

## Making Transition Easier: Year 12 Students get a Head Start on University Education

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*Abstract: The transition of students from high school into university is challenging; so, creative and imaginative thinking is needed to design learning experiences to support students' transition from one educational sector to another. According to research conducted by Professor Sally Kift, transition, diversity and design are three of the six critical aspects of curriculum design which lead to a successful first year experience for students entering university. In an effort to meet this challenge, lecturers in the School of Information Systems at Curtin Business School (CBS) have developed an innovative learning experience in which Applied Information Technology students are given the opportunity to complete a first year university Business Information Systems unit whilst in their final year of high school. The case study research presented in this paper is the result of the evidence gathered from student feedback and lecturers' reflections on the learning and teaching experience, as well as a review of literature pertinent to curriculum design. As a result of this research, it was found that high school students received free tuition and credit for completion of a university unit, as well as exposure to university standards while in their final year of high school. This experience motivates students to achieve in their Tertiary Entrance Examination and supports their transition into the Bachelor of Commerce course. As a result of the success of programs such as this, CBS has broadened its scope and in 2010 will offer a wider range of programs through its Year 12 Excelerate initiative.*

Keywords: Transition, First Year Experience, Secondary School Students, Business Information Systems

### Introduction

TRANSITION CAN BE painful and usually involves movement from known situations into novel environments. Although students themselves are ultimately responsible for managing their own transition experiences, it is incumbent on educational institutions to prepare students for transition from secondary to tertiary education. Such transition is often challenging because students' expectations about university frequently do not match their first year university experiences. A survey conducted in 2004 of Australian first year university students showed that over the last decade 60% of respondents did not feel prepared for university (Brinkworth, McCann, Matthews, & Nordström, 2009). Consequently, the question of how best to prepare students for university and attain a better balance regarding students' expectations of first year university merits further investigation (Brinkworth et al., 2009). More recent research has shown that consideration of factors such as *transition*, *diversity* and *design* is critical for the development of curriculum which leads to a successful first year experience (Kift, 2009). In addition to this, creative and imaginative

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thinking is needed to design learning experiences to prepare students for transition from one educational sector to another. In this paper, *transition*, *diversity* and *design* are discussed in relation to a customised 12 week university program for high school students known as SISE – School of Information Systems Experience. The SISE program is based on a common-core compulsory first year Bachelor of Commerce unit called, Business Information Systems 100 (BIS100) and has been offered through Curtin Business School (CBS) for students from selected Western Australian high schools since 2008.

In 2009 the authors gained ethics approval to conduct case study research regarding the SISE program, which is currently one of three Year 12 experience opportunities offered at CBS through its Excelerate initiative. In this case study research, data were collected through semi-structured interviews and written surveys. In addition to this a review of relevant literature was undertaken. Further details of the research methodology and review of literature are provided later in this paper. The research findings indicated that as a result of participating in the SISE program high school students were immersed in an authentic university experience and, as a bonus, they received free tuition and credit for completion of a university unit. This experience clarified students' expectations about university, motivated them to achieve in their Tertiary Entrance Examination and supported their transition into the Bachelor of Commerce course.

In the following section background is presented through a review of the literature in relation to *transition*, *diversity* and *design*. In the first section *transition* is defined, the need for it explained and related issues are discussed. Following this *diversity* is discussed in relation to student characteristics and performance. The issue of program *design* is discussed in relation to examples of first year university programs and Year 12 programs.

### Transition

As defined in the introduction of this paper transition involves movement from known situations into novel environments. Many students entering university for the first time are leaving their known high school environment and entering the unknown world of higher education at the same time as they are leaving adolescence and entering adulthood (Kantanis, 2000). Traditionally, we have understood that leaving adolescence and entering adulthood is associated with rites of passage. However, Clark and Lovric (2009) postulate that transition from high school to university, also, can be conceptualised as a rite of passage and, therefore, aligned with the three phases of separation, transition, and incorporation. According to Clark and Lovric (2009) students begin the separation phase whilst still in high school as they start to think about their futures. Similarly, whilst still in high school, students begin to make the transition to university; this process happens at the end of high school, during the vacation period and in the beginning of first semester at university. The transition phase, in particular, is associated with emotional upheaval akin to culture shock. Thus it can be expected that after initial feelings of euphoria on gaining entry to university, it could be anticipated that students would then enter a period of crisis, learn how to resolve the issues and finally, in the incorporation phase, adjust to the new situation. The incorporation phase occurs throughout the first year of university (Clark & Lovric, 2009).

