the New Academic

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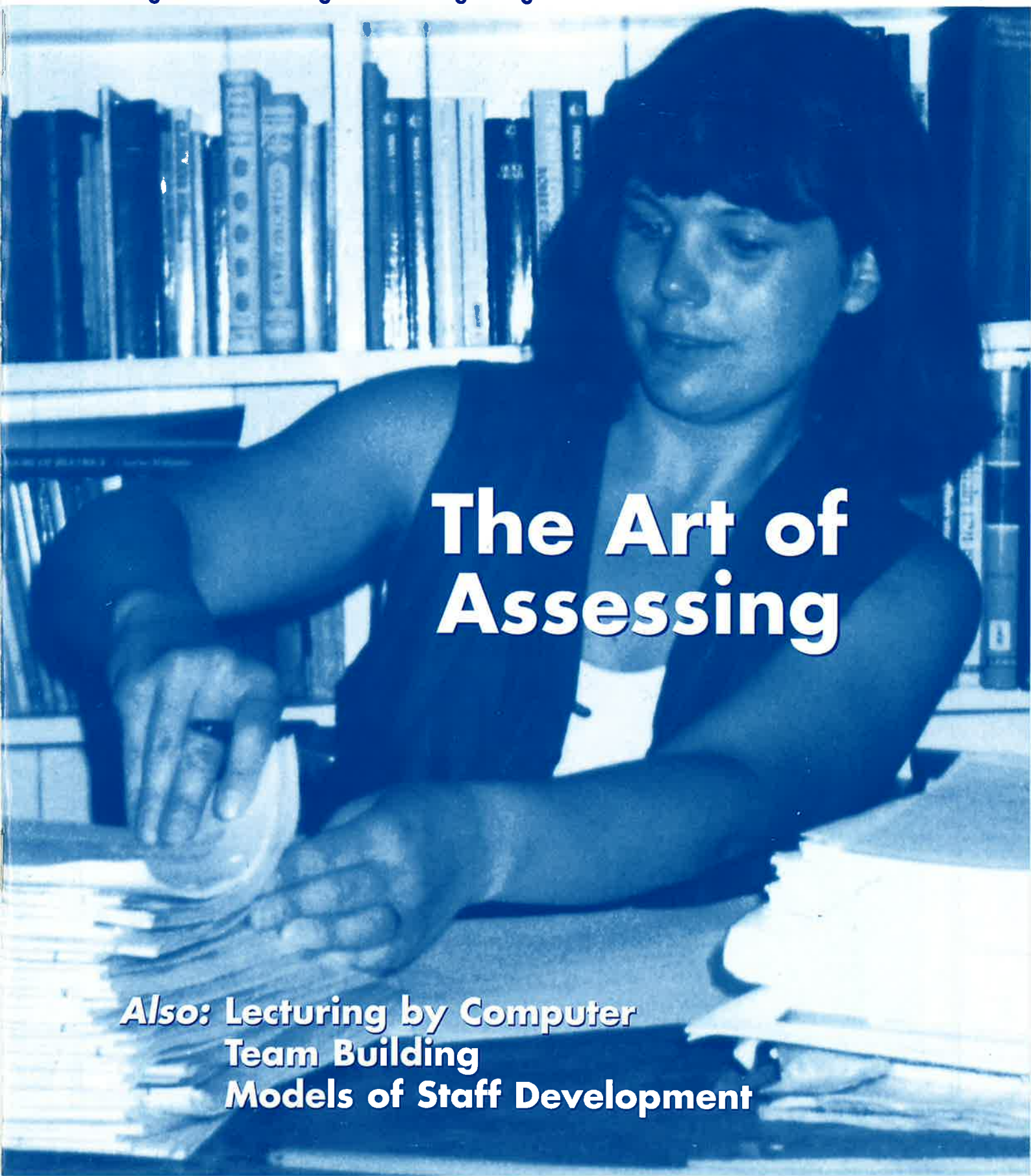

The Art of Assessing

Also: Lecturing by Computer
Team Building
Models of Staff Development

SEDA

The Staff and Educational Development Association,
Gala House, 3 Raglan Road,
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SEDA is the principal organisation in the UK for the promotion of innovation and good practice in teaching and learning in higher education. It was formed in 1993 through a merger between SCED (Standing Conference on Educational Development) and the Staff Development Group of SRHE (Society for Research into Higher Education).

The New Academic is published three times a year, once in each academic term.

SUBSCRIPTIONS

£10 per year (3 issues)
Reduced rates for multiple subscriptions to a single address.
Postage will be added to overseas mailings.
For details, contact Jill Brookes, Administrator, at SEDA Offices.

Information for Contributors

The Editor welcomes all material which might be of interest to teachers in higher education: the purpose of ***The New Academic*** is to promote good practice in teaching and better understanding of the processes involved in learning in all areas of higher education.

Audience is drawn from educators in all fields and disciplines. You should therefore not assume specialised knowledge, but write clear, straightforward accounts in plain English. When describing projects, please give concrete detail. Papers accepted for publication may be subject to editing.

All material should be submitted in three copies, typewritten on single side of A4, double-spaced. Submission of a paper to ***The New Academic*** implies that it has not been published elsewhere and that it is not currently being considered for publication by any other editor or publisher.

Everyone involved with ***The New Academic*** works on it only part of the time, and so delays in dealing with submissions are inevitable. All papers will be reviewed by at least two people, and expert advice sought where appropriate. If you wish prompt acknowledgement, please enclose stamped addressed envelope. Return postage is essential if you wish your script to be returned if not accepted. To speed production, the Editor would appreciate receiving finalised material on floppy disc in ASCII, where possible.

Articles

These should be between 800 and 2000 words. References should be kept to a minimum: where necessary, author's name should be given with date in brackets in text, for example Thatcher (1992). Reference list should be in alphabetical order, in standard academic style: e.g.

Thatcher, M. (1992). How I turned back the tide, *Journal of Marine Studies, 14,* 123-45.

Thatcher, M. (1992). **Lessons for Canute.** Portsmouth: Celebrity Press.

Illustrations

Photographs (black/white), drawings and diagrams may be used for illustration: copies of artwork should be submitted in the first instance, but author should be prepared to provide originals (clean camera ready copy) or suitable bromides for publication. Photos of authors are welcome.

Book reviews

All material to be sent to Book Reviews Editor, who will give guidance: 200 to 400 words. For presentation, please see Books section.

Conference reports

Reports on all conferences of relevance to teachers in higher education are welcome: 200 to 500 words, with concrete detail of interesting papers given. For style of presentation, please see Reports section.

News

Events, decisions, discoveries, people: items of interest to teachers in higher education should be sent to the Editor. Notional deadlines: Spring, 15 January; Summer, 14 April; Autumn, 15 September.

Acronyms used in The New Academic

- APEL Accreditation of Prior Experiential Learning
- BTEC Business and Technical Education Council
- CAT Credit Accumulation and Transfer
- CNAA Council for National Academic Awards
- HE Higher Education
- HEFCE Higher Education Funding Council of England
- HEQC Higher Education Quality Council
- HMI Her Majesty's Inspectorate
- HND Higher National Diploma
- NVQ National Vocational Qualification
- PCFC Polytechnics & Colleges Funding Council
- SRHE Society for Research in Higher Education
- THES Times Higher Education Supplement

The list will be added to as appropriate.

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the New Academic

Photographs - Elizabeth Mapstone (Cover, p.4); R.M. Pomfret (pp 3, 8); University of Sydney (p.12); Peter Marshall (p.18)

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Elizabeth Mapstone, Editor

THE ART OF LECTURING

If teachers are asked what they like least about their jobs, high on their lists comes assessment. And how sad that is. Assessment takes up so much time and energy, it would be better if we could find some satisfaction in it. Which is one reason for the theme of this term's issue.

Assessment is a major preoccupation of students too. Education and learning are undoubtedly a pleasure, and contribute to one's growth as a human being, develop the mind, provide food for future development. Nevertheless, students are acutely aware that what really counts when they go out into the job market is that they got a good degree. How they are assessed is of crucial importance to each one of them. Which is a second reason for this term's theme.

The third reason for our theme is that good teachers know they must assess their students' learning, and they want to do it well. In this issue and in the next (Spring 1996) we will explore the various best known methods of assessment so that teachers can evaluate their merits, and choose those methods that suit their students and their subjects best. Given the enormous expenditure of time and energy we much put into assessment, it makes sense to make sure we have chosen the best method or methods. Our students will be happier and our satisfaction the greater!

In this issue, Phil Race discusses the advantages and disadvantages of various forms of formal examination, and gives tips on how best to set about implementing each type. Marking may be more of a problem than some of us realize, too: Lesley Matthews explains how some students may be disadvantaged and suggests some ways in which the range of marks may be widened and the number of first-class degrees properly increased. We also look at what staff in the University of Plymouth have been saying: this is part of a planned new regular feature, in which we look at the newsletters in various universities in the country and quote a few extracts from their meatier bits.

LECTURING

Following on from our two-part series on the Art of Lecturing, we now have an interesting innovation from Down Under. Paul Walker describes how he conducts lectures in physics via individual computer terminals at Australia's University of Sydney. Students love it. Computers and the Internet are also the theme of Keith Topping's short piece on Peer Assisted Learning.

BUILDING TEAMS

Many writers in *The New Academic* emphasise the need to prepare students for the world of work. This time, in the first of a two-part series, Peter Marshall and Mike Huxley explain how apparently trivial exercises like building a bridge with Lego or trying to cross an "electrified fence and minefield" with three long poles help their students understand the principles of eadership and the importance of working as a team.

Veteran *New Academic* contributor Graham Gibbs emphasises the differences between industry and academia. He suggests that institutions of higher learning are mistaken when they use industrial models of staff development and outlines the essential factors that scholarly staff development models should include.

Once again, we have food for thought for all tastes!

Save Our Students

Has the time come for us to take action? Recent reports suggest that thousands of university students are finding it difficult to remain in higher education, and that we need to be aware of this.

This summer, a report* by the Committee of Vice-Chancellors and Principals (CVCP) showed that 40,000 students had withdrawn from universities during the year 1992 to 1993, a rise of nearly 25% over the previous year. Of these, 15,000 left for academic reasons: though this represents a rise in numbers, it is in line with increasing student numbers. However, 25,000 left for "other" reasons - a jump of 30% in one year, and double the rate of growth in student numbers.

What are these "other" reasons?

"It is extremely difficult to estimate how many students leave university chiefly or partly for reasons of financial hardship," Dr Kenneth Edwards, former Chair of CVCP, pointed out. "But the "other" category undoubtedly includes them, and it is growing fast."

In 1990, the Government introduced student loans, froze the student grant and stopped students claiming unemployment benefit, income support and housing benefit. A report** earlier this year from the National Union of Students (NUS) showed that these measures had left tens of thousands of students struggling simply to survive.

As a press release from the Association of University Teachers (AUT) put it, "Hungry students cannot concentrate."

"Students come to university to study," David Triesman, General Secretary of AUT, commented. "No one believes that students should be feather-bedded, but neither should they be impoverished. Academic work is hard work, but is almost impossible if it is put on top of days and nights of fast-food or restaurant working."

One third of universities in the CVCP survey run job clubs for students, and none prevent students from working part-time during term, even though they advise not more than 10 to 12 hours a week. Student financial hardship seems to have become an established fact.

WHAT IS TO BE DONE?

"To address this problem an adequate and secure system of financial support for students is needed," said David Triesman of AUT.

Changing the pay-back system on student loans would be the answer, according to Kenneth Edwards of CVCP. "The Government should change the repayment mechanism so that instead of having to pay it all off in 5 years, graduates pay back only a certain affordable percentage of their earnings, for as long as it takes. If students need not fear default, they will not fear the loan."

WHAT DO YOU THINK?

It is time that all who are concerned with students join forces and find ways of turning back the tide of student drop-out. Twenty-five thousand students withdrawing for non-academic reasons is too many. What can we do to help prevent such tragic waste ?

First, we want a debate. Send us your views.

Do we need a campaign to Save Our Students?

And if you think, why should I bother? remember this. Teachers without students are out of a job!

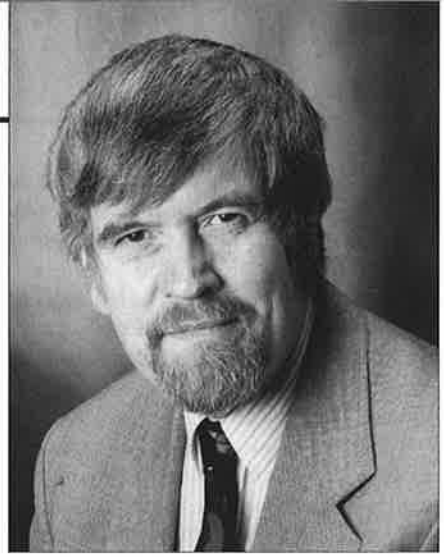
* **CVCP Student Financial Support Survey** 1994, June 1995. Based on a survey of full-time students in more than 70 universities.

** **Values for Money**, a report by the NUS. Westminster Bank plc. March 1995.

COMING IN OUR NEXT ISSUE SPRING 1996 (VOL 5, NO 1)

The Art of Assessing 2 - Phil Race on other forms of assessment
Consistency in Marking by Mic Morgan, Jenny Spouse and Chris Rust
Team Building 2 by Peter Marshall and Mike Huxley
Student Projects with Voluntary Organisations by Andrew Cameron and Pat Green

The Art of Assessing 1



Phil Race

Phil Race examines the toolkit of techniques available for the important job of assessing students' work. In this first article he outlines a number of approaches to examinations.

