Economics of Distance and Online Learning: Theory, Practice and Research

Ed. Bramble and Panda

Chapter 12 Cost benefits of student retention policies and practices

Ormond Simpson

Ormond Simpson is Senior Lecturer in Institutional Research at the Institute of Educational Technology, Open University, UK.

A. Introduction – returns, resale values and willing to pay

It is a truism that education is a social investment for both the individual and society as a whole. But increasingly as education goes on for longer, becomes more widespread and thus more expensive it has become increasingly important to examine its economic consequences. Gradually the investors in education (who are the consumers as well – governments, students, employers, parents and society) will be asking what they are getting for the investment they are making in this business.

But treated in purely economic terms education is a strange kind of product. What manufacturer would run a production line with a consistent failure rate of 20-40% on the way to the finished article? And perversely take pride in that failure rate on the grounds that it must indicate the high quality of the final product? As the manager of a small manufacturing enterprise remarked to me "You people in universities astonish me. You seem perfectly happy with a failure rate of up to 40%. If I manufactured a product with that kind of failure rate I'd have to change my production processes or my suppliers or I'd be out of business in weeks."

In other words student retention in higher education is a critical concept when considering the economic impact and implications of education. At one level of analysis student dropout could just be seen as a form of wastage which it is necessary to live with. But taking the economic view leads to questions about that wastage – how necessary it is, what can be done about it, how far it can be reduced, and what the financial consequences of living with it are. This chapter will suggest that the economics of distance and online learning are very strongly affected by the financial aspects of student retention in distance and online education - which in turn are different from the finances of student retention in conventional education.

But taking an economic view is not a simple matter. There are a number of related economic concepts that must be taken into account when discussing student retention –

1. returns on investment (and profit) to students, institutions, governments and society,
2. the 'resale value' of an education,
3. the 'willing to pay' concept
4. and finally, and very importantly, the existence of 'educational investment risk'.

1. Return on investment (RoI)

At its simplest a return on investment in education (RoI) can be defined as the ratio of the financial benefits of an education to the investment in that education needed to obtain those benefits, expressed as a percentage. Thus a RoI of (say) 150% means that for every $1 invested there will be a return of $1.50. The RoI is of course closely related to profit which is simply the benefit less the cost – in this example 50 cents. There will be individual RoI's for every element in the education process – for students, institutions, and government.

This purely economic argument ignores the considerable evidence of the social and physical benefits of successful participation in higher education – for example in terms of increased health and lifespan and higher levels of happiness (however defined). There is also evidence (Henderson, 2004) that graduates make fewer calls on societies' resources such as social welfare benefits and medical care and also contribute more in the form of voluntary work. Equally there is evidence that dropout students in the UK suffer from higher levels of depression and unemployment and worse physical health than either successful graduates or people who qualified to go to university but chose not to (Bynner, et al 2001). These features will have financial implications for both graduates and governments which will increase their returns on investment, although such returns will be very difficult to quantify.

However this chapter is concerned only with the financial implications of higher education investments, the consequent returns on those investments for students, institutions and governments and how further investment in retention strategies may increase those returns. Its argument is that investment in higher education has returns of much greater than 100% for all three participants and consequently for society as a whole. In other words all areas involved in higher education make profits on their investment. The chapter will also argue that the returns on investment for all three are actually greater – often considerably greater - in online and distance learning (ODL) than for conventional higher education, but that those returns are reduced by the lower retention rates in ODL. There is therefore a substantial case for investment in student retention in ODL insofar as that investment can itself be shown to increase student retention in a cost-effective way.

Making these cases of course is a considerable challenge since it requires forecasting the lifetime increases in income in a situation where the variables are likely to be changing

very considerably. For example in both the US and UK where participation rates in higher education are increasing, it is not clear how far graduates will continue to command an increase in earnings over non-graduates (the 'graduate premium') when they are a more substantial proportion of the workforce. However a recent OECD report (2004) finds that the graduate premium exists amongst most countries despite the dramatic global rise in graduate numbers over the last few years. Even with higher education participation levels of 70% or more in countries like Australia and Sweden graduate salaries are holding steady or increasing.

