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Finding evidence that learning support makes a difference

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Abstract

Large-scale evidence that learning support contributes to students' academic success is generally limited to student surveys. Given the proposed shift in government tertiary education funding to students' completion of a qualification, rather than enrolment, it would be useful to find a clear link between learning support and completion rates. This pilot study investigated the completion rates and Grade Point Average (GPA) of 606 university students who enrolled in new entrants' study skills courses in 2002. The results were compared with the completion rates and GPA of all new entrants. Although the outcome suggested that the 606 students had a poorer completion rate than their peers who had not sought learning support, further investigation showed this result was modified by numerous factors. The study indicates the complexity of the issues, and the need for additional qualitative research, ideally in a longitudinal study.

Introduction

One of the pleasures of teaching in learning support is the conviction that learning advisors play a significant part in helping students achieve their academic goals, and as a happy consequence, help their institutions retain students and therefore funding. It is reasonable to suppose that the expansion of learning centres in New Zealand over the past decade confirms the official acceptance of their value. On the other hand, hard evidence that learning support makes a difference to student retention and completion rates is difficult to find. Certainly there is much positive feedback from students at our Academic Skills Centre (ASC), ranging from the results of large-scale surveys to grateful letters, cards and gifts of chocolate. However, research into learning support generally focuses on qualitative evidence, with very small numbers of selected students being studied. In the face of the constant need to justify funding, the question arises whether it is possible to prove on a quantitative basis that learning support makes a difference to student achievement.

The ideal approach to examining the achievement of ASC students would obviously be an extended longitudinal study of their progress. As a pilot study the grades and completion rates of first-year ASC students in 2002 were compared with two benchmark statistics for all first-year students: a completion rate of 59%, and a Grade Point Average (GPA) of 3.6. From a funding perspective the completion rate is more important, and this therefore forms the main focus of the study. In practice, it became clear that a simple statistical comparison of completion rates was misleading because so many questions were raised, with some apparent contradictions when GPA was also considered. Nonetheless, analysis of the ASC students' completion rates and GPA produced some unexpected patterns and information, useful not only in terms of planning learning support services, but as a context for future research.

Unfortunately, the literature on the long-term impact of tertiary learning support appears to be almost non-existent. The majority of research examining the correlation between learning support and student achievement focuses on how a specific intervention programme or approach to teaching has improved students' cognitive performance. Hattie, Biggs and Purdie's (1996) meta-analysis of 51 studies of this type, for example, concludes reassuringly that "most intervention *does* work most of the time" (p. 128) but is not concerned with the impact on retention or completion rates. On the other hand, learning support is often mentioned in the extensive literature on retention. However, because it is well established that numerous factors affect student retention, a common approach is to consider learning support as part of a broad spectrum of support services, rather than to examine it separately. The resulting dearth of specific material is evident in Prebble et al.'s (2004) report for the New Zealand Ministry of Education, *Impact of student support services and academic development programmes on student outcomes in undergraduate tertiary study: A synthesis of the research*. For support services the review covers peer tutoring, mentoring, supplemental instruction, counselling and learning communities in some detail, but finds almost nothing to say about learning support other than to quote conflicting evidence about usage (p. 73).

Another common approach to retention studies is to focus on a range of personal and academic issues for small groups of at-risk students, especially ethnic minorities and adults. While learning support is usually included, there is rarely an attempt to assess its relative importance. Reyes (2000), for example, in a qualitative study of Alaskan native students, summarises the main contributing factors to their academic success as a combination of persistence, hard work, financial and family support, employment and "the availability of developmental classes on campus (described as important in assisting them to develop academic skills they felt they lacked)" (p. 141). Scott, Burns and Cooney (1996) are more specific when examining why mature female Australian students with children discontinue study. They found that the top five reasons related to family, employment and finance. Academic issues were well down the list: "Lack of expected skills/knowledge" ranked 16th, and "Poor academic performance" ranked 17th (p. 237). It is quite possible that academic issues could rank higher for New Zealand mature students as they have open entry to tertiary institutions, whereas Australian adults must still meet entrance criteria and are therefore likely to have fewer academic problems.