Whether we think of ourselves as lecturers, or teachers, or facilitators of learning, the most important thing we do for our students is to assess their work. It is, in the final analysis, the assessment we do that determines their diplomas, degrees, and future careers. Over the last decade, many of us have seen our assessment workload grow dramatically as we work with increasing numbers of students, who are ever more diverse. Consequently, the time we have available to devote to assessing each student has fallen. It is therefore more important than ever to cultivate "the art of assessing".

Assessment can take many forms, and it might be argued that the greater the diversity in the methods of assessment, the fairer assessment is to students. The art of assessing therefore needs to embrace several different kinds of activity. I would like to encourage colleagues to broaden the range of their assessment processes. In this article and the next, I look at a number of different methods, and in each case, list both advantages and some of the corresponding drawbacks.

GOD-GIVEN GIFT?

Just as it seems to be assumed that anyone appointed to a teaching post in HE can automatically teach, it is also implicit that they should be able to assess students' work. Many teachers in HE wield their red pens for the first time without ever having had any real training in how to assess. Many are embarrassed at the notion of even asking for any guidance, yet are quite intimidated at the responsibility attached to assessing.

A VERY PRIVATE ACT

Teaching is a public affair, and we get all sorts of information about how well or how badly we teach - even without deliberately seeking feedback. The expressions on students' faces, the attendance at our classes, and the level of students' performance all help us to adjust our teaching techniques. Assessment, however, tends to be a private and intimate affair, and there is seldom anyone looking over our shoulders as we go about designing and implementing assessment.

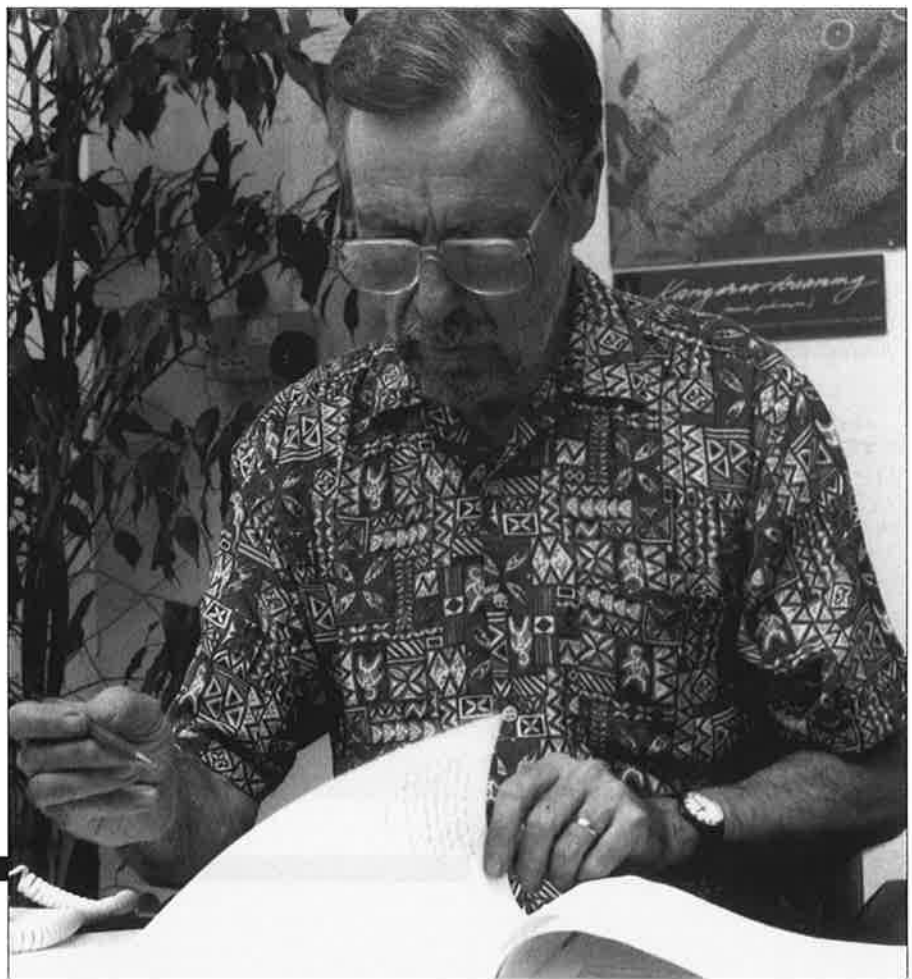
Given the importance of assessment, it is probably the aspect of our profession that should be scrutinised most carefully. Even with the best of intentions, external examiners and moderators can only contribute a limited amount to the processes of assessment, and the primary responsibility for assessment continues to rest with teachers.

One of the most useful benefits of assessment for students can be feedback on their performance, the skills they are expected to develop, and their understanding of theories and concepts. It is an important part of the learning process for students to be able to learn from their mistakes as well as their triumphs. With larger class-sizes and increasing workloads, the time staff can devote to giving students detailed feedback on their work has been substantially eroded. It is therefore worth considering whether alternative forms of assessment (student peer-assessment in particular) can help increase the amounts of feedback which students can derive from assessed work.

WHY ASSESS?

There are many reasons for assessing students performance. Not all are good reasons. Some of the reasons are:

- We live in a society where people are appointed and employed on the basis of their qualifications.
- Students themselves need feedback to help them to find out how their learning is going.
- Teachers need feedback on how well students' learning is going, so that we can adjust and develop our teaching.
- Assessment is often the major driving force which gets students down to serious studying.



Forms of examination

TRADITIONAL EXAMS

Traditional "unseen" exams still make up the lion's share of assessment in HE. Despite growing concern about the validity and fairness of this type of assessment, for all sorts of reasons it will continue to play a large part in the overall assessment picture.

In the following discussion I try to suggest a number of ways that the use of exams can be improved. I give more "tips" for setting exam questions than for all the other types of assessment explored in these articles, as in general, good practice in writing exam questions overlaps with, or extends across, each of the other types.

TIPS ON SETTING EXAM QUESTIONS

1. Don't do it on your own!

Make sure you get feedback on each of your questions from colleagues. They can spot whether your question is at the right level more easily than the author. Having someone else look at one's draft exam questions is extremely useful. Better still is to have all questions discussed and moderated by teams of staff. Where possible, set questions with your colleagues. This allows the team to pick the best questions from a range of possibilities, rather than use every idea each member has.

2. Does the question mean what you intend it to mean?

Ask colleagues: "what would you say this question really means?" If they tell you anything you hadn't thought of, you may need to adjust your wording.

3. Keep sentences short.

You are less likely to write something that can be interpreted in more than one way if you write plain English in short sentences. This also helps reduce any discrimination against students whose first language is not English.

4. What are you really testing?

Is it decision-making, strategic planning, problem solving, data processing (and so on), or is it just too much dependent on memory? Most exam questions measure a number of things at the same time. Be up-front about all the things each question is likely to measure.

5. Don't measure the same things again and again.

For example, it is all too easy in essay-type exam questions to measure repeatedly students' skills at writing good introductions, firm conclusions, and well-structured arguments. Valuable as such skills are, we need to be measuring other important things too.

6. Don't overemphasise pure memory.

Include data or information in questions to reduce the emphasis on memory. In some subjects, case-study information is a good way of doing this.

7. Make the question easy to follow.

A question layout with bullet points or separate parts can be much easier for (tense) candidates to interpret correctly than one which is just several lines of continuous prose.

8. Don't overdo the standards.

When you are close to a subject, it is easy to make your questions gradually harder year by year.

9. Write out an answer to your own question.

This will be handy when you come to mark answers, but also you will sometimes find that it takes you an hour to answer a question for which candidates have only half-an-hour!

10. Decide the assessment criteria.

Check that these criteria relate clearly to the syllabus objectives or the intended learning

TRADITIONAL EXAMS

Advantages

- Relatively economical: can be more cost-effective than many of the alternatives (though this can vary depending on numbers of students and costs in time and money on ensuring appropriate moderation).
- Equality of opportunity: exams are demonstrably fair in that all students have the same tasks to do in the same way and within the same timescale. (However, not all things are equal - ask any hay-fever sufferer, or candidate with menstrual problems).
- We know the work being assessed was done by the candidates, and not by other people.

Disadvantages

- Students get little or no feedback about the detail of their performance.
- Badly set exams encourage surface learning, with students consciously clearing their minds of one subject as they prepare for exams in the next subject.
- Technique is too important. Exams tend to measure how good students are at answering exam questions, rather than how well they have learned.

outcomes. Make it your business to ensure that students themselves are clear about these objectives or intended outcomes, and emphasise the links between these and the assessment.

11. Work out a tight marking scheme.
Imagine that you are going to delegate the marking to a new colleague. Write it all down. You will find such schemes an invaluable aid to share with future classes of students, as well as colleagues actually co-marking with you, helping them to see how assessment works.

12. Show how marks are to be allocated.
For example, put numbers in brackets to show how many marks are attached to various parts of the question. (Alternatively, give suggested timings, such as "spend about ten minutes on Part 2").

13. Try your questions out.
Use coursework and student assignments to give components of your future exam questions pilot runs, and use or adapt the ones that work best for exams.

* * *

OPEN-BOOK EXAMS

In many ways these are similar to traditional exams, but with the major difference that students are allowed to take in with them sources of reference material. Sometimes, in addition, the "timed" element is relaxed or abandoned, allowing students to answer questions with the aid of their chosen materials, and at their own pace.

TIPS ON SETTING OPEN-BOOK EXAM QUESTIONS

All of the suggestions regarding traditional exam questions still apply. In addition.

1. Which books?
Decide whether to prescribe the books students may employ. This is one way round the problem of availability of books. It may even be possible to arrange supplies of the required books to be available in the exam room.

2. Make them use the books
Set questions which require students to do things with the information available to them, rather than merely summarising it and giving it back.

3. Assess their use of the information.
Focus the assessment criteria on what students have done with the information, and not just on them having located "the correct information".

4. Expect shorter answers.
Students doing open book exams will be spending quite a lot of their time searching for, and making sense of, information and data. They will therefore write less per hour than students who are answering traditional exam questions "out of their heads".

* * *

STRUCTURED EXAMS

These include multiple-choice exams, and several other types of format where students are not required to write "full" answers, but are involved in making true/false decisions, or identifying reasons to support assertions, or fill in blanks or complete statements, and so on. It is of course possible to design "mixed" exams, combining free-response traditional questions with structured ones. I will concentrate on the benefits and drawbacks of multiple choice questions, as these also apply at least in principle to most other types of structured exam questions.

TIPS FOR DESIGNING MULTIPLE-CHOICE EXAMS

1. Try out questions
Test the questions with colleagues and with large groups of students. Make sure that people are, on the whole, selecting correct options for the right reasons - and not because in one way or another the question gives away which is the correct option.

2. Are distractors plausible?
If no one is selecting a given distractor, it is serving no useful purpose. Distractors need to represent anticipated errors in students' knowledge or understanding.

3. Avoid overlap between questions.
If one question helps students successfully to answer further questions, the possibility increases of students picking the right options for the wrong reasons.

4. Pilot questions in formative tests
Ideally, multiple-choice questions that appear in formal exams should be tried-and-tested ones. It is worth consulting the literature on multiple-choice question design and finding out how to assess the discrimination index and facility value of each question from statistical analysis of the performance of substantial groups of students.

5. Write feedback responses to each option.
Where possible, it is useful to be able to explain to students selecting the correct (or best) option exactly why their selection is right. It is even more useful to be able to explain to students selecting the wrong (or less-good) options exactly what may be wrong with their understanding. When multiple choice questions are computer-marked, it is a simple further step to get the computer to print out feedback responses to each student. This practice can equally be applied to formative multiple-choice tests, and to formal multiple-choice exams. Furthermore, the availability of feedback responses to each decision lends itself to extending the use of such questions in computer-based learning packages, and even computer-managed exams.

OPEN-BOOK EXAMS

Advantages

Many of the advantages of traditional exams, with the addition of:

- Less stress on memory. Emphasis is taken away from students' being required to remember facts, figures, and other such information.
- Measuring retrieval skills. It is possible to set questions which measure how well students can use and apply information, and how well they can find their way round the contents of books and even databases.
- Slower writers helped? If coupled with a relaxation in the timed dimension (e.g. a nominal 2-hour paper where students are allowed to spend up to three hours if they wish), some of the pressure is taken off those students who happen to be slower at writing down their answers (and also students who happen to think more slowly).

Disadvantages

- Not enough books! It is hard to ensure that all students are equally equipped with the books they bring into the exam. Limited stocks of library books (and the impossibility of students purchasing their own copies of expensive books) mean that some students may be disadvantaged.
- Need bigger desks? Students necessarily require more desk-space for open-book exams if they are to be able to use several sources of reference.
- Less cost effective. Bigger desks mean fewer students can be accommodated in a given exam room than with traditional unseen exams, and therefore open book exams are rather less cost-effective in terms of accommodation and invigilation.

6. Give students practice.
Ensure students are well-practised at answering multiple-choice questions. Answering such questions well is a skill in its own right, just as is writing open answers. We need to ensure that students are sufficiently well-practised, so that multiple-choice exams measure their understanding and not just their technique.

7. Look at a range of published multiple-choice questions.
For example, several Open University courses have multiple-choice assignment questions, as well as multiple-choice exams. You may be surprised how sophisticated such questions can be, and may gain many ideas that you can build into your own question-design.

