The identification of high dropout risk distance education students by the analysis of student records data

Terence J. King

Thailand

INTRODUCTION

This study is concerned with the analysis of data, already collected as part of the normal college student records system, to identify students at risk of dropping out from courses in an Australian college of Technical and Further Education (TAFE). It is a preliminary study, and, while the results are promising, much work needs to be done to determine the broader usefulness of this approach.

The Off Campus Centre at the Box Hill College of TAFE is one of 18 such centres operating in colleges spread throughout the state of Victoria, Australia. Box Hill is a suburb of Melbourne and is situated about 15 kilometres to the east of the central business district. The region covered by the college includes middle class residential, busy commercial and some industrial areas. The college also has strong relationships with a number of industries with activities being conducted throughout the country and some off-shore programs.

The centre enrols up to 1200 students each year and offers a wide range of subjects. At the time of this study 270 subjects ranging from single subject short courses up to 24 subject Associate Diploma courses taking several years of part time study were offered.

Nearly all of the students are adults who study part-time. More than half are also enrolled on campus and many use the off campus mode as a means of picking up an extra subject because they were unable to get into an appropriate evening class.

To administer the work of the centre there is a co-ordinator with an academic background and three part-time administrative officers. Tutors are employed on a piecework contract basis to mark assignments, conduct seminars and provide telephone support when requested by students.

The college has a sophisticated and very effective, locally developed, student records system, which provides all of the administrative and accounting information required by the college and by both state and federal governments. Attached to this system, is an off-campus management package, which keeps track of assignments, study materials and tutor payments.

For the purpose of this study students enrolled in the Course in Sub-Agency Practice in the first semester of 1992 were chosen. This is a short course, requiring 50 hours to complete on campus. Off-campus students are allowed up to six months. Students entering the course are required to have completed year 11 in secondary school or to be considered sufficiently mature. The course is a legal prerequisite for people wishing to be employed selling real estate. It is also the entry level required for students who wish to do a more extensive course to qualify to manage a real estate agency. The Course in Sub-Agency Practice is not a difficult course. A feature of this course is a history of high levels of nonstarters.

A 1990 computer report showed that of 150 people who enrolled only 65 actually submitted any work and 62 of these successfully completed the course. These figures seemed most remarkable in two ways. The very high completion rate among those who started work would tend to suggest that the course was not difficult. This is borne out by the comments received from students doing the course. The extremely high proportion of nonstarters was the other notable feature of the course. It was these factors which first aroused the curiosity of the writer.

The suggestion by Kember (1989) that student record systems contain a considerable amount of data that could be useful in the study of the tendency of students to drop out of distance education courses, was another catalyst in the development of this project. A problem was perceived to exist and a means of investigation had been suggested.

THE RESEARCH DESIGN

Restrictions

Since the purpose of this study was to determine whether information and facilities already available could be put to use for educational, as well as administrative purposes, the enquiry was restricted to the use of data available from the records systems of the college. The analysis was also carried out using software available within the college and relatively easy to use.

The use of statistics was also kept to a minimum, so that the process could be readily duplicated for other courses and other years without it becoming necessary to spend a lot of time training staff to carry out complex analyses. The results produced were also able

to be read and understood by people with little statistical background.

Presentation

Frequency tables were produced using the SPSSxPC software and these were supplemented with graphs where it was felt that they would enhance the presentation of the information. The graphs were produced using Lotus 123 version 2.3, which is also widely used within the college.

The variables

The data available covered the following variables: sex, age, country of birth, years in Australia, years since leaving school, level reached at school, employment status, prior TAFE study, prior University study and the number of assessment tasks completed.

The subjects

The subjects of this investigation were all of the students who were enrolled in the Course in Sub-Agency Practice at Box Hill College of TAFE during the first semester of 1992. Three subgroups were created on the basis of either completion of all eight assessment tasks, partial completion, or failure to submit any work at all, six months after enrolment. These groups were termed 'Completers', 'Starters' and 'Nonstarters'. There were 109 students enrolled. There were 28 completers, 27 starters and 54 nonstarters.

