

A NEW PARADIGM FOR MAXIMISING STUDENT RETENTION IN HIGHER EDUCATION

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INTRODUCTION

This paper challenges current UK university student retention target-setting methods. The basis of the challenge is that by simply trying to maximise retention we are in danger of being driven towards meeting the required targets at almost any cost - including that of retaining students who would be better served by some other alternative. A new paradigm is proposed which aims at 'optimum' retention rather than 'maximum' retention. The paradigm takes account of individual student requirements and local institutional conditions. The new paradigm is supported and justified by data gathered during a research study conducted in the School of Engineering, Science and Design of Glasgow Caledonian University. The study involved 163 first year students during academic year 2001/2002.

The retention of students in Higher Education in the UK has become a major issue for universities and, for many, is now the top institutional priority. Student retention statistics vary significantly across the sector with many reasons and justifications being given to explain differences. In recent years it has become standard practice for UK university managers to set retention targets in terms of simple percentages which are derived mainly to satisfy political and resource objectives rather than to ensure that those students who should remain in Higher Education are facilitated to do so. There is evidence that in some cases the raw data on which this target setting is based is fundamentally flawed (1). Whilst the validity of the current target-setting method can in some respects be defended from a global perspective, it fails to take into account the needs, aspirations, abilities and personal circumstances of individual students. It also fails to reflect local conditions within which institutions operate. In particular, the assessment of risk of individual student withdrawal is inadequately dealt with. This has resulted in simplistic institutional retention performance criteria being compiled and used as driving forces for various important purposes.

The risk of student withdrawal from Higher Education is a highly complex parameter and involves issues such as academic qualifications at point of entry, social and family background, financial stability, ability to cope with stress, and numerous others (2)(3). Withdrawal risk factor determination, in the final analysis, comes

down to the assessment of the circumstances of each individual student. Even if some kind of initial risk assessment of a student can be performed at entry (4), it is almost certain that this risk factor will change (increasing or decreasing) as the academic year progresses. The research study reported here set out to explore the new paradigm of optimum retention and to investigate a model to allow the determination of the level of risk of withdrawal of individual students on a continuous basis throughout the academic year. The resultant model has been used to initiate early counselling of students found to be at higher risk of withdrawal. During the study, no students withdrew without counselling being provided and reasons for withdrawal being agreed as legitimate by the First Year Academic Tutor. On this basis it is argued that all students involved in the study who should have been retained have been retained. The result is optimum retention for this group of students.

OPTIMUM RETENTION AND ASSOCIATED TECHNIQUES

The original pattern for Freshers' Week was to have a range of activities such as enrolment, touring Student Association facilities and looking around the campus. Frequently there were days when an event was organised for early morning and another for late afternoon with nothing in between. No activities which allowed students to get to know each other were set up. No activities which involved the students in their study disciplines took place. A new version of Freshers' Week was designed which allows students to meet each other and immerses them in their study discipline from the time they arrive on campus. The objective was to take advantage of the motivational effect of getting students started with activities they are interested in from the very beginning of their time at university. Since absence from classes was considered to be one of the highest withdrawal risk factors (based on the literature and the experience of the authors), a rigorous and highly structured absence management system involving a continuous process of assertive outreach was implemented.

Motivational Freshers' Week

In order to exploit the initial enthusiasm of the students when they first come to university, a radically new form

of Freshers' Week was established. The activities were spread over a period of 3 days and included:

- icebreakers;
- an electronics construction project;
- a mechanical engineering construction project;
- a science investigation project;
- a design project;
- guest lectures.

A supporting web site was established and was accessible prior to Freshers' Week. Applicants who firmly accepted unconditional offers of places were notified of the URL of the site. This allowed students to find out about Freshers' Week activities before they arrived. During Freshers' Week the web site was also used as a notice board where news updates appeared and where photographs taken during the activities were posted.

The web site also made an online version of the risk factor questionnaire available for the 2001/2002 student intake. The purpose of this was to make the collation of on-going data less resource intensive in future years.

Absence Management and Assertive Outreach

From the start of the academic year an accurate attendance monitoring scheme was implemented. Since full attendance is an unrealistic target, this scheme was designed to focus on 'absence management' in order to place the emphasis on assisting students to cope with any difficulties which absences may have caused. Because first year undergraduates are predominantly young and may be inexperienced in dealing with difficulties, the philosophy of 'assertive outreach' was developed to encourage students considered to be in difficulty to come and seek assistance at a very early stage. The assertive outreach technique uses a novel method of contacting every student by letter at the end of every three week block of study to inform her/him of the achieved level of attendance.

