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## A chronicle of just-in-time information: The secret to building first year university student wellbeing and resilience based on a three year initiative.

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### Abstract

*To date, little has been published on the provision of student-driven just-in-time information to support first year students. This chronicle of just-in-time curricular and extra-curricular student support information was designed early in 2014 and successfully disseminated to first year biomedical science students over three years at James Cook University, Townsville, Queensland, Australia. In 2016, the information was redeveloped to make the support information electronically available to a much broader student audience. This article provides a dissemination template of what just-in-time curricular and extra-curricular information is required by first year university students. In addition, it outlines how students' need for this information was determined and how information was successfully created and disseminated over these three years to assist the students in their transition to and through university. The intention of this article is to contribute to the growing body of knowledge on student resilience and wellbeing and to provide a guide for anyone interested in supporting their students in a similar manner.*

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## Introduction

Initial experiences on campus are important as students' first impressions and transition to undergraduate study can influence their persistence in higher education (McInnis, 2001; McInnis, Hartley, Polesel, & Teese, 2006; Schreiner, Louis, & Nelson 2012; Williams, 1982). No unanimous opinion exists on the most effective means to support students and how best to disseminate curricular and extra-curricular just-in-time information or for that matter, what just-in-time information is pertinent for the students as they progress through their university student life-cycle (Taylor & Harrison 2016). Lizzio (2011) and Tinto (2012) suggest the student life-cycle/journey involves identities, needs and purposes as they enter into, move through and graduate from university.

First year student research and transition pedagogy advocates the importance of creating a campus community (Tinto, 2012), a sense of belonging (Maisal & Gable, 2009) and how transition pedagogy transcends the silos of academic and administrative support for a more holistic environment (Kift, Nelson, & Clarke, 2010) in which students can thrive, rather than just survive (Taylor & Harrison, 2016). Cabrera and Padilla (2014) suggest that, despite economic, cultural, social and first in family barriers, educational resilience - and hence student success - is enhanced through community support and social and academic support (Clauss-Ehlers & Wibrowski 2007). Resilience is the ability for an individual to cope, make alternative plans and seek support during setbacks. It is the ability to bounce back wiser, stronger and more courageous. The more an individual learns and practises, the more resilient they can become which highlights the importance for student support, particularly for individuals with financial and transition challenges such as first in family. First in family is defined as the first member of their

immediate family (siblings, parents or primary care-givers) to attend university.

An evaluation of the responses of the James Cook University (JCU) students to the University Experience Survey (UES) conducted in 2013, made evident that a variety of reasons students withdraw were higher than the national average (NA): particularly first in family (60% JCU vs 48.3% NA), financial difficulties (37% vs 29%) and family responsibilities (23% vs 17%; Taylor & Harrison 2016). JCU biomedical science students, like many first year students, struggle with the first year transition which is compounded by the fact that 33% of them struggle with "second-choice-syndrome" (disappointment of not being accepted into their first choice of professionally accredited courses of medicine, nursing, etc.; Taylor & Harrison 2015a; 2015b; 2016). Historically JCU first year bachelor of biomedical student retention from year to year (2008-2014) ranges from 42-63%, faculty retention 62-80% and the university retention of these students in general ranges from 72-82% (Taylor & Harrison, 2016).

This article focusses on four main factors: 1) just-in-time information requirements and creation, 2) just-in-time information dissemination, 3) results and success, and 4) redevelopment into *iAspire Student Support* articles electronically posted for a much broader student audience. This discussion is followed by conclusions drawn based on the success of the student support initiatives and the downloads of the *iAspire* articles.

## Overview of the initial research

The 2014 first year cohort of biomedical science students consisted of 77 students in study period one (SP1) and 52 in SP2 (Table 1). In SP1 there were 74% Female and 26% Male, 9% Australian Aboriginal and Torres Strait Islander (ATSI), 33% Low and 67% Medium Socio Economic Status (SES) and 58% first in family (FIF) students. Other demographic details included 10% Non-English Speaking