8. Gradually build up a large bank of questions.
This is best done by collaborating with colleagues, and pooling questions that are found to be working well. It then becomes possible to compose a multiple-choice exam by selecting from the bank of questions. If the bank becomes large enough, it can even be good practice to publish the whole collection, and allow students to practise with it.

* * *

VIVAS

Viva-voce exams have long been used to add to or consolidate the results of other forms of assessment. They normally take the form of interviews or oral examinations, where students are interrogated about selected parts of work they have had assessed in other ways.

TIPS ON USING VIVAS

1. Prepare the agenda in advance.
Agree the agenda with colleagues. It is dangerously easy (and unfair to students) for the agenda to develop during a series of interviews with different students.

2. Prepare and use a checklist.
Use a checklist or pro-forma to keep records. Memory is not sufficient.

3. Avoid surprises.
Share the agenda with each candidate, and clarify the processes to be used.

4. Work with at least one other colleague.
Divide the agenda of questions, so that there can be an observer at each point as well as a questioner.

5. Try to put students at ease.
For example, ask something very straightforward at the beginning, or simply chat for a moment or two about something quite irrelevant to the viva.

6. De-brief each viva at once.
Even if only for a minute or two, it pays to discuss briefly impressions and findings after each interview, and to make brief notes of conclusions.

MULTIPLE CHOICE EXAMS

Advantages

- Greater syllabus coverage: it is possible, in a limited time, to test students' understanding of a much greater cross-section of a syllabus than getting students to write in detail about a few parts of the syllabus.
- Multiple choice exams test how fast students think, rather than how fast they write.
- Saving staff time and energy. With optical mark readers, it is possible to mark multiple choice exams very cost-effectively, and avoid the tedium and subjectivity which affect the marking of traditional exams.
- Testing higher-level skills? Multiple choice exams can move the emphasis away from memory, and towards the ability to interpret information and make good decisions.

Disadvantages

- The guess factor. Students can often gain marks simply by lucky guesses rather than correct decisions.
- Designing structured questions takes time and skill. It is harder to design good multiple-choice questions than it is to write traditional open-ended questions.
- Black and white or shades of grey? While it is straightforward enough to reward students with marks for "correct" choices (with zero marks for choosing distractors), it is more difficult to handle subjects where there is a "best" option, and a "next-best" one, and so on.
- Danger of impersonators? The fact that students are not required to give any evidence of their handwriting increases the risk of substitution of candidates.

NEXT TIME

In the *The Art of Assessing 2*, Phil Race will look at other ways in which we can evaluate our students' work in addition to the formal examinations discussed here. This will appear in the Spring 1996 issue of The New Academic (vol.5, no.1).

FURTHER READING

Brown, S. and Knight, P. (1994), **Assessing Learners in HE**. London: Kogan Page.

Brown, S., Gibbs, G. and Rust, C. (1994), **Diversifying Assessment**. Oxford: Oxford Centre for Staff Development.

Coulson, A. (1994), **Objective Testing**. Series 11, Red Guides for Staff, No.4, University of Northumbria at Newcastle.

Race, P. and Brown, S. (1993), **500 Tips for Tutors**. London: Kogan Page.

Race, P. (1994), **Never Mind the Teaching - Feel the Learning**. SEDA Paper 80. Birmingham: SEDA Publications.

ACKNOWLEDGEMENTS

Phil Race is grateful to Carole Baume (Oxford Brookes University), Sally Brown (University of Northumbria at Newcastle) and Ivan Moore (University of Ulster) for very useful comments on earlier drafts of this paper.

Phil Race was formerly Professor of Educational Development at the University of Glamorgan, and is presently based at Newcastle where he works part-time for the Educational Development Service at the University of Northumbia.

VIVAS

Advantages

- Useful checks on the ownership of evidence. It is relatively easy to use a viva to ensure that students are familiar with things that other forms of assessment seem to indicate they have learned well.
- Particular needs. Vivas have long been used to help make decisions about borderline cases in degree classifications.
- Candidates may be examined fairly. With a well-constructed agenda for a viva, a series of candidates may be asked the same questions, and their responses compared and evaluated.

Disadvantages

- Some candidates never perform well in vivas. Cultural and individual differences can result in some candidates underperforming when asked questions by experts and figures of authority.
- The agenda may "leak". When the same series of questions is being posed to a succession of students, it is quite difficult to ensure that candidates who have already been examined do not communicate with friends whose turn is still to come.
- Narrow agenda. Vivas are seldom good as measures of how well students have learned and understood large parts of the syllabus.

Widening the Range of Marks

Lesley Matthews explains how the issue of degree classification was investigated in her university, and shows that there are a number of unexpected factors, including the vagaries of statistics and standard marking conventions, that militate against identifying exceptional students.

A fairly restricted spread of degree classifications, with few firsts, was identified as a common feature of awards in the Faculty of Social Sciences at the University of Northumbria at Newcastle during a regular review of issues affecting degree classification. This is perfectly acceptable so long as the spread of classifications genuinely reflects the abilities of students. However, there is evidence that, over time, the general level of degree results in institutions of HE has been rising (CNAA 1988), with greater proportions of good degrees awarded. External Examiners are able to view particular sets of marks within this broader context and, in a few cases, they do consider the ranges to be too narrow. Further investigation revealed this to be a common issue in HE, particularly in the more qualitative disciplines of the social sciences and arts (ESRC, 1989).

An additional concern is that degree quality - at the top end - has been presented as a performance indicator in recent "league tables" of institutions. In this context, an institution cannot afford, unnecessarily, to perform badly on degree quality.

Informed by interviews with academic staff from all departments within the Faculty, this paper summarises some *possible* reasons for narrow ranges of marks, and attempts to identify strategies which may help course teams to reward the most able students and widen the range of marks.

POSSIBLE CAUSES OF A NARROW RANGE

A number of factors may contribute to a narrowing of the range of marks, generating fewer possibilities for outstanding student performance to be identified. These have been classified as of three main types:

1. Student behaviour

The way that students approach learning and assessment may influence the range of marks. The fact that most assessments are summative rather than formative encourages risk-averse behaviour; in order to minimise the risk of failure, students will select topics about which they feel most secure. However, this also reduces the possibilities of better than expected performance, with answers which reproduce the most readily available data and interpretations.

Allied to this is cue-seeking behaviour, the *"spot-what-the-tutor-is-looking-for"* approach. Students may have learned the effectiveness of this strategy in secondary school (Entwhistle, 1991). Increasing use of highly explicit assessment criteria in HE may encourage its continued use, so that we get what the student thinks we want, rather than any new or original approaches.

Library resources have generally failed to keep pace with rapidly rising student numbers, particularly in the "new" universities. The real value of the student grant has also been declining. In this context, there is evidence that students find it difficult to access a sufficiently wide range of literature, particularly in disciplines (such as the social sciences) which are developing rapidly. The most readily available texts may increasingly provide the input for most assessed work - hence generating similar answers to assignment questions.

2. Student characteristics

The characteristics of the student group may be expected to influence their performance in assessment. Within any single course, programme, or even department, students may well have similar A-level points' totals. A number of studies have suggested that this is the single most important variable in explaining degree quality (Raaheim et al, 1991), so we might expect groups with similar A-level scores to have a tendency to obtain similar degree classifications. (On the other hand, several other studies offer the conflicting evidence that A-levels are unreliable predictors.) Nevertheless, it is a fact that over time, there has been a general improvement in the A-level scores of students, which is consistent with the general improvement in degree qualities which has occurred. The points profile differs between different disciplines, however, so this may partly explain differences in the range of degree classifications on different courses (Taylor, Ulph and Winters, 1993).

Age and gender differences also seem to be relevant. In general, males exhibit greater differences in achievement, so they obtain disproportionate proportions of both good and poor degrees (Raaheim et al, 1991). This implies that a predominantly female cohort will exhibit less divergence in mark ranges, tending toward the middle of the quality spectrum. These differences seem not, however, to apply to mature students. This may be due to a greater likelihood that they will be studying work-related, practice-based disciplines, in which they have both experience and confidence.

3. Assessment strategies

The approach to assessment which course teams adopt may limit the potential to identify better students. For example, a heavy dependence on coursework for assessment may result in everyone studying the same issues in depth, acquiring similar knowledge over the year. Unless students' learning choices are deliberately widened, with negotiation over different assignments, this will limit the possibilities for more able students to excel. In addition, if assessments are "convergent", with questions which identify fairly precisely what is required in answers, the comparison of student work is made easier, and the assessment criteria can be more clearly demonstrated. However, the possible range of answers will also be reduced, and original approaches by more able students discouraged.

There is often a preference for assessing "products" rather than "processes", partly because of the need to be able to demonstrate the reliability and validity of marks (Rowntree, 1987). A product is tangible, so can be easily examined by other assessors, whereas the process cannot. However, the assessment of products is more likely to reward the cue-seeking student behaviour identified above, whereas students may exhibit greater divergence in the processes by which they tackle questions.

THE VAGARIES OF STATISTICS

Commonly, marks from a number of assessments are averaged, in the belief that any

"abnormal" scores will be cancelled out, and a more representative "normal" score achieved. By definition, however, this will tend to eliminate the extreme marks, whether high or low. Course teams should also be aware that the papers with the greatest spread of marks - the largest range - will carry more weight in the average. It will be more profitable to do well in the paper with the largest spread than in that with the lowest, because the mark awarded will be higher. If we wish to avoid this effect, mark ranges should be standardised before the marks from different papers are averaged. In addition, the way that we calculate the average (mean or median) may have significance for the degree classifications of a few students.

Marking conventions may also create a barrier to identifying exceptional students. In many qualitative disciplines, the top mark for excellent work is seldom much above 70%, so that the attainment of an average of over 70% becomes almost impossible. The spread of marks is generally far greater in quantitative subjects, with marks over 80% more common. As a result, in disciplines which include both qualitative and quantitative papers, the average spread will often be greater than in purely qualitative disciplines, because if mark ranges have not been standardised, the quantitative papers expand the range.

STRATEGIES TO WIDEN MARK RANGES

While it is evident that a number of factors are not open to direct influence by course teams, it is possible to identify some strategies which may help to widen mark ranges and so ensure that the most able students are rewarded with higher marks. These involve either direct approaches to widening the range of marks, or indirect approaches, which address the nature of the assessments which are set.

1. Direct approaches

Firstly, course teams can challenge marking conventions in qualitative disciplines, by agreeing more readily to award marks well in excess of 70% for excellent work. Clearly, this requires the involvement and support of the external examiners, but this should be entirely feasible where narrow mark ranges have been identified as an issue (Taylor et al, 1993).

In addition, mark ranges can be standardised to those papers with the widest spread; in qualitative disciplines which contain some quantitative elements, this has the advantage of expanding the spread of marks in the qualitative elements, whilst also preventing the quantitative papers assuming a greater weighting.

Courses which currently adopt a very restricted approach to determining degree classification may consider applying a broader definition of "average" - mean or median - whichever most benefits each individual student. The proportions of marks in any one category can also be considered, to help to ensure that exceptionally poor performance in only one paper is not unduly penalised.

It may also be possible routinely to offer viva voce examinations to all borderline candidates, to afford them the opportunity to move up a classification; this has onerous resource implications, and care in the choice of criteria is essential to ensure fairness, but it may well improve the results of a few candidates.

2. Indirect approaches

It is clear that the type of assessments set may considerably reduce the likelihood of a wide range of student performance. Longer questions, with greater differentiation in content, may permit more divergent answers (Taylor et al, 1993). These should require a demonstration of understanding and not simply factual recall (CNAA, 1989).

Similarly, "problem solving" questions, which have a wide range of possible answers, are less likely to reward rote-learning and cue-seeking behaviour, and may open up the possibility of greater innovation and wider divergence. They also permit the "process" to be weighted more heavily, as is common in the assessment of dissertations (or project work) in some disciplines.

"Student centred" assessments, which genuinely reflect individual student interests and preferences, provide opportunities for more able students to demonstrate innovation and flair. However, they also demand more carefully thought-out assessment criteria, which can accommodate many different possible topics and approaches.

It may be possible to influence learning behaviour by reducing student choice in examinations. A CNAA report (1989) suggests offering *no* choice of questions in an examination, selected from a list of pre-disclosed questions covering all aspects of the syllabus. This will prevent students focussing only on "secure" topics, and encourage them to study all aspects of the course. As a result, the rote-learning approaches of risk-averse, cue-seeking students are less likely to be rewarded, and better students may be more easily recognised.

CONCLUSIONS

In the context of rising general degree qualities in the UK, and increased emphasis on degree quality as a performance indicator for institutions of HE (however inappropriate this may be felt to be), it makes sense to ensure that we are not disadvantaging either our students or our institution by the approaches to assessment which we adopt. We need to ensure that we create the conditions in which we are able to recognise, and reward, the most able students. By identifying a number of possible causes of narrow mark ranges, it has been possible to identify some strategies which may help to widen the range of marks and ensure that degree classifications more accurately reflect student abilities. It is for course teams to debate whether these might be appropriate in their own contexts.

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Lesley Matthews is with the Division of Economics, University of Northumbria at Newcastle.

An earlier version of this paper has been published as a Red Guide at the University of Northumbria at Newcastle.

What Others Say...