A problem identified by lecturers over the years in relation to the practicalities of attendance monitoring early in the academic year has been availability of accurate class registers. The compilation of accurate registers ready for use in teaching week one was the first priority of the new system. The First Year Tutor then collected and inspected the attendance records for all programmes for the first three week block of teaching. Letters were sent to all students to inform them of their recorded attendance performance. Students with good attendance were congratulated. Students with some unexplained absences were invited to attend more regularly. Students with a high number of unexplained absences were asked to attend a compulsory interview with the First Year Tutor. These letters were mailed in the fourth teaching week and the

interviews took place in the same week. Since the emphasis was on absence management, the interviews were used to identify areas where students could be assisted to recover from any time already lost. This approach is fundamentally different from calling the students in to be given a row for their poor attendance. The process was repeated for every three week teaching block throughout the academic year and detailed records maintained from all interviews. This mechanism of contacting all students not only allows poorly attending students to be assisted - it also encourages the students with good attendance by recognising their achievement. This is a form of assertive outreach which provides an interesting balance between allowing students to have independence but maintains an element of benevolent control over them in their first year of study.

COLLECTION OF DATA

Three programme groups were considered across a range of engineering disciplines. These programme groups were BEng(Hons), BSc(Hons) and University Diploma (UD). Engineering is known to be a discipline area in which retention is a particular concern (5). The age and entrance qualifications of the students was available from admissions data. Based on the literature and the experience of the authors in supporting first year undergraduates in engineering programmes, a questionnaire was created to collect data on some of the most likely withdrawal risk factors. These factors were:

- previous unsuccessful attendance at university;
- living away from the family home;
- English not the first language;
- late application through Clearing System;
- low priority of course choice;
- no previous immediate family attendance at university;
- work commitments;
- having no friends in the class at the start of studies.

The questionnaire was issued at enrolment sessions during Freshers' Week in September 2001. Of the 163 students enrolled, 94 completed questionnaires were returned.

An accurate record was maintained of student attendance which focused on identifying absences. This record provided continuously updating information to be used for dynamically identifying students at risk as the academic year progressed. The absence data was used to expeditiously initiate support for students who may be at risk. Following interviews, detailed records were kept concerning the reasons for individual students missing classes.

RESULTS

The data shown has been collated during the academic year in which the optimum retention paradigm was implemented for the first time. A number of points need to be taken into account when considering the results shown. All enrolled students have been included in the analyses except in cases where data from the questionnaires is being presented. It is common practice for universities to discount any students who withdraw early in the academic year from their retention statistics since fees are not collected for those students. This study has not conditioned the data in this way. The initial totals of enrolled students at the start of the academic year were taken as the reference baselines for the statistics. The authors believe that this provides a more accurate representation of what really happens. Students who progress or otherwise remain as students in the university (e.g. transferred to other programmes) are considered to be retained. Where it is felt appropriate to present overall data for all programmes this has been done, but where the results yield interesting differences between programme groups, the data has been separated out to illustrate the differences. It is important to realise that the data presented here is taken from the year in which the optimum retention paradigm was implemented.

Table 1 shows the breakdown of the number of students from each programme group who were involved in the study. The entrance requirements for BSc are higher than for UD but lower than for BEng. The completion of the questionnaire was voluntary.

TABLE 1 – Student numbers used in the study

	UD	BSc	BEng	Total
Enrolled	62	74	27	163
Questionnaires	36	39	19	94

Table 2 shows the relationship between the number of modules failed in the academic year (including all re-sits) and the risk factors which produced the highest correlation coefficients. As can be clearly seen, absence is the most strongly related risk factor. Entry qualifications also have a slight relationship. The most surprising relationship, however, is between modules failed and having no friends in the class at the start of the academic year. Other parameters had correlation coefficients lower than 0.1.

TABLE 2 – Correlation coefficients comparing number of module fails with other relevant parameters (all programmes)

	Correlation coefficient	Number of samples
Absence	0.54	163
No friends at start	0.27	94
Entry qualifications	0.15	163

Table 3 shows the average number of modules failed out of a maximum of 8 and the average percentage absence recorded for the programme groups. Absences were recorded during the academic year for individual class meetings rather than days.

