A comparison of student confidence levels in open access and undergraduate university courses

Mirella Atherton
The University of Newcastle, Australia

Confidence levels of students enrolled in open access programs and undergraduate courses were measured at the University of Newcastle. The open access science students aimed to gain access to undergraduate studies in various disciplines at University. The undergraduate students were enrolled in a variety of degrees and were surveyed during their first semester of study in chemistry. The 'third person effect' was used to measure the confidence levels of these two groups of students. Using this technique, the study examined the extent to which students undertaking open access programs and undergraduate course were confident in learning. It was found that a lack of confidence arises predominantly in females who were also less optimistic in predicting the performance of a third person beginning their respective course. The results from open access students collected from consecutive years were compared to the results of undergraduate chemistry students. The findings were significant in that the students in the first year of undergraduate chemistry had significantly lower confidence than students in open access courses who are traditionally thought of disadvantaged in some way. The paper argues the need to build confidence in students who experience high levels of uncertainty in learning. Building confidence in all students in early stages is known to optimise academic outcomes.

Introduction

The growth in higher education has been accompanied by increased diversity in the student population. Internationalisation of higher education has created more opportunities for Australian students to interact and engage with diverse ideas and people. The full benefits of these opportunities for engagement and retention have not yet been fully realised (Denson & Bowman, 2013). Open access enabling programs widen participation and encourage diversity by providing an alternative pathway to university for students who may not otherwise be granted entry. These students are often thought of as disadvantaged. An important aspect of encouraging diversity is to make sure that these students have the skills to succeed in the academic pursuit that they choose. To increase retention and to enhance the student experience, institutions are seeking new ways to support students in higher education as traditional approaches no longer seem to be sufficient (Erling & Richardson, 2010). Factors such as integration, commitment, satisfaction, finances, prospective careers, support and psychology have been identified as important in determining academic performance (McKenzie & Schweitzer, 2001). These factors may have special significance for open access enabling students who have often encountered a multitude of barriers in their pathway to higher education.

It is known that a belief that one will perform successfully in a given course can predict actual successful performance in that course (McKenzie & Schweitzer, 2001). Szulecka, Springett and de Pauw (1987) found that high levels of depression and anxiety are related

to significantly higher incidents of withdrawal from university. Understanding the student experience plays a role in managing transitions to university study and retaining students (Krause, 2005). The student experience is important in setting up the educational foundations for academic success (Kuh, Gonyea & Williams, 2005; Kuh, Kinzie, Schuh & Whitt, 2005; Upcraft & Gardner, 1989). Krause and Coates (2008) argued the need to monitor engagement using a combination of quantitative and qualitative measures, as there is still a lack of knowledge about how to be a successful student in a tertiary environment (Whannell, Whannell & Allen, 2012). In this study, the levels of uncertainty that students' experience in relation to their course were measured. A comparison was made between open access enabling students who are thought of as disadvantaged, and first year undergraduate students who have gained access to university. It was expected that the undergraduate students would experience higher confidence levels, less uncertainty and greater prospects of success.

Olsen, Burgess and Sharma (2006) presented the key finding from a study of the academic performance of 338,000 full-time students at 22 Australian universities. Female students passed 91.7 percent of courses attempted while male students passed 86.4 percent of courses. International female students passed 90.9 percent of courses attempted while international males passed 86.8 percent. Put simply, the females did better than the males. Likewise, other research indicates that there is a difference between male and female students in number and in performance in undergraduate programs. According to some studies, females feel less confident than males in pursuing university courses (Dryburgh, 2000; Hancock, Davies & McGrenere, 2002; Harrell, 1998; Todman, 2000; Wilson, 2002). A study by Stoilescu and McDougall (2011) specifically explored factors that alienate undergraduate female students and exacerbate gender disparities in confidence, performance, attitudes, and experience in undergraduate education. Women can face unique barriers that include negative stereotypes, negative influences and discrimination. In the past women have been faced with a lack of role models, lack of encouragement and insufficient opportunities to succeed in the areas of maths and science (Cordero, Porter, Israel & Brown, 2010). Several reasons for such an occurrence have been postulated in the literature and include real and perceived challenges associated with balancing work and family life (Alpay, Hari, Kambouri & Ahearn 2010).