Communication among teachers in HE being our thing, we are specially interested in all those internal newsletters and magazines being published in universities and other institutions throughout the land. Send us your own publication (put the Editor on your mailing list) and we may feature it in a future issue of *The New Academic.*

ETHOS, "Communicating issues within the academic community of the University of Plymouth", is our Autumn focus. A lively A4 publication, edited by Hazel Fullerton and her team, it was started less than 2 years ago, but looks set to thrive. Now many of its articles can be found on the Internet, thanks to the skills of Martin Stone who really does understand computers. Sometimes its issues will be guest edited on a particular theme, and so we were particularly interested in the March 1995 *ETHOS*, guest edited by Norman Jackson, on various aspects of "Assessment" - the theme of this term's *The New Academic*. This is a continuing theme of course, for *ETHOS* and for us all.

In a spirit of reciprocity, we reprint some items which fit particularly well with our current theme. They quote *The New Academic* - frequently - so this time we will quote *ETHOS*!

Taming the Dragon

Once upon a time there was a darkness in the kingdom. The learned of the land were troubled and could not cope with developing the new generation as it had been decreed. It is said that some were drowned and lost forever under great waves of marking and administration which swept the land.

The Faculty of Science was lured by tales of magical machines that would solve their problems. It came to pass that they invested in a new shiny dragon called the Optical Mark Reader. They gave it an office of its own, and waited for it to transform their methods of student assessment, their gathering of student opinions, and all the other things promised in the handbook. Despite the ministrations of a dedicated (but distracted) band of disciples the machine was silent. It remained aloof from its surroundings and was ignored or distrusted by the very people it was meant to serve. It sulked, it scrambled its software, it hid its passwords and was generally uncooperative. Drastic action was needed. Envoys were dispatched to the inner sanctum of the Science Faculty to allies in the distant land of Enterprise. Remarkably quickly, an answer was given. The Science Faculty and the land of Enterprise would pacify the dragon. They would give it a constant companion, a young, dashing esquire who spoke its language, and would give people time off their labours to visit its lair. By these actions the leaders hoped that the dragon would be accepted and trusted, and they would start to recoup the many groats it had cost.

Things started to look up. The leaders met and appointed the esquire. The esquire thought the dragon was really cool. He knew the machine wasn't wicked, just misunderstood. Gradually he learnt what tricks the dragon could do. He travelled the land to listen at the feet of other dragon-masters. After many months some of the people heard that the machine had been tamed. They crept to its lair and watched the dragon at work. The dragon chewed paper contentedly while the esquire translated its flashing screen. The people left in thoughtful mood. They went back to their departments and told their colleagues what they had seen. Some of the colleagues went to see the dragon themselves. Of these, some thought it a wondrous machine, others an oversold piece of scrap-iron. A few wondered why we needed to change when quill pens worked so well. Some people just thought it was all somebody else's problem.

Gradually though, the dragon became accepted. Nowadays, some of the departments use it to tally marks for large groups of students. The dragon also chews through the piles of reviews that students send in about the performances they attend in the lecture halls, and the details of which performances they want to see next year. The learned of the land are happy. They use the time thus returned to them to carry out tasks more fitting to their station. The learners are happy as the results of their labours are fed back to them quick as a flash. The dragon and the dragon master are happy. At least some of the people love them and they have plenty of work to do. They are close to living happily ever after.

Ruth Weaver
Department of Geographical Sciences

First published in ETHOS, June 1994.

Understanding and developing the role of External Examiners

Why do we need them?
The purpose and role of external examiners is the subject of active national debate. Across the sector, and even within an institution, external examiners currently occupy a range of roles .

The working group began its deliberations by considering such fundamental questions as: ***Do we need them? If so, why? What do they do which we can't do ourselves?*** The consensus view was that some aspects of their work, e.g. issues of fairness, equality and the consistency of applying regulations can be dealt with internally by an independent 'critical friend.' On the other hand their role in assuring standards in the subject and providing an objective independent view of the compara-bility of standards across institutions, must involve externals. Though students do not understand the role of externals, their involvement reassures them and the institution of the 'currency' of a University of Plymouth award.

Government and external agencies like HEQC and HEFCE are not interested in imposing standards but they are interested in knowing how we establish and validate standards, and what mechanisms we have for assuring ourselves that they are the right standards. **Standards are our responsibility and we use external examiners as an important element of our quality assurance arrangements to validate those standards.**

Specifically, we need confirmation that our standards do not fall below an acceptable threshold.

Where are standards set?
The group recognised that the introduction of the modular framework has led to a shift in the focus of where standards are set to the module level rather than the programme level. The complexity of the modular framework requires a multi-tiered process and there is now a separation of the assessment of standards in the module from the overall classification of students in the award. Many academic staff and some externals feel that their perspective of standards has diminished as a result of their involvement in the validation of standards being restricted to the Assessment Panel in the two-stage process. It might, however, be anticipated that given the growth in students and the requirements of the modular framework, the process of classification will become increasingly mechanistic (following an agreed set of rules), and the need for academic debate involving internal and external examiners will diminish. The group recognised that this required a major readjustment in the professional beliefs and values of many staff.

The group agreed that the main focus for the external examiners' work should be in their area of expertise within the Subject Assessment Panels. The notion of a 'standards visitor' who might undertake an evaluation of assessment standards at any point(s) during the year and not necessarily be involved in the Assessment Panel, is also worth exploring. Ultimately, this might be the most productive and effective way of using an external exam-iner's time and expertise and provide the subject group with the highest degree of assurance.

What role should they play?
The modular framework requires that both the general and specific roles of externals should be defined more clearly, particularly in respect of their involvement in the panels and boards. **In the Assessment Panels their primary role is to validate standards in the subject, the standards of assessment and the panel's decision making process. At the Award Board their primary role is that of a critical friend and to validate the board's decision making process.** They are not required to be involved in the decision of an award and, as a general rule, Chief Externals should not adopt the role of a subject external in the Award Board. The group recognised however that in some programmes (particularly professionally accredited – Type A programmes) there may be a requirement for externals to evaluate the holistic experience of the student.

Mixed-economy or single operational model?
A 'mixed economy' of roles is currently operated, and though in the long term it might be desirable to move to a more uniform approach, the mixed economy is probably more realistic given the range of types of programme (A to D) with different learning objectives and intended outcomes. Modu-larity has highlighted the inadequacies of the classification system, and much of the "angst" stems from this. An increasingly mechanistic approach will reduce the need for academic input into the decision-making process for an award. We cannot abolish classifications unilaterally – some professional bodies use the classification boundary as a threshold for professional accreditation or exemption from professional examinations.

EXTERNAL EXAMINER TEAMS

The group considered whether externals should be appointed to awards or a subject area (clusters of cognate modules). There might be differences across the Institution depending on the nature of the programme.

The modular framework has expanded the notion of an external examiner "team" since many Subject Panels may be involved in the validation of standards in a particular award. It is important for those responsible for programme management to understand the totality of the expertise of the external examiner team and how it matches the needs of the programme.

The group was unable to come up with any radical new insights into what the external examiner of the 21st century will look like – that very much depends on the outcomes of the current national debate.

Barry Plumb, *Electronic Communication & Electrical Engineering and*
Norman Jackson, *Quality Evaluation & Enhancement Unit*

First published in ETHOS, March 1995.

Twelve Principles of Assessment

- The purposes of assessment should be clear.
- Assessment should be addressed as an integral part of the course design process.
- Relevant assessment criteria need to be identified and used.
- Assessment needs to be transparent.
- Assessment processes need to be consistent.
- Assessment tasks need to be valid.
- Assessment should be free of bias.
- Assessment tasks need to be practicable.
- Assessment workload needs to be realistic.
- Assessment needs to include a wide range of methods.
- Assessment needs to provide feedback to support the learning process.
- Assessment needs to be integral to quality assurance procedures.

These underpinning principles were identified by an Open Learning Foundation working party on assessment issues.

First published in ETHOS, March 1995.

Get Connected

The delights of electronic mail are familiar to most readers. Indeed, it seems that almost everyone except your Editor can communicate with colleagues via the computer. Now *Keith Topping* gives details about an Internet forum and electronic journal being run by his university.

The paperless office will be here sooner than you think, the paperless university not long after - just think how tidy your office will be! Even dear old paper journals are being supplanted by electronic journals. (Ed. note: Surely no one can do without *The New Academic?*)

Phones are great if the person happens to be in the office - but they never are. Faxes are not too bad provided you only have one sheet of information and don't want to contact anyone outside of Western developed countries or whose fax is often engaged - otherwise you can spend hours feeding and refeeding the machine.

Electronic mail (once you are connected to the Internet) is just so easy and efficient, it leaves other communication media standing. Your message to any person or any list of people anywhere in the world arrives there in seconds with high reliability. The recipient is told there is a message waiting, its originator and level of priority. With one keystroke, replies can be generated, messages forwarded to others, copies sent to others, messages filed in various folders - and even printed onto paper if you wish to be so antiquated!

Networks have been established for academics and others with similar interests, and function just like a large group conversation - but on a global basis. If you send a message to the list, everyone subscribed to the list will receive it - and many will respond, with information, advice, analytic discussion or just plain friendliness. One such list is the recently established Peer Assisted Learning list. It already has about 250 subscribers around the world.

PEER ASSISTED LEARNING (PAL)

Peer Assisted Learning (**PAL**) is an Internet listserver forum and electronic journal. It is hosted by the Centre for Paired Learning, Department of Psychology, University of Dundee, Scotland, and is open to anyone.

Focus

It covers various forms of peer assisted learning:

- Peer Tutoring (pt)
- Mentoring (m)
- Peer Education (pe)
- Peer Monitoring (pm)
- Peer Assessment (pa)
- Student Tutoring (st) (see Other Lists below)

in various sectors of education/learning:

1 Primary/Elementary Schools
2 Secondary/High Schools
3 Higher & Further Education (universities & colleges)
4 the Workplace

Joining

The address of the LISTSERVER (the software which manages the list, handles subscriptions, etc) is:

maiser@psychology.dundee.ac.uk

The address of the LIST itself is:

PAL@dundee.ac.uk

To join the list, send to the LISTSERVER address maiser@psychology.dundee.ac.uk a command message saying only:

subscribe PAL

Leave the subject line blank. If your system usually automatically appends signatures to messages, ensure a blank line is left at the end of the command message or use any available option to omit the signature on this occasion.

Your acceptance will be confirmed. Thereafter, send text messages to the LIST to PAL@dundee.ac.uk

Content

In addition to informal discussion and news items, substantive reports on new developments and research are welcomed. However, abstracts or summaries are preferred to the whole report. Please ensure any references are given in full.

The list can also be extended to related areas on request, eg co-operative learning (cl), peer counselling (pc), peer mediated behaviour change (pbc), peer modelling (pmod), so long as adequate focus is retained.

OTHER LISTS

Related lists and sources include:

CONSLT-L

This list is only for paid up members of the International Mentoring Association, covering mentoring and Association business. For information: brescia@indiana.edu

TUTOR_L

This open list focuses on "Student Tutoring" (st) - college and university students tutoring and mentoring school children. To subscribe mail the listserver: majordomo@po.cwru.edu with the command: subscribe tutor_l. The list address is: tutor_l@po.cwru.edu For further information: cnp2@po.cwru.edu

TUTORING & MENTORING WORLD WIDE WEB SITE

This database has a similar focus to TUTOR_L. For information:

healym@westminster.ac.uk

TUTOR-L

This open list (and associated moderated list and World Wide Web site) focuses on dialogue, development and research regarding supplementary adult, peer and cross-age tutoring through the Internet. To subscribe mail listserv@edie.cprost.sfu.ca with the command subscribe tutor-l <your first name> <your lastname>. The list address is tutor-l@edie.cprost.sfu.ca Further information is available from mberns@oise.on.ca

CL_NEWS

This open list covers co-operative/collaborative learning. To subscribe mail listserv@iubvm.ucs.indiana.edu with the command subscribe CL_NEWS. The address of the list itself is CL_NEWS@iubvm.ucs.indiana.edu

CL

This open list covers co-operative learning in schools and universities. To subscribe mail listserver@jaring.my with the command subscribe CL <your name>. The list address is CL@jaring.my

V-NET

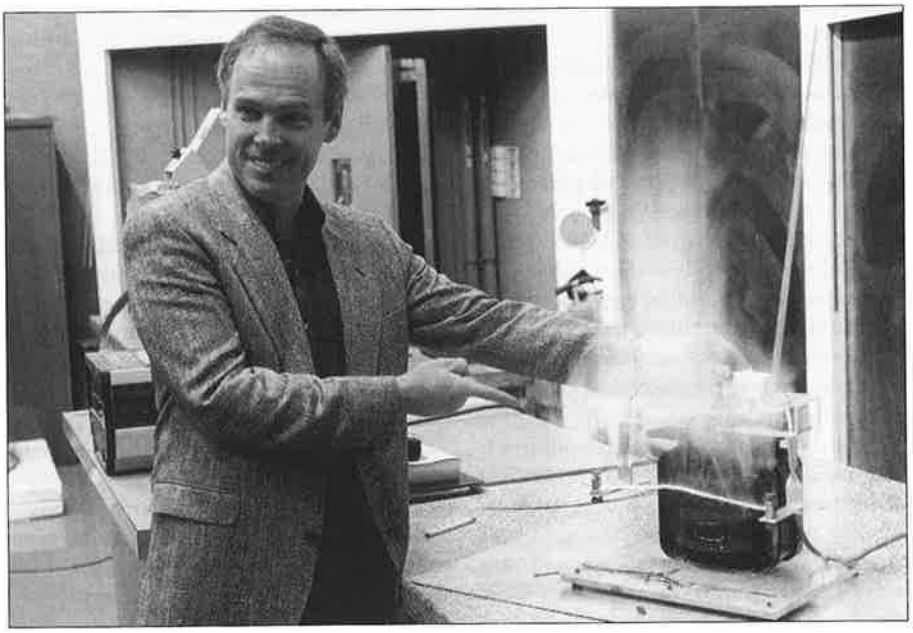
The Volunteer Network has a "Teletutoring" project. For information: jschoeni@llnj.pppl.gov

Keith Topping is with the Psychology Department, University of Dundee

Lecturing by Computer

Gee-whiz, but does it help the students understand?