1.1 Returns on investment to full time students.

There have been many attempts to quantify the financial aspects of student investment in their conventional education. For example in the UK researchers Walker and Zhu (2003) at the University of Warwick have suggested that graduates from conventional UK universities receive a total increased income – a' premium' over their working lifetimes of an average of £200,000 ($400,000 or €320,000 at exchange rates as of 1 January 2007). Grugulis (2003) estimates a similar figure. Setting such figures against the investment graduates have to make to get that return – mostly tuition fees – suggests that they will receive a lifetime RoI of around 600%. This will have changed in the UK when a higher level of tuition fee was introduced in 2006 and the average RoI is likely to drop. But the average conceals a very wide range – see 'Resale value of qualifications' below.

The total annual graduate premium for the UK's annual 300,000 graduates will be of the order of £1.5 billion per year ($3.0 billion or €2.4 billion) assuming a working life of 40 years. If withdrawn students do not benefit from any such graduate premium then a 20% dropout rate amongst an annual intake of 300,000 suggests a forgone lifetime increase in income of £0.3 billion per year ($0.6 billion or €0.48 billion) – a measure of the cost of dropout from UK higher education. Countries with higher levels of dropout (the US, most of Europe and Asia except Japan) will experience higher levels of dropout cost.

1.2 Returns on investment to educational institutions.

Very little work has been done in full time institutions in the UK on the returns to institutions of investing in retention activities. Whilst there have been retention projects which have had clear success – Napier University in Scotland increased its retention rates by 6% through a set of student support strategies (Johnston, 2002) for example - there do not seem to have been any attempts to calculate returns on investment in retention in any systematic way. More work has been undertaken in the US, such as that reported by the Noel-Levitz organisation who supply charts to facilitate the calculation of RoI's (the 'Retention Savings Worksheet' noellevitz.com/library/papers/retention.asp). Mager (2003) at the Noel-Levitz sponsored US

National Student Retention conference reported on a study at Ohio State University which claimed a retention increase of 5% with an investment of $345,000 in proactive retention contacts giving an increase in tuition revenue of $2.25m. This represents an RoI of 650%. But it is not clear how common this approach is.

1.3 Returns to Government.

Finally the returns to society as a whole are difficult to evaluate. The simplest return to calculate is the increased taxes paid by graduates. In the example quoted above increased earnings of £200,000 ($400,000 or €320,000) would result in the UK of increased tax payments to the government of about £80,000 ($160,000 or €130,000) per graduate over their working lifetimes. Assuming a total of 300,000 graduates a year in the UK with working lifetimes of 40 years this would represent an annual tax income to the government of around £600m ($1.2bn or €1bn) a year. This would need to be compared to the government's original investment in the student's education in terms of direct public subsidies to higher education, currently approximately £6bn ($12bn or €10bn) a year. The shortfall may be made up by the increased gross national product due to graduates as distinct from the increased earnings of graduates. This is currently estimated at £35bn ($70bn or €56bn) per year in the UK (Universities UK 2002) which would suggest a total return on investment to the government of around 500%. But there are far too many approximations in these estimates to make them anything other than order of magnitude figures.

2. 'Resale Value' of qualifications

Another concept taken from investment economics is the resale value of an education; in other words what an employer might be prepared to pay a person with a particular qualification, or what a self-employed person with that qualification might hope to earn. Of course what an employer is willing to pay will not depend solely on a qualification but also on the personal qualities of the applicant. Nevertheless this is a useful concept as it can take into account the varying value of any qualification over a lifetime. For example it seems likely that this author's own qualification – a second class degree in theoretical physics circa 1965 - probably now has a resale value of close to zero, and indeed may never have had much value in the first place except as an initial entry to the world of higher education employment.

The resale value of an education is related to the RoI in that education which varies very greatly according to the subject of the degree. The researchers at the University of Warwick for instance suggest that degrees in arts subjects tend to have a lower return in increased income than degrees in numerate subjects and law. Indeed for some subjects there are indications that returns might well be less than 100% - in other words a graduate may

never recover the full cost of their education from any increased income, and their qualification will have a resale value of less than they paid for it. In addition currently in the UK tuition fees do not (yet) vary according to the degree subject although the costs to universities of different subjects vary – a degree in chemistry costs considerably more for a university to present than a degree in English literature. Once tuition fees rise and start to reflect actual costs more closely then it may well be that returns will diverge even further. If students behave like rational economic creatures then certain high cost subjects with low returns may begin to disappear from the curriculum. Whilst society may react to labour shortages in a particular area by changing the resale value of qualifications in that area this is not likely to be a sensitive process and it may take a number of years for such changes to be reflected in students' subject choices.