A further problem with retention studies, certainly from the perspective of learning support, is that there is no standard definition of retention. Much research concentrates on the first-year experience, where the measure of success is retention into the second year of study. As far as special programmes are concerned, Good, Halpin and Halpin (2001-2002) point out that "few program evaluations continue to track student achievement after the participants have left a program" (p. 354). Good et al.'s work is one of the few longitudinal studies, and even then tracks black engineering students only through their first two years. In contrast, tertiary managers see achievement and retention as meaning that students remain at the institution until they have completed their qualification, especially in New Zealand where completion will be a key component of future government funding.

The aim of this study was to see if any quantitative link could be established between students being given learning support, and the outcome in terms of completion rates and GPA. Every year around 2,000 students join the ASC, from first-year undergraduates to final year thesis writers. The total number of first-year undergraduates in the university in 2002 was 2,491. In this project the ASC students studied were limited to those with English as their first language enrolling in large entry level study skills courses in 2002. This selection produced 606 students. Their academic progress was then tracked over the four years 2002-2005.

Students were not divided into full-time and part-time to avoid undue complexity in a small-scale pilot, as their records showed they were not necessarily consistent in their full-time or part-time status from year to year. While it is common for adult students to study part-time as they balance study, work and family responsibilities, it has been less common for younger students. However, anecdotal evidence suggests a trend of younger students moving into part-time study to accommodate longer

hours of paid employment, or switching between full-time work and full-time study, to minimise debt while working towards a qualification.

A simple comparison of completion rates for our students with those of the total 2002 new entrants was not as straightforward as expected because of limitations on the statistics available. The university's most recent figures on completion were found to be for the year 2000 entrants, published in 2004, that is, after five years. While it would have been theoretically possible to select year 2000 ASC users, this was the year the ASC was established, and it seemed more pertinent to use a later year when the centre was fully developed, especially as the university statistician advised that the overall completion rate was always similar. Accordingly, the latest university completion rate of 59% was used as a benchmark. The completion rate of the 606 ASC students, however, was only 50%.

Explanations for this discrepancy can only be hypothetical. One possibility is that the academic quality of our students is below average and that we are indeed a remedial service. However, our records of the grades of hundreds of students seen in individual appointments does not support this view. A further explanation is the difference in time frame: the ASC students had had fewer semesters to complete than the year 2000 students, presumably allowing for the completion of many more part-time students. Overall, this raw comparison was not sufficiently informative.

A closer look at the various streams of ASC students produced some unexpected results. There were seven streams, all taught by the same person, but examination of the completion rates for each stream showed marked differences according to the time of year. The term one students had an overall completion rate of 55%, and as the year progressed, the completion rate for each group became steadily worse, dropping to 30% for the last course, taught at the beginning of the second semester (Table 1).

Table 1. *Completion rates of ASC students according to when they enrolled in a study skills course*

Semester One		Semester Two,	
Term one	Term two	Mid-year	Term one
55%	44%	33%	30%

If we hypothesise that the term one students are those who are bright, well-organised and motivated at the start of the academic year, whereas the term two and mid-year students are perhaps less well-organised but sufficiently motivated to come along later once they find they are not doing as well as they hoped, that does not explain why the results are so poor for the second semester students. Were the second semester entrants significantly different in some way? Were they largely composed of failures from the first semester? Clearly, more investigation was required.

It was noted while examining the students' transcripts that a number of students had actually enrolled at the university earlier than 2002. Accordingly, the next step was to see when the ASC students actually enrolled, though the university records show only the year, not the semester. It was always assumed that the students enrolling in our new entrant courses at the beginning of each semester were new to the university, and it was a great surprise to find out that only about two-thirds in the first semester were in fact new in 2002, although 77% were new in the second semester. The rest had enrolled in 2001 or even earlier (Table 2).