The crisis phase of transition has been the focus of much research (Brinkworth et al., 2009; European Molecular Biology Organization, 2006; Evans, 2000; Kantanis, 2000; Walsh, 2007; Yorke, 2000). Although there are many issues that contribute to students' sense of

crisis during the transition phase, the mismatch between students' expectations and issues in relation to the learning environment - including social issues, appear to be the most common causes for concern. Literature from the United States is dominated by concern for students' social interaction and integration into university, whereas literature from the United Kingdom emphasises students' preparedness for, expectation of and satisfaction with higher education (Harvey, Drew, & Smith, 2006). In Australian research, findings vary about the degree to which students' expectations about university are realised. For example, results from a pilot study conducted in a large multi-campus Australian university in 1996 found that "69.6% of the sample indicated that less than half of their expectations had been realised" (Kantanis, 2000, p.3). The results published in the *Final Report of The First Year Experience in Australian Universities: Findings from a Decade of National Studies* (Krause, Hartley, James, & McInnis, 2005, p.21) showed that since 1994 to 2004 the student experience had improved slightly: In 1994 18% of students reported that "university [had] not lived up to their expectations" whereas in 2004 16% of students stated they felt that way.

Students' expectations about workload, academic standards, feedback on work, access to lecturers, the nature of their chosen course, and computer literacy differed from their first year university experiences (Brinkworth et al., 2009; Crisp, Palmer, Turnbull, Nettlebeck, Ward, LeCouteur, Sarris, Strelan, & Schneider, 2009; Walsh, 2007). Some students expect "there will be less work at university because there are fewer contact hours" (Walsh, 2007, p.6). Students may expect that university work will be more difficult because they have been told it will be (Walsh, 2007). However, students are unsure of how they will achieve at university levels. For example, research findings showed that 48% of first year respondents expected the marks they received, 18% thought their marks were higher than expected and 34% thought their marks were lower than expected (Krause et al., 2005). Aligned with this are the unrealistic expectations students have about receiving feedback and having access to lecturers. For example, in the research conducted by Crisp et al. (2009, p.14) the findings showed that in 2006 "over half of the students expected teachers to read drafts of their work" and "over 90% in 2007 agreed that obtaining feedback on drafts of their work would be important to learning". Also, about 30% of students surveyed by Crisp et al. (2009) expected feedback on their assignments within a week. The high numbers of students enrolled in first year units often prohibit the return of marked assignments within a one week timeframe. For example, in Semester 1 2009 there were 783 students enrolled in BIS100 at the Curtin University Bentley campus alone. Although Bentley is the main campus, students undertake the unit from multiple local, national and international locations. The students enrolled in BIS100 are exposed to a range of face-to-face, blended, e-learning and mixed modes of study in any given semester. Thus, as noted by Harvey et al. (2006) the first-year experience is complex and diverse.

In spite of first year students being better informed about what to expect at university (Krause, et al., 2005) two thirds of students in their final year of schooling did not feel adequately prepared for university (Brinkworth, et al., 2009; Krause, et al., 2005). Many students did not know which course to choose or courses did not meet their expectations and, consequently, high numbers of first year university students did not complete their chosen courses (European Molecular Biology Organization, 2006; Krause, et al., 2005; Yorke, 2000). According to research conducted by Krause, et al. (2005) 42% of first year students in Australian universities wanted to change courses. Similarly, research conducted by Yorke (2000) showed that 45% of first year students in universities in the north-east of England

wanted to change courses. Harvey et al. (2006) note that students' choices of institutions and courses impacts on their ability to persist with their studies.