A gender difference is evident and there is growing literature that men are more confident than women in exam situations (Bengtsson, Persson & Willenhag, 2005). The overall effect is that students who repeatedly under estimate their performance can lose motivation for learning due to a lack of self confidence. Similarly students who over estimate their performance may be at a disadvantage as their over confidence may impede their motivation to learn new techniques (Stankov, Morony & Lee, 2014). The study of confidence has a long history (Fullerton & Cattell, 1892; Henmon, 1911). Studies on first year experience and retention has shown that students who are confident in their university study have better chances of remaining and progressing compared to less confident students (Archer, Cantwell & Bourke, 1999; Habel, 2012). It is typical of open access enabling students that their past educational experience has been less than satisfactory (Hodges et al., 2013). Various recommendations have been made to try to

increase student interaction and confidence and to reduce fear of failure in an effort to make the transition to higher education a smoother journey (Chipperfield, 2013).

This article extends the research findings by Atherton (2015). The study of confidence and uncertainty has been carried out for a number of years and a picture has formed of the enabling students and their experience of the assessments that they encounter in STEM courses. The current paper makes an important contribution in an area of limited research on the subject of the student experience and extends knowledge into the area of undergraduate student confidence and uncertainty. Limited studies have been undertaken with open access enabling students who are thought of as disadvantaged by location; financial pressures; low academic achievement in high school; failure to complete high school; illness or other personal reasons; lack of appropriate careers advice; parental discouragement of higher education; limited university education attainment within the family; a lack of confidence in one's ability to undertake university education; parenting or carer responsibilities; mental health issues; and a variety of other social problems (Shah, et al., 2014). This study compares data from this unique cohort with a growing number of young and mature aged students pursuing pathways in undergraduate degrees. Such a study is important in highlighting the profile and characteristics of students who have experienced lack of confidence in relation to learning.

Methodology

The paper aims to quantify male and female confidence levels using the 'third person effect' across two groups of students. The surveys consisted of parallel questions and asked students to rate a third person, then themselves (Atherton, 2015). The surveys were conducted with students in open access enabling science courses and undergraduate students embarking in the field of science, specifically in the subject of chemistry. The surveys were paper based and were completed in class on the last day of the course prior to the final exam. Students used a five point Likert scale to rate their confidence or uncertainty level in relation to each question; strongly disagree = 1, disagree = 2, unsure = 3, agree = 4, strongly agree = 5. Ethics approval for the study was gained from the University of Newcastle HREC (Human Research Ethics Committee). Comparable sample sizes were used during the same time period to compare the groups.

The 'third person effect' has been used in previous research to question responders about their perception of an ordinary reasonable person (Baker, 2011). In this study the 'third person effect' was used as a technique to compare and contrast the student's perception of themselves with their perception of another student beginning the course. The students were asked to judge their own performance in comparison to the performance of the third person in a similar situation (Atherton & Bailey, 2014; Atherton, 2015). Appendix 1 in Atherton (2015) lists the questions in the survey. The surveys were designed with parallel questions asking the student to rate a third person and then themselves in relation to the course overall, the mid-semester test, how well they related to the lectures and tutorials, the texts books, their performance in the quizzes and labs, and how confident they were with their performance in the impending exam.

