

# Helping biomedical science students struggling with “second-choice-syndrome” to thrive rather than just survive.

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## Abstract

*James Cook University (JCU) Biomedical Science students struggle with their first and second year transitions, which appear compounded by ‘second-choice-syndrome’ (disappointment of not being accepted into their first choice degree) as evidenced by high inter-degree transfer rates and low primary degree completions. This is despite the cohort having high subject (unit) grade point averages and satisfaction ratings. This project evaluated the impact of two extracurricular strategies (email newsletters, themed luncheons) on student engagement and success as evidenced by formal and informal student/staff feedback and success. While students rated the initiatives highly with positive support themes of networking, collegiality, belonging and engagement, there was no direct improvement in grades, retention or degree satisfaction metrics. It is becoming increasingly important to recognise and separate the classic academic measures of student survival from the personal and social support required for students to thrive regardless of cohort demographics or career path.*

## Introduction

Kift et al. (2010) suggests the transition pedagogy transcends the silos of academic and administrative support to a more holistic support for students to thrive (Schreiner 2010, 2011). Thriving students have healthy connections to people on and off campus that support them, listen to them and spend time with them. They also feel that they are a part of a campus community (Tinto, 2012) that recognizes that they matter and they are cared about (Schreiner, 2012). The facets of social connectedness including individual relationships and a sense of belonging are crucial to students thriving (Maisel & Gable, 2009). No unanimous information exists on the most effective means to support students and to disseminate just-in-time information or what just-in-time information is pertinent for the students as they progress through their university ‘student lifecycle’. Lizzio (2011) and Tinto (2012) suggest the student lifecycle/journey involves identities, needs and purposes as they enter into, move through and graduate from university. Students are unique and have different identity-related needs at different times of their student lifecycle, with persistence often coming with a range of emotional highs and lows (Lizzio, 2011, Wilson, 2012).

First year Biomedical Science cohorts at James Cook University have displayed high degree transfer rates and low degree retention over the past 5-6 years. This project created an environment and resource bank of pertinent support information and contacts delivered at

critical times in students' university transition. The aim was to investigate if the provision of extra-curricular just-in-time information for the 2014 cohort would: a) increase first year student retention between 1<sup>st</sup> and 2<sup>nd</sup> semester and between 1<sup>st</sup> and 2<sup>nd</sup> year? b) improve student subject/unit satisfaction for the biomedical science subjects? c) increase grade profiles over the first year biomedical science subjects? d) increase first year student preparedness (confidence/self-assuredness, collegiality/sense of belonging, engagement and sharing between students and subject engagement) so they can thrive? Extending this support into the second and later years is crucial to avoid the often unseen and unique challenges ("sophomore slump") of these additional transitions as already reported in biomedical science students (Loughlin, 2013).

## Methodology

Bachelor of Biomedical Science is offered as a three year (6 semester) degree at the Townsville campus of James Cook University, Australia. Students in Biomedical Science have a common core first and second year subject/unit sequence with major selection available in third year. Bachelor of Medical Laboratory Science degree students also share the first and second year subject/units and were invited to all strategies in this project. The 2014 first year cohort of biomedical science students consisted of 41 students, 74% Female and 26% Male, 9% Australian Aboriginal and Torres Strait Islander, 33% Low and 67% Medium Socio Economic Status (SES) and 58% first in family (FIF) students. Other demographic details included 10% Non-english speaking background (NESB) student, 23% Regional and 52% Remote students. Students enrolled in the biomedical science degree have a broad but generally high academic entry score (OP/ATAR) and 90% study full time (4 subject/units per semester). Historic data demonstrates Bachelor of Biomedical Science students have a low primary degree retention and completion rates, yet higher university level retention and completion rates combined with their high transfer rates (Table 1 below). The top ten transfer destinations for the biomedical science students over the previous six years (2008-2014) are Bachelor of Medicine/Bachelor of Surgery, Bachelor of Nursing Science, Bachelor of Science, Bachelor of Psychology, and Bachelor of Pharmacy. The majority of transfers are at the end of first year.

BBiomed Year Cohort	2008	2009	2010	2011	2012	2013	2014
Starting Students	22	29	32	44	28	47	41
% Retention Degree	49	57	55	63	58	42	-
% Retention Faculty/College	76	80	69	75	75	62	-
% Retention University	78	80	82	79	80	72	-
% Change Degree Prior to Completion	50	55	50	41	61	28	-
% Different Degree Complete	32	17	3	2	-	-	-
% Original Degree Completed	46	21	31	18	-	-	-

*- data unavailable at this time.*

**Table 1: JCU Biomedical science student retention and transfer 2008 to 2014.**

This project involved the delivery of two separate just-in-time student engagement initiatives to 2014 first year students; a bi-weekly MicroBytes 2-page Newsletter email and themed

