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When perception meets reality: helping students understand their need for learning support in a first-year accountancy course

Anne Darroch

Unitec Institute of Technology, Auckland, New Zealand
adarroch@unitec.ac.nz

Elizabeth Rainsbury

Unitec Institute of Technology, Auckland, New Zealand
erainsbury@unitec.ac.nz

Recent growth in tertiary education has allowed access to a greater proportion of the population. At the same time, funding strategies have become more focussed on success, retention and completion. This has led to pressures on institutions to actively support students to optimise their chances of success. One response has been the development of student learning centres staffed by specialist learning development tutors. However, many students do not avail themselves of the assistance offered. This paper describes an intervention in first year accountancy courses to encourage better uptake of support services. The early results of the study indicate that a significant number of students have inaccurate perceptions about their academic skill level in mathematics. When those perceptions are tested, there is a far greater uptake of the available academic support services. The resulting implication is that early testing of specific, subject-based academic skills, followed by targeted and focussed support is a promising factor in optimising success and maintaining student engagement.

Keywords: student support, utilization, learning centres

Introduction

Ministry of Education figures (2008) show that in 2007 over 700,000 people (13.3 per cent of the New Zealand population aged 15 or over) participated in some form of tertiary education. This is much higher than the 8-9 per cent participation rates in the 1990's. However, not all of these new students arrive at their institution with the academic skills needed to be successful. Students who find themselves out of their depth often fail to engage or rapidly disengage from their study and drop out.

Student academic support services have grown to support the diverse student body. However, students do not always use the services provided. In this paper we propose that some students do not use support services early in their academic courses because they have a misplaced confidence in their grasp of the academic skills necessary for their course. Results from our study show that students had inaccurate perceptions of the mathematical skills required to complete an introductory accounting course. Once students were made aware of their deficiencies they made greater use of the academic support services made available to them.

Despite the excellent services provided by student learning centres, many students do not take advantage of the assistance available. One reason for students not using learning centres is the view that they are remedial, "existing in the main for the benefit of a minority of students,

these being students at risk” (Zeegers, 2004, p.32). The centres carry “the associated presumption of incompetence or otherness on the part of service users” (Crozier, 2007 p.3). This is disappointing, given that research indicates that learning centres are contributing factors in retention and performance (Rivers, 2005).

There is an extensive literature on enhancing and supporting student learning and a developing body of work on the impact of student support services (Rivers (2005) synthesised a total of 146 international studies on the topic.) However, the literature around student use of those services is limited. Dembo and Seli (2004) considered some of the reasons why students have difficulty changing their academic behaviour, including the failure of students to seek help from supplemental sources. A number of studies have developed from Bandura’s (1997) foundational work on self efficacy as a predictor of performance. Radloff (2006) argues that the role of supporting learners effectively is a task shared by all those participating in the university community. (Radloff also lists a number of educators who have argued for a shift in the focus of education from instruction and learning to how to create environments that support effective student learning.) Channock, East and Maxwell (2004) and Crozier (2006) argue that the work of learning advisors is poorly understood. However, despite this growing interest in the role and efficacy of support centres, there is a scarcity of explanation (other than anecdotal) of why students don’t use them.

The study

We prepared a questionnaire designed to elicit students’ perceptions of their grasp of the mathematical skills needed to succeed in a first year accountancy course. We then tested the actual level of those skills.

The participants in the study were 110 students enrolled in introductory accounting courses at Unitec New Zealand. Unitec New Zealand has a diverse student population with a significant number of international students and students who do not have English as a first language. Table 1 provides demographic information on the participating students.

Table 1: Demographics

Attribute		%
Age	Over 25 years old	54%
	Under 25 years old	46%
Gender	Female	58.2%
	Male	41.8%
Ethnicity	NZ European	27.6%
	Chinese	25.7%
	Indian	17%
	Other	29.7%
Language	English is first language	45.6%
	EAL	54.4%

Procedure

The study was conducted in October 2008. The students who chose to participate were given a questionnaire in three parts – the first collecting demographic information, the second asking about confidence levels on mathematics and the third containing the actual

mathematics problems. Students were given up to 30 minutes to complete the mathematics problems.

