

Silk purse or sow's ear?



STEPHEN NEWSTEAD *gives a psychological perspective on recent developments in higher education. This article is an abridged version of his Award for Distinguished Contributions to the Teaching of Psychology lecture at the Society's London Conference, December 1999.*

BRITISH higher education has undergone major changes in recent years. These changes include: the modularisation and semesterisation of courses; increased participation rate; changes in the profile of the student population; increased emphasis on validation and review; the Research Assessment Exercise; the introduction of student fees; and changes in methods of assessment. While there are other major changes, these are the ones I want to focus on here.

My main contention is that we simply do not know whether these changes are for better or for worse — whether we have created a silk purse or a sow's ear. And the reason we do not know whether these changes are beneficial is that few people have bothered to look at existing research or to carry out new research which could help throw light on this question.

I want to take a small step towards rectifying this, by looking at research that might inform this debate. However, my main aim is to draw attention to the need for high quality research to inform educational planning.

Modularisation and semesterisation

I will take modularisation and semesterisation together since they are often introduced at the same time, although logically there is no reason why they should be.

Modularisation involves dividing up courses into chunks of equal size. For example, one might have six units of equal size in the first half of the academic year and six more in the second half.

Semesterisation involves dividing the academic year into two halves.

Modules and semesters are claimed to increase student choice and flexibility: students can 'pick and mix' their own programme of studies to a much greater extent than before. They also have the flexibility to move from one university to another with accumulated credits.

In psychology at least, the effects have been small. The Society lays down fairly strict criteria concerning the content of psychology degrees, and any student wanting to achieve a Society-recognised degree (and the great majority do) will have their programme of studies largely prescribed for them.

There is little research on the effect of these changes. Bailey and Barber (cited in Utley, 1999) reported a study they had carried out on national statistics on degree results in law. They claim that degrees broken into semesters result in lower grades than those with term structures.

In itself this finding may not be surprising, since it is mainly the more prestigious universities that have resisted semesterisation. More telling is their claim that there is actually a year-on-year decline in grades in semesterised institutions, which does not occur in term-based institutions.

A possible explanation as to why semesters lead to poorer results may be because they encourage rote learning of material. Such a claim is supported by an important study by Conway *et al.* (1997).

Conway *et al.* were interested in the 'feelings of knowing' that students had when remembering information. Their

study used first-year undergraduate students who were taking a real multiple choice exam. Following each question, they were asked to indicate why they had selected the answer they did.

Two response categories are of particular interest here. One was labelled 'remember', and is given by students who actually remembered being taught or having learned the information; the second was labelled 'know' and is given by students

who just know the answer without being able to remember where they learned it.

In essence, then, 'remember' responses correspond to episodic memory, while 'know' responses correspond to semantic memory.

The interesting part of the Conway *et al.* study from the present perspective is that they tested one of the modules twice, once at the end of the first semester and again at the end of the second semester. In general, those who answered exam questions correctly at the end of semester 1 were students who remembered the answers, but at the end of semester 2 correct answers came predominantly from students who knew the answers.

In other words, at the end of semester 1, episodic memory was being measured while at the end of semester 2, semantic memory was involved.

The worrying aspect of this is that modularised and semesterised programmes almost universally examine students at the end of each semester, which means they are assessing episodic memory. If we want to measure whether knowledge has been conceptually mastered, in other words has become semantic memory (as surely we do), we need to assess students some time after the material has been presented.

Increased participation

There are now far more students in higher education than ever before. Not long ago, only the top 5–10 per cent of 18-year-olds went into higher education; now the figure is 30 per cent and rising. Samuel Johnson once claimed: 'Learning once made popular is no longer learning.'

Other prophets of doom have also predicted dire effects of increased participation. Of course, they have logic on their side: one would expect a dilution of standards as universities recruit not just the cream of 18-year-olds but the top third or more.

All the evidence suggests, however, that there has been little diminution of standards. In fact, quite the reverse seems to be the case, since the number of 'good' degrees (i.e. firsts and upper seconds) has increased rather than decreased over the last few years. The figures for psychology, derived from a study by Myron-Wilson and Smith (1998), show that there were on average 60 per cent good degrees in England and Wales in 1989–1992, which rose to 66 per cent in 1993–1996.

These figures seem to beggar belief. How can we be taking weaker students and producing better performance? One answer

TABLE 1 Degree performance and gender for 1998 graduates

	First	Upper Second	Lower Second	Other (Third/Fail/Unclassified)
Female	6.8%	47.8%	34.7%	10.6%
Male	8.3%	38.4%	36.8%	16.5%

Source: Higher Education Statistical Agency

is that we are teaching them so well that we are overcoming their possible weaknesses.

Another answer — and one which I personally believe to be closer to the truth — is that there has been a change in the way we assess students and that degree classes do not mean the same thing now as they used to. I do not claim that degrees are worthless, as seems to be implied by the cartoon from *The Times Higher Education Supplement* (previous page), but something seems to have changed. I will return to this later.

