaving their current institution would 'probably' or 'definitely not' attend the same university again given the chance to start over, compared with only 5.9 per cent of students without an intention to depart. Students who rate the quality of academic advice received or their overall educational experience as poor also have much higher departure intentions (53.8% and 64.1% respectively) than students who are more satisfied.

While a relationship between student satisfaction and departure intention is not surprising, the correlations shown in Table 37 further reveal smaller but still significant relationships between students' departure

Table 37 Engagement and outcomes, and early departure intentions

Engagement and outcomes	All years (%)	First year (%)	Later years (%)
Overall Satisfaction	–29.1*	–32.9*	–25.5*
General Learning Outcomes	–15.3*	–16.0*	–14.4*
Average Overall Grade	–15.0*	–20.2*	–8.4*
Supportive Learning Environment	–14.5*	–16.6*	–12.5*
Work Integrated Learning	–9.4*	–6.5*	–12.0*
Higher Order Thinking	–7.7*	–7.6*	–7.6*
General Development Outcomes	–7.0*	–7.4*	–6.4*
Academic Challenge	–5.2*	–6.3*	–3.7*
Active Learning	–4.4*	–6.5*	–2.1*
Enriching Educational Experiences	–2.2*	–3.6*	–0.8
Career Readiness	1.1	4.7*	–1.9

*Two-tailed Pearson correlation, significant at p<0.01

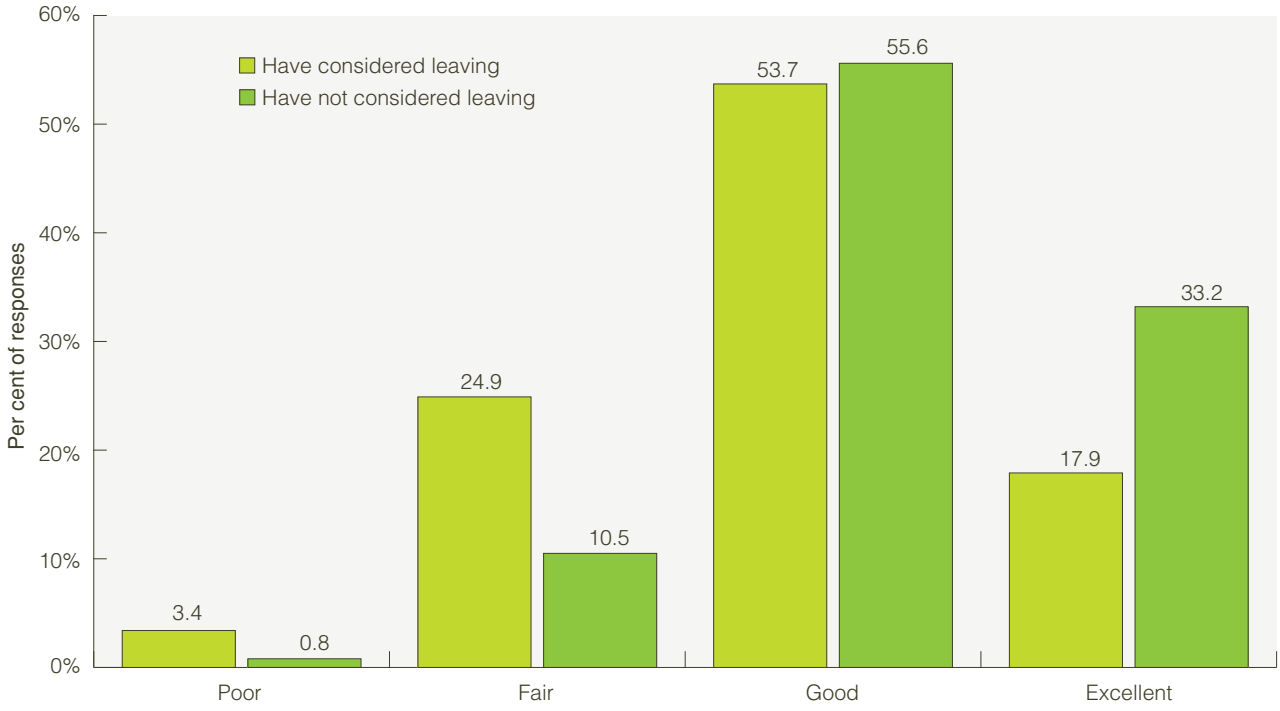

Figure 18 Student ratings of overall educational experience by departure intentions

intentions and their general learning outcomes, average overall grade, and the level of support they feel from their university. The relationship between students' average grade and departure intentions may seem quite obvious – students who are failing their studies or who are only just passing their papers have a much higher intention to depart than students who are receiving distinction level grades. However, it is interesting to note that there do not appear to be huge differences in average grades for students who plan to leave or have considered leaving (72.7%) and those who have not (76.2%).

As noted earlier, there is a small but still significant relationship between students' general learning outcomes and their departure intentions. Students who feel that their experience at university has contributed to their development of general learning skills, such as communication, writing, speaking, thinking, and analysis skills, and the ability to work effectively as an individual and with others, are less likely to have considered leaving their university before finishing their degree.

The relationship between students' development of general learning outcomes and departure intentions are most marked for the extent to which students feel that their experience has helped them gain a broad general education and job-related or work-related knowledge and skills. This is displayed in Figure 19, which shows that nearly half of students who say that their experience at university has contributed only 'very little' to their development of work-related knowledge and skills and to them attaining a broad general education plan to leave their current institution or have seriously considered doing so. On the other hand, a much smaller proportion of students who feel that their experience at their institution has contributed 'very much' to their development in these areas have departure intentions.

The level of institutional support students feel they are receiving also appears to have some relationship with students' departure intentions. This is particularly marked for the level of support provided by an institution to help students succeed academically. Of those students who say that 'very much' support is provided by their university to succeed academically, only 23.4 per cent have seriously considered leaving. This rises to 51.3 per cent among students who say that 'very little' academic support is provided. The quality of students' relationships with other students, teaching and administrative staff also appears to have some bearing on student departure intentions. As shown in Figure 20, a very high proportion of students who rate their relationships with others poorly have seriously considered leaving, while far fewer students who rate their relationships with others positively have seriously considered leaving.

Discussion and conclusion

These findings point to a number of areas that could be further explored to increase the number of students continuing with their studies and to reduce attrition rates. One interesting finding from the AUSSE is that early departure is often due to personal and convenience reasons. This suggests that the provision of more flexible learning options (e.g. using mobile technologies and online learning or supported environments) may help mitigate some students' early departure intentions, by making study more convenient when trying to balance financial, family, work and study commitments. Especially among first-year students, there are a large number who plan to change their qualification and/or shift to a different university. This highlights a need for more quality academic advice in the early stages of the tertiary experience, to help students better understand the different study options available to them and for them to work out the best options available.

In terms of academic issues, it seems that increasing students' acquisition of broad general learning skills and work-related knowledge and skills may help mitigate students' departure intentions. Improving students' attainment of work-related knowledge and skills could be addressed by encouraging students to seek careers counselling or careers advice, and also incorporating more work-integrated forms of learning, such as participation in work experience or internships, into programme curricula. This is supported by the fact that students with strong engagement in work-integrated forms of learning displayed lower departure intentions.

Academic issues faced by students could be addressed by different emphasis within pedagogy, with students being given more group or project activities to enhance their relationships with other students and their ability to work effectively with others. This may further increase the level of support students feel from fellow students and their university. In terms of providing support to succeed academically, greater understanding is needed of what types of support students require, and at what level support should be provided, before considering what the most appropriate intervention would be.

Given the influence of students' grade on their departure intentions this points to the need for early intervention or monitoring of student performance as they go through their university degree, in order to target students for learning support – whether that be at the departmental level or university level.

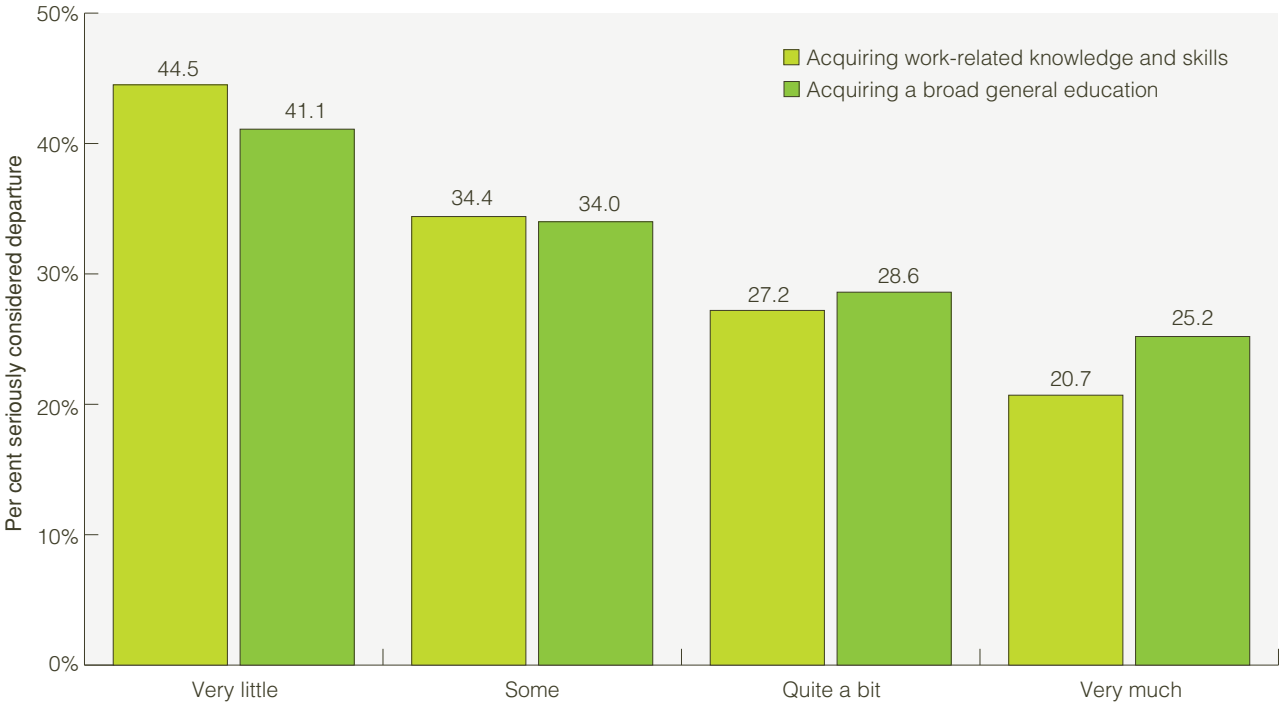

Figure 19 Students' early departure intentions by the extent university contributed to development

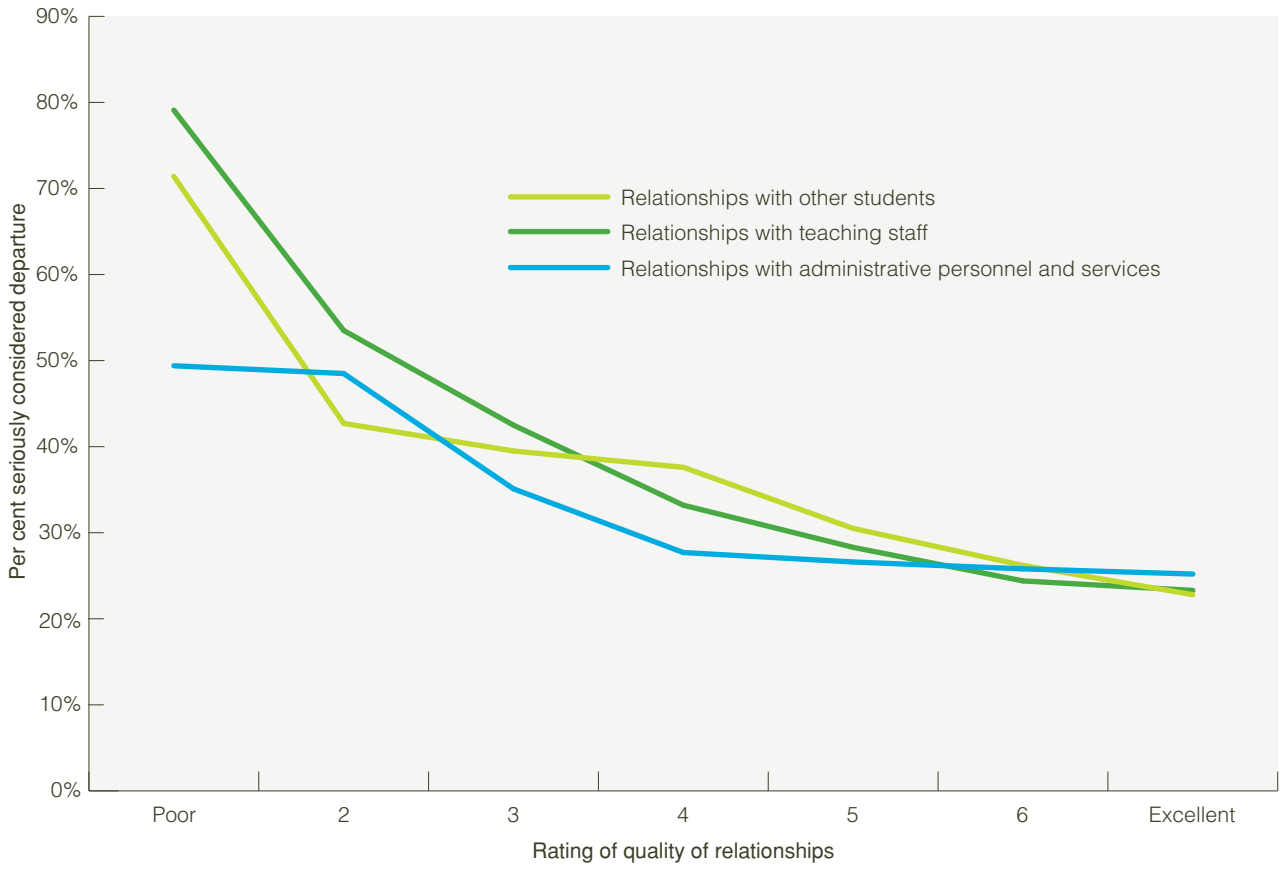

Figure 20 Students' rating of quality of relationships by departure intentions

The AUSSE findings point to some significant areas of the university experience that may cause some students to leave prematurely. Further research is needed, however, to better understand the myriad of reasons why students may consider leaving, and what universities can do to mitigate this. While the full story of early departure is not yet understood, the AUSSE findings suggest a relationship between students' departure intentions and their overall satisfaction with the university experience, their development of general learning skills, academic performance, and the level of support provided by other students and the university more broadly. The results further suggest that if more is done by universities to improve these aspects of the student experience, fewer students will drop out, and more will successfully complete their studies.

