



Learning Environments and Student Engagement with Learning

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Abstract

This case study describes the outcomes of survey and interview data exploring student engagement in a large, research-led university. The population from which the sample was drawn was defined as “any student at the institution enrolled in the first year of an undergraduate degree”. Of the 2608 students who met these criteria, 1500 were randomly selected to participate in the survey and 223 students responded (a 14.9 percent response rate). The sample closely resembled the “first year enrolled in a programme” population with two exceptions: male students were under-represented and Māori students were over-represented. The students had completed 13 weeks of study prior to completing the survey. Seventeen of the 223 students self-selected to be interviewed; 10 of these completed the process.

The framework for the data collection and analysis for the case study was based on the conceptual organiser developed by Leach and Zepke (2008). This was developed to summarise the key themes and indicators evident in the research on student engagement.

The interaction between student behaviours and institutional conditions are key factors in determining the nature and quality of student engagement. The focus of this study was to explore students’ perceptions of how the learning environment significantly affected their engagement in terms of motivation and agency, interaction with peers and teachers, institutional structures and systems, and external influences. These four aspects were the major themes identified in the research and are described in the conceptual organiser.

There were four key findings from this research. Firstly, students considered what teachers do and how they approach teaching and learning to be most important influence on their learning and engagement. Of significance for students were teachers teaching in ways that enabled them to learn, the teachers’ enthusiasm, and the provision of prompt, learning-focused feedback. However, students rated these aspects as being performed only “quite well” by the institution.

Secondly, students were more motivated by “competency needs” and “autonomy needs” than by “relatedness needs” (Deci & Ryan, 2000) for learning and engagement. The most important reported competency and autonomy motivators for their learning were taking responsibility for their learning, knowing how to apply what they learn, knowing how to achieve their goals, setting themselves high standards and knowing how the institutional systems work. Thirdly, students reported that what they considered to be important in terms of institutional support, was not being performed as well as they expected by the institution. These included how to contact people, how systems worked, how to find their way around and the provision of guidance and

advice. Finally, external factors did not feature as significant influences on the student's engagement except in the case of family support and high expectations which were reported as having a positive effect.

The results suggest actions the institution could implement to improve engagement and learning for first-year students.

- The university needs to help students become familiar with the university environment, systems and procedures as quickly as possible. Maslow (1998) maintains that once physical needs have been met, safety/security needs dominate behaviour. These relate to students' competence and autonomy needs to become familiar with and comfortable in the university environment before they can focus on deeper, more engaged learning. This transitional and establishment phase seems to be a crucial time when students' self-theories (Dweck, 1999) are open for review. What is experienced at this time will influence their perceptions of the role and function of the university, which in turn affects their engagement.
- To enable students to move into an ontological approach, a "being" as well as "knowing" and "acting" approaches (Barnett & Coates, 2005), the university could involve students in first-year seminars with a critical enquiry emphasis, learning communities or experiential learning with community partners which foster competency and autonomy. Kuh (2008) suggests students be involved in at least one of these high effect educational practices which increase engagement and success for first-year students.
- The university could develop a pedagogy of transformation with teachers and students, engaging them in thinking about the big questions at the core of the discipline, developing critical enquiry, challenging perspectives, examining power relationships, finding "truth" rather than thinking of learning at university as knowledge transfer. Currently students see relational transactions, interaction between teachers and students, as something that teachers do to students, not something that students and teachers develop together. It is the nature and quality of the interaction that affects learning and engagement (Kuh, 2008; McMahan & Portelli, 2004). Teachers need to be encouraging and to invite critical enquiry. Students need to learn to engage deeply in learning that reflects skills, knowledge, and dispositions fit for their present lives as well as the ones they aspire to in the future. In the twenty-first century this is becoming more important. Their health, well-being, success, ability to construct identities and thrive in a pluralistic society, as well as their sense of agency as active citizens, depends on it.
- The university needs to deliberately develop both students' operational capabilities and their ontological growth, with all staff contributing to this. An institution that is open to examining its espoused and in-action pedagogy could create spaces for the yet to-be-imagined in terms of continued improvement in the quality of student engagement.