An inevitable effect of increasing student numbers without a corresponding increase in staff is an increase in class size. Does class size in itself matter? The evidence is somewhat conflicting. American research has suggested very little difference (e.g. Jenkins, 1991): performance declines with class sizes up to about 20, then levels off, and may actually increase again with very large lecture classes!

The evidence in this country is limited; but what there is suggests that larger classes result in slightly worse performance. The most systematic study was carried out by Gibbs *et al.* (1996) on the modular degree at Oxford Brookes University. On average, there was a difference of approximately 2 per cent between classes of 10–20 and those of over 70.

An inevitable effect of increasing student numbers is greater reliance on 'independent' student learning, which is one way of reducing student contact. It is all becoming like the education of wizards in Terry Pratchett's novel *Interesting Times*, which 'relied on the age-old system of putting a lot of students next to a lot of books and hoping something passes between them'.

Changes in student profile

Worries that changing the mix of students would weaken student quality have been largely disproved. Just a few years ago, academics were worrying about how mature students, who were being recruited in ever-increasing numbers, would cope with return to study. Few people are now concerned over this, since research has shown that mature students do not generally underperform.

For example, Hoskins *et al.* (1997), in a study of nearly 7000 students in a large university, found that mature students actually performed *better* than their traditional age counterparts. Other research has tended to support the conclusion that mature students do at least as well as traditional age students. Sadly, however, there is increasing evidence that mature students are discriminated against in the marketplace and have higher dropout rates.

Higher education used to be a predominantly male preserve, markedly so in some disciplines. Only in the last two years have we reached the situation where females actually outnumber males. The evidence suggests that females do as well as males on average but that they are more homogeneous. Another way of expressing this is to say that they get fewer firsts than males, but also fewer thirds.

It might have been expected that as the number of females increased this discrepancy might have reduced, but this appears not to be the case. The most recent available evidence is from 1998 graduates. The figures are presented in Table 1.

Of interest, of course, is where this discrepancy comes from — whether it is marker bias, lack of confidence in females or inherent differences in the distribution of ability. My suspicion is that females may lack confidence and be less inclined to take risks, but the truth is that we simply do not know.

Accountability: Subject review and validation

There is increased accountability in most professions and higher education is no exception. Teaching quality in psychology is being reviewed by the Quality Assurance Agency over the period 1998–2000, a process that involves visits to all providers by a team of subject reviewers. I have seen this process from both sides, having been reviewed myself and having conducted reviews in other institutions.

A notable feature of subject review is that the grades in general are rising. Provision is rated on six aspects, each of which has a maximum score of four, and so the maximum obtainable is 24. I analysed

all the grades available at the end of November 1999, a total of 34 institutions. The mean grade was 21.97 — a grade that would be classed as excellent.

One can compare this with grades that were obtained in previous rounds. I chose for this sociology, which was inspected from 1995 to 1996, and was at the time widely recognised as having had reasonably high gradings. The mean grading for sociology was a full two points lower at 19.95.

Does this show that psychology is taught far better than sociology? Possibly so, but I would not like to argue the point. I think it is more likely that universities have learned to play the subject review game better, and that any discipline reviewed later in the cycle will be likely to get higher grades. Certainly there have been massive amounts of money invested in quality assurance units and quality managers in all universities.

I am personally rather sceptical about whether these people have actually led to higher quality provision. I suspect that

what they have done is to ensure better quality paperwork.

Where is the evidence that subject review — which costs a very large amount of time and money both centrally and to each institution — has actually improved the quality of service provided?

I do not claim that subject review has had no benefits — it undoubtedly has. If nothing else, it has forced departments to take their teaching seriously. But it is difficult to find academics who think that it is a valid measure of the quality of teaching.

As assessors go around judging the teaching quality, it may be worth noting what Oscar Wilde said: 'Education is an admirable thing, but it is well to remember that nothing that is worth knowing can be taught.' And students may often learn more at university from outside the classroom than they do from inside!

Research assessment

Another aspect of accountability is the Research Assessment Exercise (RAE). This

is an exercise carried out every four or five years in which the quality of a department's research output is assessed. The strange thing about this is the widespread support it receives.

I am currently involved with a group from the Higher Education Funding Council for England (HEFCE) carrying out a fundamental review of the RAE, with the aim of introducing changes after the 2001 exercise. I have talked to many colleagues in psychology and other disciplines and seen written evidence from a wide range of groups.

Virtually all of the lecturers and academic bodies that have responded support the continued existence of the RAE. Many want to tinker with it but almost nobody wants to get rid of it.

The other interesting point about the RAE is that there are a lot of myths surrounding it. For example, it is alleged time and time again that the RAE produces a transfer market, with many staff changing institutions just before an RAE. HEFCE's

own data, however, do not support this claim.

In fact, more people change institution just *after* an RAE than just before. In the years 1994/95 and 1995/96, the mean movement of RAE staff was 4.3 per cent, but this rose to 4.7 per cent in 1996/97 — the year following the last RAE.