References

Ministry of Education (2010a). Domestic and international students enrolled by qualification level and sub-sector 2002–2009, ENR.10, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Ministry of Education (2010b). First-year attrition rates, LNR.5, Ministry of Education, Wellington, viewed 29 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010c). Qualification attrition rates for domestic students by qualification level, sub-sector, full- or part-time, and years after starting: 2000–2008, ARN.4, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010d). Eight-year qualification attrition rates for domestic and international students by subsector, full- or part-time, period of study and qualification level, ARN.7, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010e). Eight-year qualification attrition rates for domestic students by sub-sector, age group, full- or part-time, period of study and qualification level, ARN.8, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Relative engagement with learning for part-time and full-time students

Ineke Kranenburg
Auckland University of Technology

This chapter reports on the differences and similarities between full-time and part-time students in New Zealand universities using findings from the AUSSE. It begins by distinguishing the key demographic characteristics of these two groups of students and then explores full-time and part-time students' involvement in activities on and off campus, perceptions of their learning experiences, and overall capability development and general outcomes.

In the AUSSE sample of students studying at bachelor degree level in New Zealand universities, 93 per cent reported studying full-time and only seven per cent reported studying part-time. A slightly higher proportion of later-year students than first-year students were studying full-time. These proportions from the AUSSE sample are very similar to those reported by Engler (2010) for first-year bachelor students studying in New Zealand universities – finding 94 per cent studying full-time and six per cent part-time.

However, the AUSSE reports a lower proportion of part-time students compared to that found in government statistics. In 2009, the Ministry of Education (2010a) recorded that of all students enrolled in bachelor degrees in New Zealand universities, 74 per cent were studying full-time and 26 per cent part-time. In Australia, the proportion of students studying part-time is slightly higher than in New Zealand – in 2009, one third of all bachelor degree students in Australia were studying part-time (DEEWR, 2010). The proportion of part-time students also varies between universities. Within the AUSSE sample for New Zealand universities the proportion of part-time student numbers ranged from 5.0 per cent at one institution to 12.4 per cent at another.

A likely explanation for the discrepancy between the AUSSE and Ministry of Education data is that student self-reporting of their study status may not adhere closely to the official Ministry of Education definitions. Full-time or part-time, labelled as 'study type' in New Zealand, refers to the study load taken on by a student. This is based on their enrolment in courses and the credit or equivalent full-time student (EFTS) weighting of those courses. The Ministry of Education defines a student as part-time if they are less than 0.8 of an EFTS over one academic year, or the equivalent over one semester. Students in the AUSSE survey are asked to identify themselves as 'mostly part-time' or 'mostly full-time' over the period of their enrolment to date. Many students change their study load within a year or between years and Ministry of Education and AUSSE data do not capture those students that oscillate between full-time and part-time status.

Compared to many other countries, New Zealand has a relatively high proportion of part-time students enrolled in bachelor level study (OECD, 2010). Part-time students generally are less likely to be retained in study and are less likely to complete than students studying full-time (OECD, 2010). Part-time students studying in New Zealand appear to be particularly at risk of leaving their institution before completing (OECD, 2010). While first-year attrition rates for full-time students studying at bachelor level in university sit at only nine per cent, 26 per cent of part-time students drop out of study during their first year (Ministry of Education, 2010b). Comparing eight-year qualification completion rates for full-time and part-time students also shows that part-time students are lagging behind, with only 48 per cent of part-time students completing their degree within eight years, compared with 81 per cent of full-time students (Ministry of Education, 2010c). In addition to low retention and completion, part-time students also have lower course pass rates (70%) than full-time students (83%) (Ministry of Education, 2010d).

The more students participate in educationally purposeful activities the higher their level of engagement and overall development (Kuh, 2003). Since part-time students take fewer courses in a year and take longer than full-time students to complete a qualification, the question arises as to whether their study status affects their level of engagement or overall development as learners. Few studies have fully examined the differences between full-time and part-time students' engagement and their institutional experiences (see for example, Callender & Feldman, 2009; Laird & Cruce, 2009; Williams & Kane, 2010). AUSSE data enables analysis of the relationship between study status and several measures related to student learning experiences. More broadly, data from the AUSSE provide an evidence base for examining some key aspects of student engagement (Coates, 2009). The AUSSE data can be used to help investigate the possible links between the way in which part-time students are engaging in study and their low completion and retention rates. This information can help identify ways in which part-time learners could be better engaged in study, and help retain more part-time students in university.

Demographic characteristics of full-time and part-time students

A total of 529 students surveyed in the AUSSE identified themselves as studying mainly part-time. There were no major differences in the gender composition for full-time and part-time students, with females comprising 53.6 per cent of part-time students and 55.7 per cent of full-time students. There was a slight variation between first- and later-year students as the proportion of male part-time students was slightly lower in the later years. The circumstances of students who are studying part-time may explain some of these differences. For example, female part-time students were almost twice as likely as male students to be caring for dependents, suggesting that more female students are balancing study with family responsibilities and parenting.

Figure 21 shows the variation in full-time and part-time students by age for both first-year and later-year groups. The bulk of the first-year student population is made up of 18–19 year olds. Almost 80 per cent of the first-year, full-time cohort and just over 50 per cent of the first-year, part-time cohort are in this age group. As expected there are a higher proportion of part-time students in the 26 years and older age group.

Māori and Pasifika students' study status patterns do not vary significantly from that of all students. Of Māori students, 8.5 per cent reported studying part-time, and similarly for Pasifika students, 8.6 per cent reported studying mostly part-time.

Similar proportions of international students (7.4%) reported that they were studying part-time when compared to 7.8 per cent of domestic students. This is a surprising result given that under New Zealand student visa conditions an international student is normally required to be studying full-time.

There is no significant variation in the proportions of students who speak English as their main language and those who didn't between the full-time and part-time student groups. Although small in numbers, students with a self-reported disability were more likely to participate in studies in a part-time capacity. This was more evident in the first year of study where students with disabilities were twice as likely to be studying part-time as studying full-time.

Educational contexts for part-time and full-time students

The significant advances in online learning and flexible delivery modes have led to more forms of blended learning in programmes, but have not significantly replaced the dominance of campus-based provision. Full-time students are predominantly campus-based with 94.5 per cent identifying themselves as studying on campus. Of the part-time students, 16.2 per cent were extramural or distance students.

As Figure 22 illustrates, the patterns between full-time and part-time students for study completed online are not dissimilar. Of the full-time students, just over half reported doing about a quarter of their study online. Interestingly, slightly higher proportions of part-time

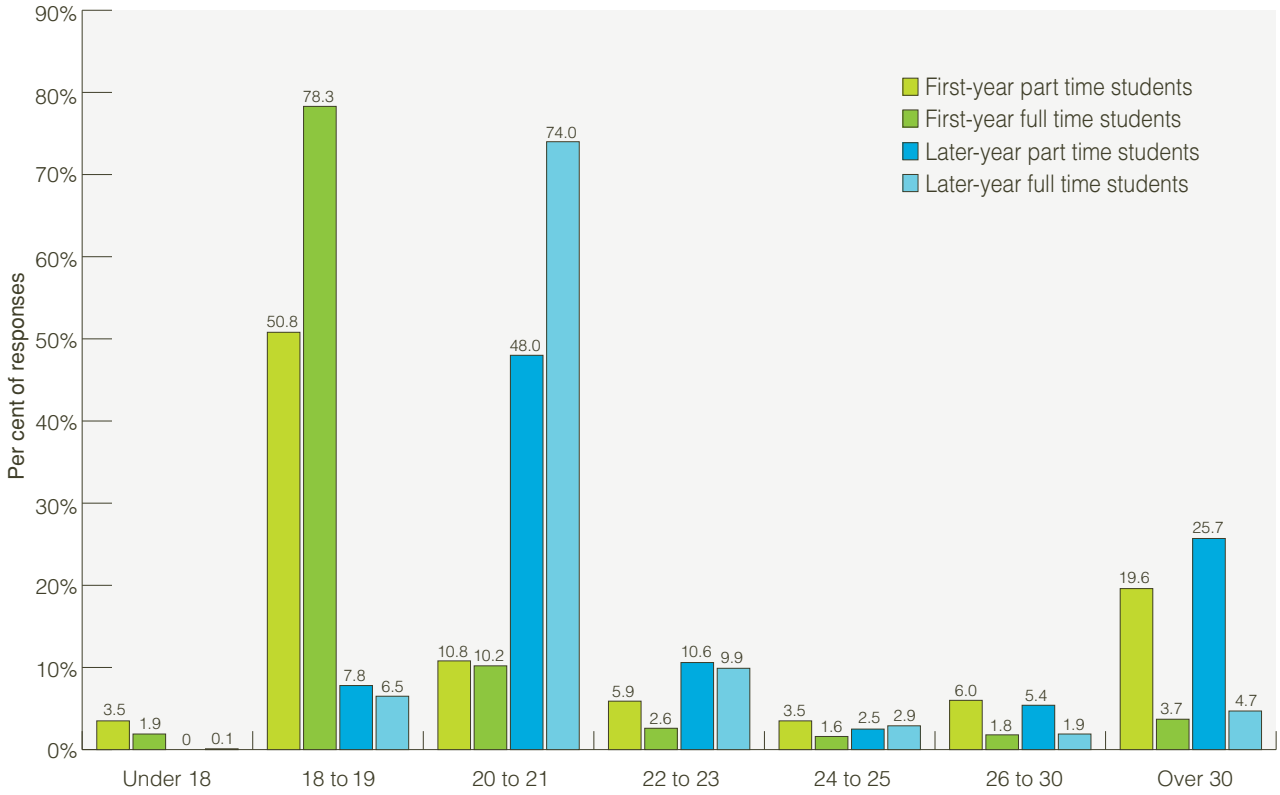

Figure 21 Age distribution of full-time and part-time students

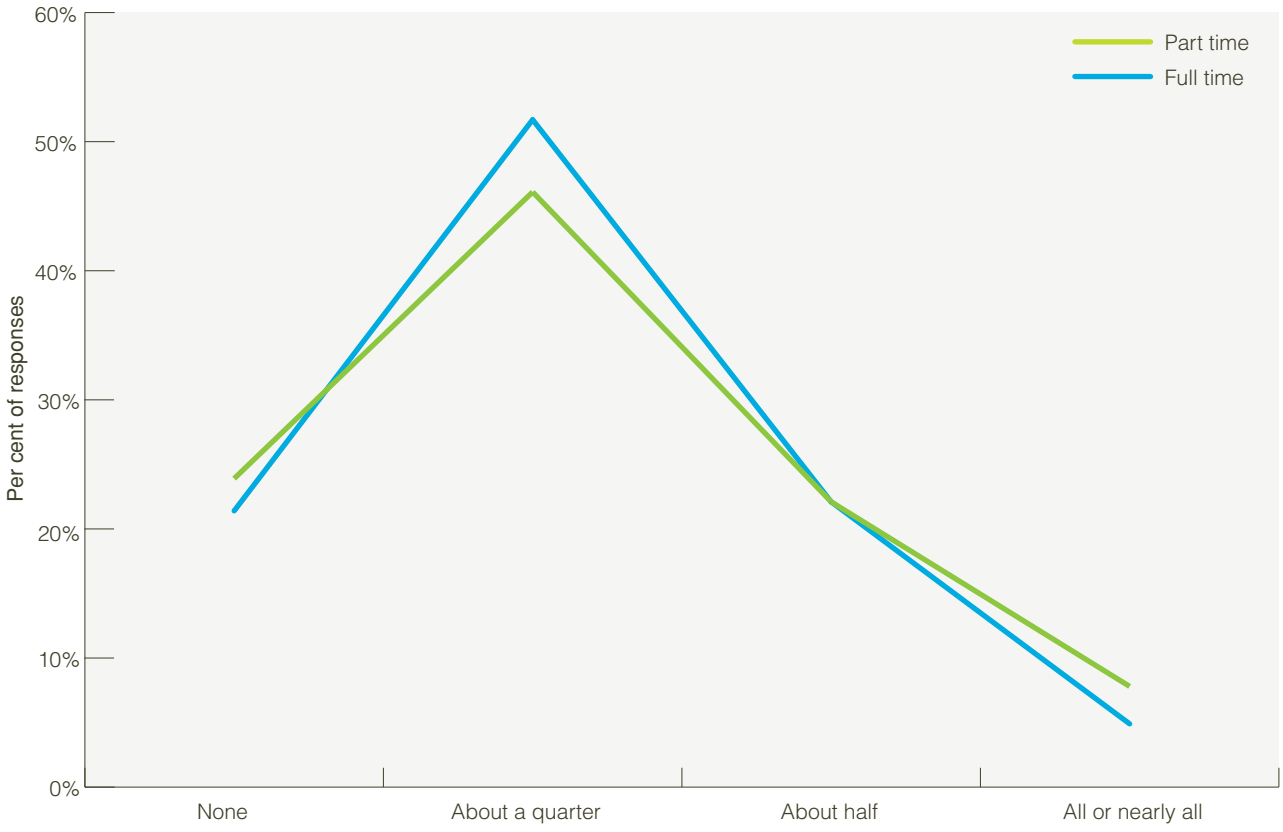

Figure 22 Proportion of study completed online by part-time and full-time students

students reported doing either no online study or less than a quarter of their study online. Although there are few differences between part-time and full-time students' online study, a slightly higher proportion of part-time students (7.8% compared with 4.9% of full-time students) report studying almost fully online. Taken with the finding that a small but significant minority of students are studying extramurally, and that part-time and full-time students spend very similar amounts of time travelling to and from campus, this suggests that most students, irrespective of their study status, live relatively close to their university and enrol in campus-based courses.