Other critical factors influencing successful transition are students' ability to form social networks in their first year of university and adjust to the new learning environment (Evans, 2000; Kantanis, 2000; Wilson & Gillies, 2005; Yorke, 2000). According to Kantanis (2000, p.3) "almost half of the respondents (49.1%) had not experienced success in the establishment of a friendship group by the end of Semester 1". In the research conducted by Yorke (2000) 10% of respondents reported they had difficulties with the social environment. Some differences in students' expectations about teaching and learning have already been mentioned (Brinkworth, et al., 2009; Crisp, et al., 2009). In addition to this some students had unrealistic expectations about computer literacy and thought it was "only relevant to those studying IT-related courses" (Walsh, 2007, p.6). However, the use of online learning technologies has increased and 70% of respondents in the research conducted by Krause, et al. (2005) used web-based learning resources either daily or weekly.

Indeed, transition is a time of crisis for many students. So what can be done to alleviate the crisis? In response to this issue, Kift (2009) conducted research and, subsequently, developed a 'transition pedagogy' based on six principles: transition, diversity, design, engagement, assessment, and evaluation and monitoring. In keeping with these principles;

*"The curriculum and its delivery should be designed to be consistent and explicit in assisting students' transition from their previous educational experience to the nature of learning in higher education and learning in their discipline as part of their lifelong learning" (Kift, 2009, p.40).*

So, how can this lofty goal be realised? In the literature, greater communication and collaboration between secondary schools and universities are called for (European Molecular Biology Organization, 2006; Farrell & Farrell, 2000; Pargetter, 2000). In addition to this, student-centred teaching strategies are recommended (Parappilly, Quinton, & Andersson, 2009; Pargetter, 2000; Tinto, 2000; Wahr, Gray, & Radloff, 2009). Consideration of student diversity is an element of student-centred teaching that is discussed in the following section.

### Diversity

Consideration of student diversity is a principle of Kift's (2009, p.41) 'transition pedagogy' in which she postulates that first year curriculum "must be accessible and inclusive of all students". Currently the student population in Australia is quite diverse. Student cohorts comprise domestic and international students, school leavers and mature-age entrants, full-time, part-time, male and female students from diverse ethnic, religious, political, socio-economic and educational backgrounds. Approximately 29% of Australians aged 25-34 years currently attain a bachelor-level qualification but the Australian Government aims to increase this level of achievement to 40% of the population by 2020 by requiring universities to increase their intake of students from lower socio-economic and non-traditional pathways (Bradley, Noonan, Nugent, & Scales, 2008). Thus, consideration of student diversity is likely to become even more important in the future, especially in the design and delivery of first year university courses and programs.

Although fewer students from equity groups currently enter university, once enrolled they have similar but slightly lower retention, completion and success rates as their counterparts; unfortunately, this is not so true for Indigenous students (Evans, 2000; Krause, et al., 2005). Engstrom and Tinto (2008) noted that participation in learning community programs increased students' persistence with their education; so, this could be a useful strategy in the retention and success of students from diverse equity groups. Engstrom and Tinto's results suggest that learning community participation had a positive effect on students' perceptions of their learning outcomes. The outcomes of these learning community programs confirmed that feeling supported by the institution was the greatest predictor of increased self-reported learning outcomes for both English and English as a second language speaking students. In addition to this, students' previous successes in high school could not be relied upon to produce similar levels of achievement in higher education (Evans, 2000; Walsh, 2007). Students who were successful at high school but who were not able to learn independently did not flourish in the university setting as well as they had in the high school environment (Walsh, 2007). Other factors such as students' goals, aspirations and self-efficacy, also contributed to the success of students' transition from high school to university (Evans, 2000; Wilson & Gillies, 2005). The challenge for academics is to design and deliver curriculum and assessment that is 'accessible and inclusive of all students'; the element of 'design' is explored in the following section.