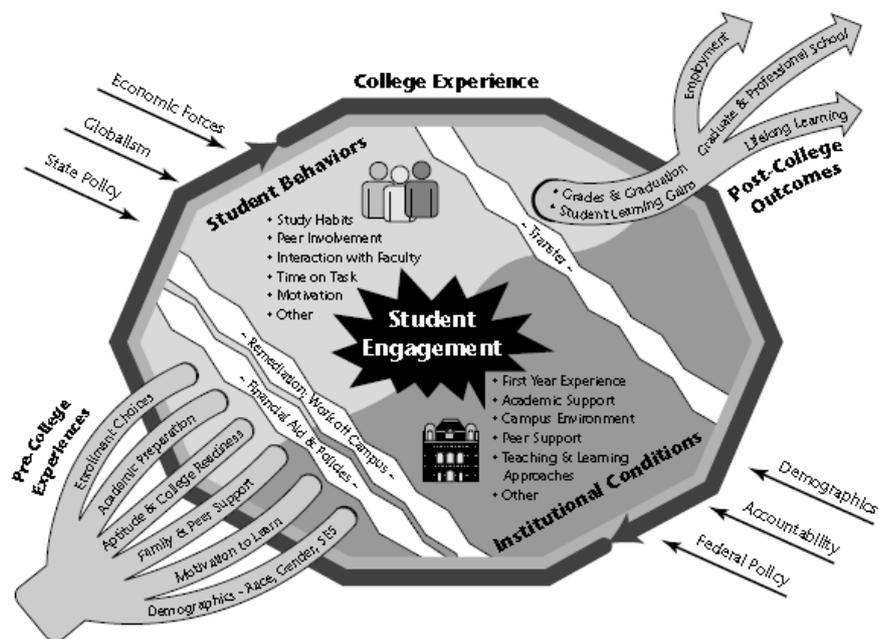
Introduction

This case study was carried out in a large research-led university as part of the Teaching and Learning Research Initiative (TLRI) project, “Learning Environments and Student Engagement with Learning in Tertiary Settings”, which explored ways institutional and non-institutional learning environments influence student engagement with learning in diverse tertiary settings. Three subquestions were identified for this case study:

- What does the student bring in terms of motivation to their learning and engagement?
- How do teachers and the institution influence engagement?
- How do external influences affect engagement?

Early research into student engagement focused on student behaviour. Pace (1979) linked student engagement to the quality of their effort, which he describes as the amount of physical and psychological energy that students devote to their academic experience. Astin (1985) extended this work with a theory of involvement that posits that students learn more when they are involved both academically and socially in the university experience. Three key dimensions Astin (1985) uses to describe student involvement are: academic, faculty, and involvement with peer group. More recent research in student engagement, student retention and completion of study (Yorke & Longden, 2008; Zepke, Leach, & Prebble, 2005) highlights how critical the learning environments are in students’ initial year in tertiary studies. The interaction between student behaviours and institutional conditions are key factors in determining the nature and quality of student engagement. Kuh, Kinzie, Buckley, Bridges, and Hayek (2007) locate student engagement at the intersection of student behaviours and institutional conditions. Figure 1 shows the elements that need careful consideration by institutions. The model synthesises evidence from research on student behaviour and institutional conditions.

Figure 1 **What matters to student success** (Kuh et al., 2007, p. 11)



The interaction between student behaviours and institutional conditions is a key factor in determining the nature and quality of student engagement. The focus of this study was to explore students’ perceptions of how the learning environment affected their engagement in terms of their motivation and agency, their interaction with peers and teachers, institutional structures and systems, and external influences. Leach and Zepke (2008) identified these four aspects as major themes in the research and developed a conceptual organiser which included indicators for each theme. This formed the organising framework for the data collection and analysis for the case study.

Context and participants

The target population was defined as “any student at the institution enrolled in the first year of an undergraduate degree”. Of the 2608 students who met these criteria, 1500 were randomly selected to participate in the survey and 223 students responded, a 14.9 percent response rate. The sample closely resembled the “first year enrolled in a programme” population with two exceptions: male students were under-represented and Maori students were over-represented. The students had completed 13 weeks of study prior to completing the survey. Seventeen of the 223 students self-selected to be interviewed; 10 of these completed the process.

Table 1 **Characteristics of the sample**

	Population (<i>n</i> = 2608) %	Sample (<i>n</i> = 223) %	Sample (<i>n</i> = 223) Frequency
Female	53.5	59.6	133
Male	46.5	39.0	87
≤ 20 at July 1	81.7	80.3	179
> 20 at July 1	18.3	19.4	43
Part time	*	5.8	13
Full time	*	88.3	197
Pakeha	77.1	70.2	179
Māori	3.4	7.1	18
Pasifika	1.7	2.8	7
Other	17.9	20.1	32

*= data not available

Findings

Our data analysis was shaped around the three key lenses used to inform this investigation: what motivates students to engage; how do their interactions with each other, and with teachers, affect students' engagement; and what effect do external influences have? Initially, we investigated the data for trends and patterns for each lens. Following this, an exploratory factor analysis was used to uncover the underlying structure of the data. Comparisons between the different groups of students represented in the demographic data were then explored. We used the demographic subgroups of gender, age, and full/part-time study. We did not compare ethnic groups because the markedly different sample sizes did not accurately reflect the populations.

What does the student bring in terms of motivation to their learning and engagement?

Deci and Ryan (2000) describe three basic psychological needs that underpin motivation: relatedness, autonomy and competence. Question 1 on the questionnaire included eight items on each of these needs. Students rated the importance of these 24 items from very important (1) to no importance (4) so the lower the mean, the higher the importance. The aggregated mean for all items in this scale was 2.05, indicating that on average these students considered aspects of motivation to be "important" (although not "very important") for their learning and engagement.

Total means for individual items show students' perceptions of important motivators. Table 2 shows the importance ranking of the top 10 items and the related psychological need identified in self-determination theory.