Finally, the resale value of a qualification will depend on the awarding institution. An institution whose qualifications are thought to have low resale values for any reason is likely to have difficulties recruiting students. It is also clear that online learning presents a different problem with the recent rapid growth on the Internet of fake universities (Hansson and Johanssen, 2005). Some of these are increasingly convincing in their appearance making it hard for employers to assess competing qualifications. Employers may well end up treating many online qualifications with suspicion, thereby lowering their resale value.

3. The 'Willing to Pay' concept

The resale value of a qualification also relates to the 'Willing to Pay' [WTP] price. WTP is a relatively recent concept but is proving of interest, particularly in analysing the 'value' of things that are otherwise difficult to put a price on. For example the value of the environment can be assessed to some extent by attempting to estimate what a person would be prepared to pay for clean air or uncontaminated water. In the case of education the WTP price of a qualification is what a prospective student is willing to pay in financial terms for that qualification. WTP clearly depends on a number of variables – including a prospective student's current financial position. A student who does not have much capital or who is unwilling to contemplate starting a career burdened by considerable debt will have a low WTP price and may not embark on education at all. Indeed for such a student a more applicable concept may be 'Able to Pay'.

Both these concepts are important when it comes to consider education as a risk investment.

B. Education as a risk investment – the retention issue.

The discussion above assumes a clear relationship between a student's original investment and an ultimate return on that investment. But of course investment in education is actually a

high risk activity, as students can and do dropout and fail to attain the qualification for which they have registered. As noted earlier, dropout rates from full time higher education in the UK average about 20% each year and dropout rates in the US are higher at around 30-40%; probably because of higher participation rates there. Education then is a risky investment – the full time student investor has a 20-30% chance of losing their stake.

It is important to enter a caveat here. We do not know enough about what happens to student investors who dropout. Clearly some re-invest in a different education then or later and will go on to succeed having only lost their opening stake. Equally clearly some turn their energies to other investments which can pay off handsomely. It is not difficult to produce a list of failed educational investors for whom that failure has had little effect, such as Bill Gates who dropped out of college as did Steve Jobs the founder of Apple; Albert Einstein who dropped out of high school and studied on his own; Walt Disney who only received his (honorary) high school diploma at the age of 58; Mick Jagger who dropped out of university to help start a band which has done moderately well; and so on (Simpson, 2003). How far educational failure means a subsequent loss in income to the ex-student would need long term longitudinal research which probably remains to be undertaken on any scale.

However it seems likely that in the majority of cases dropout means a financial loss to the student, the institution and society as a whole even if that loss is difficult to quantify. If that is so then student retention becomes a financial as well as a social issue and it will be important to analyze student retention activities from a financial as well as an educational background. For example a student thinking of embarking on a course known to have high dropout may well have a lower willing to pay price given the greater likelihood of losing his or her investment. If such a course loses recruitment as a result then it may have too low an enrolment to be financially viable.

C. Online Learning and Distance Learning (ODL) – economics and retention
How then do the concepts of return on investment, resale value, willing to pay price and education as a risk investment apply to distance and online learning? And how do those concepts relate to retention issues in ODL? As might be expected there is not a great deal of data as yet, but what there is suggests that ODL compares quite well with conventional education, at least on return on investment.

1. Return on Investment in ODL for students
Woodley and Simpson (2001) in a survey of graduates of the UK Open University found that they increased their earnings from 15% above average earnings to 22% above on graduation although this figure varied a great deal by the individual's degree topic and personal characteristics. On the face of it this figure is a lower increase in earnings than that gained by

conventional graduates, and given that many ODL students are older than their full time equivalents this increase is actually earned for a shorter working life.