## Design

Effective first year curriculum is designed and delivered in such a way that it engages students "through the intentional integration and sequencing of knowledge, skills and attitudes" (Kift, 2009, p.41). In fact, students benefit from a range of transition opportunities and strategies both before they enter university and in their first year of tertiary studies (Farrell & Farrell, 2000; Pargetter, 2000). In the literature greater communication between the secondary and tertiary education sectors was recommended to promote the effective transition of students from high school to university (European Molecular Biology Organization, 2006; Farrell & Farrell, 2000; Pargetter, 2000). Even so, research into the first-year experience has tended to be limited to institutional studies, often with small sample sizes (Harvey, et al., 2006). The following examples describe initiatives designed to enhance transition and are consistent with the type of research Harvey et al. (2006) noted as prevalent.

## First Year University Initiatives

Most universities have an orientation week to help students acclimatise to life at university. For example in 2008, during its orientation week Flinders University hosted a Physics transition day with the aim of giving students the opportunity for social interaction as they engaged with physics related challenges. As a result of this initiative, it was reported that students interacted more with each other and with staff than in previous years (Parappilly, et al., 2009). Alternatively, a different Australian university launched an intervention strategy for 'at risk' first year students. The intervention program consisted of a series of one-hour voluntary sessions for students over a period of five weeks at the beginning of Semester 2. The sessions aimed at increasing students' social networks and improving study skills; five students volunteered and completed the program (Wahr, et al., 2009).

### Year 12 Initiatives

In 1998 a Tertiary Awareness Pilot Program (TAPP) was collaboratively developed between Gilmore State High School and the Central Queensland University; 27 students participated in a 10 week program consisting of 2-3 hours tuition per week focusing on orientation topics such as career choices and logistics associated with studying at the university (Farrell & Farrell, 2000). As part of this course students were asked to write an essay entitled, 'World of Work'. Although the essay was used as an assessment task for English in the secondary school situation, students were required to complete the task using research and referencing skills in keeping with tertiary academic standards. Most students successfully completed the task and were awarded a 'Certificate of Achievement' from the university; the minority of students who did not submit or failed the assessment received a 'Certificate of Attendance' instead. The program was deemed successful but it was noted that further orientation strategies would be beneficial for students' on their entry into university (Farrell & Farrell, 2000).

In 2001 Edith Cowan University (ECU) launched 'Click around ECU', a collaborative online multi-media authentic learning challenge (Hunt, Kershaw, & Seddon, 2002). Given five weeks in which to participate Year 12 students were challenged to develop a 4-minute multi-media clip about life at ECU. Support from the university was provided to the high school students and as the task was online students in rural and remote locations were also able to participate. Students' completed multi-media clips deemed to have met the predetermined criteria were judged, a winner selected and a prize awarded. The initiative facilitated authentic learning opportunities for Year 12 students and in the future could prove useful in supporting the transition of international students to ECU (Hunt, Kershaw, & Seddon, 2002).

As evidenced by these examples, numerous transition programs have been developed across Australia and, no doubt, across the world with the aim of improving the student experience. The Curtin Business School Excelerate program is offered to Year 12 students from 35 different state and private secondary schools; The CBS Excelerate is a unique program that offers exceptional year 12 students the opportunity to complete a customised, industry based university unit in one of three streams; Accounting, Economics or Information Systems. Participation enables students to complete first year business units in Accounting 100, Business Information Systems 100 or Economics 100. Students accepted into the program will be enrolled as Curtin University Students. The emphasis is on practical learning experiences that immerse students in real business situations. CBS has very strong links with industry and these relationships strongly influence the way in which CBS students are trained and developed. The CBS Advisory Boards, comprising 72 of Western Australia's most senior business leaders, provide guidance on curriculum design and content while industry partnerships offer real-life case studies and training to ensure CBS graduates transition seamlessly to any professional workplace. The program runs throughout Semester 1 during the university calendar year. Participating students are required to attend 12 weekly 3-hour evening seminars at the university campus and complete all assessments related to the units; assessment items varied across the three units and included assessments such as tests, exams, case studies and presentations. Participation in the Curtin Business School Excelerate program provides students with a head start at university; secondary school students are enrolled in Curtin University as extension students but the tuition fee is waived and although completion does not ensure students a place at the university they are credited with the units they complete and have the opportunity to reap further benefits including traineeships, scholarships and



awards (Curtin University, 2010). As the focus of this paper is on the School of Information Systems Experience (SISE), it is described in the following sections. Future research is to be contemplated on the longitudinal achievement of these remarkable students as they emerge from university pathways into the workplace. Industry-based partnerships is an area of key research that may be conducted to provide future information about improving elements of the Curtin Business School Excelerate program.