**Table 1 Biomedical science student degree cohort characteristics in 2014 (Statistics from JCU Cognos®)**

Cohort Total	Gender		Ethnicity		Socio Economic Status		First in Family		NESB		Location		
	F	M	ATSI	Other	Low	Med	Y	N	Y	N	Reg	Rem	Other
SP1: 77	57	20	7	70	25	52	45	32	8	69	18	40	19
	74%	26%	9%	91%	33%	67%	58%	42%	10%	90%	23%	52%	25%
SP2: 52	39	13	5	47	17	35	30	22	5	47	12	27	13
	75%	25%	10%	90%	33%	67%	58%	42%	10%	90%	23%	52%	25%

*SP – Study Period; ATSI – Australian Aboriginal and Torres Strait Islander; Med – Medium; Y – Yes; N – No; NESB – Non-English Speaking Background; Reg – Regional; Rem – Remote.*

Background (NESB) student, 23% Regional and 52% Remote students (Table 1). There were 29 of the 52 SP2 students in 2014 that progressed to the second year of the biomedical science degree in 2015 (Taylor & Harrison, 2016).

In 2014, a student support initiative was established to disseminate curricular and extra-curricular just-in-time information to first year and second year biomedical science students to build their resilience. The program consisted of monthly 50 minute themed (costumes optional) pop-up lunch events called Biomed Freaky Friday (BFF) and a biweekly MicroBytes e-newsletter (Taylor & Harrison, 2016). Each BFF event was themed to correspond with its timing in the semester and season (Table 2) and to relate with the potential issues and challenges the students may be dealing with at that point in time during the semester. For example, the Nightmare before Mid Semester was before the mid semester exams and was a spoof of the Tim Burton movie *Nightmare before Christmas* (Table 2). The pop-up BFF events provided a temporary suspension of reality for the

students during their lunch hour where they could relax, be entertained (networking and team building games and activities), be catered for and treated as special guests. On average between 31% and 75% of the first year cohort (n=77 SP1, n=52 SP2) and consistently 96% of the second year cohort (n=29 SP1 & SP2, 2015) attended their BFF events (Taylor & Harrison, 2016).

### *On and off campus BFF event involvement*

A host of academic and professional student support agencies from both on campus (JCU staff from student life, JCU Student Association, library liaison and rovers, student central, learning advisors, student mentors, equity and student engagement, student wellbeing, careers and biomedical academic and research staff) and off campus (Townsville community Bendigo Bank and laboratory suppliers Sarstedt, Cell Biosciences, ThermoFisher Scientific. actively participated in the BFF

luncheons and provided additional support information and resources not outlined in this article (Taylor & Harrison, 2016). These resources and advisors were available to help students see their potential and to assist them in envisioning their future and success similar to what Snyder (1994) referred to as caring coaches who are particularly important for students at risk (Schreiner, Noel, & Cantwell 2011). The creation of a sense of community, belonging and a support network with resources (Table 2) is key for a more holistic support initiative for first and second year students to thrive and for building resilience (Clauss-Ehlers & Wibrowski 2007). Having contacts and a network system is particularly important as first year students are often seeking clarity on their academic identities and purpose and in second year to reduce the sophomore slump (Loughlin, Gregory, Harrison, & Lodge, 2013; Taylor & Harrison, 2016). Both contacts and a network system have been linked to building student resilience (Clauss-Ehlers & Wibrowski 2007).

At each BFF event the students received a themed 20-28 page booklet filled with extra-curricular and curricular just-in-time information relating to their academic, social and personal challenges (Table 2). The contents of the BFF student support information booklets are an important focus of this paper along with the success of this student-driven support information that lead to the creation of non-discipline specific *iAspire Student Support* articles for a much broader student audience.

## 1. Just-in-time information requirements and creation

In early 2014 it became a challenging task to decide what curricular and extra-curricular just-in-time information students required and at what point in their university life-cycle. A literature review on the provision of student support to improve their wellbeing and the university students' life-cycle (Lizzio, 2011; Taylor & Harrison, 2016, Tinto, 2012, Wilson &

Lizzio, 2012) and for building resilience (Clauss-Ehlers & Wibrowski 2007) lead to initial indicators of what information the first year students may require, however, the most valuable resource was the students themselves. Once a rapport was established between the first year experience coordinator and the six volunteer students from the first and second year cohorts, the need for relevant material was openly discussed. This led to the delivery of student-driven curricular and extra-curricular just-in-time information that created a safe, supportive and nurturing environment; something which Clauss-Ehlers and Wibrowski (2007) found contributed to resilience-building in first and second generation university students.

