Swinburne University's Engagement Strategy to Improve Student Retention and Increase the Sense of Belonging

Professor Glen Bates
Pro Vice-Chancellor (Student Engagement)
Swinburne University of Technology
Student Engagement

• We focus our efforts on enabling activities which enhance the student experience of all students studying at Swinburne. This includes initiatives to improve their academic and personal development and those targeting their professional development.

• Since 2013 the objective has been to address the key issues of:
  o Retention
  o Success
  o Employability
  o Enrichment programs

[Image: Student Engagement cube illustration, Image Credit: http://www.peoplesight.co.uk/]
Attrition Rates in Higher Education: Commencing Undergraduates

Attrition

- SUT
- National
- Vic

Success Rates in Higher Education: Commencing Undergraduates

![Graph showing success rates in higher education for SUT and national levels from 2010 to 2017.](image)

- **SUT**: The success rate remains relatively stable with minor fluctuations, generally staying around the 80% mark.
- **National**: The success rate shows a slight decline from 2010 to 2012, then stabilizes around the 70% mark from 2013 onwards.

The data indicates a generally higher success rate for SUT compared to the national average.
Analytics and Student Retention

“Analytics is the process of data assessment and analysis that enables us to measure, improve and compare the performance of individuals, programs, departments, institutions or enterprises, groups of organisations and/or entire industries”

- Van Barnevald, Arnold, & Campbell, 2012

In developing the Swinburne analytics program within a university retention program we have:

- Used predictive modelling of student enrolment data, and online access data on blackboard to identify and target interventions
- Gathered data on key student variables
- Utilised user behaviour to evaluate interventions
Biggest problems of Adjustment to University Life:

- Adjusting to University learning style: 9%
- Study skills: 17%
- Difficulty and level of the work required: 20%
- Time management and study workload: 23%
- Balancing paid work & study: 6%
-Generally Unmotivated: 6%
-Adequately prepared for course content: 2%
-Health or Personal Issues: 7%
- Other: 5%
Analytics Conducted on Student Withdrawals using 2013 to 2015 Data

Data mining was used to predict course withdrawals for commencing and continuing students.

Initial predictions were made at the beginning of each semester, using logistic regression and classification tree techniques on enrolment data (commencing students) and progress data (continuing students).

Evolving hybrid predictions were made based on blackboard engagement student data and initial estimated probabilities of withdrawal.

Blackboard data included; initial engagement, weekly log-ons, total units accessed, time on Blackboard, downloads.
Results of Data Mining for Commencing Students

**Increased likelihood of withdrawal:**
- Enrolled in first semester rather than second semester
- Number of units enrolled in is low (underload with exemptions) or high (overload)
- Non-permanent Australian resident
- A mature-aged student
- Previously studied in VE
- Parents have not studied at University
- The student's course is in Management or IT
- Failed to engage with Blackboard
- Small number of units accessed online in a week

**Decreased likelihood of withdrawal:**
- Higher ATAR (more than or equal to 70)
- International student
- Relatively higher level of up front payment
- Student is studying a joint degree
- The student is in an Arts course
Results of Data Mining for Continuing Students

Increased likelihood of withdrawal:

- Enrolled in first semester rather than second semester
- Higher number of failed units or withdrawals without penalty
- Enrolled in units with high attrition rates (greater than 30%)
- Enrolled in a joint degree
- Lives further away from university
- Original ATAR less than 70
- Part-time student
- Non-permanent Australian resident
- Previously studied in VE
- Failed to engage with Blackboard
- Small number of units accessed online in a week

Decreased likelihood of withdrawal:

- Ratio of passed units to enrolled units is high
- Relatively high levels of honours grades (Credit, Distinction, High Distinction)
- Student has taken summer or winter semester units
- The student’s course is in Management or IT
- Relatively higher level of up front payment
Area under the ROC Curve (AUC) of weekly classifiers (including Blackboard analytics)
Feeling Part of the University: The Importance of Belonging in Student Engagement and Retention

