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An exploratory investigation into first year student transition to university

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Research into students' first-year university experiences suggests that student perceptions during the transition period in the first semester at university may be critical in their decision to continue or discontinue tertiary studies. Understanding what enables successful transition informs and provides insights into student experiences, expectations and outcomes.

The research uses a pragmatic approach with mixed methods. Firstly, through qualitative research, students' perceptions are obtained by in-depth interviews and focus groups that capture the first and second-order perspectives of existing students at the end of first-year studies. The second stage uses the themes emerging from interviews and focus groups to develop and inform an 80-item questionnaire. The instrument developed is used to collect data from students (n=771) in a large first-year core business course during the first few weeks of students' university life. Key findings from the research are the identification of seven enabling factors that fall into two main groups, *intrinsic* or student-centred and *extrinsic* or university-led. Identifying enablers of transition as multi-dimensional provides universities with the opportunity to concentrate on extrinsic elements in order to assist successful transition to higher education.

Keywords: Transition, student-centred, university-led

Conference domain addressed

This paper addresses the conference domain of student pathways, experiences, expectations and outcomes. In this study we consider students' perceptions of what factors enable successful transition to university. Understanding what enables successful transition informs and provides insights into student experiences, expectations and outcomes.

Background

Research into student transition to university indicates that experiences during the first semester at university may be critical in students' decisions to continue or discontinue studies (Kantanis, 2000). Other research has shown that the first-year student experience provides a critical insight into the wider issues of student engagement, development and retention

(Kantanis, 2000; McInnis, James, & Hartley, 2000). However, what have not been considered adequately in previous research are students' perceptions of what factors enable successful transition to university. Understanding students' perceptions of what factors enable transition to university is important, for both student and institution (Hillman, 2005).

This exploratory research investigates students' perceptions of the issues that they face and the factors that enable successful transition to tertiary studies. Understanding what factors enable successful transition informs and provides insights into student experiences, expectations and outcomes. In the study we consider what students say they need to make transition more effective. The aim of this research is to identify and analyse what enables transition. The research aims to address the question "*How is first-year transition to higher education perceived and enabled*"? The study uses a pragmatic approach to guide data collection and analysis. The context of the study is a large first-year core course at an Australian university.

The article is organised as follows: First, national and international literature relating to students' transition to higher education is reviewed and summarised. Second, a pragmatic methodology using mixed methods is presented. Third, data collection and analysis using inferential statistics are discussed. Finally, the study together with implications for theory and practice are discussed and summarised.

Increasingly, students appear to need greater support in their adjustment to academic work and life than has been the case in previous years (Kantanis, 2000). Given an increasing need for support, the initial student experience in higher education is pivotal in establishing attitudes, expectations, motivation and approaches to learning (Kantanis, 2000). Research into the first-year student experience provides a critical insight into the wider issues of student engagement, development and retention (Kantanis, 2000; McInnis et al., 2000). Entering university is a time of great stress for students, including those who are successful (Greenbank, 2007; Wintre & Yaffe, 2000). Some view it as a challenge, others are overwhelmed by the change and do not cope well. High numbers (e.g. up to 40% at some institutions) discontinue studies prematurely, often due to the difference between the expectations of university life and the actual experience (Wintre & Yaffe, 2000; Gerdes & Mallinckrodt, 1994; Rickinson & Rutherford, 1995, 1996).

Not surprisingly student retention and progression has been identified as one of the most pressing concerns for higher education (Krause, Hartley, James & McInnis, 2005). McInnis et al.'s (2000) research highlights that there has been little change in the considerable number of students who have a very uncertain start to university life in Australia. Furthermore, McInnis, et al. (2000) suggest uncertainty arises generally through a combination of factors, which can include a lack of accurate initial information, poor course choices, failure to get their first choice, or unrealistic expectations of the amount of work and time involved in university study. McInnis and James (1995), in their Australian benchmark survey of the first year experience, find that over one third of students have seriously considered deferring in the first semester. Their survey shows that the causes for students leaving are many and diverse, including change of intentions, uncertainty of future, other commitments, lack of adjustment, academic difficulty, academic boredom, financial difficulty, and isolation (McInnis & James, 1995). A range of external pressures make it difficult for students to adjust to university life including the need to earn money, the inability to integrate socially and the wrong choice of subject or degree programme.