The just-in-time support information provided to the students, as outlined in Table 2, included coping skills, life skills, study skills and motivational quotes from famous and accomplished people to encourage a positive and growth-oriented mindset for students that encouraged their positive appraisal of their situation while stimulating an "I can handle this" attitude. The support information was aimed at providing an "I'm not alone" and "we're in this boat together" feeling. All of the components that potentially lead to improving an overall sense of hope (Snyder, 1994). Tempiski et al. (2015) found that medical students with higher resilience levels seemed to have improved perception of their educational environment and a better quality of life overall.

The support resources delivered to the first year students (Table 2) provided resilience, building support with strong consistent supportive counselling ideas that could address academic and personal challenges (Clauss-Ehlers & Wibrowski, 2007) so individuals could feel more apprised for more positive internal responses such as "I know what to do" or at least "I know where to seek help". Schreiner et al. (2012) suggests that a growth mindset is much more positive with an understanding that this is how we learn and grow rather than functioning

in a fixed mindset of avoidances using phrases like “I’ll try” or “I’m not smart enough” - with the latter most definitely leading to procrastination and additional stress in a student’s life. This mindset has also been associated to low hope and the challenges associated with a low sense of agency (Schreiner, 2010; Snyder, 1994). Assisting students to develop their goal setting capacity and a sense of agency by building on their strengths is a key factor in student wellbeing (Kibby, 2015; Snyder, 1994) and to improving their resilience (Grant & Kinman, 2012).

### *The creation of engaging student support content*

To complement the BFF handouts, just-in-time curricular and extra-curricular support information was provided in the form of bi-weekly *MicroBytes* e-newsletters (Table 2). How students scan and take in information in a quick and easy fashion was considered in the creation of the e-newsletters and the handouts. Dot points, font and font size, easy to follow charts, pictures and visual representations of information were utilised as students tend to scan, rather than read information from media sources such as websites, flyers and handouts. Nielson’s (1997) web usability study highlighted that 79% of users scanned rather than thoroughly read word-for-word web screen information. Three decades later scanning has become even more prevalent (Krug, 2014) as we trawl through the plethora of information available to us. It is no different for students who are overwhelmed with reading requirements for each of their subjects’ content.

Understanding your audience and their requirements as well as their time limitations are paramount to providing curricular and extra-curricular just-in-time information successfully. In a study of web content reading, Nielsen (1997) found through eye tracking visualisations that users often read web pages in an F-shape or an E-shape pattern: two to three horizontal stripes followed by a vertical

stripe of content scanning. Nielsen (1997) and Krug (2014) note the importance of making the information in documents, handouts and on web sites concise and engaging through the use of short captions to introduce the content. This makes the information more reader-friendly and encourages the reader to persist rather than creating the typical academic mass of overwhelming text. When covering complex topics, breaking the information in to bite size chunks and embracing the use of white space helps to facilitate reading and comprehension. For example, paragraphs should feature only one idea and be kept short to 3-4 sentences. The use of bullet points or numbered lists with an enticing title, like “Five Top Tips” or “Five Secrets” will ease scanning and reading. Sentences need to be succinct and should not contain unnecessary words just as paragraphs should not contain any unnecessary sentences (Krug, 2014, p. 49).

The use of compelling and informative headings or captions paired with an authentic image leads to the highest levels of reader engagement (Krug, 2014; Bean, 2014). Supplying links or outbound hypertext links is also an effective way to provide more information if the reader is interested however, it is important that the links are current and usable to avoid user frustration. Writing style and layout are also important. It is critical to create information that will work for both novice and expert users by writing in a relaxed or semi-formal academic style, making the content enjoyable as well as useful. How the student support content was read or utilised was not measured in this study however, it would be an interesting topic for future research and could provide an insight on how to better provide support information to first and second year university students. The guidelines outlined by Bean (2014) Nielsen (1997) and Krug (2014) informed the creation of the BFF just-in-time curricular and extra-curricular information and the *iAspire Student Support* articles.

## 2. Just-in-time information dissemination

Feedback from the six student volunteers, and the cohort's overall progression through the semester were both determining factors for the delivery of pertinent, authentic and rich student-driven just-in-time curricular and extra-curricular information. Table 2 is an outline of the curricular and extra-curricular just-in-time information successfully provided to the first year students and the weeks in which it was delivered based on student requests and feedback. The second year student support initiatives utilised the same timing for the delivery of the support outlined in Table 2; however, the content was adapted to meet the second year students' requirements and offered an opportunity for reflective growth.