These results highlight the importance students place on competence and autonomy needs compared with relatedness needs. Of the 10 items, only one is a relatedness need. Half of the items reflect competence needs as important motivators for learning and four of the 10, including the top-rated item, are linked to the importance of being autonomous learners. Ninety percent of the students rated items linked to competence and autonomy needs as more important than relatedness needs. Students at this institution were less motivated by relatedness needs in their engagement and learning.

Table 2 **The top 10 motivation scale items ranked as most important by all students**

	Need	Item	Importance mean
1	Autonomy	Taking responsibility for own learning	1.41
2	Competence	Knowing how to apply what I learn	1.49
3	Competence	Knowing how to achieve my goals	1.53
4	Competence	Knowing how the systems here work	1.57
5	Autonomy	Setting high standards for myself	1.63
6	Competence	Knowing where to get help	1.71
7	Autonomy	Having clear goals	1.78
8	Competence	Knowing how to use the library to support my learning	1.81
9	Autonomy	Finding my own resources to help me learn	1.87
10	Relatedness	Feeling I belong here	1.95

What patterns emerged from the factor analysis?

The factor analysis was conducted to establish the underlying structure of this scale and revealed six factors. Factor loadings were all quite similar and ranged from 0.5 to 0.8. None was below 0.4 and cross loadings of 0.4–0.5 were evident in only four of the 24 items. On closer inspection of these items we decided to maintain the factor assigned by the SPSS statistical analysis due to congruence in content among other items in these factors. The factors accounted for 58 percent of the total variance.

Table 3 shows how the items were grouped by factor and the percentage of variance in all items accounted for by each factor. The factor names were generated using Deci and Ryan's (2000) definitions of competence, relatedness, autonomy and agency and a synthesis of key concepts represented in the groupings. Subtle differences in the nature of the items are reflected in these labels. "Learning competence" includes items reflecting a sense of knowing how to use different strategies to improve learning. "Relatedness" is characterised by items which reflect aspects of how the students "feel" in terms of belonging, acceptance and being valued by teachers and other students. "Relational competence" and "institutional competence" refer to items which describe

actions students take to build relationships with other students and what they know about institutional support systems. “Autonomy” and “agency” differ. Agency is evident when students have a sense of empowerment through knowing and having what it takes to achieve their own goals. “Autonomy” concerns acting from interest and integrated values. It is the driver of the student’s behaviour and the most central psychological need. Autonomous individuals experience their behaviour as an expression of the self; agency occurs when students are using their autonomy to meet relatedness and competence needs (Deci & Ryan, 2000).

Table 3 shows that students rated the “learning autonomy” factor as the most important to their learning and the “learning competence” factor as the least important, contributing the most variance.

Table 3 Factor and item descriptions for motivational influences on student learning and engagement

Factor name, percentage of variance and mean	Item
Learning Competence 23.650% Mean = 2.4719	Knowing how to draw attention to what needs knowing Questioning teachers about their teaching Knowing how to help other students with their learning Taking a leadership role in student affairs Wanting to meet teachers expectations Talking to students with views different to mine
Relatedness 12.051% Mean = 2.1312	Feeling I belong Feeling comfortable with other students Feeling accepted by teachers Feeling accepted by other students Feeling I am valued as a person
Relational Competence 7.242% Mean =2.2635	Joining in social occasions Making social contacts with other students Wanting to learn alongside other students
Institutional Competence 6.057% Mean = 1.8744	Knowing where to get help Knowing how to use the library to support my learning Knowing how to access learning support services
Learning Autonomy 5.206% Mean = 1.6076	Knowing how to achieve my goals Having clear goals Knowing how to apply what I learn Setting high standards for myself
Agency 4.491% Mean = 1.6129	Taking responsibility for my own learning Finding my own resources to help me learn Knowing how systems here work

Were different subgroups of students motivated to be engaged by different things?

To explore differences in the ways subgroups rated the influence of motivation on their learning and engagement we compared means across the factors for each demographic subgroup. Table 4 summarises the means for each factor across each of these subgroups.

Table 4 **Means for importance ratings by different groups across factors**

	<i>n</i>	Learning competence	Relatedness	Relational competence	Institutional competence	Learning autonomy	Agency
Female	133	2.447	2.060*	2.268	1.805*	1.592	1.554*
Male	87	2.518	2.253*	2.224	2.000*	1.649	1.720*
≤20	179	2.504*	2.178*	2.173*	1.898	1.630	1.667*
>20	44	2.326*	1.947*	2.631*	1.775	1.523	1.395*
Part time	13	2.336	2.046	2.846*	1.564	1.500	1.462
Full time	197	2.479	2.140	2.252*	1.892	1.628	1.616
Total sample	223	2.472	2.131	2.263	1.874	1.608	1.613

*= differences between the means are statistically significant at the 5% level ($p < .05$)