TABLE 3 – Module fails and class absence

	UD	BSc	BEng
Module fails	4.4	2.6	1.5
Absence	32%	29%	15%

Table 4 presents a summary of responses to the questions asked in the questionnaire. This raw data (6) was analysed to calculate various correlation coefficients and this resulted in the identification of the most significant questionnaire derived parameters for inclusion in Table 2.

TABLE 4 – Questions and percentage YES responses

Question	UD	BSc	BEng
Have you attended university before?	19%	39%	5%
Are you living away from your family home?	19%	33%	21%
Was this course your 4th or later choice?	19%	3%	0%
Did you apply in clearing?	56%	31%	37%
Are you the first person in your family to go to university?	47%	69%	63%
Do you work 1 to 4 hours per week?	3%	3%	0%
Do you work 5 to 8 hours per week?	3%	10%	26%
Do you work more than 8 hours per week?	42%	39%	53%
Do you know nobody else in your class at the moment?	42%	46%	53%
Do you know 1 or 2 other people in your class at the moment?	39%	44%	37%
Do you know 3 or more other people in your class at the moment?	19%	10%	10%

Table 5 shows the comparison of retention percentages between the year of the study (2001/2) and the previous two academic years. This table allows the impact of the optimum retention paradigm to be assessed. For this study, students are considered to be 'retained' unless they have been withdrawn by the end of the academic year or if they choose not to matriculate for the following academic year. This classification was used for all years of data considered. Great care has been taken to ensure that original raw data for the study is sound and does not suffer from some of the limitations known to exist in centrally held university records.

TABLE 5 – Percentage retention

	UD	BSc	BEng
1999/2000	40%	63%	65%
2000/2001	55%	68%	63%
2001/2002	60%	81%	92%

CONCLUSIONS

The improvements in retention following implementation of the optimum retention paradigm are shown graphically in Figure 1. It can clearly be seen that there has been a very dramatic improvement for the BEng programmes and a highly significant improvement for the BSc programme group. The improvement for UD programmes is not so significant.

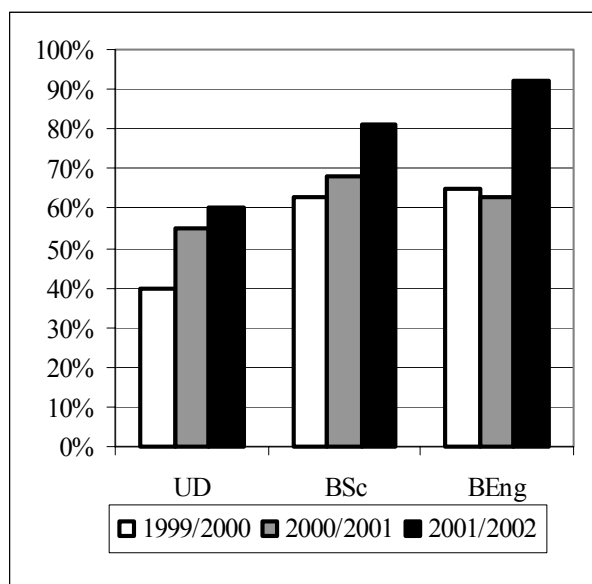


FIGURE 1 – Percentage retention rates for programme groups over three academic years.

Due to the level of attention paid to individual students during the study, it was possible to pro-actively intervene with required support before difficulties became too great for the student to overcome. The exit interview records show that every single student who fell into the category of 'not retained' during academic

year 2001/2002 left the university for known, legitimate reasons which were not within the power of the university to change. On the basis of this study it is argued that optimum retention has been achieved for this group of students. Irrespective of any retention targets set by university management, it is argued that the retention figures achieved could not be significantly improved for this group by any action which the university could reasonably be expected to take. From the retention results achieved under the optimum retention paradigm it could even be said that the current retention targets being set by universities is actually rather unambitious in some cases. Optimum retention has ensured that every student enrolled at the start of the academic year has been supported to either continue their studies or to embark on an agreed alternative path suitable to the individual. Optimum retention has resulted in more students being retained in the university than expected and this is clearly financially beneficial for the institution.

The academically centred paradigm of optimum retention should be used by universities to replace the maximum retention target setting currently being pursued.

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