### *Timing of just-in-time information distribution*

Every student is unique, therefore each of them will have different identity-related needs at different times of their student life-cycle. Persistence often comes with a range of emotional highs and lows (Lizzio, 2011; Wilson & Lizzio, 2012). An understanding from the first year transition literature (Kift, et al., 2010; Taylor & Harrison, 2014; Wilson & Lizzio, 2012 Figure 1) of when the highs and lows are likely to occur suggested the optimal timing for the provision of student support information. Utilising findings from transition literature, the BFF student support initiative aimed to follow and improve the emotional graph by easing the lows and improving overall student wellbeing while building their resilience (Grant & Kinman, 2012).

The provision of student curricular and extra-curricular just-in-time support information aimed to shorten the ebbs (dipping below the OK line in Figure 1) while promoting active engagement, encouraging growth, and inspiring heightened progression in the flows (well above the OK line in Figure 1). The provision of the just-in-time support information contributed to creating a sense of engagement and belonging

(based on student and academic surveys feedback) while the BFF luncheons offered opportunities for networking and collegiality among the students and other academics and professionals on and off-campus. These types of initiatives have been linked to resilience building and the ability to forge success (Clauss-Ehlers & Wibrowski, 2007).

## 3. Results and Success

A great deal of positive student and academic feedback was received on the BFF events and the BFF booklets content in 2014 and 2015 and on how the support information improved and supported the first and second year students' experience. The *MicroBytes* e-newsletters also received a high student satisfaction rating and positive student feedback (Taylor & Harrison, 2016). This was evidenced by 63% of the 52 students surveyed in 2014 respectively agreeing that the *MicroBytes* e-newsletters were fun and that they encouraged support. In addition, 88% agreed that the BFF events and handouts made them feel supported and connected within biomedical science and the JCU community (Taylor & Harrison, 2016). The students' surveys and student quotes suggest an overall sense of hope and that abilities to build resilience were improved.

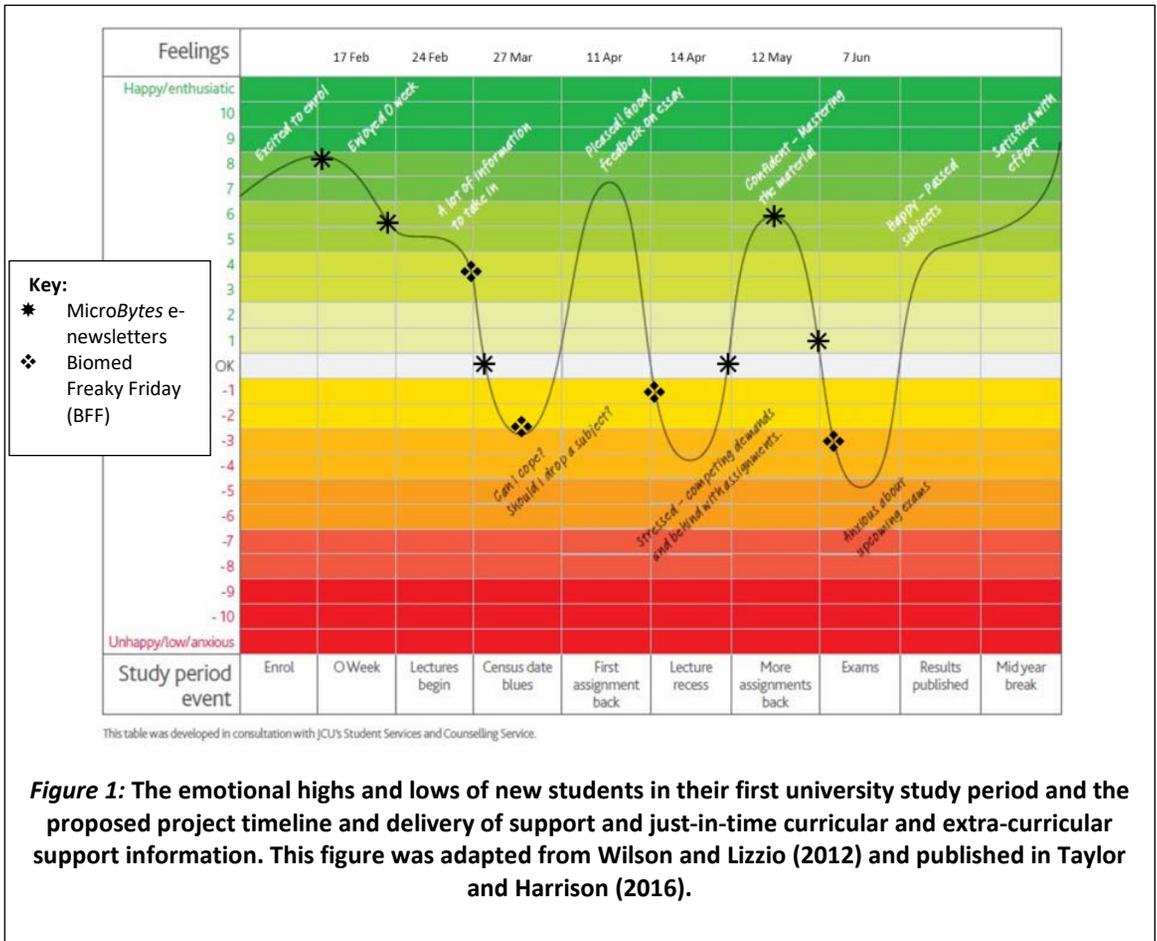
A central goal was to improve student support, wellbeing and learning potential while bolstering the students' overall sense of hope and abilities to build resilience. Hope and resilience were not officially measured in this study however hope and resilience as measures of students' wellbeing would be highly recommended for future studies in this area. These guidelines also informed the redevelopment of the BFF booklets contents for the *iAspire Student Support* articles discussed later.