### Description of the School of Information Systems Experience

The customised SISE program was comprised of the central elements of the introductory unit, Business Information Systems 100, and additional material designed to enhance the students' practical knowledge of Information Systems and business in general and provided students with a unique experience. Also, the unit was designed to improve the students' ability to think critically, work productively in a team environment and communicate effectively. Key facets of the customised program included guest lectures and presentations by ICT Industry linkages, and site visits to industry partner organisations. In addition to this students had the opportunity to receive traineeships, awards and scholarships for outstanding achievement.

During Semester 2, each year, the SISE lecturers visited designated high schools to speak with teachers about the SISE program and identify potential participants. The high school teachers then advertised the program to their students; interested students and their parents were invited to attend an information evening at the university to hear more about the program. To be eligible for the SISE program students were required to have at least a 'B' average in Year 11 Applied Information Technology, Computing or Computer Science and the maturity and self discipline required to flourish within an academically challenging environment. Teachers from the various participating secondary schools were responsible for determining students' eligibility.

Once enrolled in the SISE program students were required to attend a weekly three hour evening tutorial/laboratory for 12 weeks and complete all four assessments pertaining to the program: a mid-semester test, a peer assessed PowerPoint presentation, the completion of a web based e-portfolio and a final examination. Students who successfully completed the SISE program received an Award for Participation Certificate. Successful completion of the SISE program did not guarantee admission to Curtin University of Technology. Students within the SISE program were not officially recognised as students of Curtin University of Technology and as such, were not required to make payments towards the Higher Education Contribution Scheme (HECS); they did not incur HECS debts and were not charged fees whilst they were in the program.

Year 12 SISE participants who wished to enrol in a Bachelor of Commerce at Curtin University were required to achieve the necessary Tertiary Entrance Ranking (TER), and apply for acceptance into Curtin University of Technology. Having been accepted, the students were required to enrol in the common core Business Information Systems 100 unit and incur the associated HECS liability. However, students were not required to attend classes or complete assessments for Business Information Systems 100 during the semester in which they were, officially, enrolled as a Curtin HECS student. The grade students achieved as a result of their participation in the SISE program was credited to them for Business Information

Systems 100. This was not the case if students who had participated in the SISE program chose to enrol in universities other than Curtin University of Technology.

### Research Methodology and Data Collection

The researchers used a case study methodology and mixed methods to collect data. The SISE program has been provided for selected Year 12 students; 19 students in 2008, 22 students in 2009 and 28 students in 2010. As the 2010 cohort of SISE students had not yet completed the SISE program they were not interviewed or surveyed; the 2010 data referred to in Table 5 relates to students who were enrolled in the SISE program in 2009. The SISE population consisted of 22 students in 2009; seven of these students were interviewed and 17 completed a survey. Six students from the 2008 cohort enrolled in degree courses at Curtin University in 2009, five of these students enrolled in the Curtin Business School, four of whom were interviewed. The Head of School and the two lecturers who conducted the program were interviewed. Also, the mean final results of students from SISE cohorts were collected and compared with the mean results of students in the total population of students enrolled in Business Information Systems 100 in 2008 and 2009. In addition to this, the CBS Coordinator of Teaching and Learning developed field notes as a result of observing two of the SISE program lectures. Thus, the resultant case study was developed from multiple data sources.

### Discussion of Survey Results

On the evening the survey was conducted 17 of the 22 SISE students were available to complete the survey. Students were informed about the purpose of the research and asked to complete the survey; completion of the survey was voluntary. All students completed and returned the survey; no names were used so responses were anonymous. The data from the survey were analysed using SPSS 15.