Computers are everywhere, it seems, even in the lecture theatre. Here *Paul Walker* explains how he took advantage of the refurbishment of the University of Sydney's main lecture hall, and its provision of permanently installed desktop computers to present first-year lecture material for physics on computer. Students strongly approved. Teachers of all complex and difficult subjects might find this approach useful.



Paul Walker in action

Computers are ideal for the presentation of complex information. Throughout the world, microcomputers are widely used as teaching aids in complex subjects like physics, and have proved particularly valuable in applications where they are interfaced to physical apparatus and collect, analyse and display data in "real time". The use of computers in lectures has received less attention.

As a teacher of physics, I think this is unfortunate, since students often find physics a difficult subject and any tool which assists in making its concepts more accessible must be of interest.

We know that lectures are seen by many experts as a relatively poor vehicle for effective teaching, and their shortcomings have been discussed for many years. Nevertheless, as Habeshaw pointed out in *The New Academic* (1995 a,b), many of us find we must make the best of what lectures can offer. The traditional format and style of HE teaching continues to dominate the presentation of physics courses in Australian universities. Notwithstanding the desirability or otherwise of major structural change, I have sought over the last decade as a practising physics teacher in HE to maximise the learning effectiveness available to students within the traditional course structures. As one aspect of this endeavour, I have experimented with using computers for presentation of lecture material in standard large-class first year lectures.

It is worth clearly stating from the outset that this is only one part of an overall instructional strategy and the use of avant-garde presentation media does not automatically equate with good teaching and learning outcomes. While changing the learning context in this way may have some novelty value, it is unlikely to satisfy students' learning needs. Ramsden (1992) suggests that students can very effectively differentiate empty performance from good teaching. I have relied strongly on systematically collected student feedback for the evaluation of the success of this strategy in its first trials.

WHAT WE'VE BECOME USED TO

Most physics lectures at this university are presented using blackboards or, less frequently, overhead projectors. Students, particularly in our first year courses, tend to engage in a ritualistic copying of lecturers' presented notes, derivations & diagrams verbatim. It is almost a modern article of faith that this is a rather ineffective way for students to learn much about the subject at hand, although the majority of students seem to accept it as the *status quo* and do not complain excessively and argue for alternatives. Neither do the lecturers in the main, although there is often considerable dissatisfaction expressed about how little most students appear to have learnt in physics courses.

My own perception has been that the "**pantograph**" lecture, where the lecturer's writing is reproduced a hundred or so times on student note pads, directs student attention mainly to the mechanics of writing and creates a supreme effort of eye-hand coordination in the necessary task of keeping up with the lecturer. The opportunity to think about what is being presented is almost non-existent. Lectures default to being a presentation of information, often a duplication of that in the prescribed text. Students quickly come to expect lectures to be like this and can become quite unsettled if there is a significant departure from the model, such as lecturers writing no notes during the lecture or giving pre-prepared lecture notes as handouts.

PREVIOUS ENDEAVOURS

The successful strategy I developed over a number of years, designed to defeat the furious copying of lecture notes, while still to some degree satisfying the thirst for hard information, was to provide skeletal notes on pre-prepared overhead transparencies. During the lecture I could then be free to walk around the room and address the students more directly. The use of a laser pointer has been an essential aid in providing this level of mobility. I sought to engage students in a more active conversation about the lecture content and to allow them to fill in the gaps in the presented lecture notes with their own

notes. The teaching style I developed as part of this strategy was somewhat provocative, asking many questions during the lecture and expecting answers, not from those who already knew the "right answer", but rather from those who might be part of the way there and who could make their underlying reasoning more explicit through spontaneous dialogue with the lecturer. As is the tradition in physics teaching, and strongly so in this department, I also made extensive use of physical demonstrations during lectures to illustrate the points made and sometimes to test hypotheses put forward by the students (and the lecturer!) in the course of discussion.

The success of this strategy was reflected in sustained or even increased student attendance, positive student comment in the regular course questionnaires administered at the end of every semester and a high rating for both course and lecturer in those questionnaires.

There was however a minority (~5%) of adverse comment, taking exception to the questioning and dialogue occurring in the lectures. While I could well have dismissed this as coming from a disgruntled minority, I determined to continue the promotion of active learning in the lecture setting in such a way that even these students would become engaged.

Around this time, it was decided to spend a significant amount of money to upgrade the main physics lecture theatre and in particular to provide high-quality audiovisual and on-site computer facilities with large-screen projection of video and computer images. There was considerable debate amongst the teaching staff about the wisdom of this expenditure on computer and audiovisual facilities, with a significant number expressing strong reservations about the value of such facilities in improving the teaching of physics. This prompted me to plan an experiment, wherein I would conduct my next first year lecture series making full use of the facilities, incorporating an evaluation of the pedagogical worth of this as a strategy.

PUTTING THE TECHNOLOGY TO WORK

The course to be taught was a series of seventeen lectures, each fifty minutes long, mainly on mechanical oscillations and waves, with some foundation material on equilibrium, elasticity and fluid mechanics. I prepared material to be shown during the lecture on a projection screen (approx. 3 metres x 2 metres) installed on the front wall of the refurbished lecture theatre. The software used to generate this material includes a "slide show" facility, which allows the material to be shown as a sequence of full-screen colour images (see Fig 1), with the option of including short video clips, and/or showing text points exposed in a "build" sequence*. Video clip sequences were generated by a commercial software package**, which allows 2-dimensional models of simple physical systems to be defined graphically and a simulation of their spontaneous behaviour (see Fig 2.). Typical model elements include objects of arbitrary shape with assigned properties such as mass, coefficients of friction and elasticity, springs, mechanical dampers and various forms of linkages between objects. For the course under discussion, I could use this package to construct models of pendulums, driven and damped oscillators and particles exhibiting wave motion.

The preparation of this kind of lecture material does take longer than, say, producing static overhead transparency sheets, probably about twice as long. The quality of the resulting presentation was however far more visually interesting and allowed smoother delivery where there was less student attention on the mechanics of revealing and changing transparency sheets or moving blackboards. It is possible with the computer "slide-show" to use successive slides to gradually build on a diagram, highlight parts of importance with colour, add equations and so on. The more dynamic the display the better.

The presentation files developed for this

COMPUTERS FOR ALL?

How might lecturing by Computer help your students?

Chemistry, Engineering, Biology, Biochemistry – all physical sciences should be able to adapt the ideas in this article with ease. Other subjects may not be so quickly adaptable, but here are some ideas which came to mind as we were preparing for publication . . .

Music

Sound and vision combined might show rapidly the effects of key change, or chord modulation; themes and variations in the style of . . . could illustrate both how the music is orchestrated and what variations do to the sound; old instruments compared with new.

Psychology

Experimental designs compared; simulation of standard laboratory experiments; on-line reaction time experiments, priming, sub-conscious perception.

English Literature

Sound and vision to contrast interpretations of poems, drama, even extracts from books. Comparison of texts (e.g. Shakespeare folios), windows for Chaucer in the original and as translated.

You will no doubt think of others as the idea gets hold!

* *The computer mainly used for these presentations was an Apple Macintosh Quadra 660AV running Microsoft PowerPoint, a general-purpose slide preparation and presentation package.*

* *Video clips are inserted in the form of "QuickTime movies", an Apple Computer digital animation format.*

* *With text in point form, each point is added to the sequence when a computer key is pressed. If desired, previous points in the sequence can be made to change to a faded colour, effectively highlighting the current point.*

** *Interactive Physics II, produced by Knowledge Revolution, U.S.A.*

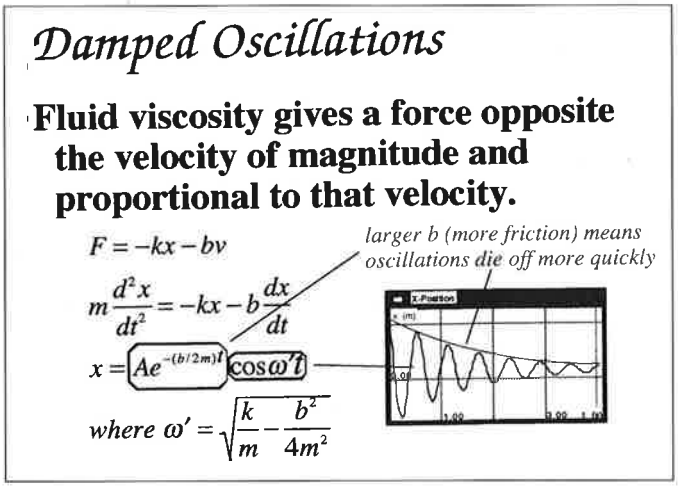


Fig 1. Typical on-screen "slide" used in the lecture series. Colour is used to highlight and link relevant features.

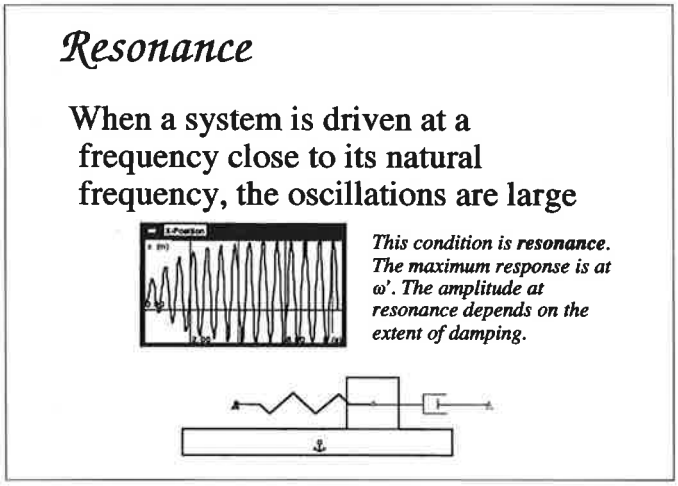


Fig 2. Still image from an animated slide. The model oscillates horizontally and the graph is drawn simultaneously.

course are of course re-usable by myself or by colleagues in future courses, and can be improved by experience.

WHAT THE STUDENTS THINK

Feedback was sought from the students towards the end of the lecture series via an "instant questionnaire" (see e.g. Gibbs,1992; Habeshaw,1995a) which was designed to find out how the students perceived the effectiveness of the presentation mode in assisting their understanding of the physics content presented. Students were shown the following statements and asked to indicate their level of agreement or disagreement with each via a 5-point key (letters A to E).

- The computer-screen lecture notes helped me understand the Physics better.
- The computer simulations were useful for understanding.
- The physical lecture demonstrations were more useful than the computer ones.
- The use of computers in this lecture series made no real difference to my ability to understand the physics.
- <write any other comment you wish to make>.

The responses to this survey from the 101 students attending the final class are summarised graphically in Fig. 3. Of these responses 69 also contained comments, which supplement the interpretation of the survey data.

Additional comments fell into six broad categories, as follows.

- Presentation improved interest and understanding (11)
- It gives lecturer time to explain things rather than writing on boards (5)
- It makes lecture material very clear & easy to follow (13)
- Physical & computer demonstrations together made the difference (14)
- Suggestions about specific presentation matters (e.g. text size & colour) (5)
- Comments and appreciative remarks about lecturer and lecture series (21)

WHAT THE LECTURER THINKS

The comment concerning the use of physical and computer demonstrations together reflected strongly on the design of the third question in the set; in fact some of these comments were placed next to the response to that question rather than at the end. Some made detailed comments to the effect that the computer simulations simplify and highlight the important features and make the physical demonstrations easier to interpret. For example, using an animated simulation of a chain of particles forming a travelling wave together with the more usual physical demonstration of waves travelling in a rope allows important features of the process to be shown in different ways and relevant concepts highlighted.

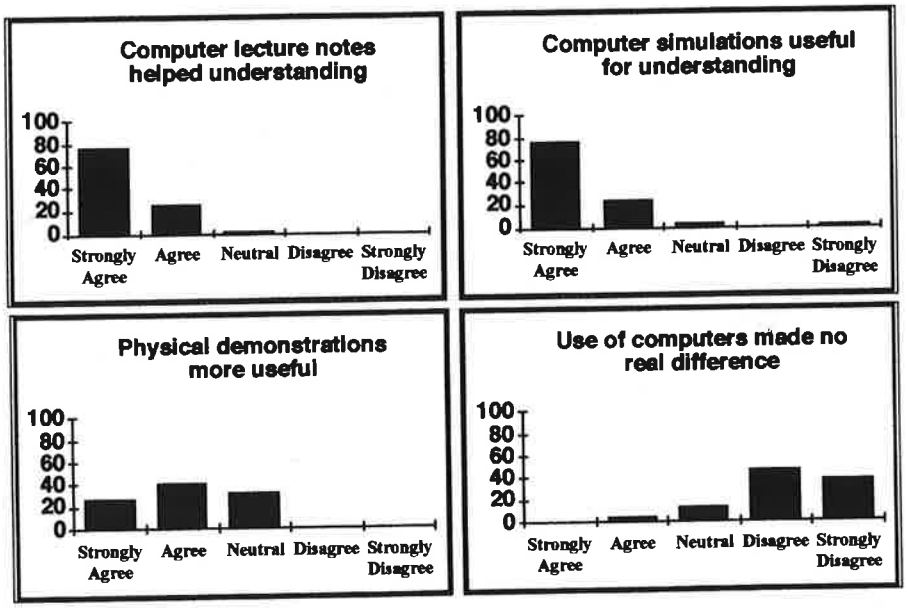


Fig 3. Summary of students responses to in-class survey on effectiveness of presentation mode.