Table 2. *ASC students enrolling for new entrant study skills courses in 2002*

Semester	Number of students enrolling	2002 entrants	2001 entrants	Pre-2001 entrants
One + mid-year	521	70%	15%	15%

Two	85	77%	5%	18%
Total	606	71%	13%	16%

This surprising distribution of students raised the question of whether there would be any significant difference in completion rates according to how long the students had been enrolled at the university. However, the pre-2001 ASC entrants covered such a wide and complex range, from those who had enrolled and then discontinued several times, to students enrolling for the first time in 2000, that they were not analysed as a group any further for this study. The 2001 entrants, though, were compared with the 2002 entrants: were they pulling down the completion rate because they were poor students who were now trying to improve? Or were they raising the completion rate, probably because of the longer time for completion? The figures are slightly closer to supporting the latter hypothesis (Table 3), as the 2001 entrants had a completion rate of 55%, higher than the overall group rate of 50%. However, the completion rate of the 2001 entrants is still below the university rate for all entrants.

Table 3. *Comparison of completion rates of 2002 and 2001 entrants in ASC group*

All year 2000 entrants (n=2,275)	Total ASC students (n=606)	ASC entrants	
		2002 (n=433)	2001 (n=80)
59%	50%	48%	55%

Because it is well established by university statistics that adult admission students have a much poorer completion rate than those entering university straight from school, the ASC students' completion rates were analysed according to age. Adult admission students do not require any university entrance qualification other than having reached the age of twenty, so it is unsurprising that they have a significantly lower pass rate than the under-twenties, who must meet academic entry criteria. Further, adult students are more likely to be studying part-time and therefore take significantly longer to complete a degree. As expected, this comparison of the ASC students by age produced a clear difference: the under-twenties did twice as well as the adult admission students, which was also the case for the year 2000 entrants (Table 4). Once again the ASC students' completion rates lagged behind those of the year 2000 students. However it is worth reiterating that the year 2000 students had much longer to complete.

Table 4. *Completion rates of all year 2000 under 20 and adult admission entrants compared to ASC 2002 under 20 and adult admission entrants*

All entrants (n=2,275)	Year 2000		ASC 2002	
	Entrants under 20 (n=1,609)	Adult admission entrants (n=513)	Entrants under 20 (n=250)	Adult admission entrants (n=183)
59%	73%	37%	61%	30%

Given the low completion rate of the adult admission students, if this group constituted a high proportion of ASC students, in comparison to the university as a whole, then that would explain the ASC students' apparently poorer performance. In fact, as Table 5 shows, the proportion of adult admission students entering the university in 2000 was 23%, but the proportion of adult admission students in our 2002 entrants' group was almost double, at 42%. Was there by any chance a particularly high proportion of adult admission students in our second semester group? Yes indeed: 52%. This explains why the second semester completion rates are so much poorer than in the first semester when there is a predominance of school-leavers. At the same time it is useful to know that the ASC was successfully reaching the prime target group of adult admission students.

Table 5. *Comparison between all year 2000 entrants, and ASC 2002 entrants, of percentage of adult admission entrants*

Year 2000 entrants: adult admission students	ASC 2002 entrants: adult admission students	ASC 2002 entrants: adult admission students in second semester
23%	42%	52%

When the completion rates by admission status were correlated with the completion rates by semester, there were some surprising results (Table 6). In semester one, those who were under twenty when they entered university, regardless of whether they were in their first or second year, did equally well at 65% completion. In the second semester the second years were almost as good as the first semester group (60%). Overall, then, these second year groups taking our skills course succeeded above the university average. However, the first year under-twenties did very badly (34%).