However a different perspective is given by an analysis of the return on investment into ODL. As the researchers from the University of Warwick point out the biggest 'cost' of conventional education is not tuition fees or costs of maintenance during a course but the loss of earnings whilst studying. Since many students using ODL continue to work whilst they are studying this cost is minimised. In addition fees for ODL are generally lower than for conventional education – for example the total fees for UKOU degree may amount to £2400 ($4800 or €3800) against the fees for a similar full time course of around £9000 ($18,000 or €14,000). Thus the return on investment in ODL can compare very favourably against the returns in conventional education. Using the Woodley and Simpson figures and adding in the earnings factor, the returns for ODL graduates average around 2200% compared with around 600% for conventional graduates.

As noted before we do not have sufficient information on what happens to dropped out students to be sure that they do not experience similar increases in earnings but it seems reasonable to assume that such increases are unlikely.

2. Return on investment for ODL institutions.

The return on investment for ODL institutions depends critically on their retention rates. For reasons outlined below much of the work on investment in retention in ODL institutions has been concentrated on proactive support. There is quite a long history in ODL of proactive contacts being successful in promoting retention. Reports include Rekkedahl (Norway, 1982) who used postcards to encourage students to complete assignments and found that submission rates rose by 46%, Visser (UK, 1998) who used a motivational messaging system' and found an increase in retention from 34% to 61% but in a small sample, and Chyung (US, 2001) who used the same theory in an online learning situation and reported successive reductions in dropout from 44% to 22% and ultimately to 15% . In the face-to-face situation Case and Elliot (US, 1997) reported on a number of studies of increased retention quoting in particular a study from Rio Salado College in Arizona who used a systematic phone contact with selected students and found an increase in retention of around 15%.

Such findings encouraged Seidmann (US, 2005) to announce a 'formula' for retention

$$R = EId + (E + I + C)PaC$$

where R = Retention,

E = Early,

Id = Identification of vulnerable students,

I = Intensive

C = Continuous

Pac = Proactive Contact with vulnerable students

- which had the merit of stating the case for proactive contact simply.

However none of these studies were subject to a cost-benefit analysis. The most comprehensive cost-benefit analysis of the retention effects of proactive contact may be at the UK Open University (Simpson, 2003). The UKOU is a distance education university which has the advantage of large student numbers (some 180,000 undergraduates with 35,000 new entrants each year) so that relatively large scale research can be undertaken. In a long term project stating in 2002 new students were divided into two groups with same average 'predicted probability of success' (see later). Entrants in one group were then contacted by phone shortly before course start. The contact was simply aimed at addressing the student's motivation and trying to 'integrate' them with the university (Tinto, US, 1993).

In the event funding for the project ran out after around 900 students had been contacted. There was an increase in retention of around 4% in the contacted group over the control group. This may seem rather small but it must be remembered the UKOU is an 'open entry' institution which requires no entry qualifications for its students, and that the overwhelming majority of its students are studying part-time whilst holding down full time jobs or undertaking child care. Its students are therefore particularly vulnerable to personal domestic and professional interruptions of their studies. From personal data on its students it was estimated that the maximum possible increase in retention that the University could achieve would be of the order of 7-10% (Simpson, 2003). Thus a 4% increase in retention was anything between one third to a half of that maximum, which was an impressive result for one phone call no matter how well-timed or carefully constructed.

The key characteristic of this project was that it was costed. The length of each phone call averaged about 30 minutes, including time spent in repeating unanswered calls, recording data and training. At staff rates of pay this worked out at about £10 ($20 or €16) per call or student contacted.

Now if an activity costing £c per student is applied to N students then the total cost of the activity is £cN. If that activity produces an increase of n% in retention then the total number of extra students retained is nN/100. Thus the activity cost per extra student retained is cN/(nN/100) = 100c/n. In this case the cost per student retained is therefore 100x10/4 = £250 ($500 or €400).

Calculating the benefits of this investment is rather more difficult and will depend on the income and expenditure system of the institution concerned.

1. Income. In the case of the UKOU the income stream is from students' fees and government grant:

      i.   Student fees are probably largely neutral with respect to retention. This is because the university has a partial fee waiver system based on a student's date of

withdrawal (the later the student's withdrawal date in the course the smaller the waiver). This system is based on the level of costs incurred by the university on behalf of the student at that date so the university only covers its costs and makes neither a profit nor a loss from students withdrawing.

ii. UK Government grant is related in complex ways to the university's student population at various points during the year – in particular to the number of students who sit the exam. Making very substantial simplifying assumptions it is estimated that this figure is about £1100 ($2000 or €1650) per student sitting the exam.