I would emphasise the use of this type of presentation medium as an **aid** to effective teaching and this is consistent with several of the student remarks, which commented on the importance of the lecturer's "style and enthusiasm" in stimulating their interest in and understanding of the subject.

The success of this approach was also reflected in the student ratings of the course and of the lecturer obtained as part of a regular end-of-semester survey process conducted away from the lecture setting. The students are asked to respond to specific questions on the course content and its delivery by ranking on a five-point scale, 5 representing the most positive assessment and 1 the least. In addition to the specific questions about various aspects of the course and the lecturer, students are asked to provide an overall rating of the course and another of the lecturer on the same scale. After this trial of new presentation methods, the rating of the course averaged over all students responding (>90% of class number) was 4.3 and of the lecturer 4.9, which is the highest rating ever achieved for a first year course in the three years these surveys have been conducted.

It is more difficult to evaluate the approach in terms of learning outcomes, since students are free to attend any of three concurrent streams of lectures and thus the results of summative assessment for students attending a particular lecture course cannot be effectively identified. Even if this were possible, it is not clear that a trial such as this would produce an immediate and discernible effect on examination scores, for example. The success of the trial argues for implementation in a sustained and integrated way across all topics and courses, at which stage one might expect to see objective indicators of learning outcomes reflect an actual improvement in student learning.

It should also be borne in mind that there are several dimensions of students' experience of a course that may not provide short-term measurable benefits. The issues of students' interest and enthusiasm for a subject and for learning generally, their insights into the integrated nature of knowledge within and between disciplines and an enhanced appreciation of the place of such knowledge in human affairs are all outcomes of significance in a university education. The fact that these outcomes are not particularly amenable to immediate objective measurement and ranking procedures should not deter us from innovation in presenting higher education courses. Rather we should perhaps be spurred on to develop both broader pedagogical strategies and the means to evaluate their ultimate effectiveness.

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Models of Staff Development

Contrasting paradigms of staff development are emerging in different institutions, and sometimes alongside each other within a single institution. Graham Gibbs argues that industrial models are not appropriate for much academic staff and educational development and that we need models better suited to our scholarly culture.

Most large organisations have a small number of people who design administrative systems or production lines which many people are then trained to operate in as standard a way as possible. In contrast my University has about 1,500 'production lines' - its courses - each designed, run and evaluated by an individual or small team uniquely able to do this. Very often no-one else in the University could substitute for a lecturer on a specific course and it is not possible to train someone to substitute at all quickly - it simply involves too much unique expertise which trainers do not possess.

Staff developers in higher education tend to focus on those areas of expertise which are common: especially staff development based in personnel departments. Generic models work reasonably well for support staff: a Department secretary's role is similar whatever the Department and cleaners and porters have no discipline-based differences. These components of Universities are similar to other organisations. Generic approaches can also work reasonably well where the use of a skill is largely independent of context: for example word processing. Some skills, such as time management and teamwork, while largely generic, take completely different forms in academic contexts. Time management and teamwork courses and training materials based on the patterns of hierarchy and delegation found in commercial organisations are seldom relevant.

Educational development is different from staff development not only in its content but in its focus of attention. Except for inexperienced staff it mainly focusses on processes rather than people, on course design rather than course design skills, on strategies for tackling large class problems rather than on the individual skills involved. Sometimes individual skills are important but lecturers are usually happier to accept that there are problems with courses rather than problems with themselves and are happier to work at the level of changing strategy and method rather than changing themselves. Indeed much successful educational development involves finding effective ways forward which require the fewest neccessary additional skills or changes in behaviour, but only changes in systems.

Graham Gibbs

Some personnel departments, faced with their inability to help academics with their central task of teaching their subject, have ended up with a programme of courses looking absurdly out of touch, with titles like 'Dressing to Impress'. Such training may not meet the needs of a lecturer whose real problem might be how to teach calculus to large classes of mathematically challenged engineering students, how to explain a geological concept to students whose field trips have been cancelled due to declining resources or how to manage when 300 students all need the same article at the same time. It is also difficult to identify the 'training needs' of these lecturers. They have a clear problem to tackle but that is not the same thing.

I have been associated with a number of institutions where the myth of common training needs has led to large, expensive and ineffective staff development initiatives. Training needs analyses have supposedly identified common needs but when series of training events have been mounted on the identified topics few lecturers actually turn up, unless thay are compelled. Very often the courses come six months or a year after the need was identified and long after the problem which gave rise to the need has passed or been solved. Alternatively those with what are judged to be similar needs are aggregated into a broad category heading (e.g. 'student centred learning') which turns out not to match anyone's perceptions of their needs. Those who do attend courses planned in this way, even when the topic is the right one and even when the training session is run superbly, often report being unable to introduce change because the generic solutions on offer do not fit the culture or practices their colleagues are engaged with or because the structural changes which would be necessary are controlled by others who were not present. The models of human resource development, and values, these initiatives bring with them are derived from industry, even though they may have been adapted to university contexts. I believe they are having a limited impact and have low status and credibility amongst academics even where they are well funded and supported from the top and even when they are well run.

RESISTANT CULTURE

Most current staff development strategies are fighting the existing culture which is research-oriented or at least scholarship-oriented and is fiercely discipline- and department-based. The dominance of the research culture was identified by 'Learning from Audit' which reported little progress in efforts to promote excellent teachers in old universities and a move in the opposite direction - towards even more emphasis on research - in new universities. A survey (Gibbs, 1995) of all 145 higher education institutions in the UK showed that while almost all included teaching excellence amongst criteria for promotion, only one in

ten of promotions were for excellence in teaching and that in four in ten institutions no-one had been promoted primarily for being an excellent teacher. New universities and colleges were no better than old universities. There are exceptions: for example an 'Educational Development Symposium' run by the Oxford Centre for Staff Development pooled a variety of interesting and worthwhile initiatives in this area from 16 different institutions. However in general, peer esteem, status, rank, salary, opportunities, perks, workload - all are dependent on achievements in research. Efforts to improve the status of teaching through rewards are fighting traditional definitions of what a lecturers' role is.

Appraisal, tougher course review procedures and more rigorous student feedback on teaching, and even weak forms of total quality management in some institutions, have, I believe, barely dented the culture and its priorities in most parts of most institutions despite enormously increased staff development. In its attempts to break down traditional academic culture strategic human resource management is fighting a losing battle. The impact of the Research Assessment exercise on the behaviour and priorities of lectures in the new Universities has overpowered other levers for change with contemptuous ease. If only staff development could reorient lecturers so easily!

A recent international survey (Wright, 1995) showed that academics everywhere have almost no confidence in the ability of the quality assurance mechanisms being introduced to improve teaching. What they do rate is promotion for excellence in teaching and explicit statements from management that they value teaching.

In the US the level of competition for the rewards which go with research achievements (and the consequences of failure - a lifetime of heavy teaching duties with no tenure or security for a low salary in a low-status teaching-only institution with less able students) has distorted the whole of higher education to a devastating extent. If you can't get published you set up your own journal and new journals have proliferated to an astonishing extent. Of all American journal articles 85% are never cited so it is not as if this productivity was worthwhile. Neither does the significance of research seem to matter. For example in the field of Psychology the journal which has most impact on America is *'Psychology Today'* but this is excluded from lists of journals which can be counted for promotion because it is not academic enough. And so students and the quality of courses suffer because lecturers spend all their time and imaginative energies producing dozens of worthless articles a year which no-one reads. The allocation of duties for a member of academic staff involve such concepts as 'hours of release from teaching' but you never hear anyone seeking hours of release from research. It is hard to see 'Investors in People' having much impact on this kind of situation without parallel changes in the way things are funded, valued and rewarded.

States in the US which fund public Universities have called 'Enough!'. The State of Maryland has now introduced legislation to control lecturers' workloads and has imposed minimum classroom hours approaching those of school teachers. But even in Maryland you can spend 75% of your time teaching and still have your teaching achievements entirely ignored in tenure and promotion decisions despite explicit policy to the contrary.

In a parallel public and political reaction in the UK there are now two external quality assurance measures (Quality Assessment of teaching and Quality Audit) which have been imposed on Universities, at colossal cost, for much the same reason - a mistrust of the willingness of academics to pay proper attention to their teaching. Most Universities are responding to these pressures in instrumental, 'once-every-four-years' ways unconnected with the underlying roles and responsibilities of lecturers. The most common attitude is 'how am I going to fit in all this quality stuff when I have my research to do?' Research and teaching appear to be in direct conflict and I believe the processes academics already use to produce good quality research are in direct conflict with the processes management are currently introducing to produce quality in teaching and especially in conflict with industrial staff development.

SCHOLARLY STAFF DEVELOPMENT PROCESSES

For quality in research:	For quality in teaching:
Training in the scholarship of research	*Training in the scholarship of teaching*
Selecting and appointing excellent researchers	*Selecting and appointing excellent teachers*
Peer review of research proposals	*Peer review of course proposals*
Funding for research projects	*Funding for teaching projects*
Good research support facilities	*Good teaching support facilities*
Having and reading the literature	*Having and reading the literature*
Co-operative research in teams	*Co-operative teaching in teams*
Presenting accounts of research in progress	*Presenting accounts of teaching in progress*
Peer review of publications	*Peer review of teaching*
Reward, recognition and promotion for excellence in research	*Reward, recognition and promotion for excellence in teaching*

REDEFINING SCHOLARSHIP

A breakthrough in addressing this impasse came with the publication of Boyer's *Scholarship Reconsidered: priorities for the professorate* (1990) for the Carnegie Foundation. He redefined the role of academics by analysing the nature of scholarship and, significantly, defined the scholarship of teaching in a way which resonated with underlying academic values. The Department of Education in Washington has funded a series of large scale national initiatives, through the American Association of Higher Education (AAHE), to support Universities in redefining their functions, redefining the roles of academics and restructuring reward mechanisms in line with these new definitions. They have targeted not personnel departments, or lecturers, or instructional development units, but senior management. The third national conference on 'Faculty Roles and Rewards' at Phoenix in January 1995 was populated by over 800 University Presidents, Provosts and Deans. Only 5% of the participants were from personnel or 'instructional development' units and 'staff development' is perceived as a side-show. The AAHE have funded and provided support to institutions who are prepared to rethink the way their Departments redefine academic roles, allocate duties, review quality and reward excellence - because it is the academic Department which is the key organisational unit of the University. In a parallel national programme the AAHE has supported the development of the new concept of the scholarship of teaching: piloting ways of using research-based processes to improve teaching which fit the culture rather than training-

based or management-based approaches which do not.

The University of Nebraska provides an example of the kinds of outcome produced by this new approach, and 40 out of 50 Departments there are now involved. The initiatives are coming from within Departments not from the top. Typically a Department will each year specify a 'balance of priorities' for each lecturer - starting with an assumption of 45% teaching, 45% research and 10% 'service' (roughly corresponding to consultancy to the community). Each lecturer will negotiate an individual balance of priorities depending on the extent of external grants, consultancy commitments, teaching demands, stage of career and so on. There is then an annual, developmental, peer review, undertaken within research teams or course teams, not undertaken by line managers, with rating scales for each of the three areas. A spreadsheet is used to weight the ratings according to the negotiated balance of priorities. Eventually a summary of these peer reviews contributes to tenure, promotion and merit pay decisions. This ensures that overall judgments are based on what lecturers actually do rather than only on research, and on genuine peer review.

Typically the development of the co-operative peer review procedures and growing sophistication of awareness and definitions of good teaching, criteria and judgment has been vital to making such systems work. Even where there are clear institutional missions which could guide definitions of roles and rewards these are being redefined at the department level. National discipline bodies have worked, again funded by Washington, to take Boyer's definitions of scholarship and redefine them so that they fit each discipline properly. The crucial feature here is fitting within values systems based in the disciplines academics feel allegiance to.

In contrast to the impact of these new initiatives, generalised cross-institution frameworks, such as the use of quantitative student feedback data for tenure, merit pay and promotion, have been in place in the USA for many years with little evidence of improvements in the quality of outcomes and little impact on priorities or perceptions of role. 42% of institutions in the UK now use standardised student feedback questionnaires (Gibbs, ibid) and many more are considering introducing them (Gibbs, 1995). Unless they think that the long learning cycle the US has experienced is inevitable before they move on to something more effective they should think again. The new processes engage lecturers in paying attention to what and how they are teaching. They use mechanisms like peer review and research into teaching, mechanisms which are integral to the research culture.

POSTURE DEVELOPMENT

What American universities are trying to do is use the strong and productive autonomous research culture to develop teaching, rather than to range cultures or processes against each other in competition, using control for leverage. Harvard and Princeton are amongst the leaders in this process: the research elite are harnessing what they are good at to improve what they have not been so good at. The table below summarises the way well established processes for fostering the quality of research, listed on the left, can be applied to improving the quality of teaching, listed on the right.