Data collection

The student record data was provided as a printed report. The data on assignments and tests was obtained as another printed report from the assignment tracking system of the Off Campus Centre. Data from both reports had to be keyed in to create a composite ASCII file.

FINDINGS AND COMMENTS

Nonstarters and completers

The overall percentage of students that completed all assessment tasks was 25.7 per cent. The level of prior education and employment status both showed a clear relationship to the level of completion, with those who were employed or had completed year 11 or 12, showing a higher than average completion rate. Women had a higher completion rate than the men. Those with prior TAFE studies had a similar completion rate to those with year 12, but they also had a higher non starter rate. There were more partial completers among the year 12 group.

Completers tended to be older than the noncompleters and had been out of school longer. These two variables may be, to some extent, measuring the same thing. When age and unemployment were considered together, it was found that for those under 30 and

unemployed, the completion rate was only 9.1 per cent, while the 30 and over unemployed group had a rate of 28 per cent, which was better than the overall average.

Partial completers

One of the reasons for this research project was curiosity about the virtual lack of partial completers in a computer report of an earlier enrolment group. Of 150 students there were 62 completers, 85 nonstarters and only 3 noncompleters. The mystery about the earlier group remains unsolved. The group studied here had a very different makeup. There were 27 who started but did not complete the course. The records should be checked to find out how many, if any, of this group have completed the course since the collection of the data for this project.

Quality of data

The lack of complete records was a problem. There were many cases of missing data. Students tend to fill out only the items they consider essential or which require little thought. Staff ensure that students supply the data essential to the processing of an enrolment. During the busy enrolment period staff are under a great deal of pressure. They cannot afford to spend time chasing students for data that are not perceived to be important. Great care is taken with data essential to the enrolment process, and data for accounting purposes.

The failure to make use of any of the data collected for educational purposes leads to a lack of commitment on the part of the staff. If they could see the data collected being put to use to enhance the support that the college is able to give to its students, it would certainly be possible to get greater commitment to obtaining a complete and accurate set of data.

Course prerequisites

This study confirms that the course prerequisites for the Course in Sub-Agency Practice are correctly set. While the overall completion rate was 25.7 per cent the corresponding figure for those without a year 11 pass was 10 per cent It is interesting to note that the two students, out of twenty without the suggested prerequisite, who did manage to pass, were both over 50 years of age. For those who had passed at least year 11 the completion rate was 29 per cent. Although none of these rates are particularly high, those students without the recommended prerequisite are at an obvious disadvantage.

The concept of access is very important in the TAFE system. It is a key component of the TAFE philosophy. We pride ourselves on the removal of barriers to adults re-entering the system. Kangan, in his first report, which contributed a great deal to the philosophy of the TAFE system in Australia (ACOTAFE, 1974,) states:

'Recurrent opportunities for technical and further education should be available to people of all ages

regardless of minimum formal education entry requirements or employment status.'

For an opportunity to be worthwhile it must carry with it a reasonable chance of success. To allow students to re-enter the system without the necessary prerequisites, and then not provide adequate support to compensate for this lack of background, is grossly unfair. Students who have this type of experience in their second entry into the education system are very unlikely to try again.

Students wishing to enrol in the Course in Sub-Agency Practice without a pass in year 11 should be carefully counselled. A program of written and telephone contacts to provide extra support and motivation should be initiated. Bååth (1982) suggests that telephone contact from the tutor as soon as possible after enrolment leads to greater student success.

Unemployed students

More than 44 per cent of the students enrolled in the course were unemployed. Less than one fifth of these students completed the course. More than 30 per cent of the employed students finished all of the required tasks. If, as Boshier (1973) has suggested, self image is an important indicator of persistence then this group may need special support. On the other hand, if people are job hunting, then they may have more than one iron in the fire. Kennedy and Powell (1976) list employment as one of the areas of a persons life that can change quite suddenly.

The young unemployed are a particular worry. None of the sixteen unemployed students under the age of 26 managed to complete the course. While 7 out of the 26 (27 per cent which is higher than the overall average) unemployed students over 30 years of age completed all assessment tasks, of the 22 unemployed who were under 30 only 2 (9 per cent) were successful.