Interestingly, most subgroups rated the “learning competence” factor of least importance, the exceptions being older and part-time students. Both groups considered relational competence of least importance. The “learning autonomy” and “agency” means were the lowest for at least half of the subgroups, indicating these were the most important factors for them. The items in the “learning competence” factor could be described as more operational or behavioural in comparison with the “agency” factor items, which more closely resemble what Barnett and Coate (2005) would describe as ontological. Statistically significant differences were found for gender (three factors), age (four factors) and full- or part-time students (one factor). Students’ age had the most effect. Older students rated almost all factors as more important than younger students, with the differences statistically significant at the 5 percent level for four of the six factors. The importance older students placed on “agency” was significantly different from younger students, though the effect was moderate ($r = .25$). Small effects were evident for the “learning competence” ($r = .13$), and “relatedness” ($r = .17$) factors. The interview data supported this finding. This quotation summarises the perceptions of more mature students:

I usually read through class exams, find out my strengths and weaknesses and try to determine what they are likely to ask because it’s not always clear from the lectures, and do lots of problems in relation to what I’m struggling with and usually do that with someone else and bounce things off each other and I find that helps a lot. (Interviewee 8)

Younger students considered competence in their relationships with other students as most important, with a moderate effect size ($r = .265$). Making social contacts with their peers was a strong motivator for their learning and engagement. Part-time students rated all but one factor, “relational competence”, as more important than full-time students. Part-time students think social

interaction with other students is of little importance to their learning, full-time students rated this as important. Statistically significant differences were found at the 5 percent level, though the effect size is small ($r = .22$).

How do teachers and the institution influence engagement?

The most important influences on learning and engagement for students at this institution were the interaction they had with each other and with faculty, and the support provided by the institution. This transactional scale on the questionnaire survey contained 26 items with a relatively even distribution across these three aspects of interaction. The findings are reported here initially as a ranking of which items the students considered most important overall and how well they perceived the institution was performing these. Second, a factor analysis is described. Finally, data from the subgroups is compared using the factor analysis item groupings. Table 5 summarises rankings, means and differences for the items on the transactional scale.

Students rated many items related to teachers and teaching as important. “Teachers teaching in ways that enable me to learn” was the most important item. Nearly all students (98.2 percent) rated it as “important” or “very important”. Only one student rated it as “little importance” and none rated it as “no importance”. In contrast, the lowest ranked item, “teachers encouraging me to work with other students”, was rated by almost half of the students as having “little” or “no importance”. Students rated “being challenged by the subject I am learning” as the highest item on institutional performance. “Teachers recognising that I am employed” was the lowest rated item on performance, although 40 percent of students “agreed” or “strongly agreed” that “work commitments make studying difficult” and 45.7 percent of students thought this affected their success at least a little.

Table 5 **Transactional scale means, difference and rankings of importance and performance ratings**

Item	Mean importance	Mean performance	Sig. $p < .05$	Rankings	
				Importance	Performance
5. Teachers teaching in ways that enable me to learn	1.21	2.05	Yes	1	15
20. Having access to the learning resources I need	1.26	1.63	Yes	2	3
2. Teachers providing feedback that improves my learning	1.28	2.10	Yes	3	21
8. Teachers being enthusiastic about their subject	1.34	1.74	Yes	4	6
6. Teachers making the subject interesting	1.34	2.04	Yes	5	14
26. Learning to use subject knowledge in practice	1.41	1.94	Yes	6	11
14. Receiving helpful guidance and advice about my study	1.51	2.06	Yes	7	17
25. Staff creating a pleasant learning environment	1.52	1.73	Yes	8	5
1. Teachers providing prompt feedback	1.55	2.10	Yes	9	20
18. Knowing how to contact people to get help	1.58	1.79	Yes	10	7
15. Knowing how to find my way around	1.60	1.69	Yes	11	4
17. Being given information on how systems work	1.63	2.07	Yes	12	18
22. Teachers caring about my learning	1.68	1.90	Yes	13	10
16. Teachers providing opportunities to apply my learning	1.71	2.08	Yes	14	19
19. Being challenged by the subject I am learning	1.72	1.58	No	15	1
13. Learning support services being available at times I need them	1.76	1.82	No	16	8
4. Teachers making themselves available to discuss my learning	1.78	1.89	Yes	17	9
3. Teachers challenging me in helpful ways	1.79	2.05	Yes	18	15
9. Teachers encouraging me to work independently	2.13	1.98	No	19	13
23. Learning to effect change in the community/society	2.17	1.97	No	20	12
24. Being encouraged to question teachers' practice	2.20	2.05	No	21	16
7. Teachers valuing my prior knowledge	2.23	2.19	No	22	24
12. Teachers recognising I have family and community commitments	2.27	2.43	Yes	23	25
21. Having my cultural background respected	2.38	1.60	Yes	24	2
11. Teachers recognising that I am employed	2.43	2.54	Yes	25	26
10. Teachers encouraging me to work with other students	2.46	2.15	Yes	26	23