Instrument

The mathematics questions were adapted from a mathematics test used elsewhere in the institution. The questions were amended where necessary by senior accounting academics to ensure that the questions tested the mathematical skills which would be required to successfully complete the course. The sixteen questions included problems of addition, order of operations, time conversion, calculation of mean, median and percentage, conversion to fractions and kilograms, rounding, problem solving and algebraic equations. It was agreed by the accounting team lecturers that a competent student should be able to achieve a score of 12 or higher. (Questions 1-12 focussed on basic arithmetic processes while questions 13-16 required either a greater knowledge of English or some knowledge of algebra.)

Results

Table 2 shows the confidence levels. More than half the respondents (53.6 per cent) were confident that they had the mathematics skills to be successful in the course. A further 38.2 per cent thought that they would perform satisfactorily with a bit of help. Only 8.2 per cent of students were worried and no student was very worried.

Table 2: Confidence with the mathematics skills required to succeed in the course

Confidence Level	Number	Percentage
Very confident	13	11.8
Confident	46	41.8
Enough skills with some assistance	42	38.2
Worried skills are not good enough	9	8.2
Very worried that skills are not good enough	0	0.0
Total	110	100.0

The actual test results were surprising. Table 3 shows that only 47 students (42.8 per cent) actually scored 12 or above. Students who were very confident about their maths ability did very well in the test – 11 of the 13 students who identified as very confident scored 12 or more. At the other extreme, three of the nine students who identified themselves as worried scored 12 or more. The “confident” group represents the most concerning statistic in that only 18 of the 46 students who identified as confident attained 12 correct answers.

Table 3 Competence versus confidence

Performance	Very confident	Confident	OK with assistance	Worried	Total
Score <12	2	28	27	6	63
Score $\geq$ 12	11	18	15	3	47
Total	13	46	42	9	110

Figure 1 shows a graph plotting the average score of each “confidence group” and a trend line of the results. The trend line indicates that the “confident” group’s average mathematical score was lower than what could be expected.