**Table 2: A timeline dissemination template for the Biomed Freaky Friday (BFF) luncheon event themes and an outline of the just-in-time information delivered to the first year students in 2014 and 2015.**

Semester dates	Just-in-time information
<p><b>Study Period 1</b></p> <p><b>Orientation Week</b></p>	<ul style="list-style-type: none"> <li>• Introduction to the first year experience coordinator and the academic advisor.</li> <li>• Induction and introduction to first year lecturers and laboratory technicians/tutors to build rapport.</li> <li>• Outline the importance of networking with class mates, academic staff and technicians and suggestions on how to network.</li> <li>• Introduction to PhD researchers on staff to provide an indication of post degree opportunities.</li> <li>• How to set up a time table of classes, laboratories and tutorials.</li> <li>• How to set up a study period plan, a weekly pan, a job list and a daily action plan.</li> <li>• University etiquette and academic expectations.</li> <li>• How to set up an assignment plan.</li> </ul>
<p><b>Week 1-4</b></p>	<p><b>Event Theme:</b> Mad Hatter Tea Party A spoof on Tim Burton's and Lewis Carroll's Alice in Wonderland.</p> <p><b>Information provided on:</b></p> <ul style="list-style-type: none"> <li>• Steps for effective time management and organization.</li> <li>• Organizing lecture material and study areas.</li> <li>• How to take, revise and condense lecture notes.</li> <li>• How to plan an assignment working backwards from the due date.</li> <li>• Five Study strategies.</li> <li>• How to set up a personal budget and plan your savings.</li> <li>• Review of how to work with a diary of all study, work and life activities.</li> <li>• How to assess what is working and what isn't working so the next four weeks can be improved</li> </ul>
<p><b>Week 5-8</b></p>	<p><b>Event Theme:</b> Keep Calm and Om Nom On Namco's Pac Man</p> <p><b>Information provided on:</b></p> <ul style="list-style-type: none"> <li>• Six tips from successful students.</li> <li>• The top 9 study habits.</li> <li>• How to get motivated.</li> <li>• The cone of learning and the importance of attending classes, labs and how to relate assignments to lecture and lab materials.</li> <li>• How to set up a study group and the benefits of study groups.</li> <li>• Tips and suggestions on academic writing.</li> <li>• How to maximize your grade potential.</li> <li>• How to work smarter not harder.</li> <li>• Why do I feel the way I do? What can I do?</li> <li>• How to use tips and strategies to create new habits.</li> </ul>