It is likely that the more papers a student enrols in, the more time they spend on campus, and as a result it is not surprising that the AUSSE data show full-time students spend more time on campus than part-time students (see Figure 23). Overall most students spend little time on campus, with 45.7 per cent of full-time students spending 21 hours or longer per week on campus, compared to 27.0 per cent of part-time students. However, when students were asked to report their average time spent on campus, excluding classes, the differences narrowed significantly between full-time and part-time students.

Full-time students spend an average of 20.1 hours on campus, including classes, and 9.8 hours on campus outside of class time, while part-time students spend on average 15.0 hours on campus in total, of which 8.4 hours are spent outside of class. This suggests that overall, regardless of whether they are studying part-time or full-time, students do not spend significant amounts of time on campus involved in other activities outside of their classes.

The following analyses are divided into four sections in order to explore the similarities and differences between part-time and full-time students. The sections focus on work and study, which includes findings around the Work Integrated Learning scale; interactions with students and teachers; study preparation and academic performance; and capability development and general outcomes. Mean scale and item scores have generally been used as a point of reference for comparison between the full-time and part-time groups.

Work and study

Increasingly more students are combining study and paid work, and this has become the norm for most students in New Zealand and overseas (James et al., 2009; King, 2008; Wimshurst & Wortley, 2004), thus further blurring traditional distinctions between full-time and part-time students. More than half of full-time students were engaged in paid work off-campus; however, part-time students were twice as likely as full-time students to work for pay off-campus. This difference was most pronounced between the part-time and full-time first-year students and decreased somewhat among later-year students, which suggests that more full-time students pick up work towards the end of their study.

As seen in Figure 24 there are similar proportions of full-time and part-time students who work from 6 to 15 hours per week. Across the whole sample, it is most common for students to be working off-campus between 6 to 15 hours per week. Not surprisingly, significantly more part-time students (31.7%) work 16 hours or more a week compared to full-time students (13.3%) and the number of hours worked on average by part-time students is also higher. Part-time students who work for pay either on or off campus report working an average of 18.5 hours compared with 12.6 hours on average for full-time students.

Many full-time students work during the weekends or evenings to support themselves or to reduce their reliance on student loans or other forms of financial assistance. More full-time students reported receiving a student loan and/or other government grants. Generally, part-time students in New Zealand and elsewhere are not eligible for the same financial support through government-funded student loans or allowances as full-time students (Tertiary Education Commission, 2010).

Overall most students are in some form of employment quite unrelated to their area of study and this was especially the case for first-year students. However, almost one-third of part-time students indicated that their paid work was related to their study compared to less than one-fifth of full-time students.

Although part-time students are more likely to be engaged in paid work, this does not seem to translate to substantially higher engagement with work integrated learning, nor with part-time students' career readiness. The average Work Integrated Learning scale score for part-time students (42.9) is slightly higher than for full-time students (39.3); however, this difference does not reveal even a small effect size, suggesting that there is no meaningful difference between these students' engagement with work integrated learning. A similar finding is revealed for students' Career Readiness. Although there are no meaningful differences between part-time and full-time students for the overall Work Integrated Learning scale, looking at each of these items separately reveals some differences between full-time and part-time students (see Figure 25).

Part-time students consistently reported that they blend academic learning with workplace experience more frequently than full-time students (d=0.32). Over a third more students studying part-time blended their

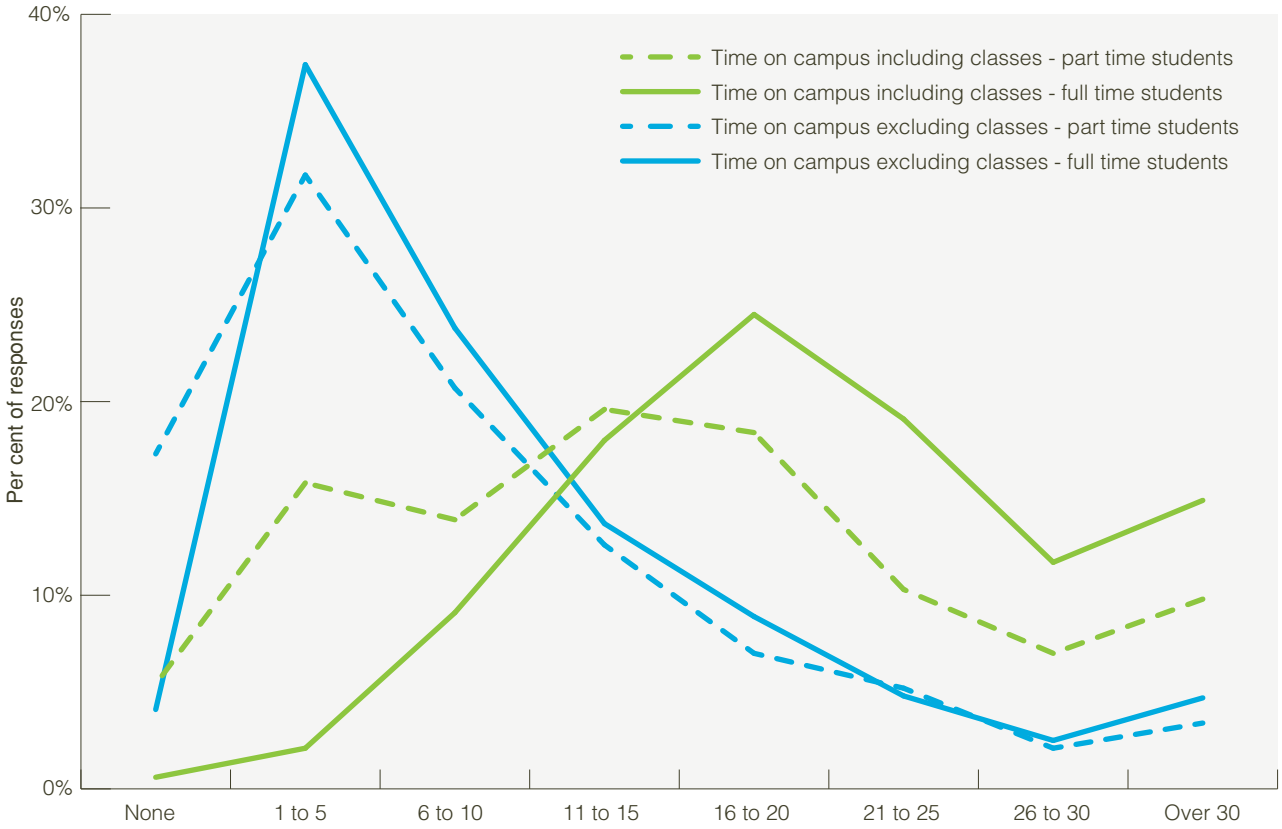

Figure 23 Time on campus including and excluding classes for part-time and full-time students

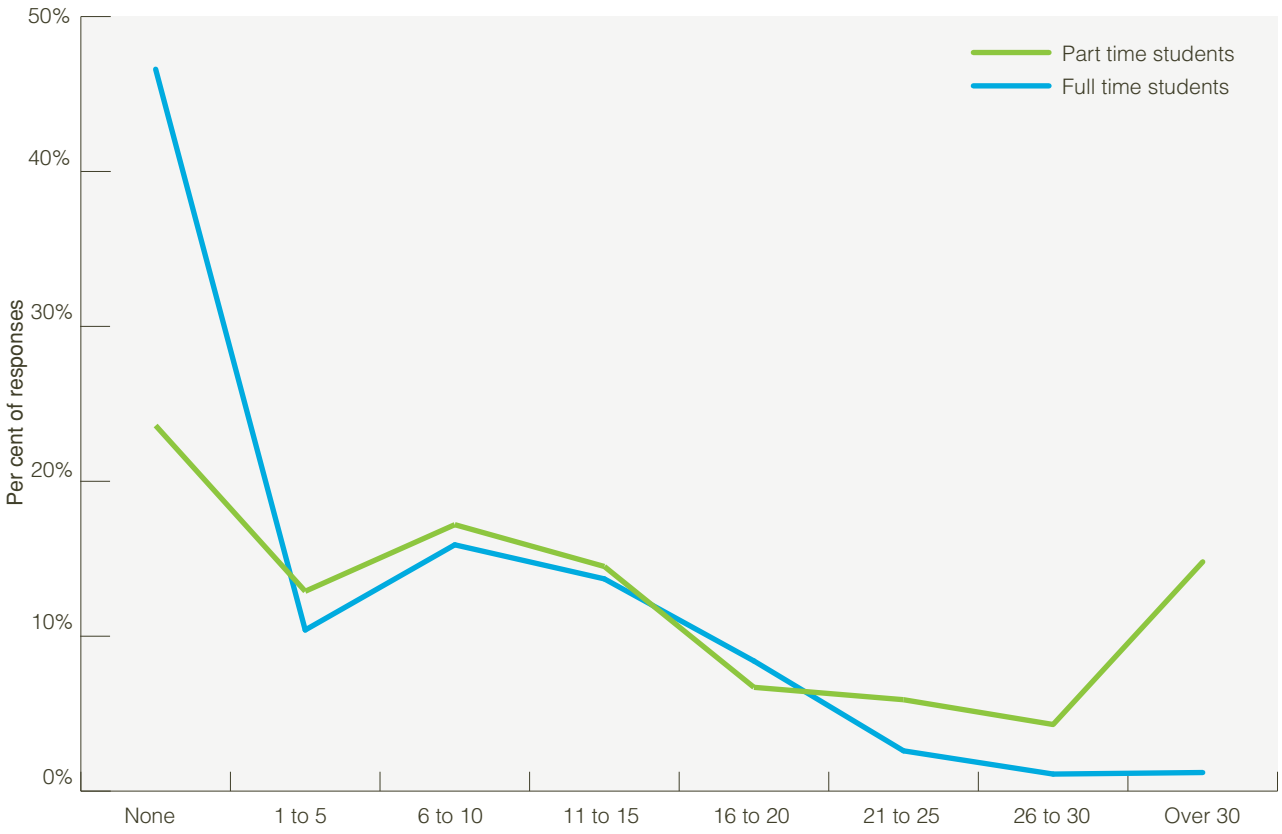

Figure 24 Paid work off campus

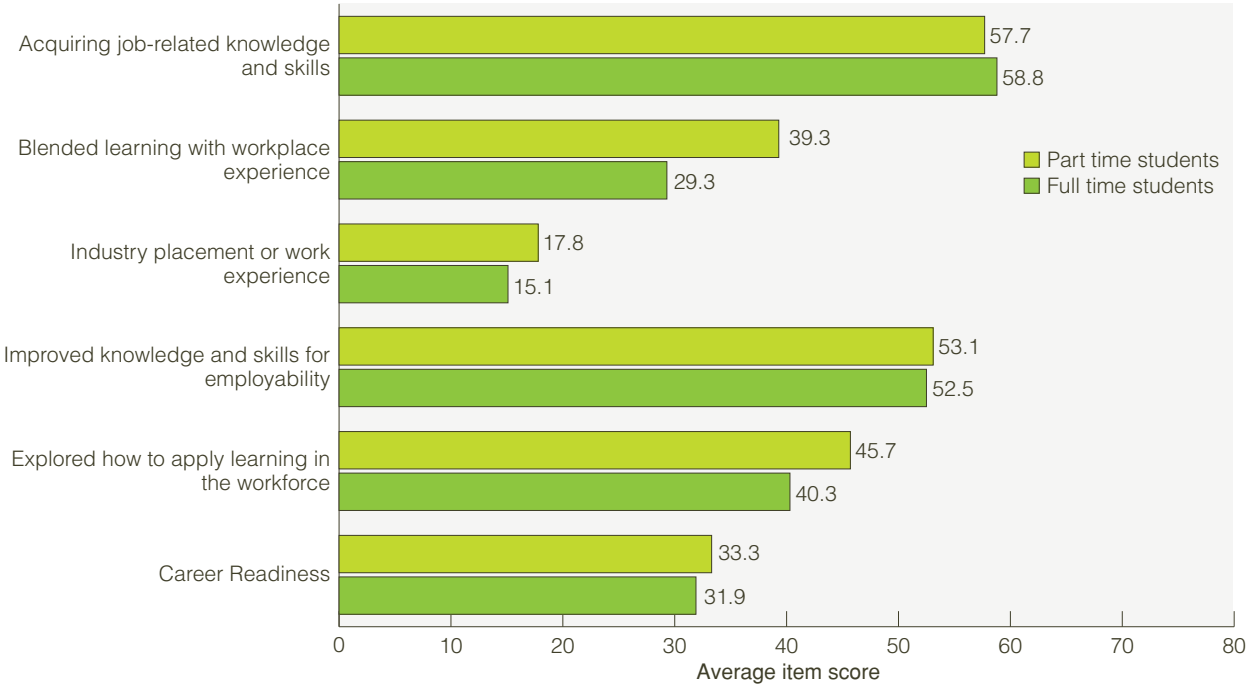

Figure 25 Average Work Integrated Learning and Career Readiness scale scores

academic learning with paid work 'quite a bit' or 'very much' compared to one-fifth of full-time students. By later years the difference increased further with over 40 per cent of part-time students reporting frequently blending academic learning with workplace experience compared to just over 27 per cent of full-time students.