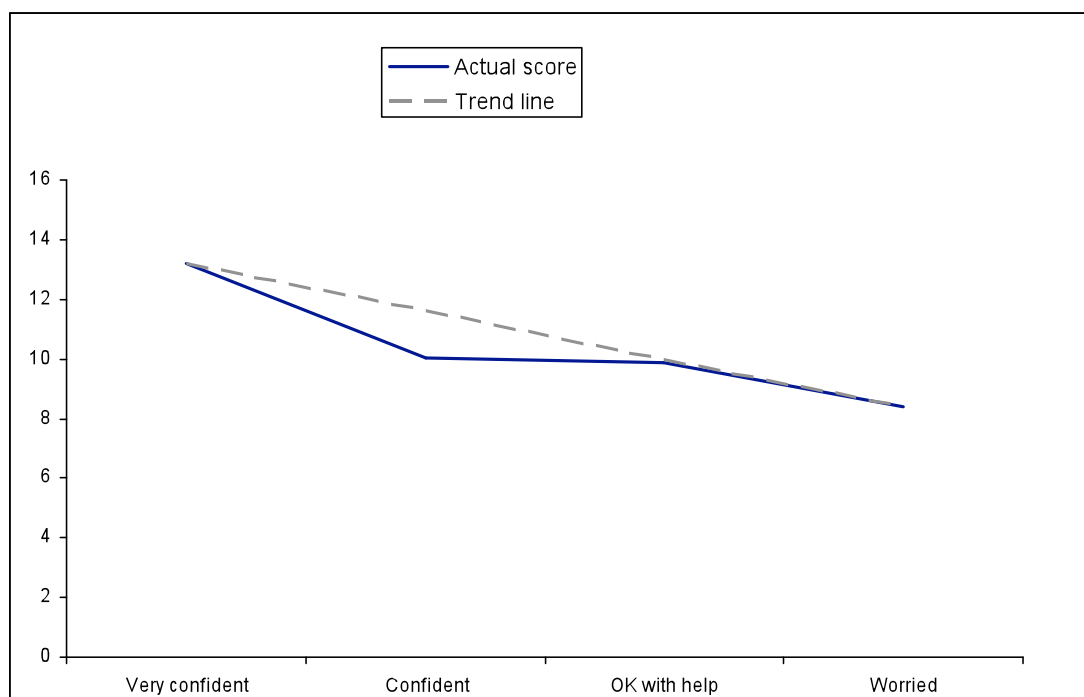


Figure 1: Trend Lines

The implication of this study is that many students over-estimate their grasp of the numeracy skills required for the course. This overconfidence may result in their failure to take advantage of the services offered by a learning centre, particularly early enough in the course to effect a positive change. The middle group are likely to be most affected by over confidence as the upper group should succeed on their own abilities and students who self-identify as worried or perhaps needing help are more likely to seek help. The “confident” group are less likely to utilise available academic support services, at least until they become aware of deficiencies. By this time, it may well be late in the semester and close to examination time when academic support services are frequently overstretched. There is also a risk of disengagement and loss of motivation or confidence after they receive the results of the first assignment. This effect is magnified when either the first assignment or the results of it are not available until well into the semester.

Many students expressed considerable surprise after the test that they didn’t know or had forgotten so many basic mathematics skills. A natural consequence for many of them was to ask what they should do – which was, ideally to take up supplementary assistance.

The follow-up

After the mathematics questionnaires were marked, assistance was put in place to remedy the gaps in the students’ knowledge. Short (20-30 minute) workshops were offered which focussed on one or two of the types of questions in each workshop (eg fractions and percentages). The workshops were structured this way so that the students could attend the workshops which they considered useful, rather than attend generic “mathematics” sessions.

The workshops and the topics were advertised in advance to the students and took place within the business school building, rather than at the learning centre. They were conducted by numeracy development specialists from the learning centre.

The student uptake was surprising. For example, out of one class of 40, 30 students had scored 12 or less. 20 attended the first workshop, even though it was held during their lunchtime. The number of attendees was not recorded for the other workshops, but the anecdotal evidence was that the participation was greater than expected.

Another consequence was that some of the students who had attended the workshops later visited the learning centre. We suggest three possible reasons for this – first, the students recognised that they needed help. Second, they became aware of the specific help the learning centre could provide, and third, having met the learning centre tutors, they felt more comfortable in seeking further help. The opportunity to meet the advisors on the students’ “home ground” of the business school enabled a rapport to be built and inaccurate perceptions about the learning centre to be broken down.

The early testing also assisted the lecturers to see the common areas of weakness – for instance most students did not answer the ratio question correctly. Thus when covering financial statement analysis (which includes extensive use of ratios), more attention was given to the mechanics of calculating the ratios. Thus lecturers realised that to optimise students’ learning, there needed to be more assistance with mathematical skills.

Conclusion

The results of this study show that many students had inaccurate perceptions of their mathematical skill levels and are accordingly at risk of not engaging in their study. This paper suggests that students are more likely to use supplementary support when they are made aware of deficiencies in their skill sets. The study supports the theory that poor use by students of support services may in part be caused by unawareness that essential skills are either missing or need development.

The study also showed that students are more likely to visit learning centres when they know the staff. The study demonstrated the value of testing first year accountancy students’ mathematical skills early in the semester. As a result of this study, the accounting department decided that in 2009 all first year accountancy students will complete a supervised mathematics test in the first two weeks of the semester. Follow-up workshops will be run by the learning centre staff in the same way as in the study – ie short sessions targeted at one or two of the types of mathematical skills. Further research will test the difference in the individual skill levels at the beginning and end of the semester.

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