Findings

Despite the open access enabling students being perceived as widening participation and consequently having a wide demographic, in fact the sample reported here for this cohort had a narrower demographic than expected. Open access enabling students were made up of the following percentages: 0% under 20 years, 80% in the 20-29 years, 8% 30-39 years, 12% 40-49 years, 0% 50-59 years, 0% 60-69 years. The student demographic of undergraduate students comprised 14% under 20 years, 60% in the 20-29 years, 18% 30-39 years, 4% 40-49 years, 4% 50-59 years, 0% 60-69 years (Figure 1).
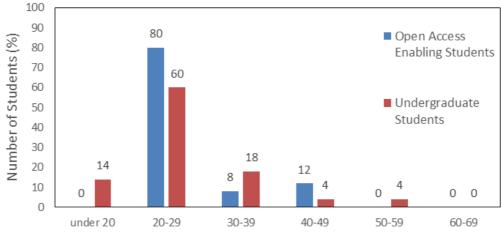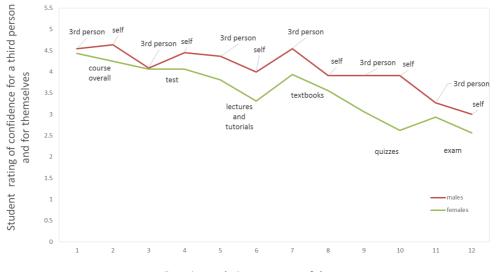

Figure 1: Demographic of open access enabling students (n=27) and undergraduate students (n=22) sampled for comparison of confidence levels in 2015.

Confidence levels of open access enabling students for performance in the course overall, the test, understanding of the lectures and tutorials, importance of acquiring the textbooks, performance in the quizzes and exam are presented in Figure 2. The results showed that female and male students experienced different levels of confidence when comparing themselves to a third person beginning the course. Strikingly, female students showed more uncertainty and rated each criteria at a lower level than their male counterparts. Male student's ratings were mixed and indicated that they experienced high confidence levels in relation to the test and quizzes but not the exam.
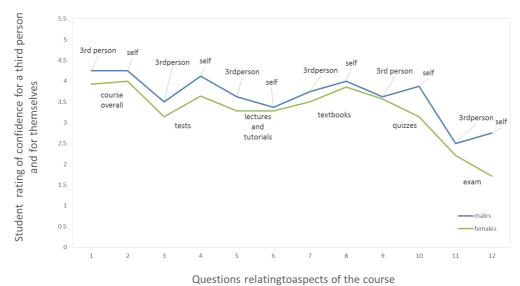
Figure 2: Confidence levels rated by open access enabling students for their performance in the course overall, the mid-semester test, how well they related to the lectures and tutorials, how important it was to have the textbooks, performance in the quizzes and exam (n=11 males, n=16 females).

Comparison of scores for the third person and the student themselves provides evidence that open access enabling students are less confident about their performance in most areas relating to the course, and especially when considering the exam. The female students' rated their performance in the course overall, the mid-semester test, how they relate to the lectures and tutorials, the importance of acquiring the textbooks, the quizzes and the exam lower than they perceived a third person starting the course would perform. The male students showed higher confidence in themselves in their performance in the course overall and the test. A significant disparity was evident between the student's perceptions of themselves and the third person when the open access enabling students were asked to rate the performance of a third person starting the course against themselves for the final exam. The results reveal that the students were least confident or more uncertain about their own performance in the exam than they would be of a third-person starting the course in the same position.

Figure 3 presents confidence levels rated by the undergraduate students for the course overall, the lectures and tutorials, the importance of acquiring the textbooks, performance in the quizzes, tests, labs and the exam. Again it was striking that the female students rated their confidence level as lower in most categories when compared to their male counterparts. The results show that the male students were equally confident with their performance in the course overall than they perceived a third person would be. They were more confident with their understanding of the lectures and tutorials than they perceived that a third person would be. The male students' ratings indicated that acquiring the textbooks was more important for a third person starting the course than themselves.

They rated their performance equally in the quizzes, tests but higher in the exam than the third person. However, the male students did not perceive their performance in the labs as higher than the third person. Overall their results showed high levels of confidence in most areas but there was uncertainty related to their performance in the exam. The undergraduate female students showed some similarities in rating themselves to their male counterparts. The female students were confident in their performance in the course overall and in relating to the lectures and tutorials. They rated themselves equally with the third person in whether it was important to acquire the text books. The female students rated their performance in the quizzes and labs as higher than the third person but lower than the third person in the tests and the exam. Strikingly their rating of themselves in exam was lower that seen for the entire survey over past years of observing open access enabling students from many different subject areas.