We examined the data for differences between importance and performance ratings. The differences in the means show a distinct pattern. For 19 items, the mean importance ratings are less than the mean performance ratings. While the students rated these items as important, with a range of means from 1.21–2.43 (1 = very important, 4 = no importance), they considered the performance of the institution to be closer to the “quite well” than the “very well” rating (1 = very well, 4 = poorly). The institution was not performing at the expected level on these items for these students. For five of the seven remaining items, the performance means exceed those for importance suggesting that student expectations were being met or even exceeded. To determine whether these differences are significant, the mean scores for importance and performance were compared using *t*-tests. Twenty items showed significant differences. Alarming, 16 of these, italicised on Table 5, were negative differences. Items the students considered were important were not being performed to their expectations. On only two items, “having my cultural background respected” and “teachers encouraging me to work with other students”, did institutional performance significantly exceed importance. Six of the 26 items showed no significant differences.

Institutional support, such as how to contact people, how systems work, how to find their way around, and receiving guidance and advice, enable students to develop their competence and enhance their engagement. Students rated four such items in the top 12 for importance, but none were being performed as well as they expected. Overall, of the 10 items students rated as most important, seven directly describe teacher behaviours, four of which are within the top five items. Students consider what teachers do and how they approach teaching and learning to be most important influences on their learning and engagement.

What patterns emerged from the factor analysis?

We conducted a factor analysis of the data measuring the degree of importance students placed on the teacher, interactions with other students and institutional support. Six factors emerged from the statistical analysis accounting for 60.3 percent of the variance in the data. We reassigned the two cross-loaded items in the sixth factor to maintain content coherence. Other items that were cross-loaded were also examined and further reassignments were made. Relative homogeneity was evident in the item loadings for each factor. The second factor is the most diverse with a range of 0.466 to 0.763. Table 6 shows the factors, the items loaded to each, and the percentage of variance of items accounted for by each factor.

Table 6 **Factors, item loadings, the percentage of variance and factor means**

Factor name, percentage of variance and mean	Item
Learning Environment 27.262% Mean = 1.7811	Being encouraged to question teachers' practice Having access to the learning resources I need Having my cultural background respected Learning to effect change in the community/society Staff creating a pleasant learning environment Learning to use subject knowledge in practice Teachers caring about my learning Being challenged by the subject I am learning
Teacher Disposition 10.619% Mean = 2.1118	Teachers recognising that I am employed Teachers recognising that I have family and community responsibilities Teachers encouraging me to work with other students Teachers challenging me in helpful ways Teachers valuing my prior knowledge Teachers encouraging me to work independently Teachers providing opportunities to apply my learning
Institutional Support 6.641% Mean = 1.6143	Learning support services being available at times when I need them Knowing how to contact people to get help Receiving helpful guidance and advice about my study Knowing how to find my way around Being given information on how systems work
Learning Interactions with Teachers 6.056% Mean = 1.4552	Teachers providing feedback that improves my learning Teachers providing prompt feedback Teachers making themselves available to discuss my learning Teachers teaching me in ways that enable me to learn
Teacher's Subject Interest 5.618% Mean = 1.3453	Teachers being enthusiastic about their subject Teachers making the subject really interesting

Means for the five factors suggest that teachers' subject interest was most important in facilitating engagement. Items associated with this factor were individually ranked as the fourth and fifth most important on the transactional scale (Table 5). Students also considered learning interactions with teachers, the fourth factor, as important. Three of the four items in this factor were ranked in the top 10 items for importance (Table 5). Several students who were interviewed also referred to the passion and enthusiasm their teachers had for their subject as an important influence on their engagement:

Enthusiastic lecturers who have a broad knowledge of the subject not just that little bit they are teaching. It's important to not only have that key aspect but often when they can see the bigger picture that helps a lot and also having tutors who are passionate too and that generally results in people around you being enthusiastic, they want to do it and you want to do it. (Interviewee 8)

The effects of teacher disposition on engagement were ranked as the lowest in importance. None of the items in this factor were ranked in the top 10 for importance.

Were different subgroups of students influenced differently by their interactions with each other, with teachers or by institutional support?

The five interaction factors were used to explore how different subgroups perceived their importance and the institution’s performance on these. Table 7 summarises the means for each factor across the subgroups.

Table 7 **Means for importance ratings by different groups across interaction factors**

	n	Teacher's subject interest	Learning interactions with teachers	Institutional support	Learning environment	Teacher disposition
Female	133	1.286*	1.387*	1.566	1.738	2.113
Male	87	1.431*	1.552*	1.687	1.864	2.135
≤20	179	1.383*	1.498*	1.665*	1.839*	2.197*
>20	44	1.163*	1.262*	1.384*	1.528*	1.758*
Part-time	13	1.231	1.212*	1.308*	1.406*	1.766*
Full-time	197	1.350	1.452*	1.624*	1.804*	2.142*
Total sample	223	1.3453	1.4552	1.6143	1.7811	2.118

*= differences between the means are statistically significant at the 5% ($p < .05$) level.