As students make the transition from the support frameworks of schools, they commonly find it difficult to manage the levels of autonomy and flexibility, which come as part of the higher education environment. Wintre and Yaffe (2000) suggest that the reality of students' experiences at university is harsher and more stressful than most students expect. The university environment, including differences between university and school, is the main challenge. New found independence also plays a part, with loneliness, home-sickness and difficulties with academic work being major factors (Wintre & Yaffe, 2000; Rice, 1992). Overall, research highlights the need for effective facilitation and support from university together with the need for a clear understanding of the issues involved, in order to assist first-year student transition (Kantanis, 2000).

Following analysis of the existing literature several under-researched key themes emerged which enable transition. McInnis (2004) points out that the university contribution to first-year transition is more substantial than the basic elements of instruction and the content of the curriculum. Also, McInnis (2002) suggests that there are a number of enablers that assist with transition to university in the first-year including, the availability of student support services, accessibility to information technological services, the usefulness of the resources, the relevance of study material and study skills support. McInnis (2002) also highlights the need to focus on improving student life by creating a strong campus culture and atmosphere, whilst encouraging peer and academic learning communities to assist with transition. Further research affirms that support services, academic and general learning resources, and campus atmosphere are important issues in successful student transition (McInnis, 2004).

Other Enablers to Transition

Research has also considered other enablers to transition including the development of study skills, tailored orientation programmes, the encouragement of participation, the utilisation of support services, the benefits of social interactions, and the creation of a strong culture and learning communities. These enablers are briefly discussed below.

Firstly, the development of study skills during transition has also been found to influence academic performance (Mc Kenzie & Schweitzer, 2001). Pantages and Creedon (1978) along with Abbott-Chapman, Hughes and Wyld (1992) argue that students with poor study habits are more likely to withdraw from university or have academic adjustment problems in the transition, particularly from high school, to university.

Secondly, orientation is commonly suggested in the literature as an effective enabler aiding the transition process in first year (Hillman, 2005; McInnis & James, 1995; McInnis, et al. 2000). The need for universities to recognise the importance of orientation is nothing new (McInnis & James, 1995), although the focus should be on finding ways to apply resources effectively through extended, sustainable and integrated student support that spans the entire university journey (McInnis, et al. 2000). Many tertiary educational institutions have responded to the separation and transition difficulties faced by first-year students by introducing orientation and other support programmes (Hillman, 2005).

Universities should address the organisational educational paradox of supporting students while at the same time facilitating their independence (McInnis & James, 1995), and institutions must be committed to supporting student independence (Krause, et al. 2005). However, universities must face the paradox by offering students a coordinated network of support services and activities with the longer-term goal of self-management in mind (McInnis, et al. 2000; Krause, et al., 2005). McInnis (2001, 2003) argues that universities

must be strong enough to be very demanding of their students. To demand a real participation in the interactive exchange of knowledge and values is the hallmark of the university experience (Evans, 2000).

The literature also clearly highlights the need for students to participate in social activities along with the importance of building friendship in aiding transition (Hillman, 2005; McKenzie & Schweitzer, 2001; Parker, Summerfeldt, Hogan, & Majeski, 2003; Rickinson & Rutherford, 1995). Social networks are built within universities through interaction during class and university led events (Hillman, 2005). Social integration and academic performance are both identified as strong predictors of attrition from study, as has satisfaction with university life in first year (McKenzie & Schweitzer, 2001; Rickinson & Rutherford, 1995). The successful integration of first year students should occur in both social and academic domains, as it is believed to be highly likely that difficulties in adjusting to one will impact on the other (Hillman, 2005). Along with the need to make new relationships, especially if the student attends a university or college outside his or her hometown, students must also modify existing relationships (e.g. learning to be more independent) (Parker, et al., 2003).

The challenges confronting first year students can be experienced as stressful or supportive, depending on personal resources and the social support available (Kiessling, Schubert, Scheffner & Burger, 2004). Kiessling et al., (2004) suggest that students adapt better to their university environment when they feel supported by their peers and when they are part of a social network and overall culture (Kiessling et al., 2004). The importance of ensuring students assimilate into the university culture is highlighted by Leach and Zepke (2004) who argue that an institution's role is to assist students socially and academically in order to foster their success. Bateson and Taylor (2004) believe that a process of building a campus climate that nurtures student involvement in their university experience assists in enabling transition. Thus it is important for first-year students to believe they belong to a learning community.