Similarly, part-time students were also more likely in their later years to explore how to apply in the workforce what they have learned. There was little difference between full-time and part-time students with respect to the extent to which they felt their experience at university contributed to their development of work-related and job-related knowledge and skills. The programme of study students enrol in determines whether or not industry placements or work experience are incorporated as part of the curriculum. Consequently there was only a marginal difference between full-time and part-time students in this aspect.

Interactions with students and staff

The importance of students interacting with staff and other students has been highlighted as important to broader student academic and social development, and is an essential aspect of most forms of active learning. Several studies agree that interaction is important for student adjustment and learning, and that interactive learning environments and high levels of personal contact lead to higher rates of retention and student achievement (Cuseo, 2007; Pascarella & Terenzini, 1980, 1991; Tinto, 1997).

Interactions with students

Students' interaction with other students takes many forms and provides an overview of the types of interactive experiences that are measured in the AUSSE. Full-time students perceived the quality of relationships with other students to be higher than for part-time students (Figure 26). They also spent more time talking to students from other ethnic backgrounds and to students who are very different from them in terms of their religious beliefs, political opinions or personal values, though these differences narrowed by later years. Furthermore, full-time students spent more time working with students in and outside class time and believed to a higher degree that the university has contributed to them working effectively with others. Because part-time students spend fewer hours per week in class and on campus than full-time students this might explain why these students are reporting less frequent interactions with other students and rate their relationships with other students lower.

It is also likely that the living circumstances of students have a positive influence on enabling students to work together with fellow students. Full-time students were twice as likely in their first year to live in specialised

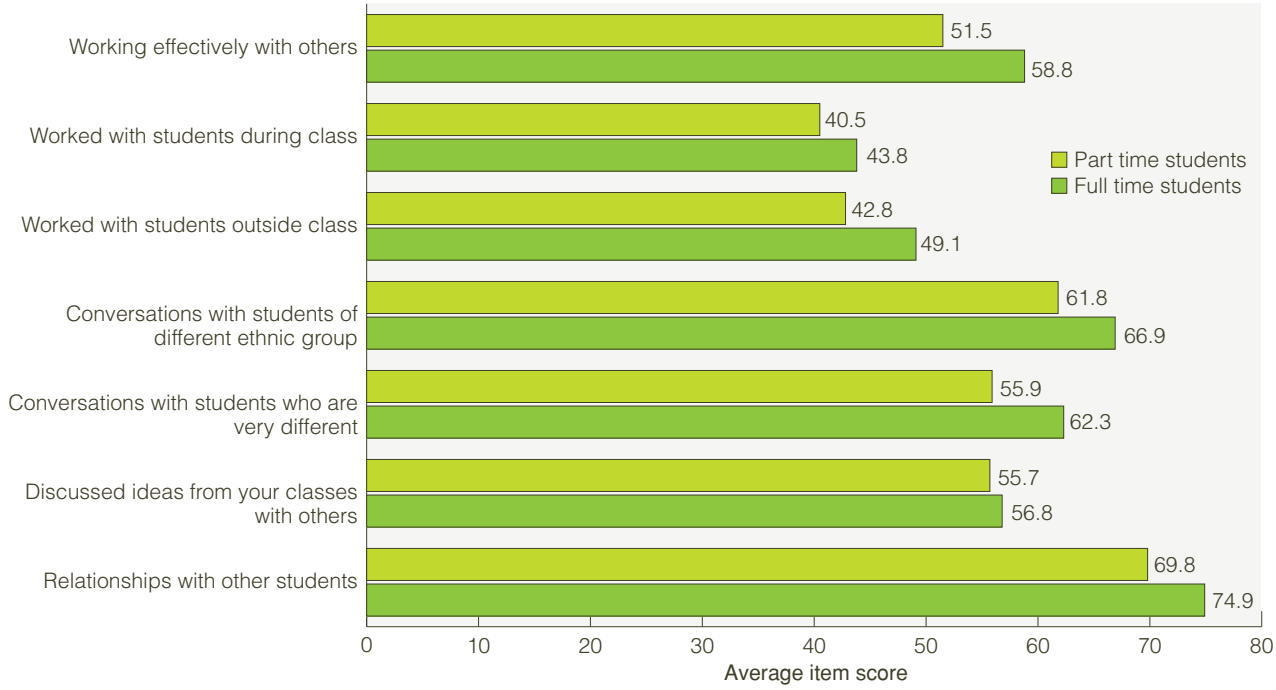

Figure 26 Level of interactions with other students for part-time and full-time students

student accommodation (59%) than part-time students (23%). Also, almost two-thirds of full-time, later-year students were flatting with friends compared to slightly under half of part-time students. Although overall numbers are relatively small, part-time students were more than three times more likely to live by themselves and were four times more likely to be living with a partner or children.

When considering the later-year group, most of the differences between full-time and part-time students in relation to interacting with other students out of class decreased, except for 'having conversations with students from different ethnic groups' where part-time students still reported doing this less often than the full-time student group. More than half of all students reported they discussed their ideas from readings or classes with others outside class, such as students, family members and co-workers, at least sometimes, with little difference between full-time and part-time students. There may have been greater variation amongst part-time and full-time students' responses if this question had been restricted to other students only.

Didactic teaching is still the most prevalent form of teaching in New Zealand universities relative to active learning methods that involve interaction, such as making presentations and working with other students. Large class sizes and low contact hours have been found to be major factors that can reduce effective opportunities for group work and presentations (Cuseo, 2007). This may explain why less than one-third of full-time students and one-quarter of part-time students report that they had made a class or online presentation. Similar proportions of full-time (40%) and part-time students (38%) reported working with other students on projects in class 'often' or 'very often'.

Teacher–student interaction

Several items related to teacher–student interaction in class or outside class are included in the AUSSE. These items gauge the frequency with which students ask questions or contribute to discussion in class or online, use email or a forum to communicate with teaching staff, discuss ideas with teachers outside of class, receive prompt feedback from teachers on academic performance, discuss grades or assignments with teaching staff, work with teachers on activities or a research project outside of course work, talk about career plans with teaching staff or advisors, and student perceptions of their relationship with teaching staff. As shown in Figure 27, there are only very small differences between the scores of full-time and part-time students with respect to their levels of interaction with teaching staff. This suggests that although part-time students are not studying as many papers as full-time students, they report similar levels of interaction with staff.

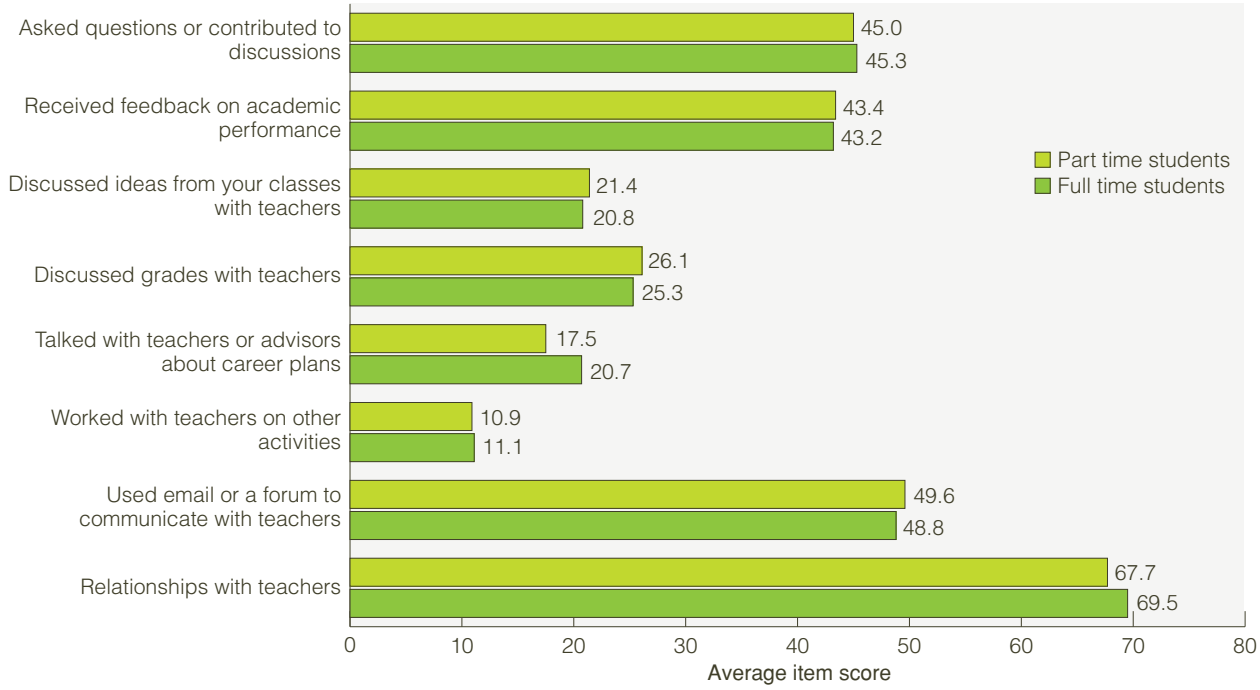

Figure 27 Part-time and full-time students' interactions with staff

Study preparation and student performance

Overall, full-time students reported using library resources on campus or online significantly more frequently than part-time students. As would be expected, due to the reduced study load of part-time students compared with full-time students, full-time students reported completing more pieces of work that took more than one hour to complete in a week, completing more assignments of between 1000 to 5000 words, and reading more subject related texts than part-time students. These differences were greatest among first-year students and mean scores narrowed for most of these items, other than library use, in the later-year groups. The first-year differences between full-time and part-time students are likely to be due to first-year, full-time students being enrolled in more courses and are therefore exposed at an earlier stage to the demands of a variety of assignment activities. The difference in use of library resources is surprising given that most university libraries provide reading material online, which makes them easily accessible at any place or time of the day, but again may be explained by part-time students' smaller study load.

Investigation into how students prepare for class and assignments gives some indication of students' commitment to their course and how engaged they are with their study. Items that tap into students' study habits and how challenging their work is addressed the frequency with which students keep up-to-date with their study, come prepared to class, work hard to master difficult content, prepare more than one draft before handing in an assignment, work hard to meet teacher expectations, and include diverse perspectives in class discussions or written assignments. Exploring these items along with the amount of time both part-time and full-time students spend preparing for class and studying can provide insights into the differences in their level of preparedness and commitment to their course.

As represented in Figure 28, the differences between these groups are only very slight for most of the measures relating to study preparation. As mentioned earlier, full-time st°udents reported using library resources significantly more frequently than part-time students; however, part-time students were more likely to have prepared two or more drafts of an assignment and, especially among later-year students, were more likely to include diverse perspectives in learning activities.

Interestingly, part-time and full-time students report spending very similar numbers of hours on average preparing for class and studying. Although part-time students have a smaller course load than full-time students, they are spending an average of only one hour less each week on homework, study and preparing for classes. Part-time students spend an average of 9.7 hours each week preparing for class, with full-time students spending 10.8 hours on average.

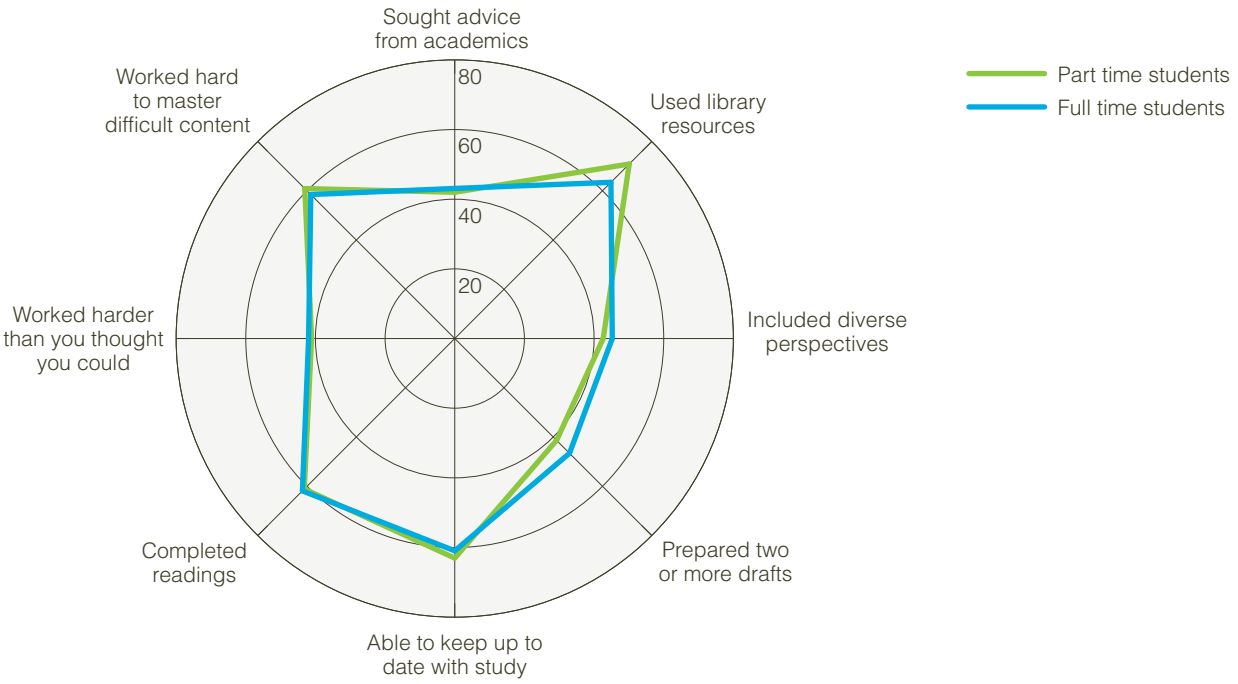

Figure 28 Part-time and full-time students' study habits (average item scores)

The existing evidence suggests that part-time status is generally negatively associated with student course completion (Laird & Cruce, 2009; Moore, 2002; Wimshurst & Wortley, 2004). Part-time students naturally take longer to complete their qualifications and their enrolment in study may take second place to other commitments. Studies that examine the effect of study type on academic performance show mixed results. Some studies found that part-time mature students fared better academically as they were more motivated (Moore, 2002) or because they were better able to link learning material to their experience in the workplace (Davies, 2008). Whereas other studies (Engler, 2010; Ishitani & McKitrick, 2010) have found that full-time students out-perform part-time students. Part-time students are not a homogenous group and it is more likely that the addition of work or family commitments can either make study an enriching experience or add further stress depending on the circumstances of individual students (Lenaghan & Sengupta, 2007).