Figure 3: Confidence levels rated by undergraduate chemistry students for their performance in the course overall, the mid-semester test, how well they related to the lectures and tutorials, how important it was to have the textbooks, performance in the quizzes and the exam (n=8 males, n=14 females).

Table 1 presents the means and standard deviations for each of the criteria measured for each of the student cohorts. The data shows the variation of scores in relation to the mean and whether there was consensus between the students. Slight deviation from the mean score was seen when students were asked to score the course overall. Significant deviation from the mean was observed for the questions about the textbooks and the exam.

Table 1: Means and standard deviations of open access enabling
students (n=27) and undergraduate students (n=22).

		Open access		Undergraduate	
		Mean	SD	Mean	SD
Course overall	3rd person	4.48	0.58	4.05	0.79
	self	4.41	0.69	4.09	0.81
Test	3rd person	4.07	0.92	3.68	0.84
	self	4.22	0.64	3.64	0.95
Lectures and tutorials	3rd person	4.04	0.81	3.27	0.63
	self	3.59	0.97	3.82	0.85
Textbooks	3rd person	4.19	1.00	3.41	1.30
	self	3.70	1.10	3.32	1.25
Quizzes	3rd person	3.41	0.97	3.59	0.68
	self	3.15	1.29	3.91	0.73
Labs	3rd person	undetermined	undetermined	3.59	0.50
	self	undetermined	undetermined	3.41	1.01
Exam	3rd person	3.07	1.21	2.32	0.99
	self	2.74	1.10	2.09	1.11

Discussion

The 2015 study of confidence was undertaken with students selecting science courses in open access programs and aiming to gain access to undergraduate studies in various disciplines at University. In 2015, the results for male and female students were compared and contrasted and it was determined that lack of confidence in learning arises predominantly in females with little educational experience and a distant educational background. Female students were also less optimistic in predicting the performance of a third person beginning the course. The current 2016 study of confidence levels of students enrolled in open access programs and undergraduate courses again determined that a lack of confidence arises predominantly in females who were also less optimistic in predicting the performance of a third person beginning their respective course. The results from open access students collected from consecutive years were compared to the results of undergraduate chemistry students. The finding were significant in that the students in the first year of undergraduate chemistry had significantly lower confidence than students in open access courses who are traditionally thought of as disadvantaged in some way.

Overall, the 2016 results showed a significant disparity between the student's perceptions of a third person compared to the students' perception of themselves. While the disparity provides evidence that male open access enabling students are less confident about their performance in some areas, the female students were less confident with their performance in many areas. These areas included their perception of the course overall, how they relate to the lectures and tutorials, the importance of acquiring textbooks, the

quizzes and particularly the exam than they perceive a third person starting the course would be. The lowest scores for confidence occurred when the open access enabling students were asked about their performance in the final exam. This result reveal that the students were less confident or more uncertain about their own performance than they would be of a third-person starting the course in the same position. The level of uncertainty related to the exam was seen as comparable for males and female open access enabling students, however the female students were less optimistic about their performance overall.

The undergraduate students showed unique patterns of confidence levels defined by gender. Undergraduate male and female students had similarities in their levels of confidence in many of the categories. The most significant result revolved around the undergraduate student's perception of their performance in relation to the exam. Surprisingly the female students showed lowest confidence levels when asked to predict their performance in the final exam than any of the groups of students observed in this study. The results for these students was lowest overall despite both the male and female open access enabling students being thought of as disadvantaged and an underlying expectation that they would be lowest in confidence when facing the exam.