- A sense of belonging

  **BELONGING DEFINITION:** be a member of, be in, be included in, be affiliated to, be allied to, be associated with, be connected to, be linked to, be an adherent of

- A sense of purpose (career related)

- A sense of being in contact with fellow students

- A sense of being in contact with staff
Effective Activities Leading to Belonging and Retention in UK Universities – Thomas (2015)

**Mainstream** activities: Part of the student's course

Perceived as **relevant** to course outcomes and self-development

**Well-timed** appropriate media

**Proactive** advising by support services

**Collaborative** relationships with Teaching units

**Monitored** outcomes of interventions
The Importance of University Belonging

- For around 30 years, many have raised the importance of sense of belonging in preventing student attrition (e.g. Tinto, 1987: Wilson et al. 2015)

- Empirical studies show that sense of belonging predicts attrition among undergraduate and postgraduate students (e.g., Kahu & Nelson, 2018; Krause, 2005, Thomas, 2015)

- Despite this, although the role of belongingness is well established at K-12 school level, research on belongingness is limited at University level
The Belongingness Construct

• Baumeister and Leary (1995) built on Maslow’s earlier hierarchy of needs ideas and defined belongingness as a personality construct

• ‘a pervasive drive to form and maintain at least a minimum quantity of lasting positive and significant personal relationships’ (p 497)

• They saw belonging as the experience of consistent interactions with others and persistent caring from others and this is a prerequisite of the desire to learn

• At university the construct is broader relating to social relationships, the campus environment and identification with the university as motivational factors (Slaten et al., 2017)
Measuring Belonging

• Although a range of studies have measured belonging in various ways there is no psychometrically validated measure of sense of belonging suitable for Australian higher education students.

• A frequently used measure of belonging in the Australian context is the Student Experience Survey single item indicator – “to what extent have you had a sense of belonging to your institution?”.

• Another common measure in research is an adapted version of Goodenow’s Classroom belonging scale for year 9 students that focuses on the social environment of the school classroom.

• Both measures are problematic as they focus on a unidimensional view of university belonging and do not capture the factors affecting university students.
# Factor loadings for the HEBS

## Table 1.
*Pattern matrix with significant factor loadings for the HEBS*

<table>
<thead>
<tr>
<th>Question</th>
<th>Safety</th>
<th>Social</th>
<th>Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much do you participate in university life (for example, university clubs, leadership program...)</td>
<td>-.120</td>
<td>.512</td>
<td>.059</td>
</tr>
<tr>
<td>How often when you go to university do you frequent local businesses (e.g., cafe's, restaurants etc?)</td>
<td>-.001</td>
<td>.246</td>
<td>.113</td>
</tr>
<tr>
<td>How often do you attend your course's tutorials, lectures, lab classes, etc?</td>
<td>.076</td>
<td>.158</td>
<td>-.032</td>
</tr>
<tr>
<td>How many friends do you have that also attend your university?</td>
<td>-.074</td>
<td>.915</td>
<td>-.032</td>
</tr>
<tr>
<td>How easy is it for you to be able to make friends at your university?</td>
<td>.192</td>
<td>.550</td>
<td>.023</td>
</tr>
<tr>
<td>How much do you identify with the values of your university?</td>
<td>-.042</td>
<td>-.067</td>
<td>.875</td>
</tr>
<tr>
<td>How much do you identify as a typical student of your university studying in the same mode (e.g., first year psychology students)?</td>
<td>.124</td>
<td>.185</td>
<td>.417</td>
</tr>
<tr>
<td>How proud are you of being a student at your university</td>
<td>.176</td>
<td>.082</td>
<td>.580</td>
</tr>
<tr>
<td>How often do you feel isolated or excluded at your university?</td>
<td>.265</td>
<td>.194</td>
<td>.092</td>
</tr>
<tr>
<td>How safe do you feel at your university?</td>
<td>.605</td>
<td>-.095</td>
<td>.106</td>
</tr>
<tr>
<td>How comfortable do you feel being on campus?</td>
<td>.861</td>
<td>.071</td>
<td>.013</td>
</tr>
</tbody>
</table>
The relationship between Negative Impacts On Study (NOIS) and course satisfaction is entirely mediated by sense of belonging.
What does this mean?