In the AUSSE sample a greater proportion of full-time students reported receiving higher average grade scores (see Figure 29) compared to the part-time student group. This difference was most marked between the later-year students, where almost one-third of full-time students perceive their average grade to be in the highest grade bracket, compared to less than one-quarter of part-time students. Although the numbers were small, part-time students were almost twice as likely to report their average grade mark as a fail grade. However, there was less of a difference in the middle range pass grades, as indicated in Figure 29, which encompass the majority of both part-time and full-time students. These average scores are only measured by students estimating their average grade and these findings have not been matched with students' actual grades or grade scores provided by the universities. Overall, the share of students in both study types reporting an average overall grade of between 80 and 100 per cent was rather high, which suggests that the sample group may be biased towards high achieving students or alternatively students are not accurately reporting their average overall grade.

Capability development and general outcomes

The development of broad skills and capabilities are core goals of any educational programme. Many of these broad skills are developed over the course of a student's programme of study, so not surprisingly, both full-time and part-time later-year students reported higher levels of general development.

As represented in Figure 30, full-time students reported slightly greater development in most capabilities and general outcomes measured, but overall there was little difference when looking at first-year and

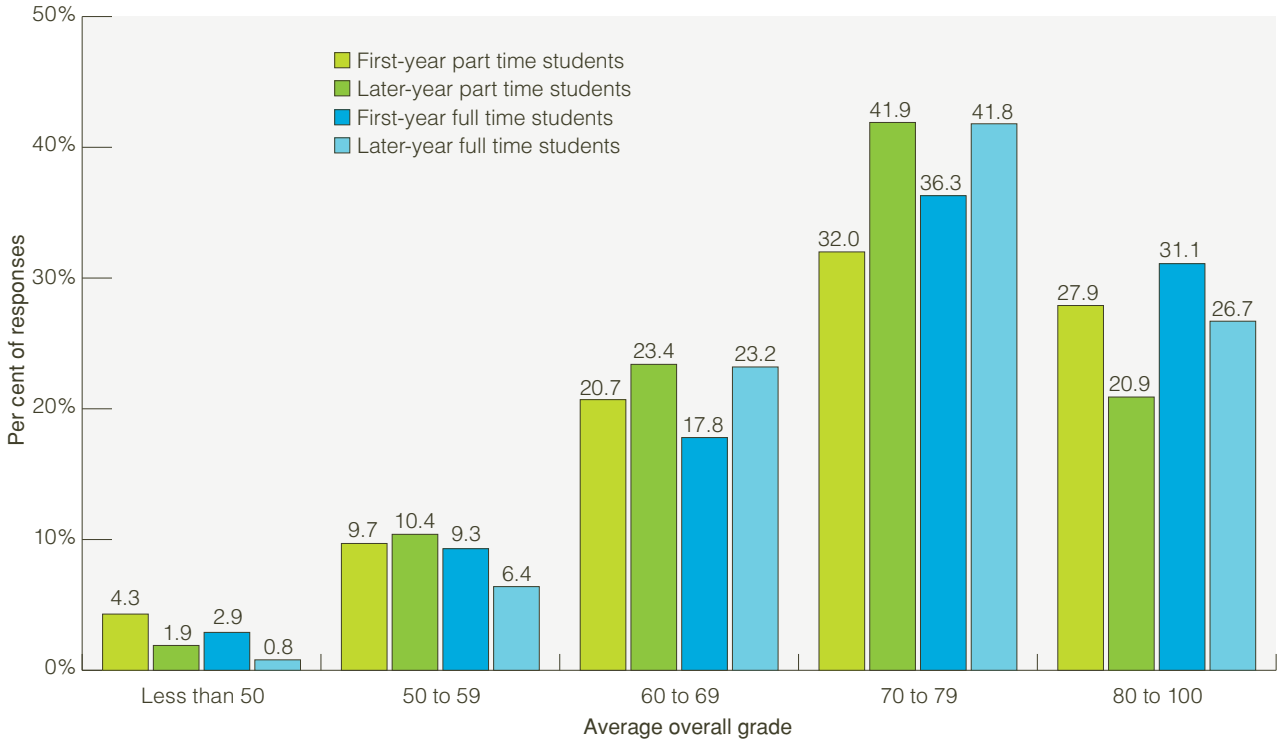

Figure 29 Average overall grades of part-time and full-time students

later-year groups for each study type. There were fewer differences in the average ratings of part-time and full-time students for capabilities such as the development of written communication and critical thinking skills. Interestingly, the differences in average ratings are greater between the first-year and later-year part-time students in their perceived development of general outcomes than between the first-year and later-year full-time students. A slightly higher proportion of full-time students felt that their teamwork skills had been developed compared to part-time students. For skills like quantitative analysis, computing, problem solving and developing an awareness of ethics, full-time first-year students scored their development significantly higher than their part-time counterparts. However, in all these cases the differences were smaller between the full-time and part-time later-years students. More full-time first-year students than part-time first-year students believed that the institution had helped them to have a better understanding of themselves and other people than part-time first-year students. However, interestingly, more later-year part-time students than later-year full-time students believed their institutional experience contributed to their development of these same skills. Overall this suggests that part-time students could gain some benefit from completing their study over a longer timeframe as many of these capabilities may be best developed incrementally.

Departure intentions

Although a much higher proportion of part-time students drop out of university study, and part-time students report slightly higher departure intentions in the AUSSE than full-time students, there is no meaningful difference between part-time and full-time students' departure intentions (d=0.10). There do appear to be differences between part-time and full-time students' reasons for considering departure. The top reason given by part-time students who had seriously considered leaving was for financial reasons (30.5%), followed very closely by convenience or practical reasons (30.2%). Among full-time students who had considered leaving, academic reasons were the most selected reason for considering leaving (27.0%), followed closely by convenience and practical reasons (26.6%). Slightly fewer full-time students cited financial reasons (23.4%). This suggests that external pressures relating to work, family commitments or other non-study factors play more of a role in influencing part-time students to leave study before completing a qualification.

Part-time students' departure intentions show a significant but small correlation with supportive learning environment (–0.11, $p<0.01$), work integrated learning (–0.15, $p<0.01$), general learning outcomes (–0.14, $p<0.01$), average grade (–0.21, $p<0.01$)

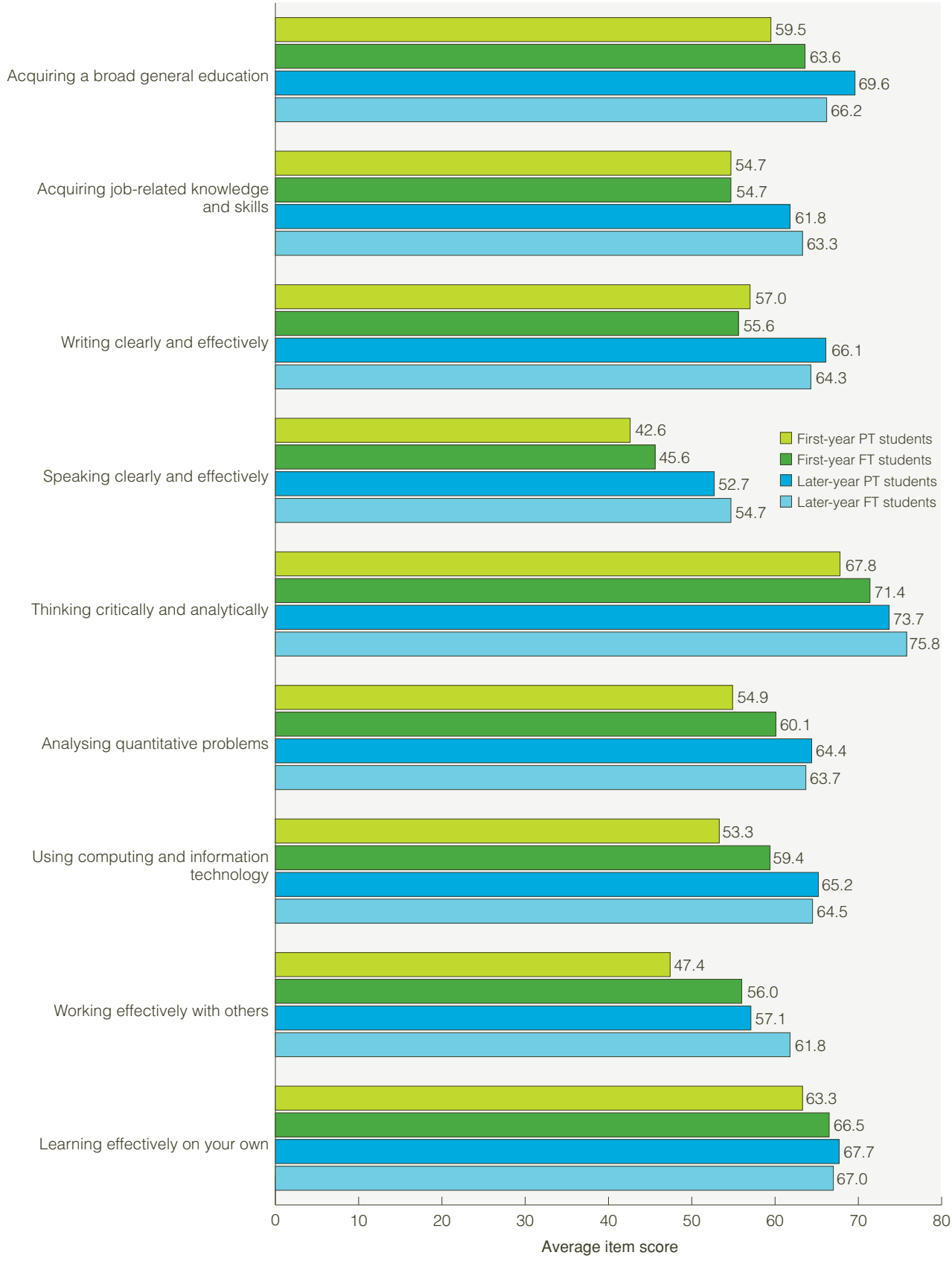

Figure 30 Extent to which experience at university has contributed to students' general development

and, unsurprisingly, with overall satisfaction (–0.25, $p<0.01$). While only small correlations were found between part-time students' departure intentions and their engagement and outcomes, these suggest that universities can intervene to reduce part-time students' high attrition rates by providing more support, increasing levels of work integrated learning, ensuring students are developing their general learning skills by having opportunities to practice their writing, speaking and communication skills, and targeting students with lower grades who may be at greater risk of dropping out.

While there only appears to be a small link between students' departure intentions and supportive learning environment, it is clear that students who feel supported by their institution are less likely to have seriously considered or planned to leave. A total of 41.2 per cent of part-time students who felt that their university provided them with little support to help them succeed academically reported departure intentions, compared to only 30.5 per cent who felt there was 'very much' academic support. Interestingly, given part-time students' higher involvement in outside commitments (including paid work), there was not as clear a relationship between the amount of support institutions provide for non-academic responsibilities and part-time students' departure intentions. There does appear to be a slightly stronger link between support given to part-time students to socialise and their intentions to leave, with only 20.5 per cent of part-time students who feel that they receive 'very much' support in this area having departure intentions.

Discussion and conclusion

Results suggest few differences exist in the way in which part- and full-time students engage in learning. Though part-time students are taking fewer papers than full-time students, they spend similar numbers of hours on campus outside of class, and similar hours on study and preparing for class each week, which suggests that they are spending more time on study for each paper, but not achieving the same grades as full-time students, as shown in the AUSSE data and in data from the Ministry of Education (2010d).

Part-time students report similar levels of interaction with their teachers to full-time students; however, they report lower quality relationships with other students and less frequent interaction with other students. This isolation from other students and lower levels of support may be one part of the puzzle as to why so many part-time students are dropping out of their studies. Providing part-time students with more academic and social support may help increase student retention and completions.

References

Callender, C., & Feldman, R. (2009). Part-time undergraduates in higher education: A literature review. Manchester: Higher Education Careers Services Unit.

Coates, H. (2009). Development of the Australasian Survey of Student Engagement (AUSSE). *Higher Education*, *60(1)*, 1–17.

Cuseo, J. (2007).The empirical case against large class size: adverse effects on the teaching, learning and retention of first-year students. *Journal of Faculty Development*, *21(1)*, 5–21.