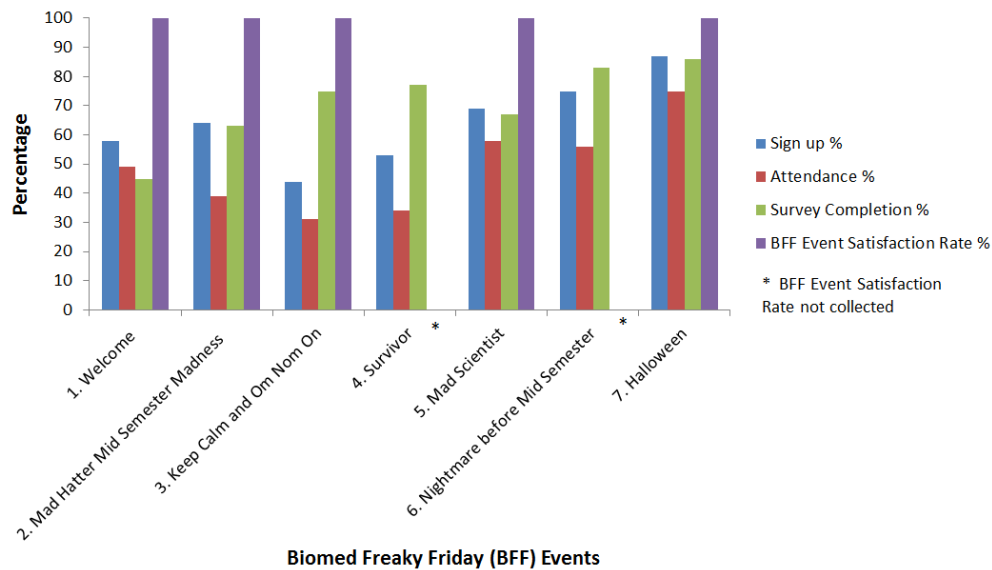
monthly one hour Biomed Freaky Friday (BFF) luncheon events across first and second semester. Timing of events was based on an emotional graph of student wellbeing presented in the JCU Parents and Partners Guide and published first year transition literature (Kift, 2010; Wilson, 2012). The following academic and profession student support agencies actively participated in the BFF luncheons throughout 2014: Learning, Teaching and Student Engagement (wellbeing, careers, accessibility, learning advisors), Library and Student Centre, Student Mentors, JCU Student Association, JCU Student Association Food (catering). This project was supported by the JCU Student Services and Amenities Fees (SSAF) Grants Scheme 2014. Ethical clearance to survey the students was granted by the James Cook University Human Ethics committee.

While it is difficult to accurately set key performance indicators/targets for extracurricular student support strategies such as these, we measured the success of the bi-weekly MicroBytes Newsletters and the monthly BFF lunch events via the following formal and informal evidence sources: Anonymous informal surveys/polls of student perceptions, opinions, attendance rates and suggestions of the BFF events; formal university student survey of first year subjects/units; informal student communications and feedback via student mentors and academic staff; transfer and retention rates via formal JCU data warehouse. Some evidence sources such as 2014-2015 retention rates and 2014 University Experience Survey responses are pending at this time and will be presented at conference.

## **Results**

Overall student satisfaction with the BFF events was 100% with student ratings not being gathered specifically at the fourth and sixth event (Figure 1). On average 64% of students intended to attend the BFF events however on average 49% actually attended. There was a steady increase in survey participation from the first BFF event (45%) to the seventh BFF event (88%). Based on questions added to the formal JCU Subject/Unit Survey in Semester II 2014, 63% respectively agreed the MicroBytes newsletters were fun and encouraging support compared to 88% agreeing the BFF events made them feel supported and connected within the Biomedical and JCU community. Analysis of the student formal and informal surveys and the academic staff (n=9) formal survey open ended question responses highlighted the following support themes: (1) usefulness of the BFF handouts, (2) gratitude for the networking opportunities to increase their contacts within the biomedical course and the JCU campus, (3) feelings of support/belonging/engagement which was also noted by the academic staff surveyed, (4) a sense of collegiality and fellow classmate engagement was noted by both students and academics, and (5) students also expressed an appreciation for meeting and hearing from current researchers and potential careers within biomedicine and that the BFF atmosphere was conducive to a social event and a stress reliever. Sample students and academic staff comments will be provided at conference.

Interestingly, the classic indicators of academic success such as student subject/unit grades and satisfaction appear NOT to be improved by these extracurricular support initiatives. Overall student satisfaction (JCU formal survey) with the eight core subjects/units were not changed as compared to 2013.



**Figure 1: Biomed Freaky Friday (BFF) 2014 event and survey participation and overall satisfaction rate.**

Biomedical science student subject pass rates did not increase significantly 2013-2014 with the additional support and remained high at ~80%. It is important to note that the project initiatives were not formally associated with a specific subject/unit and follow up surveys of returning 2015 second year students are planned in combination with retention data and 2014 University Experience Survey (UES) analysis.

## Discussion

The main purpose of this study was to create a more holistic support system for first year biomedical science students to thrive in. Student success is typically defined by academic performance (GPA), learning (critical thinking, analytical reasoning, effective writing and communication skills, etc.) engagement and graduation. However, for students to be successful they need to have the attitudes/behaviors and psychological processes that lead to engagement, thriving (Schreiner, 2010) and flourishing (Keyes & Haidt, 2003). Students are much more self-aware and socially networked than ever before, hence a trifecta of academic, emotional and social support leads to a thriving environment. Reason et al. (2007) argued that the personal, social and academic competencies of students need to be addressed on an institution level to provide engagement activities, yet in 2010 and today in 2015 there tends to only be pockets of first year support rather than an whole-of institution approach in Australia (Kift et al., 2010).

Schreiner (2012) suggests that successful transitions are based on positive perception (of self), healthy coping skills, social support and access to information and resources for significant personal growth. The shift in student perspective from surviving to thriving is crucial to their quality of life. The creation of a sense of belonging and the provision of support to reduce stress, environmental factors and adjustment challenges may not encourage students struggling with second-choice-syndrome to stay in their primary degree that they perceive as a transition or stepping stone to their first choice degree, however it will add to their quality of life so they can thrive in their current situation rather than just survive first year. Whether students are in their chosen degree or in a state of transition is it crucial we

support them through the transition so they can make informed decision about their life, wellbeing and academic careers.

### Questions for Participant Discussion

1. What are the metrics of student success for students in high transfer rate degrees?
2. How do we sustain extracurricular first year initiatives that students value but may not show improved student *academic* outcomes? What does thriving look like?
3. Who is on our best first year experience support team for millennial students (Gen Y-Z), new players perhaps?

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