Despite discussion in the academic literature mentioned above, in the main, few researchers within Australia have investigated the specific enablers to transition in first year. However, research by Hillman (2005), James, Krause and Jennings (2010), McInnis and James (1995), McInnis, et al. (2000) has laid the foundations for critical future research in this area, through a spreading realisation of the critical importance of student transition to university (Clerehan, 2002). The argument in the literature is that for a significant number of students the first-year university experience is neither satisfying (in terms of personal fulfilment) nor successful (if academic achievement is the measure) (Evans, 2000; McInnis, et al. 2000; Tinto, 1993).

Missing from the literature are clear mechanisms for assisting or enabling transition. Consequently, there is a need to investigate what enables student transition to university in the first year, particularly from the perspective of students themselves. In addition, consideration is required into the ways in which the university provides support for the increasingly diverse first-year student population. In addressing the research question: *How is first-year transition to higher education perceived and enabled?* this research aims to provide insights into student experiences, expectations and outcomes in the critical area of transition to higher education.

Research design

As the aim of this study is to understand what assists successful transition to university as perceived by students, the research design necessitates understanding what factors assisted transition for *existing* students then to measure this understanding against *new* students.

Therefore the use of both qualitative and quantitative data (i.e. a pragmatic approach) is appropriate. In the study qualitative data are used to establish how existing students perceive their transition to university, which in turn informs development of the quantitative stage of the study. The quantitative stage measures what factors assist new students in their transition. An additional consideration in deciding to use a pragmatic approach is its good fit with the practical, applied focus of this research (Creswell, 2003; Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2003; Yin, 2003).

In the qualitative stage of the research, interviews and focus groups with open-ended questions are used to establish key themes, which lead to the creation and development of a questionnaire. The questionnaire is then used to obtain data from new students in their first few weeks at university. Mixed methods research is an accepted research approach in social science particularly where triangulation of method is sought (Creswell, 2003; Neuman, 2006; Tashakkori & Teddlie, 1998). Triangulation is a means of validating research in order to provide the rigour that is often lacking in data obtained using just a single approach (McCann & Clark, 2003c; Silverman, 2001). Triangulation of data collection and analysis enhances the validity and reliability of the research, and increases confidence in the results (Sale & Lohfeld, 2002).

Methods

Qualitative data collection

Interviews

Qualitative data were initially captured using a series of semi-structured interviews involving eight students, a number that Kvale (2007) suggests is common and appropriate in qualitative research of this kind. Upon completion of each interview, a manual open-coding process was conducted that involved identifying phenomena in-text, then developing these into concepts. Using a constant comparison process, as advocated by Strauss and Corbin (1990, 1998), similar concepts were then developed into themes or categories. On completion of manual analysis, the interview transcripts were analysed using the data-mining software program Leximancer (Smith, 2003, 2004), which in the main confirmed the categories that had been identified by constant comparison. At the conclusion of the interview stage, 14 themes had been identified (e.g. student commitment to study). Themes were then used as discussion points for focus groups, which were the next stage of analysis.

Focus groups

Twenty-two students in a large first-year core business course volunteered to participate in focus groups, resulting in two groups of seven students and one group of eight students. Focus groups ran for approximately 45 minutes and were audio recorded. The researcher used the 14 themes identified in the previous stage of the study as discussion points to ensure continuity of dialogue at each group meeting.

The researchers transcribed and coded the output of each focus group, identifying concepts from phenomena in the data using a line-by-line open coding process (Strauss & Corbin, 1990; 1998). From concepts identified at the open coding stage the researchers were able to construct a series of key words and phrases (e.g. facilities for study, effort to succeed) that represented the enablers of transition to university as conceived by the students themselves. Lexical analysis using Leximancer (Smith, 2003, 2004) again confirmed the analysis.

The researchers crosschecked concepts and themes identified at the interview stage with the items identified by the focus groups to ensure that all concepts and themes had been

considered. Several items identified at the interview stage were not included in the focus group output. Themes from interviews not identified in focus group themes were added to the overall output resulting in 80 key words or phrases being identified

Quantitative data collection

The 80 items identified in the qualitative stage of the research were used to generate statements about first year transition (e.g. “Enrolment at uni is a straightforward process”, and “I find academic staff to be supportive”). Items were then crosschecked to avoid redundancy. In the questionnaire sixty-six statements were presented where responses were invited on an interval scale (anchored at 1=strongly disagree to 5=strongly agree). Several questions were reversed in order to reduce bias. Five questions were presented to capture ordinal data (e.g. “I attended Early Bird Learning Services workshops” with response choices never, seldom, occasionally, frequently). A further nine questions were presented to capture nominal data (e.g. “I attended the first year BBQ” with response choices yes or no). An additional eight items captured demographic data (e.g. sex, country of origin, attendance pattern, work commitments etc) and were added to the first page of the survey. The survey was trialled and minor revisions made.