Table 7 clearly shows the extent of the difference between different subgroups of students in their perceptions of the importance of the items on this scale. Almost three-quarters of the comparisons show a statistically significant difference between gender, age and full/part-time students. On average, the students rated “teacher’s subject interest” as the factor that was the most important for them. All subgroups agreed except the part-time students who rated the “learning interactions with teachers” factor as having slightly more importance. Students considered “teacher disposition” to be the least important and agreement across all subgroups is evident for this factor also.

Several patterns are evident in these data. Firstly the age subgroups showed the greatest number of differences in importance ratings for this scale. Older students rated all factors as more important than younger students. Secondly, all subgroups rated the “teachers subject interest” factor differently except part/full time students. Females and younger students rated this factor as more important than older students and males. Older students and those studying part-time rated the “institutional support”, “learning environment” and “teacher disposition” factors to be more important than the full-time and younger students. There were no statistically significant differences for these factors between male and female students, their importance ratings were very similar.

There were significant differences between all subgroups for the “learning interactions with teachers” factor. Females, older and part-time students all rated teachers providing feedback, being available to discuss their learning and teaching in ways that enable them to learn, as more important than male, younger or full-time students. Learning interactions with teachers was also an important influence on learning for the students who were interviewed:

It’s really good when they make themselves available. They have their hours and it’s nice to know I can approach them when I have questions and e-mail and things and I have had really good experiences with my tutors and lecturers – they have always been there.
(Interviewee 1)

How do external influences affect engagement?

The third scale on the questionnaire investigated students’ perceptions of how non-institutional influences affected their study. Level of agreement was rated for the 12 items along with how much each affected their success (1 = strongly agree, 4 = strongly disagree). When items were averaged and ranked for agreement, students more strongly agreed with “my family supports me studying” than any other item (M = 1.30). Most students (90.6 percent) thought this affected their success at least “a little”, and almost half (46.6 percent) rated family support affecting their success as “a lot”. On average, students agreed with the positively phrased items and disagreed with those phrased negatively, for example, “I organise myself to succeed in my study” (M = 1.86) or “my friends don’t want me to study” (M = 3.30). Interestingly, more than 20 percent of students used “not applicable” for half of the items on this scale.

Differences in levels of agreement between the means for different groups of students across this scale were statistically significant for five different items between the subgroups of age, gender and full/part-time students. Female students agreed more with “organising myself to succeed in my study” than males; younger students disagreed more than older students with “finances and work commitments making study difficult”; younger students thought work and financial commitments made their study more difficult. Full-time students thought social activities interfered with their study more than the part-time students.

Discussion

This case study drew on Kuh’s (2001) conceptualisation of engagement in learning, originating from both Astin’s (1985) and Pace’s (1995) work. It refers to the amount, type and intensity of investment students make in their educational experiences and the effort institutions devote to using effective educational practices. Kuh (2001) maintains that the more time and effort students devote to their learning and the more deeply engaged they are in activities that promote learning, the more they learn and understand and, therefore, they are more likely to persist and succeed. To make sense of how the findings from this case study linked to the engagement literature we used Zepke and Leach’s (2008) conceptual organiser, which synthesises the literature into strands and

indicators. We compared this with the key findings to show what institutional and non-institutional influences on engagement were important for these students and how this aligned with the research literature.

That “engaged students are intrinsically motivated and want to exercise their agency” (Zepke, Leach, & Butler, 2009, p. 2) is the assumption underpinning the first strand, “motivation and agency”. The results showed that the “agency” factor (taking responsibility, finding resources, and knowing how systems work) and the “learning autonomy” factor (having clear goals and knowing how to achieve them, setting high standards for themselves, and know how to apply what they learn) were what students perceived to be the most important motivators for their learning and engagement. These both relate strongly to the two indicators in the motivation and agency strand: “a student feels able to work autonomously” and “a student feels competent to achieve success”. The third indicator, “a student feels they have relationships with others”, links quite closely to the relatedness and relational competence factors which were not perceived to be as important for these students.

Deci and Ryan (2000) describe competence and autonomy needs as central for maintaining intrinsic motivation. When they are autonomous, students experience their behaviour as an expression of their identity; their interests and integrated values become the drivers of their behaviour. Taking responsibility for their own learning, which these students regarded as the most important item, reflects this strong intrinsic motivator for autonomy and ultimately personal agency. Being agentic incorporates being goal oriented and having a sense of personal empowerment. This involves both knowing and having what it takes to achieve one’s goals. To be optimally agentic, according to Deci and Ryan (2000), a person must be autonomous, that is, owning actions and acting in such a way as to serve competence and relatedness needs. This seems to contradict students’ ratings of their overall motivational needs. Their need for competence was more important than their autonomy or relatedness needs. Competence, as described in self-determination theory, is more than skills or capabilities. It is a felt sense of confidence and effectance in action. Combining this interpretation of competence and the high importance students placed on this, and the learning autonomy and agency factors, it seems that students are taking an ontological or incremental approach as opposed to an operational or entity approach (Barnett & Coate, 2005; Dweck, 1999). The “agency” and “having autonomy with their learning” factors represent life-long learning skills rather than specific strategies or skills to learn and apply for tasks and/or assignments. Knowing how to apply learning and how to achieve goals reflect this ontological approach. However, a performance or entity approach to learning was also evident in the importance the students gave to institutional competence. Knowing where to get help, how to use the library, and how to access learning support featured as important for their learning. Understanding the context might explain this finding. The students had completed just 13 weeks of classes before doing this survey. At this time they considered it important to know their way around and begin to understand the procedures, systems and culture of the institution. Student perceptions of the institutional environment and dominant norms and values influence how students think and spend their time.