2. Expenditure. In addition to income there may be savings due to decreased expenditure especially in recruitment, an area where costs appear to be rising for many institutions. For example in the UKOU it is estimated that the cost of recruiting new students to course start is of the order of £500 ($1000 or €800) per head. Clearly some recruitment expenditure is needed to replace students who graduate – some 12,000 a year in the UKOU. But since in the UKOU more students dropout each year than graduate – around 20,000 – a substantial proportion of the recruitment budget is being used to 'replace' dropped out students in order to keep students numbers stable overall. It is very difficult to put an accurate figure on the proportion of the marketing budget used in this way and of course the budget has fixed overheads but it may not be unreasonable to assume that around half the budget is needed to replace dropped out students. Thus the potential savings to the UKOU in recruitment could be of the order of £250 ($500 or €400) per head.

Thus the total financial benefit of increasing retention will be the sum of the income generated and the savings made. In the case of the UKOU that benefit total is £1350 ($2700 or €2200) per student retained. Since the expenditure required to realise this benefit (the 'cost per student retained' estimated previously) is £250 ($500 or €400) this represents a return on investment of 1350/250 = 540% and a 'profit' of £(1350-250) = £1100 ($2200 or €1800) per student retained.

If that increase in retention could be applied to all the 35,000 new UKOU students annually then the total increase in retention would be 4% of 35,000 = 1400 students giving a total net profit to the institution of (£1100x1400) = £1.5m ($3m or €2.4m),

This calculation involves many assumptions and approximations and is unique to the UKOU. Nevertheless it seems clear that depending on their financial structures there can be substantial benefits to institutions from investing in retention. It is interesting in that respect that the study already cited from the Ohio State University claims figures (an RoI of 625%) that are not very different from those for the UKOU (540%). In addition it appears likely that the US government will increasingly wish to tie government aid to institutions more tightly to their graduation rates ('Republicans want proof that universities are worth funding' Times

Higher Education Supplement, 2004). If that is the case then the US funding model may more closely resemble the British and the analysis here will become more appropriate.

3. Resale Value of ODL qualifications.

Again it is difficult to estimate the resale value of ODL qualifications compared with those from conventional institutions. Clearly graduates from highly prestigious institutions (Oxford, Cambridge, Harvard, Yale, and others) are likely to be able to command a premium for their qualification in the market place. The real comparators for 'pure' ODL institutions are going to be with more conventional institutions who are increasingly in competition with them. As Rumble (1992) has pointed out it is relatively easy for conventional institutions to adapt their courses to distance and online delivery and compete with ODL institutions which seldom have the campuses with full-time student facilities to compete. If pure ODL institutions are seen to have lower retention rates than such institutions then that may well be an additional competitive edge for those institutions.

At the same time it is important to remember that the resale value of a qualification will depend critically on its content. As noted earlier, evidence suggests that law and numerate qualifications in the UK have a higher value to employers than (say) art history degrees. Another recent report suggested that graduates in numerical disciplines were most likely to earn the highest salaries at least directly after graduation ('Graduates who can figure it out land highest paid jobs' Times Higher Education Supplement 2004)

But the most substantial factor affecting a qualification's resale value may be employers' perceptions of the awarding institutions. Many institutions undertake surveys to assess these perceptions but such surveys are often perceived as marketing tools and are kept confidential to the institutions concerned. However there is no evidence in the UK that ODL qualifications are necessarily seen as inferior to those offered by conventional institutions. On the contrary it is often realised by employers that much determination and organisational skill is involved in studying part-time and that such qualities will be useful in the work place. Thus it is likely that employers will treat a qualification on its institutional origin rather than its mode of study so that it is unlikely that there will be prejudice against the ODL qualifications on those grounds alone.

4. Willing to pay price for ODL qualifications

Student fees are generally much lower in ODL institutions with students usually able to continue to earn whilst studying. Clearly the lower initial investment figure required of students for ODL may well encourage the recruitment of students with a low WTP price. It is not yet clear how price-sensitive education really is but with rising costs at all levels it seems

likely that price will become an increasingly competitive selling point for ODL as long as retention rates are also competitive.