Davies J. (2008). Part-time undergraduate study in civil engineering – students from the workplace. Engineering Education: *Journal of the Higher Education Academy Engineering Subject Centre*. *3(1)*, 21–29.

Engler, R. (2010). Academic performance of first-year bachelors students at university. Wellington, Ministry of Education.

James, R., Krause, K. & Jennings, C. (2009). The first year experience in Australian Universities: Findings from 1994 to 2009. Centre for the Study of Higher Education, the University of Melbourne.

Ishitani, T. & McKitrick, S. (2010). After transfer: The engagement of community college students at a four-year collegiate institution. *Community College Journal of Research and Practice*, *34(7)*, 576–594.

King, C. (2008). Part-time study in higher education. A report commissioned by John Denham, Secretary of State for Innovation, Universities and Skills, UK.

Kuh, G. (2003) What we're learning about student engagement from NSSE. Change, 35(2), 24–32.

Lenaghan, J. & Sengupta, K. (2007). Role conflict, role balance and affect: A model of well-being of the working student, Journal of Behavioral and Applied Management, 9(1), 88–109.

Laird, T. & Cruce, T (2009). Individual and environmental effects of part-time enrollment status on student-faculty interaction and self-reported gains. *Journal of Higher Education*, *80(3)*, 290–314.

Ministry of Education (2010a). Number of students enrolled 2009, *LNR.1*, Tertiary Education Commission, Wellington, viewed 29 March 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010b). First-year attrition rates, LNR.5, Ministry of Education, Wellington, viewed 29 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Ministry of Education (2010c). Eight-year qualification completion rates for domestic students by sub-sector, ethnic group, full- or part-time, period of study, and qualification level, COM.35, Ministry of Education, Wellington, viewed 10 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/retention_and_achievement>.

Ministry of Education (2010d). Course pass rates, LNR.4, Ministry of Education, Wellington, viewed 29 March 2011, Education Counts, <http://www.educationcounts.govt.nz/statistics/tertiary_education/provider_summary>.

Moore, D. (2002). Full-time or part-time status? Which leads to success. Report for the Canadian Association for University Continuing Education.

Pascarella, E. & Terenzini, P. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *The Journal of Higher Education*, *51(1)*, 60–75.

Pascarella, E. & Terenzini, P. (1991). *How college affects students*, Jossey-Bass, San Francisco.

Tertiary Education Commission (2010), Approving qualifications for learner access to learner support, Tertiary Education Commission, Wellington, viewed 23 February 2010, <http://www.tec.govt.nz/Funding/Student-funding-/Approving-qualifications-for-learner-access-to-learner-support/>.

Tinto, V. (1997) Classrooms as communities: exploring the educational character of student persistence. *The Journal of Higher Education*, *68(6)*, 599–623.

Williams, J. & Kane, D. (2010). The part-time student's experience 1996–2007: An issue of identity and marginalisation?, *Tertiary Education and Management*, *16(3)*, 183–209.

Wimshurst, K. & Wortley, R (2004). Academic success and failure: Student characteristics and broader implications for research in higher education. ETL Conference 2004, Griffith University.

Engaging with university at a distance: the differences in levels of student engagement among extramural and campus-based students

Jenny Poskitt, Malcolm Rees & Gordon Suddaby
Massey University

Traditionally, university students have studied on campus, but increasingly over the last 50 years New Zealand students have been choosing to study by distance or a mixed mode of attendance. Currently around 17 per cent of students studying at New Zealand's universities are extramural (Ministry of Education, 2010). Because of the very different learning environment extramural students are exposed to, and the differences in extramural students' demographics, backgrounds and commitments to work and family, it could be argued that external students have a very different student experience, and engage with their study differently.

Results from the AUSSE enable us to explore in further detail the differences between students who study extramurally and more traditional campus-based students, and also allows us to further understand the impact of students' mode of study on their engagement with learning and their outcomes. This chapter will focus on areas where there appear to be meaningful differences between extramural and campus-based students. The chapter specifically examines work-integrated forms of learning, students' career readiness and overall satisfaction, but also touches on other aspects of these students' engagement with learning.

Before exploring the differences between the levels of engagement of these two groups of students, it is important to first understand the nature of the sample in relation to campus and extramural or distance students.

Demographic information

A total of 273 students (7.4%) reported studying via distance, extramurally, or a mixed mode of study. As shown in Figure 31, campus-based students tend to be younger than distance students, with a higher proportion of campus-based students aged less than 20 years (45.2%) compared to students studying by distance (29.3%). There are similar proportions of students between the ages of 20 and 25 years in both the populations of students studying on campus and by distance. As student age increases, however, so does the likelihood that students will study from a distance. While only 4.2 per cent of students aged less than 20 years are studying extramurally, this increases to 16.8 per cent of students between 26 and 30 years and 19.4 per cent of students over 30 years.

Among both campus-based and distance students, the vast majority of students who are aged below 20

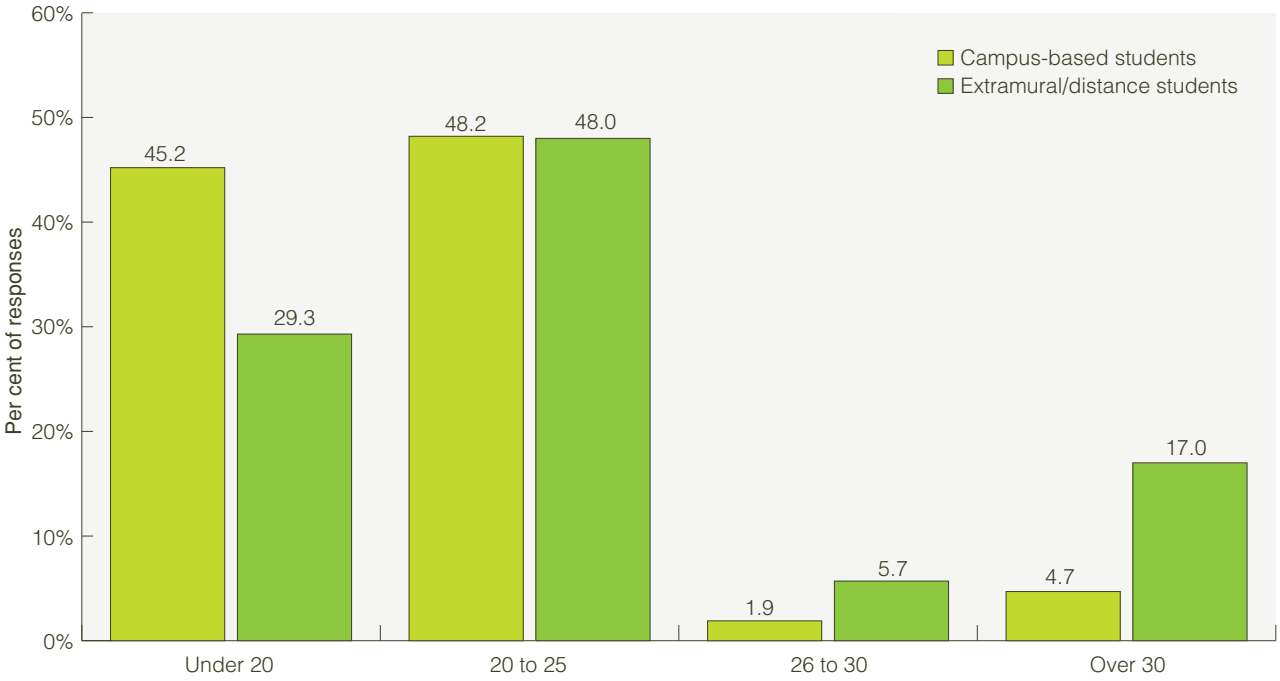

Figure 31 Age distribution by mode of study

study full-time, as do the great majority of students over 30. However, older students are more likely to be studying part-time than younger students, regardless of whether they are studying on campus or by distance. A total of 8.6 per cent of students under 20 are studying part-time, rising to 34.3 per cent of students 26 years or older.

There are some interesting differences between campus-based and distance students studying full and part-time over the various age groups. Among students studying full-time, only 3.9 per cent of students under 20 years are studying extramurally, rising to 15.1 per cent of full-time students who are 30 years or older. Among students studying part-time there are somewhat higher proportions of extramural students – 6.8 per cent of part-time students under 20 years of age are studying extramurally, and 29.9 per cent of part-time students over 30 are extramural.

Females make up the slight majority of enrolments in tertiary institutions, and this is reflected in the AUSSE data. Female students make up 55.2 per cent of campus-based students and 58.8 per cent of distance students. Supplementary to this, 5.9 per cent of male students study by distance, which is slightly less than the 6.7 per cent of female extramural students.

Work Integrated Learning

Relevance of learning to current or future employment is an important element of university learning and may be of particular value for students studying by distance, who are often assumed to be combining study with work and family commitments. This assumption is supported by the AUSSE data, which show that students studying by distance are more likely to be working for pay and work longer hours than campus-based students, and that a large proportion of extramural students at 60.6 per cent spend at least an hour per week caring for dependents while only 36.8 per cent of campus-based students do so.

Closely related to students' engagement with work-integrated forms of learning is students' involvement in paid work. Students who work for pay also tend to report higher levels of engagement with work integrated learning. Although relatively similar percentages of distance and campus-based students report being in paid employment (63.3% of distance students and 57.0% of campus-based students), students who are studying extramurally and report working for pay work longer hours on average (17.6 hours per week) than campus-based students (12.9 hours per week). In addition to this, 17.1 per cent of extramural students work for an average of more than 30 hours per week compared with only 2.7 per cent of campus-based

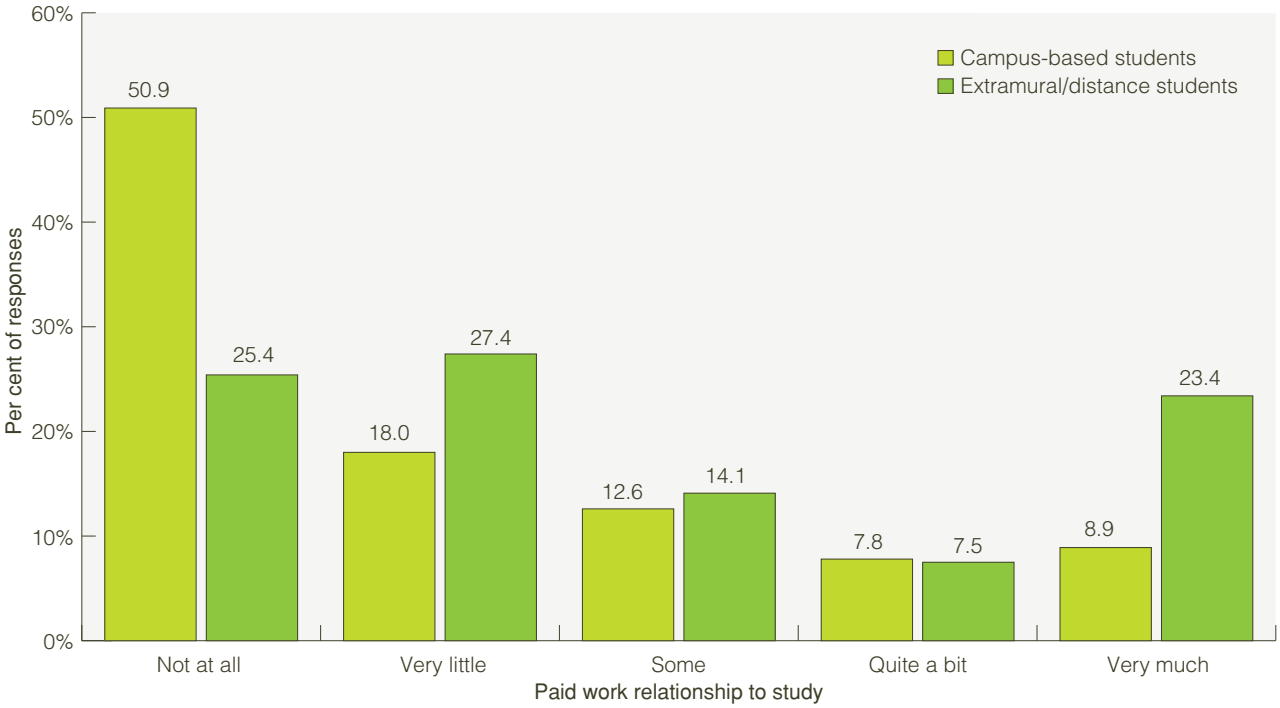

Figure 32 Paid work relationship to study among working students by location of study

students. This suggests that more distance students are balancing the pressures of family, study and full-time employment than campus-based students.

While also spending longer hours on average working for pay, extramural students who work for pay also report a stronger relationship between their study and paid work. As shown in Figure 32, around half (50.9%) of campus-based students who work say that there is 'not at all' a relationship between their work and study. Less than half of this proportion of working extramural students reports no relationship between their work and study. Conversely, 16.7 per cent of campus-based students feel that there is 'quite a bit' or 'very much' a relationship between their work and study; nearly twice this proportion (30.9%) of working extramural students feel the same.

The level of relationship between students' work and study does change between the first and later years of university. The proportion of campus-based students who work for pay and report a strong relationship between work and study rises from 12.9 per cent among first-year students to 19.7 per cent among later-year students. This trend is more marked among students studying by distance with 26.3 per cent of first-year students and 35.6 per cent of later-year students reporting a strong relationship between work and study. Taken together, these findings suggest that extramural students' study choices are related to their current employment and that their employment may guide the papers they choose to study.

Figure 33 clearly shows that students studying by distance participate more frequently in work-integrated types of learning than campus-based students. This is most evident in the frequency with which students blend their academic learning with workplace experience and students exploring of how to apply their study in the workforce. Interestingly, this is even the case for extramural students who do not work for pay – they tend to be more engaged with work-integrated forms of learning than even campus-based students who do work for pay.