Engaging with teachers, each other and the learning environment was considered to be the most important influence on engagement for these students. Mapping the factors from this transactional scale on to the conceptual organiser presented a different picture. All factors except the factor students rated as the most important for their learning, “teacher’s subject interest”, mapped on the transactional and institutional support strands. Teachers being enthusiastic about their subject and making this really interesting was not evident in the transaction indicators. As the students placed high importance on these aspects, these could become an additional indicator in the “interactions between teachers and students” strand.

McMahon and Portelli (2004) describe engagement as what happens in the shared space of dialectical interaction between teachers and students for the purpose of learning and understanding. They take a critical democratic perspective on engagement (defining democracy as a “way of life”, being participatory and an ongoing reconstructive process), emphasising the “quality” of the interaction. Examples of this might include interactions focusing on addressing substantive issues, questioning and challenging “authoritative discourses”, and interrogating the “status quo”. The nature and frequency of the interaction was also found to be important, but how this contributes to engagement is not yet clear (Kuh et al., 2007; Pascarella & Terenzini, 2005). An ontological approach to interaction as engagement, as described by McMahon and Portelli (2004), is qualitatively different to an operational approach. It implies a philosophical perspective rather than a behavioural one.

Students thought it was important that they could operate successfully in the university environment. The institutional support that mattered included knowing their way around, being given information on how systems work, the availability of learning support services, knowing how to contact people to get help, and receiving helpful guidance and advice about their study. They considered the institution was performing these at or above their expectations, except receiving helpful guidance and advice about their study. Being challenged by what they were learning was much less important for these students although this was being done very well by the institution. The students saw themselves as passive learners who preferred to learn vicariously in these initial weeks of their university programme while they became comfortable with the institution. They perceived the teachers’ role as delivering the knowledge and creating a pleasant learning environment, giving them what they needed to be successful. In the initial weeks of their university experience students seemed to be comfortable with the vicarious experience of learning that reflected their expectations and perceptions of what university learning might involve. There was almost a tension between wanting to take responsibility for their learning (an ontological approach) and knowing how the university “system” functioned (operational approach). The relationships with their teachers rated important seemed to be more about keeping them on track than deepening their learning or engagement.

Students come to an institution with an unconscious set of expectations, however loosely bound, and from these emerge an “etiquette” they perceive as the norm for their engagement and learning. In a similar way, students perceive the position of the institution in the national and international context. Rousseau’s (2001) psychological contract theory describes this as the

beliefs students hold on entry about the culture, relationship and interaction expectations, and how these shape their behaviour and consequentially their academic and social integration.

Students talked in their interviews about the importance of gaining confidence and how interaction in small groups provided an opportunity for this to develop, forming a bridge for their learning. Tutorials are where the important learning happened. They valued being able to ask questions, clarify understandings and practice new ideas. This context enabled the students to begin developing critical enquiry in a supportive environment. Having a knowledgeable, approachable and helpful tutor was also important. In the lectures they were not able to ask questions comfortably because other students thought they interrupted the flow of the lecture. If points needed clarification, students asked the lecturer after the lecture or via email. The small-group tutorials seemed to have an important role for building their academic and social integration (Tinto, 2002). It is important, therefore, for institutions to provide further opportunities for teachers and students to engage with each other in small groups (tutorials) to build up the social and academic integration, and to enable the development of students' autonomy.

In contrast to the literature exploring the effect of external influences on student engagement and retention (Zepke, Leach, & Prebble, 2005; McInnis, 2003; Yorke, 1998), there was no evidence of these influences competing with students' time to study and engage. Family support and high expectations affected most students' success positively. Other external factors such as social activities, work, religious or cultural commitments, finances, or health did not seem to affect their engagement or success.

Conclusion

Findings from this case study suggest implications for this institution to consider concerning student engagement in the first few weeks of study. Here we offer some suggestions for ways to improve engagement and learning at the university.

The university needs to help students become familiar with the university environment, systems and procedures as quickly as possible. Maslow (1998) maintains that once physical needs have been met safety/security needs dominate behaviour. These relate to students' competence and autonomy needs to become familiar with and comfortable in the university environment before they can focus on deeper, more engaged learning. This transitional and establishment phase seems to be a crucial time when students' self-theories (Dweck, 1999) are open for review. What is experienced at this time will influence their perceptions of the role and function of the university, which in turn affects their engagement.