When separated by gender the results for confidence levels proved to be most significant and meaningful. It is known that there are almost twice as many women as men entering science based open access enabling programs at the University of Newcastle. Anecdotal evidence shows that there are slight differences in progressive assessment results and exam results of male and female students. Open access enabling female students in higher numbers are more likely to achieve higher results and usually do. These observations are matched by the study of undergraduate students at 22 universities, carried out by Olsen, Burgess and Sharma (2006) which highlighted that females do better than males. The student responses reported in this study show that female students are more likely to achieve higher results due to higher numbers of females participating in the course. However, there is a distinct difference between male and female confidence levels.

While a lack of confidence was apparent in male and female open access enabling students in relation to the final exam there was a significant lack of self confidence in female undergraduate students when compared to their male counterparts in relation to the exam. The ratings by open access enabling students were overall more optimistic than the undergraduate students. Female students from both cohorts were consistently lower than the males who completed the survey in their own cohort. There may be a lingering perception that science is an area where men dominate and succeed. The perception that prior knowledge of technology is necessary may also be responsible for women having less confidence and high uncertainty in relation to aspects of the course. Interestingly the undergraduate male students reported a higher level of confidence in themselves rather than the third person in some areas. This was perceived as an element of overconfidence and could be related to factors such as age and previous experience.

Understanding the student cohort is increasingly important for managing students in higher education. Measuring their levels of confidence in learning is just one aspect of

their learning journey. The aim is always to optimise their academic success but there are important implications for reducing drop out rates in courses that students embark on. Although the confidence levels of students that drop out of these courses is unknown, they are presumed to be lower those reported in this study for students that finish the courses. Student expectation is an important factor that has been studied by Könings et al., (2008) and it is thought that this in turn is related to confidence levels. Open access enabling programs have integrated and refined expectations into their courses. While students who finish the courses are cautious they are also well prepared. The third person effect is a sophisticated tool for measuring the perceptions of the students. Clearly, a complex pattern of behaviour has been observed as a result of measuring confidence levels but the one basic principle is that students who are nurtured in their learning journey will always do better.

Conclusion

Open access enabling students come from a diverse range of backgrounds and have had to overcome a multitude of barriers to begin studying. It is clear that their confidence is low and that they experience a lack of confidence throughout their courses leading up to exams. This pattern of confidence has been observed in previous and consecutive years and is significantly different from the pattern of confidence reported for undergraduate students. While male and female undergraduate students showed an element of over confidence in some areas, female students appeared to lack confidence in predicting their confidence in the tests and exams. Female students indicated that they were significantly less optimistic than males in predicting their performance in the exam. Males and female undergraduate students lacked optimism when predicting the performance of a third person attempting the exam. This result may indicate their apprehension related to the difficulty of the course they were attempting.

Understanding the student cohort helps to inform the services that are made available to students to support them on their learning journey. To apply available services correctly, it is important to understand the mindset of the whole student cohort and be able to focus in on the group of students who experience high levels of uncertainty. This knowledge can also help to accommodate at risk students and help them to adapt to the important aspects of the course. Ultimately, students showing low levels of confidence and high levels of uncertainty influence retention rates, which has a negative effect on breaking down barriers and widening participation in education. The knowledge obtained in this study could improve completion rates by targeting students with high levels of uncertainty and improving their confidence. This will target at risk students on an individual basis, but could have implications for the institution by helping to improve systems and outcomes.

References

Alpay, E., Hari, A., Kambouri, M. & Ahearn, A. L. (2010). Gender issues in the university research environment. *European Journal of Engineering Education*, 35(2), 135-145. http://dx.doi.org/10.1080/03043790903497302

Archer, J., Cantwell, R. & Bourke, S. (1999). Coping at university: An examination of achievement, motivation, self-regulation, confidence, and method of entry. *Higher Education Research & Development*, 18(1), 31-54. http://dx.doi.org/10.1080/0729436990180104

Archer, L., Halsall, A., Hollingworth, S. & Mendick, H. (2005). *Dropping out and drifting away: An investigation of factors affecting student identities and aspirations*. Report to the Esmee Fairbairn Foundation. London: IPSE. http://www.drugsandalcohol.ie/6281/1/3505-3725.pdf