<p><b>Week 9-13</b></p>	<p><b>Event Theme: Survivor</b> A spoof on the Survivor TV Show</p> <p><b>Information provided on:</b></p> <ul style="list-style-type: none"> <li>• Feeling Anxious? What to do!</li> <li>• Distortions that add to anxiety, worry and stress.</li> <li>• Tips on planning careers, resumes and portfolios.</li> <li>• How to network in a host of different environments.</li> <li>• How to maximize your exam potential.</li> <li>• Top 10 exam tips and exam tips from students.</li> <li>• An outline of common instructional words used in exams.</li> <li>• How to best prepare for exams.</li> <li>• Reminder of study group benefits and how to form a study group.</li> <li>• Quality study snacks and suggestions.</li> <li>• How to cook once and eat three meals. The eat-well plate and yummy recipes.</li> <li>• Suggestions on how best to take care of your self during stressful situations.</li> <li>• Personal note from the first year experience coordinator.</li> </ul>
<p><b>Study Period 2</b></p> <p><b>Week 1-4</b></p>	<p><b>Event Theme: Mad Scientist</b> Transforming laboratory science into fun props and ornamentation</p> <p><b>Information provided on:</b></p> <ul style="list-style-type: none"> <li>• A guided reflection on your success in study period one.</li> <li>• How to improve your study area.</li> <li>• Reminder on how to get and stay motivated.</li> <li>• Reminder of distortion thoughts that cause anxiety, worry and stress.</li> <li>• Time management suggestions.</li> <li>• Reminder of networking and career strategies.</li> </ul>
<p><b>Week 5-8</b></p>	<p><b>Event Theme: Nightmare Before Mid-Semester</b> A spoof of the Tim Burton movie Nightmare Before Christmas</p> <p><b>Information provided on:</b></p> <ul style="list-style-type: none"> <li>• Happiness = Reality – Expectations: How to balance your expectations with reality.</li> <li>• Tips on how to strategize, plan and get things done.</li> <li>• How to train your brain to stay focused.</li> <li>• Study tips for specific subjects the students feel they are struggling in.</li> <li>• Fifty tips for surviving your worst work days.</li> </ul>
<p><b>Week 9-13</b></p>	<p><b>Event Theme: Halloween</b> Eat, drink and be scary.</p> <p><b>Information provided on:</b></p> <ul style="list-style-type: none"> <li>• Reminder of previous exam and study tips provided.</li> <li>• How to plan your three-month break (celebrate, catch up with family and friends, jobs, volunteer, micro or extended adventures and suggested books to read).</li> <li>• How to organize and store your subject material, assessments and subject outlines.</li> <li>• Plan for packing up your temporary residence for the break. A moving check list.</li> <li>• Final exam preparations.</li> <li>• Inspirational quotes, notes and images.</li> <li>• Personal note from the first year experience coordinator.</li> </ul>

**Note:** All of the student support information noted above also contained inspirational quotes, notes and images.



The following quotes highlight the usefulness of the BFF handout booklets that contained just-in-time curricular and extra-curricular student support information:

First year biomedical science student quotes (2014 & 2015) on the just-in-time information handouts reflected their impact: *"the handouts are great and very informative loved the study plan stuff", "love the BFF and the handouts", "handouts are very helpful", "Easy access to learning resources" and "very helpful motivational tips in the handouts"* (for more quotes please refer to Taylor & Harrison, 2016).

First year biomedical science student quotes (2014 & 2015) on the BFF events: *"great event*

*to make you forget about all your stress and enjoy yourself for an hour", "great presence and atmosphere", "I found it [BFF events] beneficial in breaking the ice and really getting to know others in my course", "It was great to be able to network with people who are teachers or graduates and to make stronger connections with friends" and "Having themes is a good idea and makes it enjoyable"* (Taylor & Harrison, 2016).

JCU Academic staff (2014 & 2015) quotes on the BFF events and handout booklets: *"Interaction in an informal setting enabled students to feel comfortable enough to approach staff and discuss subject content and career aspirations" and "Very good turnout for BFF events,*

participation, dress up, etc.” (Taylor & Harrison, 2016).

The second year students (n=29) that were initially involved in the first year support initiatives in 2014 were provided with support information along with two BFF events in each study period in 2015. The second year BFF events were very successful (based on informal and formal student feedback) in supporting the students through their sophomore slump with 96% of the second year cohort consistently attending the BFF events in second year.