To enable students' move into an ontological approach, a "being" as well as "knowing" and "acting" approaches (Barnett & Coates, 2005), the university could involve students in first-year seminars with a critical enquiry emphasis, learning communities or experiential learning with community partners which foster competency and autonomy. Kuh (2008) suggests students be

involved in at least one of these high effects educational practices which increase engagement and success for first-year students.

The university could develop a pedagogy of transformation with teachers and students, engaging them in thinking about the big questions at the core of the discipline, developing critical enquiry, challenging perspectives, examining power relationships, finding “truth” rather than thinking of learning at university as knowledge transfer. Currently students see relational transactions, interaction between teachers and students, as something that teachers do to students, not something that students and teachers develop together. It is the *nature* and *quality* of the interaction that affects learning and engagement (Kuh, 2008; McMahon & Portelli, 2004). Teachers need to be encouraging and to invite critical enquiry. Students need to learn to engage deeply in learning that reflects skills, knowledge, and dispositions fit for their present lives as well as the ones they aspire to in the future. In the twenty-first century, this is becoming more important. Their health, well-being, success, ability to construct identities and thrive in a pluralistic society, as well as their sense of agency as active citizens, depends on it.

The university needs to deliberately develop both students’ operational capabilities and their ontological growth, with all staff contributing to this. An institution that is open to examining its espoused and actioned pedagogy could create spaces for the yet to-be-imagined in terms of continued improvement in the quality of student engagement.

References

- Astin, A. W. (1985) *Student involvement: A developmental theory for higher education*. Retrieved 1 March 2010, from <http://www.middlesex.mass.edu/strategicplanninggroup/Improving%20Success%20of%20AtRisk%20Students/AstinInvolvement.pdf>
- Barnett, R., & Coate, K. (2005). *Engaging the curriculum in higher education*. Maidenhead, UK: Society for Research into Higher Education and Open University Press.
- Deci, E., & Ryan, R. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, 11(4), 227–268.
- Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality and development*. Philadelphia: The Psychology Press.
- Kuh, G. D. (2001). *The national survey of student engagement: Conceptual framework and overview of psychometric properties*. Bloomington, IN: Indiana University Center for Postsecondary Research and Planning.
- Kuh, G. D. (2008). *Excerpt from “High-impact educational practices: What they are, who has access to them, and why they matter”*. Retrieved from http://uctl.canterbury.ac.nz/adg/infoseries/common-course-size/Kuh_High-Impact_Student_Engagement_Practices_excerpted.pdf
- Kuh, G., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. (2007). Piecing together the student success puzzle: Research, propositions and recommendations. *ASHE Higher Education Report*, vol. 32, no. 5. San Francisco: Jossey Bass.
- Leach, L., & Zepke, N. (2008). *Engaging first year students: A conceptual organiser for student engagement*. Retrieved 1 March 2010, from http://www.fyhe.com.au/past_papers/papers09/content/pdf/6A.pdf

- Maslow, A. H. (1998). *Toward a psychology of being* (3rd ed.). New York: J. Wiley & Sons.
- McMahon, B., & Portelli, J. (2004). Engagement for what? Beyond popular discourses of student engagement. *Leadership and Policy in Schools*, 3(1), 59–76.
- McInnis, C. (2003, August). *New realities of the student experience: How should universities respond?* Keynote address presented at the 25th annual European Association for Institutional Research Forum, Limerick, Ireland.
- Pace, C. R. (1979). *Measuring outcomes of college: Fifty years of findings and recommendations for the future*. San Francisco: Jossey Bass.
- Pace, C. R. (1995). *From good practices to good products: Relating good practices in undergraduate education to student achievement*. Paper presented at the Association for Institutional Research, Boston.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.
- Rousseau, D. (2001). Schema, promise and mutuality: The building blocks of the psychological contract. *Journal of Occupational and Organizational Psychology*, 74(4), 511–542.
- Tinto, V. (2002). *Establishing conditions for student success*. Address to the 11th annual conference of the European Access Network, Monash University, Prato, Italy.
- Yorke, M. (1998). Leaving early: Undergraduate non-completion in higher education. *Journal of Higher Education Policy and Management*, 20(2), 189–201.
- Yorke, M., & Longden, B. (2008). *The first year experience of higher education in the UK*. Final Report. Retrieved 10 March 2009, from <http://www.heacademy.ac.uk/assets/York/documents/resources/publications/FYEFinalReport.pdf>
- Zepke, N., Leach, L., & Prebble, T. (2005). Now you've got them, can you expect to keep them? Factors that influence student departure and persistence. *New Zealand Journal of Educational Studies*, 40(2), 181–201.
- Zepke, N., & Leach, L. (2008, November). *Improving student engagement in post-school setting: A synthesis of the literature*. Paper presented at the annual conference of the New Zealand Association for Research in Education (NZARE), Palmerston North.
- Zepke, N., Leach, L., & Butler, P. (2009, November/December). *Factors that influence student engagement in nine tertiary institutions in Aotearoa*. Paper presented at the annual conference of the New Zealand Association for Research in Education (NZARE), Rotorua.