5. Investment risk

Finally there is the issue of investment risks in ODL. The risk of dropping out of ODL courses appears to be much higher than from conventional institutions. Figures are difficult to compare but for example the UKOU has dropout rates of 40-50% compared with the 20% for conventional UK courses and in the US a survey has found dropout rates from e-learning courses of around 70% (Corporate University Xchange, 2002) compared with dropout rates from US conventional education of around 30-40%. Thus a student choosing to enter ODL has a higher chance of losing their investment – perhaps up to twice the probability in conventional education. How far this is offset in potential students' minds by the lower initial investment is not clear – educational investors probably behave no more rationally than small financial investors. Indeed it is only fair to note that there is little evidence as yet that students see themselves as investors in education – a recent report found that in a UK sample only 0.7% of individuals who were saving were doing so specifically for their own education (Learning and Skills Research Centre, 2004).

D. Student retention policies and practices

Given the arguments above it is clear that student retention policies and practices can have substantial financial implications for ODL institutions. Institutions which can increase their student retention will increase the benefits to their students and hence to government and society at large. However there are a number of caveats to enter:

- Increasing student retention will require investment in various resources. It will be important for research to show that such investment has returns of greater than 100% for the institution whatever the returns elsewhere.

- Clearly for that to be possible it is also essential that research allows retention activities to be costed and their outcomes measured.

- Increased student retention must demonstrably be not at the expense of the standards of the institution's qualifications. If a perception appears amongst consumers (students and employers) that there is a loss of qualification standards as a consequence of increased retention then that will affect the resale value of those qualifications. That of course will have serious consequences for recruitment and the 'willing to pay' variable.

1. Researching retention

There are a number of difficulties surrounding retention research.

- Funding – educational research is poorly funded in comparison with research in other areas. For example Anderson (2004) quotes figures suggesting that educational research attracts funding at the rate of 0.01% of total expenditure whereas medical research is of the order of 3% of total health spending.

- 'Self-selection'. Even where research is undertaken there are problems with 'self-selection'. Institutions can offer retention-promoting activities to students such as learning skills workshops and it is often not difficult to demonstrate increased retention amongst those participating as against non-participants. But those participating are a 'self-selected' group so may well be those who would have a higher retention rate anyway. That is not to say that such activities are not worthwhile; only that it is difficult to draw firm conclusions from the data about their cost-benefits.

- Control groups. Problems of self-selection can be overcome by using control groups who do not receive the particular retention activity under evaluation. But this introduces both ethical issues and problems of comparison. Unless groups are selected to be as close as possible in constitution then small changes in retention may well be masked. This will apply both to groups selected from within one year's cohort or from successive years. In any case it may be difficult to detect significant changes in retention where group sizes are small.

1.1 Reactive versus Proactive retention practices.

This all means that there are many retention focused practices which will be very difficult to evaluate with any degree of certainty. In general these will be 'reactive' practices which require students to recognise some need and to seek out appropriate support through such activities as working through preparatory materials, attending skills developments workshops, using online learning development materials, visiting selected websites and so on. It is relatively easy for an ODL institution to offer such 'self-help' materials to its students and feel that it has done its best to ensure increased retention as a result, recognising that it will never be clear whether that is really the case.

However the situation becomes clearer when we look at proactive retention practices where an institution takes the initiative to contact its students in some active way. Here it may be possible to intervene with some students and not others in a relatively controlled way that may establish clear retention effects that can be costed and benefits calculated.

1.2 Retention activity costs

Whilst the cost-benefits of retention activities may be positive research will also be needed to explore ways in which the costs can be driven down or the retention benefits increased to increase the returns to both the institution and the student. There are various ways in which that might be possible.

(i) Targeting students for retention activities.

For most institutions it should not be difficult to predict individual new students' chances of success from their personal characteristics such as age, sex, previous educational level and other factors using a logistic regression analysis of previous students' success rates and applying that to the new students. In the particular circumstances of the UKOU for example such a process can attach a 'predicted probability of success' (pps) percentage to a individual new student which ranges from 83% chance of passing to a 9% chance of passing (the majority of student are in the 40-60% pps band) although the accuracy of prediction is only 65% overall (Simpson,2006). In theory it should then be possible to selectively target students who have a low pps with proactive support to increase their chances of passing. This of course assumes that students with a high pps are less likely to have their chances of passing increased by such contact. However there is some limited evidence that all students, whatever their pps, have their chances of passing increased by contact and by roughly the same amount (Simpson, 2004). If true then targeting may be important for political reasons but not be justifiable on cost-benefit grounds.