In the following academic year data were collected by administering the questionnaire to first year students enrolled in a core business course at an Australian university. The survey was administered in week five of the students’ first semester of study. The timing of the survey was determined by students having remained beyond the census date, at which they may withdraw without penalty, therefore being committed to paying for their studies in semester one. Participation was voluntary and anonymous, resulting in 771 completed questionnaires from 930 first-year students overall, a response rate of 83.6%. Questionnaires were completed during lectures and were coded by the researchers prior to analysis.

Data analysis

The 66 questions measured by interval scales were factor analysed in an attempt to establish the underlying variables or factor structure that explain correlation within the data, in terms of their common underlying dimensions (Hair, Anderson, Tatham, & Black, 1998). Varimax

Table 1: Measures of Student perceptions of Enablers to Transition

Measure	Description of variables
STUDY	Study skills, time management, willingness to seek assistance and guidance particularly from academic staff
EFFORT	Motivation, commitment, willingness to work hard and join the university culture. Motivated to interact with others
ORIENTATION	Found to be a useful precursor to studies. Effective in giving an opportunity to meet staff and student services
LEARNING@UNI	Accessibility or usefulness of university’s web-based course systems and self-serve portals in transition to university
CULTURE	Feelings of belonging, value and culture associated with being a student at this particular university
FACILITIES	Adequacy of infrastructure in supporting transition, particularly parking, computer labs, study areas and wireless network
SOCIAL	Perception of the importance of regular and well publicised university led social events for developing friendships/networking

rotation (Kaiser, 1958) was selected to ensure orthogonality of factors. Results of the rotated factor matrix identified 16 factors with eigenvalues greater than unity (Kaiser, 1958).

Together the 16 factors accounted for 58.5% of the overall variance. A 66 row by 16 column rotated factor matrix was prepared as a document and examined to determine which items should be assigned to which factors. Items with coefficients greater than .5 were assigned to the factor column in which they appeared. Reliability testing of the 16 factors, utilising Cronbach's alpha (Cronbach, 1951), showed that seven factors met the minimum internal reliability requirement of: (a) having at least three items in the scale; (b) item to total correlation of at least .35; and (c) a coefficient alpha for the scale of at least .70 (Nunnally & Bernstein, 1994). The seven factors, along with a description of their main content (i.e. what they measure), are shown at Table 1, above. Measures were given appropriate names based on the meaning of constituent variables. On inspection of the underlying meaning of the measures it was noted that students' willingness to seek academic support, the effort they put into transition, along with their desire for creating a sense belonging, as measured by STUDY, EFFORT and CULTURE, were student-centred or *intrinsic* measures (i.e. within the students themselves). Juxtaposed were university-led, *extrinsic* items that assisted transition, namely orientation, web-based course assistance, computer and study facilities, and university sponsored social events, as measured by ORIENTATION, LEARNING@UNI, FACILITIES and SOCIAL respectively. Descriptive statistics and correlation analysis of the seven measures as they relate to the responses of all students were undertaken and are shown at Tables 2 and 3 below.

Table 2: Descriptive Statistics of Measures for all Students

Measure	Mean	S/D	N
Study	3.43	.5620	689
Effort	3.86	.5240	721
Orientation	3.25	.6906	698
Learning@	3.95	.6193	712
Culture	3.17	.6745	741
Facilities	3.33	.7972	725
Social	3.00	.8093	688

In analysing descriptive statistics detailed in Table 2, EFFORT and LEARNING@UNI showed the highest means indicating that they had a higher impact as enablers of successful transition than any of the other measures. In contrast SOCIAL and CULTURE returned the lowest means, indicating that these measures had less impact as enablers of transition than any other measure. With the highest standard deviation SOCIAL showed the broadest distribution of results.

Correlations are shown at Table 3, below. All correlations were significant ($p < .01$). Student expectations and experiences influencing successful transition associated with their dealings with academic staff (STUDY), had a strong positive correlation with individual effort made (EFFORT). Strong positive correlations were noted between STUDY and web based support resources (LEARNING@UNI).