Atherton, M. (2015). Measuring confidence levels of male and female students in open access enabling courses. *Issues in Educational Research*, 25(2), 81-98. http://www.iier.org.au/iier25/atherton.pdf

Atherton, M. & Bailey, A. (2014). Assessing disadvantaged student confidence in learning: A case of enabling pathway programs. *Journal of Institutional Research (South East Asia)*, 12(2), 41-53. http://www.seaairweb.info/journal/JIRSEA_v12_n2_2014.pdf

Baker, R. (2011). *Defamation law and social attitudes: Ordinary unreasonable people*. Edward Elgar Publishing.

Bengtsson, C., Persson, M. & Willenhag, P. (2005). Gender and overconfidence. *Economics Letters*, 86(2), 199-203. http://dx.doi.org/10.1016/j.econlet.2004.07.012

Brown, S. J., White, S., Sharma, B., Wakeling, L., Naiker, M., Chandra, S. & Bilimoria, V. (2015). Attitude to the study of chemistry and its relationship with achievement in an introductory undergraduate course. *Journal of the Scholarship of Teaching and Learning*, 15(2), 33-41. http://josotl.indiana.edu/article/view/13283/20183

Chipperfield, S. R. (2013). Self-preservation and the individualisation of risk in university-based foundation course students. *Journal of Further and Higher Education*, 37(5), 623-642. http://dx.doi.org/10.1080/0309877X.2011.645472

Cordero, E. D., Porter, S. H., Israel, T. & Brown, M. T. (2010). Math and science pursuits: A self-efficacy intervention comparison study. *Journal of Career Assessment*, 18(4), 362-375. http://dx.doi.org/10.1177/1069072710374572

Denson, N. & Bowman, N. (2013). University diversity and preparation for a global society: The role of diversity in shaping intergroup attitudes and civic outcomes. *Studies in Higher Education*, 38(4), 555-570. http://dx.doi.org/10.1080/03075079.2011.584971

Dryburgh, H. (2000). Underrepresentation of girls and women in computer science: Classification of 1990s research. *Journal of Educational Computing Research*, 23(2), 181-202. http://journals.sagepub.com/doi/pdf/10.2190/8RYV-9JWH-XQMB-QF41

Erling, E. J. & Richardson, J. T. (2010). Measuring the academic skills of university students: Evaluation of a diagnostic procedure. *Assessing writing*, 15(3), 177-193. http://dx.doi.org/10.1016/j.asw.2010.08.002

Fullerton, G. S. & McKeen Cattell, J. (1892). *On the perception of small differences*. University of Pennsylvania Philosophical Series 2. https://books.google.com.au/books/about/On_the_Perception_of_Small_Differences.html?id=-lodAQAAMAAJ&redir_esc=y

Habel, C. (2012). 'I can do it, and how!' Student experience in access and equity pathways to higher education. *Higher Education Research and Development*, 31(6), 811-825. http://dx.doi.org/10.1080/07294360.2012.659177

Hancock, M., Davies, R. & McGrenere, J. (2004). Focus on women in computer science. In *Western Canadian Conference on Computing Education 2004*. http://www.cs.ubc.ca/wccce/program04/Papers/mark.html

Harrell, W. Jr. (1998). Gender and equity issues affecting educational computer use. *Equity & Excellence in Education*, 31(3) 46-53. http://dx.doi.org/10.1080/1066568980310307

Henmon, V. A. C. (1911). The relation of the time of a judgment to its accuracy. *Psychological Review*, 18(3) 186-201. http://psycnet.apa.org/journals/rev/18/3/186/

Hodges, B., Bedford, T., Hartley, J., Klinger, C., Murray, N., O'Rourke, J. & Schofield, N. (2013). *Enabling retention: Processes and strategies for improving student retention in university-based enabling programs*. Office for Learning and Teaching, Australian Government. http://www.olt.gov.au/system/files/resources/CG10_1697_Hodges_Report_2013.pdf