The general principles of this process include:

- going with the culture and values to achieve new goals, not against them;
- building on the existing organisational units and patterns of interaction rather than cutting across these or centralising;
- building on skills and processes people can already use well rather than expecting sophisticated use of unfamiliar new methods;
- negotiating and publishing explicit statements of mission, definitions of role and reward mechanisms and making sure these are derived from the existing culture, and are coherent and mutually supportive;
- addressing every stage of the quality process, just as with research, not just one or two.

Few of the personnel-based staff development initiatives in higher education in the UK embody any of these features. We need to examine what each of the methods on the right hand side of the table involve. Too few of our current efforts are genuinely collaborative, discipline-specific and scholarly. At a conference at the end of 1994 on 'Training and Using Graduate Teaching Assistants' Jody Nyquist from the University of Washington, describing the development of GTA training in the USA, said that whatever form of initial training we adopted in the UK it had to be intellectually engaging if it was going to compete with GTAs' research interests. This must be even more true for more experienced lecturers. Let's make that our motto: staff development should be intellectually engaging.

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Remembering Students' Names

How do you remember your students' names? Last term we asked for suggestions. Here are a few ideas.

Helen Pennington, of Massey University in New Zealand, writes:

> "I use this method with my third-year class, which has about 35 students. At the first lecture of the year, I have a class photograph taken by the university's photographic unit, and order two black/white 8 x 10 prints. On both I attach a small plain sticker next to each student's head. At the next class, each student prints his or her name on the appropriate sticker on one reprint, and I later copy the names onto the other print. One print goes on the students' course noticeboard. I keep the other, to take to seminars and refer to as necessary on other occasions."

Several other people have mentioned using class photos.

One lecturer, who wishes to remain anonymous, asks all students to provide a small photo (eg. from a booth) when registering for the course. These are stuck on sheets with names beneath, about 20 to a page, and then the result is photocopied so that all students can have a copy as well.

Members of the Editorial Board discussed the issue briefly too. Hazel Fullerton says that in small classes, she draws a horseshoe on the board, and gets each student to fill in a name. Others use a seating plan and name cards - this only works when students cooperate! Any other ideas?

Team Building 1: Lego for Leaders

Peter Marshall and Mike Huxley explain how apparently trivial and amusing exercises - like building a bridge with Lego or trying to cross an "electrified fence and minefield" with three long poles - have helped their students understand the principles of leadership and illuminated the essentials of working in teams. This is the first of two articles in which the authors discuss the Surrey experience in making engineering courses broader and more relevant, but the ideas here may appeal to teachers in a wide variety of subjects.

Successful engineering students need a sound grasp of the mathematical and scientific principles of their subject. That is undeniable. Without their specialist technical knowledge graduates will be incapable of making the immediate contribution expected by first employers. But to conceive of engineers, however technically competent, working in isolation is to misunderstand the nature of the profession. Modern engineering problems are solved by groups rather than individuals and the groups are frequently interdisciplinary. Teamwork, marketing and business skills are as essential to a successful engineering organisations as technical excellence.

In this article and the next (in Spring 1996), we describe an approach to broadening the curriculum which has proved successful even though relatively expensive in terms of staff time. The courses have run in various guises in the Faculty of Engineering at the University of Surrey for about 15 years.

Virtually all engineering undergraduates at Surrey experience a two-day intensive course in Leadership and Teamwork, during either their first or second year. The purposes are to heighten awareness, to change attitudes and particularly to improve team and leadership performance. The course draws heavily on the work of John Adair, thought to be the world's first Professor of Leadership Studies (at Surrey) and follows in part the patterns adopted by the Industrial Society.

Typically, the programme comprises a classroom day followed by an outdoor day, the latter split between the campus and the surrounding countryside. Students work in teams of up to eight, deliberately randomised to split up friendship, gender and ethnic groups; each team has its own tutor.

THEORY AND PRACTICE

The first day mixes theory with practical activity, usually desktop exercises.

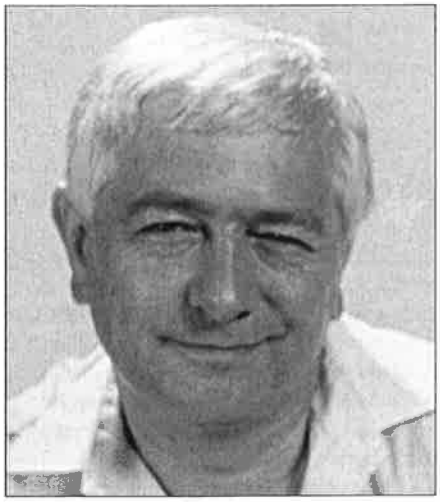
Students review, interactively, the drawbacks of the standard approaches to leadership: "leaders are born and not made" (the *qualities* approach) and "the expert should be the leader" (the *knowledge-based* approach). They concede, relatively quickly, that an alternative angle is needed since neither approach provides a framework for improving leadership skills. At this point tutors introduce *functional* or *action-centred* leadership which, by highlighting what good leaders actually *do*, immediately overcomes the objection. While a student cannot immediately rectify a perceived lack of a desirable quality (e.g. a sense of humour) or rapidly gain technical expertise, a change of behaviour is more readily accomplished. From their inception, the courses have been based around the well-known three circles model of functional leadership, popularised by Adair (1983): see Figure 1.

The aim of these courses is to operate principally in the affective domain rather than the cognitive: at this stage of leadership development, changes of attitude and behaviour are seen as much more important than in-depth knowledge of the literature. On the other hand, without any reference to previous work the courses would be valueless. Consequently during the first day there are short planned inputs on the *hierarchy of needs* (Maslow,1954), *motivators and hygiene factors* (Herzberg,1966), choosing an *appropriate leadership style* (Tannenbaum and Schmidt, 1973), *successful teams* (Belbin, 1981) and impromptu references to other works.

THE LEGO EXPERIENCE

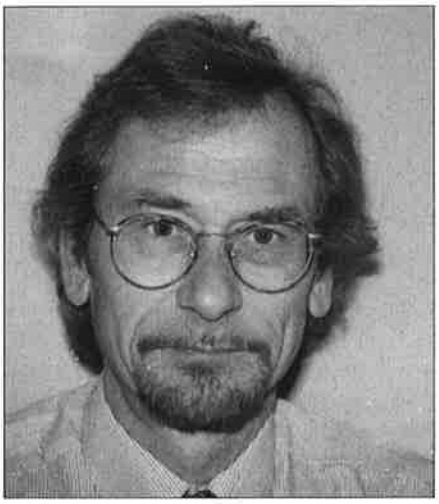
The first day desktop exercises involve jigsaws, Scrabble tiles and Lego bricks. Students rotate between three roles: leader, team member and the least popular but most informative, the observer. Exercises typically involve a team of five in a planning phase and an execution phase and will be familiar to many readers as the stock-in-trade of leadership trainers everywhere. These tasks stress planning and delegation, not skill or expertise, and have been used for groups as diverse as Bishops, Vice Chancellors and Engineering Professors.

For the uninitiated, the Lego exercise requires the leader and team to plan the construction of a bridge between two



Mike Huxley

Most graduates need to be able to work in teams the moment they start their first job. This is true in almost any subject they may have studied at university. The authors focus on engineering students, but many of the issues raised here are likely to be of importance in many other subject areas. Engineers need team-working and leadership skills: so do chemists, psychologists, historians, archaeologists, lawyers, social workers, computer programmers...



Peter Marshall

tables and poses an optimisation problem. Profit is maximised by building a long bridge with few bricks in the minimum possible time.

Always tackled with enthusiasm, but rarely with expertise, the Lego exercise and the other desktop activities immediately highlight shortcomings in leadership such as inadequate briefing, poor planning, lack of involvement of team members, poor communication, excessive 'hands-on' behaviour of the leader and so forth. These problems are the focus of the post-exercise debriefs, which are an essential feature if there is to be any learning. Debriefs must be handled sensitively: heated exchanges, aggression and negative criticism throw the unfortunate leader onto the defensive and result in no lesson being learnt. It is crucial that the tutor and observers ensure a calm, objective and positive approach so that criticism is accepted and future behaviour modified.

MORE PRACTICE

Teams remain unchanged for the second day of the course, which is conducted almost exclusively out-of-doors. Part of the day is occupied by short exercises, some using simple equipment to cross physical obstacles (e.g. an "electrified fence and minefield"), others of a more complex nature. They combine the cerebral with the practical and each is thoroughly debriefed.

The course ends with a long outdoor exercise, taking teams into unfamiliar territory in the countryside for four to five hours and posing a succession of mental and physical challenges. Where they judge it to be of educational value, tutors have allowed poorly-led teams to struggle for up to eight hours.

The long exercises emphasise the individual and team maintenance parts of the three circles model which tend to be neglected during the task-dominated shorter exercises. Dealing with dispirited team members, tiredness, unfitness and the weather for a long period demands significantly more leadership and draws out lessons that would not emerge during a half-hour task.

Record times for the completion of the long exercises are publicised in order to stimulate competition. A good learning point is the noticeable change of mood in a team once it becomes clear that they will fail to break a record.

ASSESSMENT

Practice on assessment varies throughout the Faculty. A general observation is that any attempt to grade individuals on their oral contributions or on their leadership performance (or improvement in performance) is counter-productive. Students who feel that they may lose marks by not conforming to the "party line" are liable to repress what otherwise could be valuable, sometimes controversial, contributions. Our practice is to award marks for attendance alone or not to assess the course at all. In one department, Civil Engineering, some follow-up work is set which requires students to demonstrate a knowledge of the relevant literature; this allows a measure of discriminating assessment.

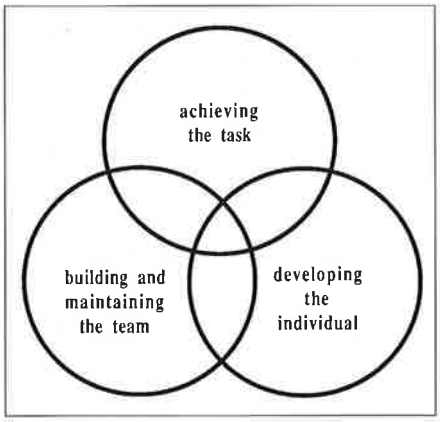


Fig 1. Adair's model of functional leadership.

FOLLOW-UP

The two-day course can be considered as a self-contained and discrete module or a prerequisite for more advanced leadership and teamwork activities. In the Department of Chemical and Process Engineering, many students take the opportunity of attending a further course at a field centre in South Wales, raising most of the cost themselves. Electronic Engineering students have followed a second course which includes Orienteering, a long exercise in London where delegation features strongly, and finally a series of physically demanding commando tasks as guests of the British Army. Several students from the Department of Civil Engineering have continued the leadership and teamwork theme by undertaking final year projects on the effectiveness of real working teams.

ATTITUDES AND STAFFING

Many students arrive for the course with the expectation that they will waste two days; others have heard details from senior students and are more positive. Feedback is always sought at the end of the course; Figure 2 shows evaluations by students at a recent course and is typical. Very few students leave disappointed, many rating leadership as the most rewarding single aspect of their university year.

The attitudes to leadership courses amongst faculty staff tend to be strongly polarised. Arguments from those opposed to the courses include the expense in staff time and apparent triviality.

Small group teaching of this type is certainly expensive in staff time (16 tutor-hours to take each group of eight students through a two-day course). To an extent we

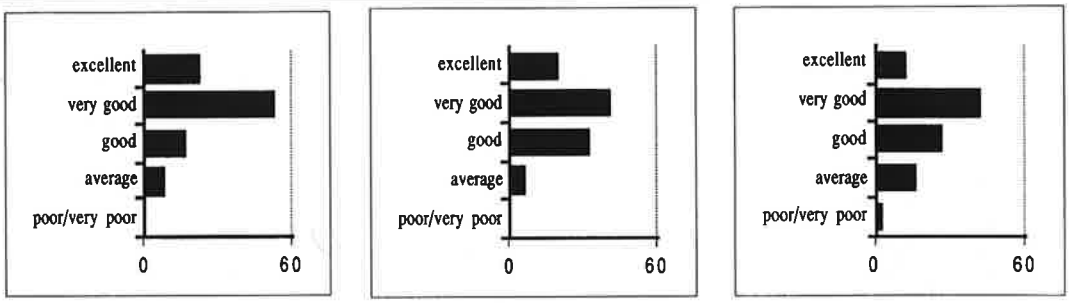


Fig 2. Typical Students Evaluations.

have mitigated demands on academics through staff development courses which train research, administrative, secretarial and technical staff to act as group tutors. This introduces a broader range of experience, with the positive spin-off of breaking down traditional barriers within departments.

The triviality allegation may stem from casual observation of teams of students on campus who are clearly enjoying themselves while messing about with planks and barrels - the public face of the second day's activities.

The private face is the serious and significant learning that occurs during each debrief. Indeed some of our most committed tutors are staff who previously regarded the courses as frivolous, but accepted the challenge of participating once before dismissing leadership out of hand.

ARE LEADERSHIP COURSES A LUXURY?

As we have noted, these courses are relatively expensive in staff time and their suitability as part of an engineering degree course is doubted by many colleagues. Does the fact that the topic is non-technical place it outside the remit of an engineering department, particularly in the present climate of over-full engineering curricula and over-loaded staff? Can we afford to run them?