Table 3: Correlations of Measures for all Students

Measures	Study	Effort	Orientation	Learning	Culture	Facilities	Social
Study	1						
Effort	.597**	1					
Orientation	.461**	.385**	1				
Learning@	.548**	.527**	.369**	1			
Culture	.501**	.451**	.417**	.345**	1		
Facilities	.414**	.373**	.306**	.278**	.355**	1	
Social	.152**	.265**	.228**	.208**	.211**	.167**	1

* $p < .05$

** $p < .01$

LEARNING@UNI was also strongly correlated with EFFORT, suggesting that more committed students spend time utilising web-based resources provided by the university to assist their transition. Feelings of belonging and value, expressed through the measure CULTURE were positively correlated to a moderate level with the efforts students made (EFFORT). Extrinsic (i.e. to the students) measures such as ORIENTATION, web support through LEARNING@UNI and FACILITIES were also correlated to a reasonably high degree with STUDY. The coefficients for social activities (SOCIAL) displayed the weakest correlations with all remaining measures. Weak correlation with SOCIAL was particularly noted in dealing with staff and assistance with study skills (STUDY) and in making an effort towards academic and personal success (EFFORT). Analysis suggests that students may perceive university organised social activities (SOCIAL) to be the least important item in achieving a successful transition.

Discussion

Key findings from the research are: (a) the existence of seven factors that are enablers of successful transition to higher education. The research initially identified 16 factors, which were reduced to seven reliable factors following further analysis; and (b) during data analysis the researchers observed that the measures of successful transition fell into two distinct categories, one relating to student-centred enablers the other to university-led enablers.

The research suggests that student-centred enablers of transition, as measured by STUDY, EFFORT and CULTURE, are *intrinsic* to the student and in the main beyond the control of the university, while the university-led enablers, as measured by ORIENTATION, LEARNING@UNI, FACILITIES and SOCIAL, are *extrinsic* to the student (i.e. within the remit of university and to a large degree outside the control of the student). The relationship identified suggests that enablers of transition are multi-dimensional, which is unexpected as the literature reviewed tends to treat enablers of transition as a homogenous group (e.g. McInnis, 2002, 2004).

Recognising the existence of two main categories of enablers of transition opens other avenues for research that may not have been considered, or adequately explored, previously in conjunction with transition (for example, student expectations, student effort etc). Categorising enablers as intrinsic and extrinsic presents opportunities for universities to

concentrate on the extrinsic elements, which are within their control. The research clearly highlights the need for universities to focus not on just encouraging students' efforts to their studies and successful transition by seeking the assistance of academic staff but also on the extrinsic factor of LEARNING@UNI as it appears to be a viable and useful tool provided by the university for commencing students.

In terms of further research, identifying intrinsic measures (i.e. within the control of students) provides opportunities for research into an area that has received limited research attention. Literature into first year transition will be enriched by research of this kind. Identifying extrinsic measures (i.e. within the control of the university) will enable the extensive university-based literature to be enhanced. Future research into the impact of the seven transition measures on different demographic categories is envisaged.

It is acknowledged that in identifying intrinsic and extrinsic enablers further research is needed (e.g. how do intrinsic and extrinsic measures interact, how important are intrinsic enablers in relation to extrinsic enablers etc). Questions like these are beyond the scope of this study and will be addressed in future research. It is also recognised that the study is conducted in an Australian context, though consideration has been given to the extensive literature on transition to university. Furthermore, the scope of the research may be limited as the qualitative and quantitative research was conducted within a single academic unit at a large multi-campus university. In summary, the way the study has been conducted, together with the ways in which data have been collected and analysed, suggest that results should be generalisable to other educational institutions, however, this is not certain.

Conclusion

The research has shown that what students themselves bring (intrinsic), and what the university provides (extrinsic), are two distinct groupings of enablers to transition, which universities should consider. With intrinsic measures students are able to exercise a degree of control over issues relating to transition, including willingness to seek academic support, effort and commitment towards study and embracing university culture. Despite these being internally related measures the universities need to consider how they can facilitate student empowerment, commitment and a shared sense of belonging as well as the desire to seek support from passionate and helpful academic staff. Alternatively, students are not able to control university-led initiatives, such as social events, orientation or web-based support resources and the availability of required facilities. The research suggests that the university should focus on developing its web-based resources further, these being highly valued by students making the transition to higher education. However, the study shows that consideration should also be given to the benefits, or lack thereof, accruing to students from university-led social activities while suggesting that orientation may need to be tailored to specific groups.

Ultimately, on the basis of the seven measures identified in the research, universities should focus not on just encouraging key intrinsic measures, such as student effort towards their studies and transition by seeking the assistance of academic staff, but also on the key extrinsic variable of LEARNING@UNI's web-based resources, which appear to be a viable and useful tool provided for successful transition to university.

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