Table 6. *Completion rates of ASC 2002 and 2001 entrants by age and semester*

Semester	2002 entrants under 20	2001 entrants under 20	2002 adult admission entrants	2001 adult admission entrants
One	65%	65%	30%	43%
Two	34%	60%	27%	37%

The completion rates for the adult admission students are, as expected, poor. Nonetheless, the first semester students do better than the second semester ones, and once again the second-year students do better overall than the first-years. We knew our adult admission students generally were at risk, but it has been a revelation that first year under-twenties in the second semester are a high risk group, and the reasons why need to be investigated. We were also unaware of the number of second-year students refreshing their skills. This information will have some impact on the way our second semester courses are planned in future.

In addition to considering what proportion of ASC students completed their degrees, this study compared these students' GPA with that of their peers generally (Table 7). Here the university figures were available for 2002 entrants, though not by semester, and the mean GPA for the year was 3.6. It was pleasing to see that the ASC students' GPA was significantly higher, with a mean of 3.9. However, the second semester students, who had such a low completion rate, had a GPA of 3.58, only slightly below the university average. Possibly this group – especially as it contains so many adults - is made up largely of part-timers who are slowly and steadily working their way towards a degree. It will be interesting to check in several years' time whether that is the case.

Table 7. *Comparison of grade point average (GPA) of all 2002 university entrants with ASC group*

Mean GPA of all 2002 entrants (n=2,491)	ASC students (n=606)	GPA
3.60	Semester one	4.02
	Mid-year	4.08
	Semester two	3.58
	Mean	3.90

The question remains, then, to what extent it is possible to find quantitative evidence that learning support helps students succeed. In this study, the GPA seems to offer the most useful indicator, and in future research could well make the best starting point for any statistical examination of the added value of learning support. The underlying problem with examining completion rates is the number of part-time students whose progress to graduation is open-ended. Age and course weighting would also

need to be considered in detail in any future research of this nature. Gratifying as it would be to find a clear statistical link between completion rates and learning support, this study demonstrates that there are too many variables involved. Consequently, qualitative research, preferably in a longitudinal study, undoubtedly remains a more informative means of establishing whether learning support makes a significant difference to students' final academic outcome.

References

- Good, J., Halpin, G., & Halpin, G. (2001-2002). Retaining black students in engineering: Do minority programs have a longitudinal impact? *Journal of College Student Retention*, 3(4), 351-364.
- Hattie, J., Biggs, J., & Purdie, N. (1996). Effects of learning skills interventions on student learning: A meta-analysis. *Review of Educational Research*, 66(2), 99-136.
- Prebble, T., Hargraves, H., Leach, L., Naidoo, K., Suddaby, G., & Zepke, N. (2004). *Impact of student support services and academic development programmes on student outcomes in undergraduate tertiary study: A synthesis of the research*. Wellington: Ministry of Education.
- Reyes, M. (2000-2001). What does it take? Successful Alaska native students at the University of Alaska Fairbanks. *Journal of College Student Retention*, 2(2), 141-159.
- Scott, C., Burns, A., & Cooney, G. (1996). Reasons for discontinuing study: The case of mature age female students with children. *Higher Education*, 31(2), 233-253.

Appendix 1: Statistics relating to the refereed proceedings

A total of 51 presentations were included in the 2005 ATLAANZ conference programme. Subsequently, a total of 20 papers were submitted to be considered for the refereed proceedings of the conference. Table 1 shows the distribution of referees' recommendations across the categories available.

Table 1. *Distribution of referees' recommendations by category*

Category	Number of recommendations
Accept for refereed publication as presented	3
Accept with minor revisions	22
Accept after major revisions	9
Reject for refereed publication but accept with revision for non-refereed publication	5
Reject	2
Total	41

A total of seven papers were rejected by one of the two referees, and in one case the paper was sent to third referee. Of the 20 papers submitted for refereeing, 19 were accepted provisionally for publication subject to either minor or significant revision. Despite its quality, one paper was rejected as being unsuited for an ATLAANZ audience and the author was advised to seek an alternative publication source. Of the 19 authors, 16 were able to make the revisions required.