When asked to indicate how often they explore how to apply their learning in the workplace, distance students indicated that they had done so more often than campus-based students. A total of 46.2 per cent of extramural students report doing so 'often' or 'very often' compared with 34.6 per cent of campus-based students. Similarly, campus-based students were less likely to report frequently blending academic learning with workplace experience. At the other end of the scale, 41.3 per cent of campus-based students say that they 'never' blend academic learning with workplace experience, compared with 24.5 per cent of extramural students.

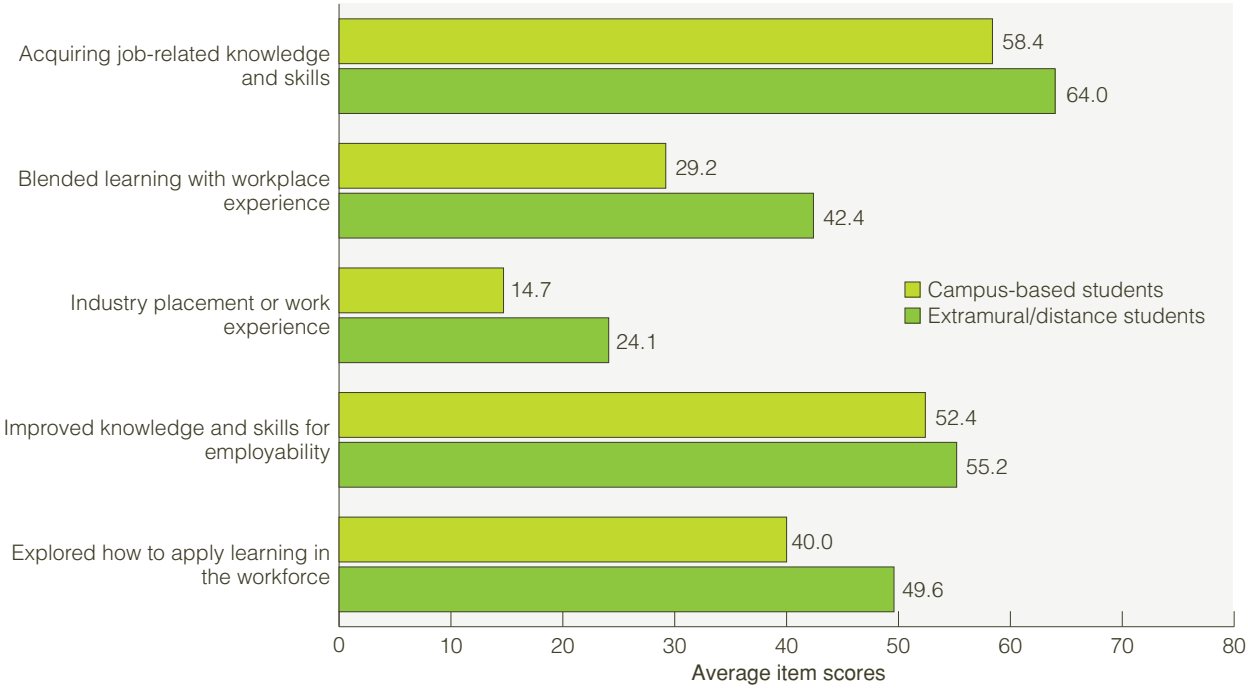

Figure 33 Mean Work Integrated Learning scale scores by location of study

As would be expected, students who work for pay are much more likely to have blended academic learning with workplace experience – 28.7 per cent of students who work for pay report frequently doing this, compared with only 17.7 per cent of students who do not work for pay. Distance students are also somewhat more likely than campus-based students to feel that their experience at university has helped them to acquire job-related or work-related knowledge and skills, with 69.0 per cent of extramural students indicating their experience at university has contributed 'quite a bit' or 'very much', slightly higher than the 61.0 per cent of campus-based students who feel the same way.

Another important finding is that distance students are more likely to have participated in industry placement or work experience than on-campus students (24.1% of distance students have done so, compared with 14.7% of campus-based students). Although overall such participation levels are low and have the potential to increase among both groups of students, the difference between these two groups is noteworthy.

Taken together, these differences between extramural students and campus-based students suggest that students studying by distance are more likely to be working, and for longer hours in an area related to their study, and as a result may have more opportunities to blend their learning with workplace experience and apply what they learn at university in their workplace, compared to campus-based students. This is significant in relation to New Zealand government policy focusing on the importance of study related to work, employment and skills development.

Career Readiness

Arguably, the main purpose of a university qualification is to prepare students for their future career and for the workplace. One would then expect that by their later years of study, as students prepare to graduate from university, they would be prepared to look for jobs and to have set goals for their future career. Interestingly, mean scores for both campus-based and distance students are not high for career readiness, suggesting that this is either not a high priority for students, or universities may not be placing much emphasis on developing these types of skills.

As shown in Figure 34 campus-based students are overall more likely to report 'never' doing activities related to career readiness than extramural students; however, there are large proportions of students, both campus-based and extramural, who do not spend much time on career-related activities.

Interestingly, differences between first-year and later-year students show greater increases among distance

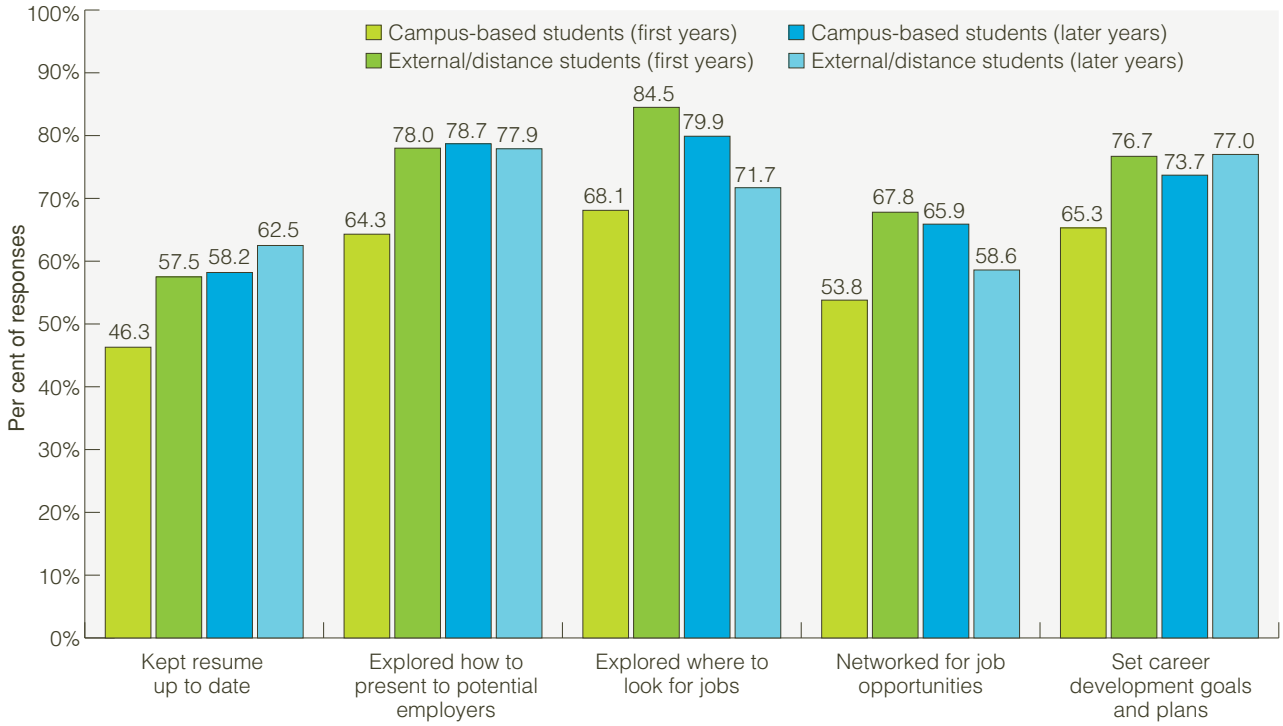

Figure 34 Proportion of students who participate in career-related activities at least 'sometimes'

students than campus-based students for setting career development goals. This suggests that distance students are more focused on their career goals and are making preparations for their future career earlier than campus-based students. As many of these activities increase as students near the completion of their studies, it would be expected that students in later years are more likely to report doing these activities more frequently; however, this is not the case for extramural students. The responses displayed show that among campus-based students the proportion of students participating in career readiness activities increases quite dramatically between first- and later-years of study. For extramural or distance students the rate of participation seems to remain very similar for some activities, and for others, such as exploring where to look for jobs and networking for job opportunities, the rates are lower than for campus-based students.

Other findings

While the discussion in this chapter has been focused on differences in career readiness and involvement in work-integrated forms of learning among campus-based and distance students, there are other aspects of extramural students' engagement with study and outcomes that are notable. The findings from the AUSSE highlight some differences by mode of study in terms of students' level of academic challenge, specifically in terms of the time and effort put into study, students' interactions with academic and other staff, and their involvement in active forms of learning. There are also some interesting findings in terms of students' departure intentions – whether they have considered leaving or plan to leave their university before completing their degree and why – and also their satisfaction with their educational experience.

The extent to which students are challenged by their studies is an important aspect of student engagement. While overall there are few meaningful differences between distance and campus-based students' level of academic challenge, there are some aspects that are of interest. Although more likely to be studying part-time, extramural students spend slightly more hours per week studying than their campus-based peers, spending an average of 12.0 hours preparing for class, compared with an average 10.7 hours among campus-based students. Although not a huge difference, it is interesting to note that extramural students studying part-time spend an hour longer each week (11.9 hours) on average studying and preparing for class than campus-based students studying full-time (10.8 hours).

Other academically challenging activities that distance students engage in more frequently than campus-based

students include 'preparing more than one draft of an assignment before handing it in' and 'working harder than you thought you could'. A total of 43.2 per cent of extramural students said that they worked harder than they thought they could 'often' or 'very often', which was only the case with 34.5 per cent of campus-based students.

Mature-aged students are often assumed to be more engaged in their studies, and the findings from the AUSSE support this to some extent. Because older students are more likely to be studying extramurally or by distance than younger students, a student's age, rather than their mode of study, may be the main influence on their engagement with learning. The AUSSE findings show that older students studying both on campus and extramurally tend to be slightly more engaged with academically challenging activities; however, students in each age group, including very young students who were studying extramurally, reported equal or slightly higher levels of participation in academically challenging activities.

Active learning relates to students' active efforts to construct knowledge. Several items tap into this dimension, and data from these items reveal some interesting findings among extramural and campus-based students. Although the expectation is that extramural students may not have as many opportunities to participate in active forms of learning (such as contributing to discussions, and asking questions or working with others), there are only small differences in the frequency with which these students participate in these activities. Both campus-based and extramural students are just as likely to ask questions or contribute to discussions during classes or online, and are also equal in their levels of participation in giving presentations in class. As would be expected given the nature of extramural students' university experience, extramural students are somewhat more likely to report they 'never' work with students during class (23.3% compared with 19.6% of campus-based students) and outside of class (17.7% compared with 13.4% of campus-based students). This suggests that, even given the potential limitations distance learning can have, extramural students are still interacting with each other and participating in many active types of learning.

The value of student–teacher relationships is a well-known factor that influences student engagement in learning. Indeed, Kuh argues that, 'students perform better and are more satisfied at colleges [universities] that are committed to their success and that cultivate positive working and social relations among different groups on campus' (Schroeder, 2003, 12). Moreover, Zepke, Leach and Butler (2010, 12) argue that, 'teachers seem to have a stronger influence on student engagement than either motivation or extramural influences.'

It is interesting to consider therefore how students interact with staff and whether any differences arise between campus-based and distance students. It might be thought that campus-based students have more opportunity to ask questions during or after class, but the AUSSE data suggests distance students are actually slightly more likely to discuss ideas from class with teaching staff at least 'sometimes' (54.6% compared with 49.5% of campus-based students) and are making greater use of email communication with teaching staff than campus-based students. Although mature-aged students are somewhat more likely to communicate with teaching staff via email, regardless of age, extramural students are significantly more likely to send emails than campus-based students.

Distance students are also more likely to report discussing their ideas from class with teaching staff, talking about their career plans with teachers or advisors, discussing their grades with teaching staff, working with teaching staff on other activities, and receiving prompt feedback from teachers. Taken together, this suggests that distance students are more proactive and possibly assertive in help-seeking behaviour and supports Bryson and Hand's (2007) argument that teachers who make themselves freely available to discuss academic progress are more likely to have students who are engaged in learning.

It has been shown that supplementary learning opportunities beyond formal learning situations enhance student learning (Zepke & Leach, 2010). Extracurricular and outside classroom learning experience can make formal learning more meaningful and useful. Many of these enriching educational experiences are engaged in more by campus-based students – particularly through students' involvement in study groups and learning communities, and their interactions with people of different ethnicities and from different backgrounds – which suggests that some of these experiences may be more accessible for campus-based students. However, distance students are more likely to be involved in other types of enriching educational experiences such as volunteering, study abroad schemes, and practicum or internships. This could be taken to show that while extramural students may not have as many opportunities to interact with other students, and particularly other students who are different from them, they are involved in many other types of enriching educational experiences at similar or slightly higher frequency than campus-based students.