### *SISE Program is Relevant and Interesting*

The results of the survey shown in Table 1, indicated students thought that the SISE program had helped them with their future employment and preparations for further study. Most significantly 94% of students claimed they had learned something that really interested them.

Table 1: Percentage of Students who thought SISE Helped them Practically

Survey Question:	Not much	Somewhat	A lot
How much do you think the SISE program has helped you in achieving the following?			
Improving your job prospects	0%	53%	47%
Learning things that really interest you	0%	6%	94%
Training for a specific job/profession	0%	47%	53%
Preparing for further qualifications after completing your programme	0%	24%	76%



### *SISE Program Helps Students Develop Skills*

The SISE program was designed to improve students' critical thinking and problem-solving skills. Through their responses to the survey, shown in Table 2, students confirmed that their thinking skills had improved as a result of participation in SISE. Significantly, 77% of students claimed their self-confidence had increase a lot and 88% of students claimed their motivation to learn had increased a lot. It is likely, from these results, that there is evidence of students' increased self-efficacy as a result of participating in the SISE program. Self-efficacy has been shown to help students make the transition from secondary school to university; in particular, high levels of self-efficacy was shown to predict lower levels of stress associated with transition (Wilson & Gillies, 2005).

Although a small percentage of students claimed the program had not improved their social or leadership skills much, a much larger percentage of students claimed that the SISE program had helped them to improve in this area. Also, the results from the student interviews indicated that the program had significantly helped students to make friends and build networks that enhanced their transition to university. The benefit of making friends with other students through the SISE program was further supported in students' interview responses, particularly by the 2008 cohort of students who commented that they already knew people when they commenced their first year of university. Kantanis (2000) noted that effective social transition was imperative for students' successful transition to university; the capacity to make friends is very important.

**Table 2: Percentage of Students who thought SISE Increased their Skills**

Survey Question: How much do you think the SISE program helped you in developing in the following areas?	Not much	Somewhat	A lot
Being able to work independently	0%	47%	53%
Self-confidence	0%	23%	77%
Willingness to learn/self-motivation	0%	12%	88%
Ability to work well with others	6%	41%	53%
Interpersonal/social skills	12%	29%	59%
Leadership skills	12%	71%	17%
Ability to solve problems	0%	29%	71%
Thinking analytically	0%	35%	65%
Thinking critically	0%	23%	77%

### *SISE Program Meets Students' Expectations*

The survey results also indicated that the SISE program had lived up to the expectations of all students; 65% of the students selected the highest categories ('completely' or 'in most respects') and 35% of the students selected the middle category ('in some respects'). The majority of students believed participation in the SISE program had helped to prepare them

for university; 35% of students stated it prepared them 'very well', 59% of students stated it had prepared them 'quite well' and one student did not respond to this question.

### Discussion of Interview Results

A total of 11 interviews were conducted; 4 first-year students from the 2008 cohort who gained successful entry into CBS and 7 Year 12 students from the 2009 cohort. Students wanted to get a head start on university and chose to participate in the SISE program to get a "real feel for uni", "to physically see the next stage", and because they were "looking at career options". Typically, students felt that there was too much emphasis on assessment in high school, rather than on teaching and learning. Several students agreed that the Year 12 Excelerate program could be used to develop core skills, but there was the need for further development of these skills if students were to be prepared adequately for the worlds of work or university.

The most commonly occurring theme identified in the interviews was that students developed a sense of belonging and connection to each other and the university as a result of participating in the SISE program. This sense of being identified as a university student was clearly commented upon by several students. This 'belonging' is difficult to define but for many it means feeling accepted and positively identifying as university students.

*"The program ...gave me a glimpse into university life and having gone through the program will certainly make going to university next year a much less daunting task"* (2009 SISE student).

*"This is an absolutely amazing experience and I strongly believe that it will bring me a lifetime benefit, as it not only improved my skills in various aspects, but also changed the way I see myself and the world around me"* (2009 SISE student).