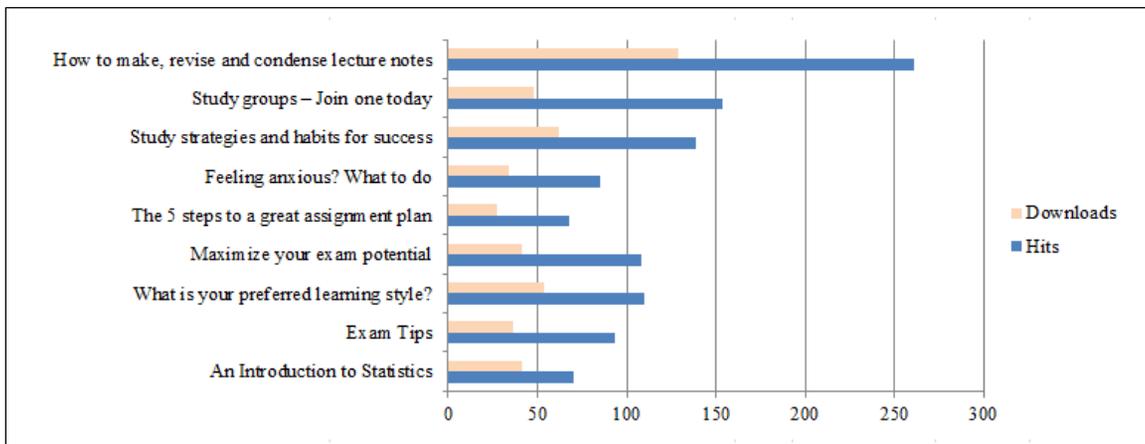
Results of the student support and the curricular and extra-curricular just-in-time information initiatives were presented at the Australian Conference on Science and Mathematics Education (ACSME) Conference in Sydney, Australia (Taylor & Harrison, 2014), the Students, Transitions, Achievement, Retention and Success (STARS) Conference in Melbourne, Australia (Taylor & Harrison, 2015a) and the Students in Transition Conference (SIT) in Baltimore, United States (Taylor & Harrison, 2015b), receiving acclaim and requests for more information on the support initiatives for duplication at national and international universities. Quote from Professor Sally Kift,

JCU’s Deputy Vice-Chancellor (Academic) in 2014, to the JCU Biomedical Science first year experience coordinator on student support initiatives and research (S. Kift, personal communication, October 10, 2014):

This is such great work and I am not surprised at all that (a) your presentation [at the ACSME conference] was a hit with your colleagues (b) that colleagues want to learn more about your initiatives and (c) that levels of student engagement [at JCU] have so patently improved. Congratulations and thank you again for your strong commitment to the student experience here at JCU. You are clearly making a difference.

#### 4. Redevelopment into *iAspire Student Support* articles

In February 2016, the contents of the BFF booklets were redeveloped and transcribed into *iAspire Student Support* articles to support students to and through university and were posted in Research Online at JCU web access for a much broader student audience. To date, the *iAspire Student Support* articles have each received between 68-261 hits and 27-129 downloads (Figure 2) in various countries



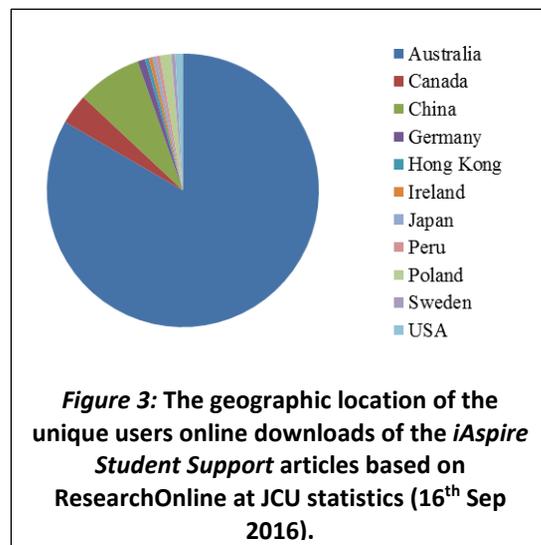
**Figure 2: The number of *iAspire Student Support* article individual user hits and downloads based on ResearchOnline at JCU statistics (16<sup>th</sup> Sep 2016)**

worldwide (Figure 3). These articles have been a success in spite of no official advertising or promotion. Below are the links to the current *iAspire Student Support* articles:

<p><b>An Introduction to Statistics</b>  <a href="http://researchonline.jcu.edu.au/44740/">http://researchonline.jcu.edu.au/44740/</a></p>
<p><b>Exam Tips</b>  <a href="http://researchonline.jcu.edu.au/43803/">http://researchonline.jcu.edu.au/43803/</a></p>
<p><b>What is your preferred learning style?</b>  <a href="http://researchonline.jcu.edu.au/43799/">http://researchonline.jcu.edu.au/43799/</a></p>
<p><b>Maximise your exam potential</b>  <a href="http://researchonline.jcu.edu.au/43802/">http://researchonline.jcu.edu.au/43802/</a></p>
<p><b>The 5 steps to a great assignment plan</b>  <a href="http://researchonline.jcu.edu.au/43203/">http://researchonline.jcu.edu.au/43203/</a></p>
<p><b>Feeling anxious? What to do</b>  <a href="http://researchonline.jcu.edu.au/43204/">http://researchonline.jcu.edu.au/43204/</a></p>
<p><b>Study strategies and habits for success</b>  <a href="http://researchonline.jcu.edu.au/42790/">http://researchonline.jcu.edu.au/42790/</a></p>
<p><b>Study groups – Join one today</b>  <a href="http://researchonline.jcu.edu.au/42789/">http://researchonline.jcu.edu.au/42789/</a></p>
<p><b>How to make, revise and condense lecture notes</b>  <a href="http://researchonline.jcu.edu.au/42484/">http://researchonline.jcu.edu.au/42484/</a></p>

Positive psychology constructs such as goal theory (Covington, 2000; Dweck, 1999), optimism (Scheier & Carver, 1985), self-efficacy (Bandura, 1982) and problem solving (Heppner & Petersen, 1982) give differentially weighted emphasis to goals and the pathways process to achieve these goals while hope theory emphasises all of the above mentioned equally as pursuit components (Snyder, 1994). The support information strategy was designed to provide the biomedical science student cohort with an inspirational and reusable package of resources. Through these support initiatives the

event coordinator (first year experience coordinator and author of this paper) built a much needed rapport with the students which helped to inform the creation of the support information outlined in Table 2. Taylor and Harrison (2016) found the convergence of student and academic ratings of the student support initiatives included positive themes of networking, collegiality, belonging and engagement. It is out of the success of the biomedical science support initiative that the *iAspire Student Support* articles were developed and based on their web hits and downloads they are proving to be complementary support resources accessible to a wider audience.



## Conclusion

Until now, no template has existed for the provision of curricular and extra-curricular just-in-time information and support for first and second year university students. It is becoming increasingly crucial to recognise the importance of providing personal and social support in addition to curricular and extra-curricular support so students can thrive regardless of cohort demographics or their career paths. Successful transitions are based on positive perception of self, healthy coping

skills, social support and access to information and resources for significant personal growth and overall resilience.

Even though the 2014 and 2015 student support initiatives and the provision of support information were “tacked on” strategies, future student engagement and support success should only increase if this support is integrated into course material (Kibby, 2015) and the institutional climate (Tinto, 2005). The dissemination template created (Table 2) for first year just-in-time support initiatives can be used in second year with a refresh to meet the uniqueness of each cohort. Based on the early success of the *iAspire Student Support* articles, much of the support information does not have to be discipline, culture or nation specific.

Through the sharing of this resource it is hoped this information will initiate university collaboration and increase awareness for the importance of first and second year support through the provision of just-in-time information. How information is disseminated, what information is shared and at what time during the semester are all important. Further research conducted at different universities with their own diverse student cohorts will add to the growing body of knowledge on the importance of integrated first year experience support to build student resilience improving their wellbeing and ability to succeed. Continued research will highlight to university academic senior managers the importance for funding of university-wide sustainable student support programs. The outcomes of the initiatives summarised here have demonstrated that student just-in-time curricular and extra-curricular support have been perceived to improve levels of student wellbeing and resilience, consequently providing the students with an environment in which they can thrive and not just survive.

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