Student evaluation of their overall educational experience showed a high degree of satisfaction regardless of mode. A total of 84.0 per cent of

campus-based students and 80.9 per cent of distance students rated their overall education experience at their university as either 'good' or 'excellent'. Similarly, relatively high proportions of both campus-based and distance students indicated they would attend the same university again if given the chance to start over, with 45.3 per cent of campus-based students and 43.0 per cent of distance students indicating they would definitely attend the same university again. A further 43.8 per cent of campus-based students and 47.0 per cent of extramural students indicated they would 'probably' do so. This result suggests that mode of study does not have an influence on New Zealand undergraduate students' perceived satisfaction with their educational experience.

Discussion and conclusion

New Zealand distance and campus-based students are quite different in terms of their demographics. Distance students are more likely to be older, female, studying part-time, and are more likely than campus-based students to be combining work with study. Perhaps because of their involvement in the workforce, distance students seem to be seeking study opportunities that are relevant to their current work and it may be assumed that through university study they are seeking to improve their qualifications, knowledge and skills. These probable goals of the average distance learner fit in with the New Zealand Government's aim to increase the knowledge and skills base of the national workforce.

While studying at a distance could be viewed as a barrier to engaging with learning and a positive university experience, findings from the AUSSE suggest that distance students are much more engaged in some types of learning experiences than campus-based students, and that there are only a few areas where distance students are less engaged. As more students move towards distance and extramural study, it will be important to ensure that their engagement remains high, and that support is given in areas where engagement is not as strong – that being support for interaction with other students and to participate in active forms of learning.

References

Barnett, R., & Coate, K. (2005). *Engaging the curriculum in higher education*. Maidenhead, U.K: Society for Research into Higher Education and Open University Press.

Bryson, C., & Hand, L. (2007). The role of engagement in inspiring teaching and learning. *Innovations in Education and Teaching International*, *44(4)*, 349–362.

Kuh, G., & Gonyea, R. (2003). The role of the academic library in promoting student engagement in learning. *College and Research Libraries*, *64(4)*, 256–282.

Schroeder, C. (2003). How are we doing at engaging students? Charles Schroeder talks to George Kuh. *About Campus*, *8(1)*, 9–16.

Ministry of Education (2010). Domestic students enrolled by attendance status and selected characteristics, ENR.17, Ministry of Education, Wellington, Education Counts, viewed 24 February 2011, <http://www.educationcounts.govt.nz/statistics/tertiary_education/participation>.

Zepke, N., Leach, L. & Butler, P. (2010). *Student engagement: what is it and what influences it?* Report for Teaching & Learning Research Initiative. Wellington: TLRI.

Zepke, N., & Leach, L. (2010). *Improving student engagement in post-compulsory education: a synthesis of research literature*. Report for Teaching & Learning Research Initiative. Wellington: TLRI.

Appendix 1:

2009 Student Engagement Questionnaire

Your university experience

ACER AUSSE Australasian survey of student engagement

1 **In your experience at your institution during the current academic year, about how often have you done each of the following? Mark your answers in the boxes. Leave blank if the item does not apply.**

	Never	Some-times	Often	Very often
Asked questions or contributed to discussions in class or online	☐	☐	☐	☐
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 (e.g. different races, religions, genders, political beliefs, etc.) in class discussions or written assignments	☐	☐	☐	☐
Came to class having completed readings or assignments	☐	☐	☐	☐
Kept up to date with your studies	☐	☐	☐	☐
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 online learning system to discuss or complete an assignment	☐	☐	☐	☐
Used email or a forum 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	☐	☐	☐	☐
Received prompt written or oral feedback from teachers/tutors on your academic performance	☐	☐	☐	☐
Worked harder than you thought you could to meet a teacher's/tutor's standards or expectations	☐	☐	☐	☐
Worked with teaching staff on activities other than coursework (e.g. committees, orientation, student organisations, etc.)	☐	☐	☐	☐
Discussed ideas from your readings or classes with others outside class (e.g. 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 to 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	☐	☐	☐	☐
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 **more than one 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 assignments of **fewer than 1,000 words**	☐	☐	☐	☐	☐
Number of written assignments of **between 1,000 and 5,000 words**	☐	☐	☐	☐	☐
Number of written assignments 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 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 Very much

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	☐	☐	☐	☐	☐
Participate in a study group or learning community	☐	☐	☐	☐	☐
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 (e.g. honours thesis, capstone project, comprehensive exam, etc.)	☐	☐	☐	☐	☐
Independent study or self-designed major	☐	☐	☐	☐	☐
Consult a university careers service for advice	☐	☐	☐	☐	☐
Hold a leadership position in a university group or the community	☐	☐	☐	☐	☐

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

Relationships with **teaching staff**

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

Relationships with **administrative personnel and services**

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

9 **About how many hours do you spend in a typical seven-day week doing each of the following? Leave blank if the item does not apply.**

Preparing for class (e.g. 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 (e.g. organisations, campus publications, student associations, 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 (e.g. 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 (e.g. 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 (e.g. 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 (e.g. 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 **If you are working for pay, how much is this work related to your field of study?**

☐ Not at all ☐ Very little ☐ Some ☐ Quite a bit ☐ Very much ☐ Not in paid work

11 **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 ethnic backgrounds	☐	☐	☐	☐
Helping you cope with your non-academic responsibilities (e.g. work, family, etc.)	☐	☐	☐	☐
Providing the support you need to socialise	☐	☐	☐	☐
Attending campus events and activities (e.g. special speakers, cultural performances, sporting events, etc.)	☐	☐	☐	☐
Using computers in academic work	☐	☐	☐	☐

12 **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-related 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 informedly in local, state or national elections	☐	☐	☐	☐
Learning effectively on your own	☐	☐	☐	☐
Understanding yourself	☐	☐	☐	☐
Understanding people of other racial and ethnic backgrounds	☐	☐	☐	☐
Solving complex, real-world problems	☐	☐	☐	☐
Developing a personal code of values and ethics	☐	☐	☐	☐
Contributing to the welfare of your community	☐	☐	☐	☐
Securing relevant work after graduation	☐	☐	☐	☐

13 **In this academic year have you seriously considered leaving your current institution? Mark all that apply.**

☐ No, I have not considered a change
☐ Yes, to improve career prospects
☐ Yes, for academic reasons
☐ Yes, for another reason, please specify:
☐ Yes, for convenience or practical reasons
☐ Yes, for financial reasons or to reduce study costs
☐ Yes, to obtain better quality education

14 **What are your plans for next year? Mark all that apply.**

☐ Continue with current study
☐ Move to vocational education and training
☐ Change to another qualification
☐ Shift to another university
☐ Leave university before finishing qualification
☐ Leave university having completed qualification

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

☐ Poor ☐ Fair ☐ Good ☐ Excellent

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

☐ Poor ☐ Fair ☐ Good ☐ Excellent

17 **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

18 **Are you male or female?**

☐ Male ☐ Female

19 Where has your study been mainly based in the current academic year?

On one or more campuses	Mix of external/ distance and on-campus	External/ distance
☐	☐	☐

20 In what year did you first start university?

Before 2005	2005	2006	2007	2008	2009
☐	☐	☐	☐	☐	☐

21 How many years of your qualification have you completed?

None, in first year	One year	Two years	Three years	More than three years
☐	☐	☐	☐	☐

22 Since starting at university, have you been enrolled mainly part time or full time?

Part time	Full time
☐	☐

23 What is your major area of study (e.g. accounting, primary education, psychology, law)? Print neatly in CAPITAL letters.

24 What is your student identification number? Please write in the following box. No individual is identified in any analyses or reports.

25 Do you have a government funded university place (e.g. HECS, CSP, NZ Student Loan Scheme)?

No	Yes
☐	☐

26 In the current academic year, have you received any direct financial payments from the government?

No	Yes
☐	☐

27 Which category best represents your average overall grade so far?

No results	0-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

28 Are you a permanent resident or citizen of either Australia or New Zealand?

No	Yes
☐	☐

29 What is your country of permanent residence?

30 What is the main language you speak in your home?

English	Language other than English
☐	☐

31 What is the highest level of education completed by your parents? Mark one box per row.

	No school or primary school	Some or all of secondary school	Vocational certificate or diploma	Undergraduate university degree or diploma	Postgraduate university degree or diploma	Not sure
Father	☐	☐	☐	☐	☐	☐
Mother	☐	☐	☐	☐	☐	☐

32 What is your home postcode and locality/ suburb? Write postcode opposite and locality/suburb below.

33 Are you of Aboriginal or Torres Strait Islander origin?

No	Yes
☐	☐

34 Are you of Māori descent?

No	Yes
☐	☐

35 Are you of Pasifika (Pacific Island) descent?

No	Yes
☐	☐

36 How old are you in years?

37 Do you consider yourself to have a disability, impairment or long-term condition?

No	Yes
☐	☐

38 How much of your study do you do online?

None	About a quarter	About half	All or nearly all
☐	☐	☐	☐

39 Which of the following describes your current living arrangement? Select the option that best applies to you.

On campus in a university college or hall of residence ☐	Living with parents or guardians ☐
Off campus student accommodation ☐	Living by yourself ☐
Living with friends or in a share house ☐	Living with a partner or children ☐
	Other ☐

40 What are the BEST ASPECTS of how your university engages students in learning?

41 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, measures and SEQ items

Table 38 and Table 39 provide descriptions of AUSSE engagement scales and outcome measures and present their constituent items.

Table 38 AUSSE engagement scale descriptions and items

Engagement Scale	SEQ item
Academic Challenge The extent to which expectations and assessments challenge students to learn	Worked harder than you thought you could to meet a teacher's / tutor's standards or expectations
	Analysing the basic elements of an idea, experience or theory
	Synthesising and organising ideas, information or experiences
	Making judgements about value of information, arguments or methods
	Applying theories or concepts to practical problems or in new situations
	Number of assigned textbooks, books or book-length packs of subject readings
	Number of written assignments of fewer than 1,000 words
	Number of written assignments of between 1,000 and 5,000 words
	Number of written assignments of more than 5,000 words
	Preparing for class (e.g. studying, reading, writing, doing homework or lab work, analysing data, rehearsing and other academic activities)
	Spending significant amounts of time on studying and on academic work
Active Learning Students' efforts to actively construct knowledge	Asked questions or contributed to discussions in class or online
	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
Student and Staff Interactions The level and nature of students' contact and interactions 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
	Received prompt written or oral feedback from teachers on academic performance
	Worked with teaching staff on activities other than coursework
	Work on a research project with a staff member outside of coursework requirements
Enriching Educational Experiences Students' participation in broadening educational activities	Used an online learning system to discuss or complete an assignment
	Had conversations with students of a different ethnic group than your own
	Had conversations with students who are very different in terms of religious beliefs, political opinions or personal values
	Practicum, internship, fieldwork or clinical placement
	Community service or volunteer work
	Study group or learning community
	Study a foreign language
	Study abroad or student exchange
	Culminating final-year experience
	Independent study or self-designed major
	Participating in extracurricular activities
	Encouraging contact among students from different economic, social and ethnic backgrounds
	Used an online learning system to discuss or complete an assignment
	Had conversations with students of a different ethnic group than your own
	Had conversations with students who are very different in terms of religious beliefs, political opinions or personal values

Engagement Scale	SEQ item
Supportive Learning Environment Students' feelings of legitimation within the university community	Relationships with other students
	Relationships with teaching staff
	Relationships with administrative personnel and services
	Providing support to succeed academically
	Helping cope with non-academic responsibilities
	Providing support to socialise
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 employability
	Explored how to apply learning in the workforce
	Industry placement or work experience
	Acquiring job-related or work-related knowledge and skills

Table 39 AUSSE outcome measure descriptions and items

Outcome Measure	SEQ item
Higher Order Thinking Participation in higher order forms of thinking	Analysing the basic elements of an idea, experience or theory
	Synthesising and organising ideas, information or experiences
	Making judgements about value of information, arguments or methods
	Applying theories or concepts to practical problems or in new situations
General Learning Outcomes Development of general competencies	Acquiring a broad general education
	Acquiring job-related 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
	Learning effectively on your own
General Development Outcomes Formation of general forms of individual and social development	Voting informedly in local, state or national elections
	Understanding yourself
	Understanding people of other racial and ethnic backgrounds
	Solving complex real-world problems
	Developing a personal code of values and ethics
	Contributing to the welfare of your community
Average Overall Grade Average overall grade so far in course/ programme	Which category best represents your average overall grade so far?

Outcome Measure	SEQ item
Departure Intention Non-graduating students' intentions on not returning to their institution in the following year	Not considered change (reverse coded)
	Graduating (reverse coded)
	Academic exchange
	Academic support
	Administrative support
	Boredom/lack of interest
	Career prospects
	Change of direction
	Commuting difficulties
	Difficulty paying fees
	Difficulty with workload
	Family responsibilities
	Financial difficulties
	Gap year/deferral
	Government assistance
	Health or stress
	Institution reputation
	Moving residence
	Need a break
	Need to do paid work
	Other opportunities
	Paid work responsibilities
	Personal reasons
	Quality concerns
	Received other offer
	Social reasons
	Standards too high
	Study/life balance
	Travel or tourism
	Other: Please specify
	Continue with current study (reverse coded)
	Move to vocational education and training
	Leave university before finishing qualification
Overall Satisfaction Students' overall satisfaction with their educational experience	Quality of academic advice received at institution
	Entire educational experience
	Attend same institution if starting over

acer.edu.au

ACER Melbourne office
19 Prospect Hill Road (Private Bag 55)
Camberwell VIC 3124
Australia
Telephone +61 3 9277 5555
Facsimile +61 3 9277 5500

ACER Sydney office
1/140 Bourke Road (PO Box 6483)
Alexandria NSW 2015
Australia
Telephone +61 2 8338 6800
Facsimile +61 2 9693 5844

ACN 004 398 145 ABN 19 004 398 145

Ako Aotearoa National Office
PO Box 756
Wellington 6140
New Zealand
www.akoaotearoa.ac.nz

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