• This means that improving student belonging will buffer the impact of individual Negative Impacts On Study (NIOS) on course satisfaction

• Thus, increasing belonging should lead to increased course satisfaction

• The equal importance of all three factors suggests interventions in all three areas can be effective
Choose a university or higher education institution that is best for you.

Compare undergraduate and postgraduate coursework student experience and graduate employment.

Find a study area
Find an institution

Thinking about higher education institutions and study areas? Wish you could ask someone about their experience?

With QILT, you can do side by side comparisons of the quality of the higher education institutions and the study areas that you're interested in.

You can trust QILT results, because they are based on thousands of surveys completed by students across Australia. The results are up to date, because the surveys are completed every year.

Where does this data come from?
- Student Experience
- Graduate Employment
- Graduate Satisfaction
- Employer Satisfaction
Unique Factor items from the Student Experience Survey

<table>
<thead>
<tr>
<th>Skills Development (professional)</th>
<th>Course Expectations</th>
<th>Transition</th>
<th>Student Interaction</th>
<th>Teaching Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confident with unfamiliar problems</td>
<td>Course expectations were clear</td>
<td>Supported to settle into institution</td>
<td>Online or face-to-face discussions (Never - Very Often)</td>
<td>Teaching staff actively engaged students (Not at all - Very much)</td>
</tr>
<tr>
<td>Develops ability to plan work</td>
<td>Clear expectations from the start of the course</td>
<td>Efficient enrolment and admissions processes</td>
<td>Worked with other students</td>
<td>Teaching staff concerned about student learning</td>
</tr>
<tr>
<td>Course sharpened analytic skills</td>
<td>Know the standard of work expected</td>
<td>Induction/orientation activities relevant/helpful</td>
<td>Student interaction outside study</td>
<td>Teaching staff set challenging assessments</td>
</tr>
<tr>
<td>Course developed problem-solving skills</td>
<td></td>
<td>Felt prepared for study</td>
<td>Interacted with different students</td>
<td>Teaching staff provided intellectual stimulation</td>
</tr>
<tr>
<td>Course improved written communication skills</td>
<td></td>
<td></td>
<td></td>
<td>Teaching staff provided constructive feedback</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Teaching staff were helpful and approachable</td>
<td></td>
</tr>
</tbody>
</table>
Structural Equation modelling predicting student course satisfaction

Chi Square (11) = 41.43, p < .001. Fit indices: CFI = .95, TLI = .95, RMSEA = 0.08, SRMR = 0.03  N = 632
Some Recommendations from the SEM

• Confirms the importance of teaching quality, skill development transition and sense of belonging in determining Course Satisfaction

• Emphasises the importance of developing transferrable attributes and professional skills in curriculum development (e.g., communication skills, teamwork, problem solving, confident with unfamiliar problems)

• Underlines the importance of the transition experience in determining perceptions of teaching quality and skill development

• Identifies a Sense of Belonging as a predictor of perceived teaching quality, professional skill development and transition experience (transition, student interaction)
Intervention Example 1: The Swinburne Emerging Leaders Program
Identify and Define the Problem - analytics - action theory

Implement and Promote

Develop a Team of Relevant People/Groups

Evaluate and Refine - analytics

Evaluate and Refine - analytics
Employability skills and Belonging

Problem Identification and Definition

Considerable student concern about employability
“The jobs of the future have not been created yet”
‘People will go through at least seven career changes in their working life’
My course is not preparing me for the job market

Need for recognition of student achievements as people through curricular and extracurricular activities that raise their employability and to help the students recognize their own employability skills
Identifying the important people and groups

- Student volunteering program
- Swinburne International
- Student Administration
- Registrar
- Vocational Education Directors
- Student Representatives
- Faculty Executive Deans
- Vice Chancellor,
  Deputy Vice Chancellor & Executive
- Marketing
Swinburne Emerging Leader Program

Provides recognition for the range of extra-curricular activities students have participated in, as well as development in a range of professional capabilities for the workplace, some delivered in partnership with public, private and voluntary organisations.