(ii) Increased proactive contact.

Increasing the number of proactive contacts undertaken is likely to increase retention rates. Case and Elliot's (1997, op cit) study of retention found that the optimum number of contacts to increase retention was between two and five. However given that increasing the number of contacts obviously increases the cost there must come a point at which there will be diminishing returns on the investment. Unfortunately there is not enough data in their report to estimate when that point might occur. But in any case the point is likely to be different for different institutions.

(iii) Retrieval of withdrawn students.

The analyses outlined above are all aimed at keeping current students in the institution. But strategies aimed at retrieving students who have just withdrawn from their course or withdrew in some previous year may be equally effective. There is limited data on the costs and effectiveness of such strategies although one report quoted in Simpson (1982) suggested a retrieval rate of around 10% for one exercise which simply contacted all newly withdrawn students immediately after that withdrawal. No figures for the cost of contact are given in this study but if the cost was of the same order as the proactive contact cost estimated earlier in this chapter then it would be likely to have at least the same level of cost-benefit.

Postscripts

Finally three postscripts:

1. Online versus Distance Education.

I have not distinguished between online learning and conventional distance learning (DL) in this chapter.   One important area for research will be into the comparative financial advantages of online and DL including the issue of comparative retention rates. Many institutions have seen entering the online learning field as a way of going for growth whilst cutting delivery costs. However both Rumble (2004) and Hulsmann (2000) suggest that the costs of online learning are probably higher than conventional DL. If as suggested earlier the dropout rates in online learning have hitherto also been higher than in DL then the overall RoI for students, institutions and governments will certainly be less.

2. The effects of paying students fees on retention.

There has been little work on the retention effects on students whose tuition fees are paid for them. There is very clear evidence from the UKOU that students who qualify for tuition fee bursaries have markedly higher dropout rates than other students. But such students are predominantly drawn from groups who are educationally disadvantaged and whose retention would probably be lower in any case. Zajkowski (1997) in New Zealand found a modest retention effect where students' fees were paid by employers – particularly of they were contingent on passing a course.

- Fees paid by students themselves – pass rate 40%
- Fees paid by employer – pass rate 57%
- Fees paid by employer if students passes course – pass rate 64%

But these findings have not been replicated elsewhere as yet.

3. Other retention strategies.

There are a number of retention strategies which have not been mentioned as they are both difficult to cost and to evaluate for retention effects. For example effort put into getting students onto the most appropriate course for them is likely to have a retention effect (Yorke, 1999; Simpson, 2004) as will enhancing external sources of support from outside the institution such as family, other student and employer support (Asbee and Simpson, 1998). Indeed I would suggest that the Seidman 'formula' (op cit) could usefully be amended to

$$R = ACC + EId + (E + I + C).PaC + ExS$$

where R = Retention,

E = Early,

Id = Identification of vulnerable students,

I = Intensive

C = Continuous

Pac = Proactive Contact

ACC = Accurate Course Choice

ExS = External support.

It will need sophisticated research to determine any cost-benefits arising from such strategies. However if such strategies are low cost (as seems likely) and result in any retention increase at all there is an excellent chance of them having cost-benefits greater than 100%.

Conclusions

It appears then that online and distance institutions may already have advantages in their basic return on investment for both students and themselves and probably for government. But equally the main weakness of ODL is its low retention rates (particularly in online learning) which reduces their return on investment and means that study at such institutions involves a high level of risk and may effect students' willing to pay' level. Thus for both reasons it appears that investing in student retention is an excellent strategy for ODL institutions. It is likely that such investment will be more effective for open entry institutions who will be starting from a lower base of retention.

There may therefore a competitive advantage for ODL institutions over conventional higher education, or at least for those which are prepared to invest in retention research to find the most cost-effective ways to increase retention and stay ahead of the conventional competition.

References

Anderson, T. (2004) Keynote address at the European Distance Education Network Research Conference Oldenburg, Germany.