The unemployed students obviously need extra support. Measures similar to those suggested for those lacking the prerequisite level of prior education could be implemented with these students. Through the establishment and maintenance of communication, problems may be overcome, or reasons for non persistence discovered. Since these students live locally and are not working it may be better to offer them either an on-campus class, or a 'fleximode' program with regular tutorial assistance.

The gender balance

Women doing the course had a completion rate of 32 per cent compared to 22 per cent for men. Only 40 per cent of the students were female but they made up 50 per cent of those who completed the course.

The industry has traditionally been male-dominated, but there has been a realisation that when it comes to buying a house, it is usually the woman of the family that makes the choice. It makes sense in this situation to have women working in the sales side of the industry. A number of mature female students have managed to complete this course and are now performing very well in the industry.

Asian students

Given the large number of Asian migrants who have settled in Box Hill, and the surrounding areas, it is surprising to see only seven Asian students in the entire group. With the development of a strong Asian presence in the regional shopping centre at Box Hill, the municipality is becoming a centre for Asian business activities. At the same time we have many well-qualified migrants from South East Asia and China who are out of work. It is surprising that the local real estate agents have not recognised and grasped the opportunities that lie in servicing this segment of the market. Those who do will probably be well rewarded.

CONCLUSION

Data from the student records system, and the Off Campus Centre's assignment tracking system, with regard to the Course in Sub-Agency Practice, when analysed using the SPSSxPC software package, gave valuable information which enabled groups with very high proportions of nonstarters to be identified. In the process of analysis, other valuable information about the demographic backgrounds of the students enrolled in the course became apparent. Gender balance, and the under-representation of some ethnic groups, are two examples.

Armed with this information, which is relatively easy to obtain, the Off Campus Coordinator would be in a position to plan appropriate strategies to target the high risk groups, and bring about an improvement in the overall completion rate.

With the number of students enrolled in the course it is not reasonable to expect the tutor to provide more than a limited amount of personal attention to students at risk. It may be necessary for the Off Campus Centre to take on the task of sending out circulars, encouraging students who have not submitted the first assignment after a reasonable time, to either get the assignment in, or contact the Off Campus Centre to discuss any problems that they may have with the course.

Given that the Box Hill College of TAFE has expressed a commitment to quality in its programs, it should be relatively easy to get college commitment to the ongoing use of student records data to monitor student performance and to plan appropriate intervention for those students at risk.

This project has looked only at the students studying one subject in one semester. While the information gained is interesting and possibly useful, it is only a beginning. There is a need to determine whether

similar results can be obtained by the analysis of data from other subjects.

It should be stressed that the purpose of research such as this is not to discover what is wrong with our students. If a car manufacturer was to produce cars that people could not drive properly, the company would not see it as the fault of the marketing department in not finding the right customers. While our students are adult, and must take some responsibility, they generally enrol in a course after receiving advice to do so. They use study materials that the TAFE system has developed and are supposed to be provided with effective support while they study.

There is a considerable amount of research that shows that some students drop out for reasons that are beyond the control of the college. Our task is to ensure that those factors that are within our control are dealt with effectively. We should make use of all the facilities at our disposal.

It is evident that we are not adequately monitoring the progress of our students. We have tools that can be used to improve our knowledge of the success of our teaching programs. We should be aware of the facilities that are available to us and do our best to use them to improve the effectiveness of our teaching.

Kember (1990) suggests that student record systems should be designed in such a way that academic staff can readily access information about groups or individuals. The information about groups needs to go beyond the usual class lists. There needs to be some analysis to extract from the stored data educationally useful information. In the same way, the individual information should go beyond name, address, and last years examination results.

It should be practical to automate the whole process, and generate an analysis of the data as a standard report which would be available on call. This should be the ultimate aim. For the Off Campus Centre in particular, it would be a great help if students who are at risk could be identified early, thus enabling the need for support to be anticipated. Bååth (1984) reports that a number of researchers have found that sending letters reminding or encouraging students to submit assignments has a positive effect. Early intervention may encourage persistence.

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