*"Usually nervous on first day but this year had a good idea so wasn't nervous – felt like returning"* (2008 SISE student).

In their interview responses students identified strengths, weaknesses and interesting ideas regarding the SISE program. One of the strengths of the program students identified was that it was an authentic, actual university experience that expanded their knowledge in an area relevant to their tertiary entrance examinations. In the small classes students were taught by good lecturers who were experts in their fields and students met new people with whom they shared similar interests. In this environment students got a head start on university as they navigated their way around the campus and became familiar with operational procedures such as tutorials, lectures, PowerPoint presentations, and accessing information via email, the Internet and the Blackboard learning management system. These experiences contributed to students' growing connections with each other and the university. On the other hand, students noted that some of the weaknesses were that the SISE program was at night time in three hour sessions; they did not like travelling at night time and they were not used to focusing one subject for an extended period of time. Some of the students' interesting ideas for improving the SISE program included spreading the classes over several nights and providing multi-user licences for the Dreamweaver software program they used in the program. The provision of multi-user licences would have increased students' access to the software and made it easier for them to complete some of the assessments. Due to timetabling

constraints and consideration of student diversity it was not possible to spread the program over several nights. In reality, the three hour night class represented an authentic university learning experience for the students and increased students' understanding of what university was actually like.

### Discussion of Academic Results

Academic performance is an important predictor of students' transition to university and it is strongly related to other factors that are associated with transition success. In 2008 the university enrolled students based on attracting students into the program – that is, numbers of students. In 2009 the university was more selective and sought to enrol higher achieving students. Students were required to have achieved a "B" average in a relevant Year 11 Applied Information Technology course. Students enrolled in the SISE program in 2008 and 2009 were asked to complete a mid-semester test, a peer assessed PowerPoint presentation, and a web based e-portfolio and a final examination. The assessment items were consistent with assessment items completed by first year BIS 100 students. The mean final results of students' achievement were calculated and are shown in Table 3. The data indicate that the 2009 cohort of students achieved higher scores than the 2008 cohort.

**Table 3: Results of Students Enrolled in SISE 2008 and 2009**

	SISE 2008	SISE 2009
Number of Students in Program	19	22
Mean Result Unit Performance	60%	64%
Highest Result	79%	89%
Lowest Result	44%	51%

After completing the SISE program and their tertiary entrance examinations 6 students from the 2008 SISE cohort enrolled at Curtin University in 2009. The following year 10 students from the 2009 SISE cohort enrolled at Curtin University in 2010. Individual academic results for each cohort are shown below in Tables 4 and 5. Although completion of the SISE program did not ensure students a place at the university they were credited with the units they completed and had the opportunity to reap further benefits including traineeships, scholarships and awards.

Table 6 compares the SISE 2008 and 2009 cohorts with the Semester 1 results of students enrolled in BIS 100 Bachelor of Commerce unit. The results show that, on average, Year 12 SISE students outperformed BIS 100 first year university students. The difference in academic results between the two groups is likely to be due to the diverse characteristics of the students enrolled in each pathway. The population of SISE students was comprised of students who were all in their final year of high school, aged 16/17 years, with at least a "B" grade in a relevant Year 11 subject and class sizes were small. The BIS 100 cohorts were comprised of domestic and international students, school leavers and mature-age entrants, full-time, part-time students from diverse ethnic, religious, political, socio-economic and

As indicated in Tables 4 and 5, the SISE program was relatively successful in attracting students into the university. As a result of the SISE initiative, 32% enrolment was achieved into the university from 2008 (n=19) into the 2009 calendar year, and 45% enrolment from the 2009 (n=22) cohort into the 2010 calendar year. In a school with declining enrolments, this was a very positive result.