Könings, K. D., Brand-Gruwel, S., van Merriënboer, J. J. & Broers, N. J. (2008). Does a new learning environment come up to students' expectations? A longitudinal study. *Journal of Educational Psychology*, 100(3), 535-548. http://psycnet.apa.org/doi/10.1037/0022-0663.100.3.535

Krause, K. L. (2005). Serious thoughts about dropping out in first year: Trends, patterns and implications for higher education. *Studies in Learning, Evaluation, Innovation and Development*, 2(3), 55-68. http://www98.griffith.edu.au/dspace/bitstream/handle/10072/15410/45960.pdf?sequence=1

Krause, K. L. & Coates, H. (2008). Students' engagement in first-year university. *Assessment and Evaluation in Higher Education*, 33(5), 493-505. http://www.tandfonline.com/doi/abs/10.1080/02602930701698892

Kuh, G., Gonyea, R. & Williams, J. (2005). What students expect from college and what they get. In T. Miller, B. Bender, J. Schuh and associates (Eds), *Promoting reasonable expectations: Aligning student and institutional views of the college experience*. San Francisco: Jossey-Bass.

Kuh, G., Kinzie, J., Schuh, J. & Whitt, E. (2005). *Student success in college*. San Francisco: Jossey-Bass.

McKenzie, K. & Schweitzer, R. D. (2001). Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Higher Education Research and Development*, 20(1), 21-33. http://dx.doi.org/10.1080/07924360120043621

Olsen, A. J., Burgess, Z. & Sharma, R. (2006). The comparative academic performance of international students in Australia. *International Higher Education*, 42. http://ejournals.bc.edu/ojs/index.php/ihe/article/view/7879/7030

Shah, M., Goode, E., West, S. & Clark, H. (2014). Widening student participation in higher education through online enabling education. *Widening Participation and Lifelong Learning*, 16(3), 36-57. http://dx.doi.org/10.5456/WPLL.16.3.36

Stankov, L., Morony, S. & Lee, Y. P. (2014). Confidence: The best non-cognitive predictor of academic achievement? *Educational Psychology*, 34(1), 9-28. http://dx.doi.org/10.1080/01443410.2013.814194

Stoilescu, D. & McDougall, D. (2011). Gender digital divide and challenges in undergraduate computer science programs. *Canadian Journal of Education*, 34(1), 308-333. http://www.cje-rce.ca/index.php/cje-rce/article/viewFile/461/866

Szulecka, T. K., Springett, N. R. & De Pauw, K. W. (1987). General health, psychiatric vulnerability and withdrawal from university in first-year undergraduates. *British Journal*

of Guidance and Counselling, 15(1), 82-91.
http://dx.doi.org/10.1080/03069888708251646

Todman, J. & Drysdale E. (2004). Effects of qualitative differences in initial and subsequent computer experience on computer anxiety. *Computers in Human Behavior,* 20(5), 581-590. http://dx.doi.org/10.1016/j.chb.2004.03.028

Upcraft, M. L. & Gardner, J. N. (1989). *The freshman year experience: Helping students survive and succeed in college.* San Francisco: Jossey-Bass.

Whannell, P., Whannell, R. & Allen, B. (2012). Investigating the influence of teacher strategies on academic self-efficacy and study behaviour of students in a tertiary bridging program. *Australian Journal of Adult Learning,* 52(1), 39-65.
http://www.ajal.net.au/investigating-the-influence-of-teacher-strategies-on-academic-self-efficacy-and-study-behaviour-of-students-in-a-tertiary-bridging-program/

Mirella Atherton BSc (Hons), BLaw, PhD is Course Coordinator in the Centre for English Language and Foundation Studies, The University of Newcastle, Ourimbah Campus, Ourimbah NSW 2258, Australia.
Email: mirella.atherton@newcastle.edu.au
Web: http://www.newcastle.edu.au/profile/mirella-atherton