Asbee, S. Simpson, O. (1998) 'Partners families and friends, student support of the closest kind' *Open Learning*, **13** (3)

Bynner, J. and Egerton, M. (2001) 'The wider benefits of higher education' London: Higher Education Funding Council for England.

Case, P. and Elliot, B. (1997) 'Attrition and retention in distance learning programs: problems strategies and solutions', *Open Praxis*, 1 pp30-33

Chyung, S.Y. (2001) 'Systematic and systemic approaches to reducing attrition rates in online higher education', *American Journal of Distance Education* 15 (3) pp 36-49

Corporate University Xchange http://www.corpu.com/ accessed 1 July 2005

Grugulis I (2003) 'The Contribution of National Vocational Qualifications to the Growth of Skills in the UK' *British Journal of Industrial Relations*, September 2003, vol. 41, no. 3, pp. 457-475(19)

Hansson, H. and Johanssen, E. (2005) 'Fake online Universities and fake degrees – international and Swedish trends' *Proceedings of the Annual Conference of the European Distance and E-learning Network – Lifelong E-learning 2005'*, Helsinki.

Henderson, G.(2004) Opening address to conference '*Staying Power – supporting student retention and success'* University of Teesside.

Hulsmann, T. (2000) *Costs of Open Learning: a handbook*. Verlag, Bibliotheks und Informations system der Carl von Ossietsky Universitat, Oldenburg

Johnston, V. (2002) Presentation at conference, 'Holistic Student Support' University of Central Lancashire, Preston UK

Learning and Skills Research Centre (2004) '*Saving for learning'* www.lsrc.ac.uk

Noel-Levitz organisation www.noellevitz.com accessed 1 July 2005

Mager, J. (2003) Report at the National Student Retention Conference, San Diego

Organisation for Economic Cooperation and Development (OECD) (2004) 'Education at a Glance' www.oecd.org/home accessed 1 July 2005

Rekkedahl, T. (1982) 'The dropout problem and what to do about it' in *Learning at a Distance: a World Perspective* ed Daniel, J. Stroud, M. and Thompson, J. Twelfth World Conference of the International Council for Correspondence Education, Vancouver.

Rumble, G. (1992) 'The competitive vulnerability of distance teaching universities' *Open Learning* 4 (2) pp28-37

Rumble, G. (2004) 'E-Education – Whose Benefits, Whose Costs?' chapter in *'Papers and Debates on the Economics and Costs of Distance and Online Learning'* ed. Rumble in no. 7

of the series 'Studien und Berichte der Arbeitsstelle Fernstudienforschung der Carl von Ossietsky Universitat, Oldenburg' Germany.

Seidmann, A. (2005) http://www.cscsr.org/ accessed 30 June 2005

Simpson, O. (2003) *'Student Retention in Online Open and Distance Learning'* RoutledgeFalmer London

Simpson, O. (1982) 'Bailing out and Taking Off' internal UKOU report quoted in Simpson (2003)

Simpson, O. (2004) 'The impact on retention of interventions to support distance students': *Open Learning*, **19** (1)

Simpson, O. (2004) 'Student Retention and the course choice process – the UK Open University experience' *Journal of Access Policy and Practice* **2** (1)

Simpson, O. (2006) 'Predicting Student Success' *Open Learning* **21**(2) pp125-138

Times Higher Education Supplement (2004) both reports 9 July

Tinto, V. (1993) Leaving College: *Rethinking the causes and cures of student attrition*, 2nd edition, University of Chicago Press Chicago

Universities UK: Press release 18 June 2002

http://www.universitiesuk.ac.uk/mediareleases/show.asp?MR=304 accessed 1 July 2005

Visser, L. (1998) *'The development of motivational communication in distance education support'* University of Twente, Enschede, Netherlands

Walker, I. and Zhu, Y. (2003) 'Education, earnings and productivity: recent UK evidence' *Labour Market Trends* vol III (3)

Woodley, A. and Simpson, C. (2001) 'Learning and Earning: Measuring 'Rates of Return' Among Mature Graduates from Part-time Distance Courses' *Higher Education Quarterly* **55** (1)

Yorke, M. (1999) *Leaving Early*, Falmer Press, London

Zajkowski, M. (1997) 'Price and Persistence in Distance Education' *Open Learning* **12** (1) pp12-23