SISE 2009 Result		2010 Curtin University Destination
Student 1	89%	Bachelor of Commerce
Student 2	72%	Bachelor of Commerce
Student 3	67%	Bachelor of Commerce
Student 4	63%	Bachelor of Commerce
Student 5	63%	Bachelor of Commerce
Student 6	58%	Bachelor of Commerce
Student 7	69%	Bachelor of Science
Student 8	59%	Bachelor of Arts
Student 9	79%	Bachelor of Engineering
Student 10	66%	Bachelor of Technology

Table 5: SISE 2009 - 2010 Curtin University Enrolment

SISE 2008 Result		2009 Curtin University Destination
Student 1	79%	Bachelor of Commerce
Student 2	63%	Bachelor of Commerce
Student 3	59%	Bachelor of Commerce
Student 4	54%	Bachelor of Commerce
Student 5	54%	Bachelor of Commerce
Student 6	79%	Bachelor of Science

Table 4: SISE 2008 - 2009 Curtin University Enrolment

educational backgrounds and class sizes were often large. In the small SISE classes students were able to establish their own identities within the group but in the larger BIS 100 classes it was much more difficult for students to connect with fellow students and the lecturers, and establish their identities.

Table 6: Results of Students Enrolled in SISE 2008

	SISE 2008	CBS BIS 100 Bentley 2008	SISE 2009	CBS BIS 100 Bentley 2009
Student Number	19	754	22	794
Mean Result Unit Performance	60%	52%	64%	54%

### Final Discussion

The success of the Year 12 SISE program was moderately high overall. The SISE program helped prepare high school students for university and promoted independent learning – students were required to preview material outside of class time by accessing the learning management system, emails or the Internet. Students particularly noted that participation in the SISE program increased their self-confidence, motivation to learn and their ability to problem-solve and think critically. In addition to this students were immersed in an authentic learning situation in which they developed a sense of community and achieved positive academic results. In the literature it was noted that factors such as these contributed to students' successful transition to from high school to university (Brinkworth, et al., 2009; Clark & Lovric, 2009; Crisp, et al., 2009; European Molecular Biology Organization, 2006; Pargetter, 2000; Walsh, 2007; Wilson & Gillies, 2005; Yorke, 2000). These findings were supported by current research undertaken by Engstrom and Tinto (2008) that participation in a learning community increased students' persistence with their education.

The evidence presented in this paper suggests that programs such as SISE/Excelerate provide a model that could be useful in giving students a head start at university. Business schools create new ideas, develop leaders and change societies. CBS takes this responsibility very seriously and adopts a long term view to the development of each student. A customised pathway has consequently been developed for CBS Excelerate students to expedite their progression to the workplace. However, the extent to which programs such as SISE/Excelerate promote successful transition to and retention within universities is unknown. Further research is intended to be undertaken in relation to other CBS Excelerate initiatives and longitudinal data could be collected to monitor students' progress through their university courses and into the workforce.

The SISE program investigated in this research represented a 'hot house' situation - selected students with suitable background requirements completed a customised university unit. In reality, students may have neither closely matched background knowledge nor the luxury of participating in small classes where they can familiarise themselves with university routines and get to know their lecturers and classmates. It is unknown if it would be possible to broaden the intake of students into Year 12 university experience programs and the degree to which students from diverse pathways would benefit from such experiences.

## Conclusion

The Year 12 SISE program described in this case study was one of three CBS Excelerate initiatives. Ethics approval was granted to conduct this research and mixed methods were used to collect the data from two cohorts of SISE students; 17 students enrolled in SISE in 2009 completed a written survey (100% return rate) and a total of 11 students from both the 2008 and 2009 cohort of students were interviewed. The research findings and students' mean academic results were included in the case study. As a result of participating in the SISE program students developed a sense of belonging to the SISE learning community and reported increased self-confidence, motivation to learn, and problem-solving and critical thinking skills. An increasing proportion of SISE students enrolled in Curtin University. Therefore, from both a student perspective and a university perspective participation in the SISE program was beneficial. There is a need for further research to be conducted to investigate the outcomes of the other Year 12 experience programs offered through the CBS Excelerate initiative and gather longitudinal data on the impact of such programs. In the future, other faculties and universities may wish to adopt the model described in this case study or adapt it to suit their own situations.

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