Find out more at swi.nu/unleash
The Eight Categories of The Emerging Leader Program

- Campus Participation
- Career Development
- Community Engagement
- Global Citizenship
- Industry experience
- Research
- Sustainability
- Diversity
Skill Categories in the Emerging Leader Program

• Teamwork and collaboration
• Research and analysis
• Critical thinking, problem solving and decision making
• Communication
• Ability to tackle unfamiliar problems
• Independent, initiating and proactive; self-directed
• Ability to learn from situations and events, including failures and successes
• Leadership
UNOFFICIAL TRANSCRIPT

Student ID:
Student Name
Address

STUDENT NAME

Leadership Achievements
Recognised as a Swinburne Emerging Leader for achievement in:
- Campus Participation
- Career Development
- Community Engagement
- Industry Experience

COURSE NAME

<table>
<thead>
<tr>
<th>Year</th>
<th>Unit Code</th>
<th>Unit Title</th>
<th>Credit Points</th>
<th>Mark</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>HRM5006</td>
<td>Human Resource Development</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5009</td>
<td>Recruitment Selection</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5035</td>
<td>Strategic HR in the Business Context</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5034</td>
<td>Human Resource Employee Relations</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5002</td>
<td>Performance and Reward Management</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>HRM5003</td>
<td>Ethics and Sustainability in Business and Society</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5002</td>
<td>HRM Partnering in the Business Context</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5011</td>
<td>Managing People Across Cultures</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5009</td>
<td>Leadership and Team Dynamics</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5010</td>
<td>Human Capital Analysis</td>
<td>12.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HRM5017</td>
<td>Integrative Project in Human Resource Management</td>
<td>25.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of issue: 24 September 2015, Student ID:

This is not an official certificate of your results. To obtain an official Academic Transcript complete an Academic Transcript Request from the Student Form website: www.swinburne.edu.au/studentadministration/
Total Student Registrations by Year 2014-2018
Registrations and Completions for the Eight Categories
2014-2018

<table>
<thead>
<tr>
<th>Category</th>
<th>Completions</th>
<th>Registrations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Development</td>
<td>1130</td>
<td>346</td>
</tr>
<tr>
<td>Industry Experience</td>
<td>2153</td>
<td>1079</td>
</tr>
<tr>
<td>Campus</td>
<td>1079</td>
<td>233</td>
</tr>
<tr>
<td>Community Engagement</td>
<td>944</td>
<td>218</td>
</tr>
<tr>
<td>Global Citizenship</td>
<td>775</td>
<td>218</td>
</tr>
<tr>
<td>Research</td>
<td>663</td>
<td>221</td>
</tr>
<tr>
<td>Sustainability</td>
<td>677</td>
<td>482</td>
</tr>
<tr>
<td>Diversity</td>
<td>219</td>
<td>57</td>
</tr>
</tbody>
</table>
Employability

Swinburne Emerging Leader Program

Before EL

After EL

- manage life
- learning relationship
- understand information
- different perspectives
- organiseworkload
- careerlife balance
- enhance career
- seek opportunities
- initiation
- identify problems
- problem solving
- keep up
- generic IT skills
Swinburne Emerging Leader Program Evaluation

• **Study design:** Matched control sample. Controls matched to Emerging Leaders students on gender, age, course and year of commencement

• **Participants:** 64 Emerging Leaders. 149 controls.

• **Procedure:** All participants were surveyed within 2 years of completing their degrees.

• **Results:**
  
  • Emerging Leaders were significantly more likely to have been employed since finishing their degree than controls.
  