Introduction of fees

Politically, the introduction of fees has been a highly sensitive issue. There is much anecdotal evidence for the effects of this in terms of students being more willing to sue universities for inadequate teaching, but little systematic evidence on the overall effect. There is also evidence that fewer mature students and fewer of those from lower income families have applied since the introduction of fees.

However, it is not clear to what extent these changes are due to the introduction of fees, and it is unlikely that we will be able to obtain any sensible evidence on this issue. One might, however, have expected some changes in student motivation as a result of having to pay for their education.

I have been carrying out some preliminary research looking at student motivation for the last two to three years. I wish to mention just one finding that has emerged from the studies that I have done: that higher education itself seems to have little effect on motivation.

It has often been claimed that the discipline that students study affects their motives and their approaches to studying. For example, Entwistle and Ramsden (1983) found that students in science and engineering departments tended to adopt a surface approach, based on rote learning. They put this down to the fact that these departments tended to have high workloads and relatively formal staff.

In contrast, students in arts and social science departments tended to be more intrinsically motivated and more interested in developing a conceptual understanding of the material they were studying. Entwistle and Ramsden put this down to the more relaxed atmosphere in these departments and the lower workloads.

However, recent evidence from Magee *et al.* (1998) has indicated that students have these motives and strategies *before* they start studying in higher education and that these change little over their course of studies. In other words, science and engineering students are surface learners when they arrive at university, and tend to stay that way.

In another study, Jacobs and Newstead

(in press) have looked at the types of motives that psychology students have and how these change over the course of a three-year degree. Following an earlier study by Radford and Holdstock (1993), we looked at the types of knowledge, skills and experiences that students regarded as important and were motivated to learn.

We discovered only modest changes in the motives that students had over the period of their degree, and if anything students tended to become less interested in things as they progressed through their degree. In several areas, there was a recovery in the final year — but only to the level that existed when students first came to an open day at university!

The rather depressing conclusion to emerge is that higher education has precious little effect on students' motives and attitudes. Whether this will change with the introduction of fees is not yet known.

Changes in methods of assessment

There has in recent years been a marked movement away from formal exams and towards continuous assessment. While this has certain advantages there are also two main problems.

Firstly, continuous assessment leads to more opportunities for cheating. In a study on student cheating, Newstead *et al.* (1996) found alarming evidence for the occurrence of cheating, and this was markedly more common in continuous assessment than in examinations.

The average number of students saying they cheated in the different types of continuous assessment (e.g. copying material, inventing data) was 30 per cent, while that in exams (e.g. copying from another student, using crib notes) was 6 per cent. One reason for this is that cheating in exams is more difficult: it is not easy to bring illicit material into an exam, as is illustrated in the Johnson cartoon.

Secondly, continuous assessment leads to higher marks than examinations. This is well known to most academics but not widely publicised. Elton (1998) claims it is the most important reason for the increase in degree grades over the past few years, and I find it difficult to disagree with this.

Gibbs and Lucas (1997) found that there was a systematic difference in marks awarded to modules assessed by continuous assessment and those assessed by exams on the Oxford Brookes modular scheme.

In my experience, the difference is at least one quarter of a degree class and in

some cases close to a whole degree class. In my own institution, we have final-year options that are assessed by a combination of examination and coursework.

Last year, the average mark difference between these methods was about 3 per cent, or more than a quarter of a degree class. This occurred on virtually every module, regardless of the continuous assessment method used, and where the markers were the same on the two sorts of assessment.

To repeat, this discrepancy between continuous assessment and examinations is likely to be one of the factors in the general upward trend in the number of good degrees awarded.

There are problems with exams. As Oscar Wilde said: 'In examinations, the foolish ask questions that the wise cannot answer.' Despite their flaws, it is worth bearing in mind that there is no perfect replacement. It is important to know the problems of the alternatives before abandoning formal exams.

The verdict

To summarise, the introduction of modules and semesters seems to have brought numerous problems with insufficient associated benefits. However, increased participation and the changing profile of students seem to have been achieved with

few disadvantages and arguably some benefits.

Subject review is time consuming and there is little evidence of any improvement in the quality of teaching, but research assessment seems to be broadly accepted by the academic community and is widely perceived as having improved certain aspects of the quality of research.

We do not know what effects the introduction of fees has had, though there is evidence that higher education in general has little effect on student motivation.

Finally, the increased emphasis on continuous assessment is a welcome move away from the overreliance on formal exams but brings with it problems of its own.

I end where I started, with a plea for more research in this area. Educational research has for too long been the poor relation, especially in psychological circles. This is an area of the greatest practical importance, and research of the highest

quality is essential. Staff motivation, stress (in staff and students), the reliability and utility of student evaluations, and the impact of new technology all cry out for further research.

Carrying out research in all these areas is relatively easy, but carrying out *good* research is very difficult. High quality

psychological research is vital if we are to improve the quality of higher education.

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