  • Emerging Leaders were significantly more likely to be currently employed than controls
  
  • These differences remain statistically significant after controlling for academic performance.
Intervention Example 2: Orientation and Transition
Identify and Define the Problem - analytics - action theory

Evaluate and Refine - analytics

Implement and Promote

Develop a Team of Relevant People/Groups
An Implementation Strategy Based on Analytics

Problem identification and Definition

Decline in student readiness for university study

After their offer students not receiving clear contact with the University until orientation

Relatively low numbers of students coming on campus at orientation

Orientation program too short
No belongingness measures

Insufficient follow up with students in first weeks of university

Target groups from predictive analytics: first to university, mature age students, students with exemptions, students from VE and migrants from non-English speaking backgrounds
Identifying the important people and groups

- Orientation and Transition committee
- Swinburne Student life
- Swinburne International
- Student Administration
- Student Enrolment
- Vocational Education Directors
- Student Representatives
- Faculty Associate Deans Learning and Innovation
- Vice Chancellor, Deputy Vice Chancellor and executive
- Marketing
Student Support Program for Commencing Students
Orientation and Transition

Principles

Transition is a process of engagement that commences when the student accepts their offer and continues into the first teaching period.

Orientation material should be communicated to students via online and face to face activities.

Orientation activities should cater for the diverse needs of our students.

Orientation should provide opportunities for students to prepare for tertiary study.
Pre-orientation Communication Strategy

At time of offer students receive an SMS from the Vice Chancellor welcoming them to the university

Followed up with an email and formal letter of offer

Regular email contact over the next month advises students of opportunities at Swinburne, explains the orientation stage and links to website

Social media campaign introduced

All communications short and personalised with minimal links to follow

Hard copy letter sent to students and their family members inviting them to the welcome events

Reminder SMS sent 48 hours before all events
Student Communications: Read Your Email Campaign

Razor has done his revision.
Razor has read his student email and found out about his exam venue and details.

Razor is ready.

Are you ready?
Check your student email.
Orientation Related Emails Opened 2014 to 2017

- 2014
- 2015
- 2016
- 2017
- 2018

Swinburne
Industry Average

- 0%
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
Early Intervention Strategy

Six week Orientation and Transition Program

• 3 weeks orientation period in Higher education including
  - Initial welcome events for new students and family members for each faculty
  - Strategies for Success week (and international program)
  - Orientation week

• 3 week transition period (and beyond)
  - Ongoing Communications strategy & Swinburne Connect
•  - Week 1: Welcome Back week
  - Week 3: Reflection week
  - Week 4: Check in Student Survey intervention
  - Full semester of Strategies for success Faculty-specific workshops
Strategies for Success Week

• A 5 day pre-orientation program prior to both semesters

• For all newly enrolled local and International students across all faculties - as well as all “at risk” / “show cause” students

Main Topics Covered:
• The transition between school, TAFE, work and university life
• Connecting to mentors and study groups

• Motivation, goal setting, time management and procrastination

• Balances between study, paid work, family and leisure time

• Using Blackboard effectively

• Getting the most out of lectures and tutorials/labs/studio work

• Planning and writing essays and reports

• Preparing for class oral presentations and formal exams
Attendance at Strategies for Success by Day

![Attendance Chart]
Academic Performance of Students Attending Strategies for Success compared to those who did not
Analysis of the Strategies for Success Program

No differences between ATAR scores for those who attended and those who did not attend Strategies for Success.

Significant differences in Success rates and Average marks for those students attending Strategies for Success in Semester 1 and maintained in Semester 2. Also maintained a year later.

Positive correlation between attendance and average marks but the number of sessions attended does not predict average mark.

No differences in average levels of satisfaction with teaching.
Orientation

Meet people from your faculty, make new friends and have fun exploring our 2017 Orientation program.

Orientation
Welcome to Swinburne! Check out our awesome 2017 Orientation program.

Orientation for international students
Welcome to Swinburne! Find Orientation events especially for international students.
ORIENTATION
2 FEBRUARY – 3 MARCH 2017

VIEW YOUR ORIENTATION PROGRAM
To find your orientation events, enter your course name or code

[Search]

KEY INFO FOR NEW STUDENTS

LIFE AT SWINBURNE

CONNECT WITH US
Impact on Percentage Attendance at Orientation Week

- 2014 Attendance%
- 2015 Attendance%
- 2016 Attendance%
- 2017 Attendance%
- 2018 Attendance%
Week 1: Welcome Back Week

Welcome Back Week is run by the student association providing social events and promotion of clubs and societies.

Student Peer Assistants (SPAs) actively promote initiatives.

In week two to three of each semester lecturers and tutors remind first year students about the approaching census date in week four – and all that this implies via lectures, tutorials and blackboard announcements.
Week 3: Reflection Week

Reflection Week includes further detailed information about all the different student services at the university available to those students who may need it throughout the rest of semester.

We provide slides with all this information to all of the academics involved in teaching first year units shown and discussed in class.

In 2017 we added a student forum lunch run by mentors on settling into university.
Reflection Week.
Monday 14 August - Friday 18 August

THERE’S STILL TIME!

Let’s talk about how you’re going.
Now is a great time to reflect on how you are going with your studies and let us know if you need any help or advice before Census date on Thursday 31 August.

What is Census date?
Census date is the deadline for:

- Making any final changes to your enrolment without incurring financial or academic penalties
- Providing a Tax File Number if you have requested VET FEE-HELP, FEE-HELP or HECS-HELP
- Providing proof of citizenship if requested
- Completing and submitting a request for Commonwealth Assistance form

You’re not alone, we’re here to help.
We have a range of people and services that you can approach for help or advice.

**Academic support**
Are you struggling to juggle uni life and study? Contact one of our friendly advisers
swlnu/studysupport

**Personal support**
Access help for issues including housing, finance, disability, health and child care
swlnu/stuserv

**Career support**
Get career advice, find a job and find out about getting industry experience while you study
swlnu/employment

**Get involved**
Swinburne Student Amenities Association (SSAA) is here to help you get involved in uni life through clubs, social activities and leadership and volunteering opportunities. They also offer academic advice and advocacy services to help you get the most from your education
swlnu/ssaa
Week 4: Utilising the Check –In Survey

• Pilotted in 2015 as part of our student feedback system for first year students’ feedback during semester.
• The survey asks two questions rated 0 to 10:
  • “I am satisfied with this unit so far”
  • “I am confident that I can successfully manage the academic requirements of this unit”
  • Students can also provide written feedback
• The second question taps into the students’ academic self-efficacy.
Analysis of the Check-In Survey Results

- Analysis of 2015 data showed responses to the question strongly predict academic grades and can identify students likely to fail, especially for formative units (e.g., Accountancy, Statistics).

- ROC analysis was conducted to establish cut-off points for unit self-efficacy ratings (out of 10) that gave over 95% likelihood of failure.

- In 2016, 150 students across the three faculties were identified for follow up on the basis of Check-in scores.
  - 128 contacted in 2017 and 145 in 2018
Student Academic Development

The Role of Academic Development Advisers

There are currently six Student Development Advisers who operate in each of the three faculties at Swinburne University.

The goal of these Advisers is primarily to engage with students within those faculties.

Specifically, the initial approach is to help ease newly enrolled students with their transition to university life. This includes mentors, study groups, and Student peer assistance (SPAs).

In addition, there is an ongoing offer of support and academic advice throughout the student journey of undergraduate and postgraduate study.
Student Academic Development

The Role of Academic Development Advisers

One on One (30 minute) appointments

General Student Advice and Academic Support for newly enrolled, ongoing, at risk and show cause students.

Referrals to and from.....

- Academics
- Learning and Academic Skills Centre
- Careers and Employability
- Counselling and Medical Services
- Equity and Accessibility units
- Student Union Groups
- Swinburne Connect
Some Future Directions for Analytics and Student Support

- Better integration of data systems to assist
  - Identifying cohorts of students
  - Early identification of at risk behaviour
  - Tracking students over time and across services to assist evaluation of services

- Better integration of support services within mainstream academic programs though embedding of academic skills and career information (needs culture change)
Questions?