Skills in short supply % of organisations mentioning

Business awareness	66.7
Communication skills	63.8
Leadership	**32.5**
Ability to work in a team	**32.5**
Problem solving	**31.7**
Conceptual ability	21.0
Knowledge, competence in discipline	19.3
Foreign languages	19.3
Numeracy	18.9
Good general education	14.8
Other skills	10.3
Computer literacy	6.2

Source: Association of Graduate Recruiters, Summer Survey 1994

Figure 3: Skills in short supply

In 1994, the Association of Graduate Recruiters surveyed employers, asking what skills they sought from graduates and how far they felt they were still in short supply. The list in Figure 3 shows that one third of organisations mention leadership, ability to work in a team and problem solving as skills they needed but could not find amongst graduates, refuting the allegation that non-technical topics are alien to engineering courses - or indeed, other subjects.

The pertinent question surely is not "Can we afford to run leadership and teamwork courses?" but "Can any university afford not to run such courses?" We owe it to our students.

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COMMENT

HAPPY FACES, SHINY PAGES
A comment on undergraduate prospectuses

Nowadays, image is the thing, especially in higher education. And what have we here but a smiling pile of prospectuses, shiny-paged between seductive astralux covers?

Ah, but the covers! - where the hills dance, the rivers wink and the buildings say "come hither". Here there are student faces: young, happy and beaming Moonie-like from Freshers' ball to put on the mortarboard.

Inside a pin-strip appears. It is the V-C. It speaks of the lovely city, the magnificent site and the beautiful buildings. And inexorably of the sense of community, the world-wide reputation and the employers hungry for our product.

Flip on through the gleaming pages: more young, happy faces, more hills a-dancing, and computers a-tiptoe. In the sporting shots, the girls play football and the boys practise ballet. The black lecturer (if there is one) pops up on every other page.

Travel abroad? It goes with our courses (just to keep you smiling). Of course we think, as you do, that money is the measure of all things. In that respect, we set you up for life. Just look at our record: 41 former students became bank governors and 15 are part-time directors of privatised industries. "On my first day at work," reports a recent graduate, "I was handed the keys to a brand new car, a cheque for ú100 and a petrol credit card." No wonder they smile.

But what of the potential students who are interested in books and ideas? Why no appeal to them? And what about the older person? Why, too, the boring uniformity of projection?

An image is neither reality nor outright deception. It is aspiration. So why not aspire to learning, morality, public service, truth and a recognition that a person does not live by smiles alone? The current image is trivial and unintelligent. Why should universities wish to appear in that light?

W.R. Meyer,
Fulwell, Sunderland.

BOOKS

SI - LEARNING BY TEACHING

Helping Students to Learn from Each Other

Chris Rust and Jenni Wallace (eds.)

SEDA Paper 86, 1994, £12.00.

Eight chapters of this book give the background to Supplemental Instruction (SI), accounts of the developing experience in its use and insights into its strengths and weaknesses. Additionally there are case studies from eight HE institutions involving several disciplines. These are particularly illuminating on implementation strategies.

SI uses trained second-year student volunteers (Leaders) to help first-year students cope with courses deemed 'difficult' because of heavy workload or some other reason. Leaders and students meet regularly to solve study problems and to find better ways of working. The emphasis is firmly off teaching subject content and giving answers. The scheme isn't remedial; it aims to improve understanding, critical thinking and student success. SI Leaders give student feedback to lecturers, so course design and delivery should also improve.

The book's contributors rate the SI experience overall a success, but are honest about its weaknesses. Attendance at SI sessions by students was often low, some schemes crashed on take-off and sceptical staff and students refused to become involved. More positively, courses improved as lecturers responded to SI Leaders' feedback, Leaders themselves gained self-confidence and new skills from the scheme. SI was sometimes a catalyst for other developments too.

Informal peer teaching has always gone on, of course, and the development of student bulletin boards and computer conferencing has facilitated peer support in much larger numbers nationally and internationally than the form of SI discussed here. Valuable lessons have been learned about implementing this structured form of SI, however, and they make this book an important source for those considering using it. However, further evaluation is needed, particularly qualitative research on outcomes for participating students. A dispassionate appraisal of benefits against resource inputs and of long-term viability without special funding is also needed. For the moment it seems that the main beneficiaries are the Leaders, confirming what most lecturers know: that the best way to learn is to teach.

Paul Trowler,
University of Central Lancashire.

A FLEXIBLE FRIEND?

Flexible Learning in HE

Winnie Wade, Keith Hodgkinson, Alison Smith and John Arfield (eds)

Kogan Page, 1994, £16.95.

The fourteen papers comprising this collection mainly report the early outcomes of Loughborough University's *Flexible Learning Initiative* (FLI). However, the acknowledgement that 'flexible learning' is a concept that 'can have different meanings to different individuals' (p. 12) reflects the problems of trying to cover such a diverse field in a volume of modest length. In places, a stronger editorial steer might have resulted in synergistic affinities between papers being developed.

The first section, '*Broad Issues*' covers such crucial topics as the role played by IT in flexible learning; some of the implications for library service provision (likely to be greater than recognised here); issues of course design and management; and matters of student learning needs and workload support. All six papers reflect realistic approaches to promoting greater flexibility in learning organisation and cultures.

Seven case-study papers constitute the section '*Flexible Learning in Action*'. Undergraduate developments projects in geography, education, literature, design technology and engineering, and mathematics are complemented by a post-graduate development in management studies. Most seek to identify outcomes that might have wider applicability, but accounts do vary in length and detail.

The final section is a single paper on the student view, based on interviews of students affected by FLI projects. It documents a general approval of the projects, but points to a wariness about the extent to which present-day students can deal effectively and efficiently with a more comprehensive coverage of learning programmes by flexible learning strategies. These findings deserve wider attention in the face of interest in strategies to promote self-paced learning through the deployment of a widening range of educative technologies.

John Dolan,
University of Derby

DO-IT-YOURSELF

Assess Your Own Teaching Quality

Sally Brown and Phil Race

Kogan Page, 1995, £16.95

It is always reassuring to know that authors' recommendations are tried and tested: even more so to know that they have been designed and used by the authors, which is the case with *Assess Your Own Teaching Quality*, billed as a 'self appraisal device to use in our own teaching as well as for colleagues to use in theirs'.

The refreshing honesty of the opening pages encouraged me to follow the suggestions and try out the device. To gain a snapshot of my own teaching quality, I selected a performance grid on designing and using resources to test out how I was doing. I could quickly see that I had some areas where I needed to develop my skills. Captivated, I continued.

Peer assessment is an interest of mine, so I looked at the grids on organising learners to do peer assessment and on organising learners in peer assessment. Scanning my responses, I noted that there were some gaps and applied myself to the action planning section of the grid.

My next stopping-off point was the section on personal and professional qualities and skills.

It made me think so much about the issues that I found myself returning to it time and time again to consider where I really was in terms of the criteria outlined. It helped me to contemplate my future personal and professional development. I haven't worked out an agenda yet, but the very act of undertaking the task has made me consider my development needs in some depth.

The book has, then, been useful to me. The 50 performance indicator grids are easy to use and are likely to provide instant feedback about strengths and shortcomings in teaching quality. The criteria in the lists are thought-provoking and could readily be used as statements with which to initiate discussion with colleagues.

Sandra Griffiths,
University of Ulster.

DEVELOPMENTS IN STAFF DEVELOPMENT

Directions in Staff Development

Angela Brew (ed)

Open University Press/SRHE, 1995, £16.99.

Until recently, UK universities have had a somewhat mixed reputation for developing academic staff in their role as teachers. However, staff development is now beginning to be seen as an important contributory factor not only in the improvement of teaching and learning but also in strategic planning. This book is intended as a

NOTICE TO PUBLISHERS

Please send books for review to our new books editor: Ms Lesley MacDonald, Staff Development and Training Advisor, University of Durham, Old Shire Hall, Durham DH1 3HP.

resource for managers responsible for staff development and for policy and strategy development.

It is in three parts. Part I looks at a range of approaches to and methods in educational development. This section examines some fundamental issues in our present understanding of how students approach learning and how such understanding can be exploited.

Part II is concerned with staff development for roles and responsibilities that are not directly connected with teaching and learning, examining programmes for senior academic managers and administrators, for secretaries and technicians. Part III looks at universities as learning organisations, with a special emphasis on organisational arrangements for staff development.

The book draws on material from outside the UK, notably from Australia. It is an important snapshot of a rapidly changing scene.

Bob Farmer,
University of Central England.

STORY TIME

Change from the Top in Universities and Colleges: Ten Personal Accounts

Susan Weil (ed)
Kogan Page, £16.95

Those looking for deep reflection and scholarship in this book should focus on the two pieces by the editor and on the very useful appendix by Rhodri Phillips.

You may be interested in the publisher's description, annotated by my comments in italics:

> Unprecedented developments are striking at the heart of traditional education *(Yes),* forcing men and women at the top of colleges and universities to revise their approach to the role and initiate significant change *(is it they who are doing this?).* This book offers the personal accounts of ten heads of institutions representing a range of traditions. Their stories *(ah! – that's what they are?)* illustrate how today's leadership needs can be reconciled with the increased demand for managerialism *(but who's demanding this – managers themselves?),* which ideas from the private sector are transferable *(but are they all transferable?)* and which are not, and how individuals have maintained direction and input *(have they?),* established values *(really?),* and fostered talent and new forms of teamwork *(this I must read!).* The stories *(yes)* provide a unique insight into the complexities challenges and paradoxes of effective change management in today's colleges and universities.

Furthermore, the themes covered in depth are proclaimed to include:

- balancing external policies and internal morale *(have they got this balance right?)*
- bringing together professional and managerial cultures *(but aren't the contributors really academics rather than trained managers?)*
- vision, mission and the importance of common values *(or is it choosing the right words – or the right consultants – for drawing up mission statements?)*
- exploiting the 'honeymoon period' *(well, actually I've left my institution to have my honeymoon)*
- when to act a nd when to consult *(many friends and colleagues seem to think neither happens enough)*
- the power of story as an agent of change *(I read this three times but the idea turns out to come from the editor and is every bit as interesting and powerful as her idea of 'four villages' in one of the first books in the Open University Press/SRHE series).*

All in all, I'm glad I commandeered this book for review. I think that while many of the narrative chapters will fade into history, the linking and reflection by the editor will repay study for a long time and constitute a unique and rewarding way to paint a picture of HE.

Phil Race,
Education Consultant

KNIGHT'S MOVE

With his election in July to the Chair of SEDA Publications Committee, Peter Knight resigned as Reviews Editor of **The New Academic**, a job he had done from Volume 2, to avoid a conflict of interest. He looks forward to seeing how his successor copes with the ten refereed books a year that will appear as SEDA Papers.

WELCOME TO LESLEY

We are delighted to announce that Lesley MacDonald has agreed to become our new Reviews Editor. Those wishing to review books should contact her at Durham University.

A VERY PRIVATE AFFAIR

Sexual Exploitation in Higher Education
Pam Carter and Tony Jeffs
Education Now Books, 1995 pbk60 pp £6

At first glance this book seems one of those serious, politically correct studies attempting to police behaviour. Relationships between staff and students in Higher Education are inevitable and understandable, we might argue, because, particularly with the rising maturity of the student population, consenting adults working together could fall in love. The Mills and Boon version of Higher Education romances is not, however, what these researchers discovered using questionnaires, and interviews with staff and students in a large scale survey. What emerges is a disturbing litany of abuse. We recognise enabling relationship elements in Russell's Educating Rita, Audi(1990)'s "professional closeness combined with academic distance". The truth is far from this ideal. Mamet's controversial Oleanna (1993) and Davies' Prin (1989) provoke heated debates about the destructive nature of sexual power-based relationships abusing authority positions. And it is these precise characterstics which emerge so starkly fom the research. We all know colleagues whose long term partnerships have sprung from relationships with students.While the authors acknowledge these outcomes, they have themselves been surprised to find more common the widespread unjust manipulative behaviour which inevitably sours whole staff teams and student cohorts, and it is this which they wish to critique and expose, equating sexual exploitation with fraud, bribery and cheating, all of which carry stiff penalties in academia but probably involve shorter term damage.

"They invariably entail the exploitation of inequities of power linked to either age or gender but usually both". Serial exploiters are exposed as abusers of authority and trust from which both sexually aware and naive women students (female staff/male student and same sex relationships proving to be much rarer) alike suffer. They expose alarmingly overwhelming, blatant and internally tolerated misuses of power, the habitual behaviour of a large number of male academics. Departmental Heads attend residential weekends, tutors give special sessions to female students who are initially grateful for academic debate, flattered, surprised, shocked, and certainly confused by sexual advances they find it difficult often to reject. Teacher's pets receive little support from their student colleagues; staffroom gossip and embaraassment make working relationships unsound; corners are cut academically; evidence of cheating and special pleading are discovered.

Long term exploiters' colleagues turn blind eyes, maintaining working relations. The message which emerging from this sensitively handled book is that staff and student working relationships are very confused by sexual exploitation, much personal harm is done, and it is ALWAYS the female student who ends up leaving the course.

Some universities do have policies, practices and safeguards against such exploitation, although many are ineffectual. Students must be "Protected from staff seeking to abuse the authority and power they inevitably have over students" The final statement, like the rest of the book, avoids a killjoy preaching tone, advocating fostering protected staff/student academic relationships, and rules with teeth for sexual exploiters, "All we ask for is for universities to ensure that the authority they delegate is properly exercised and they recognise that they, like others must engage in an educational process which will help to make sexual harassment and exploitation as unacceptable as plagiarism and bribery ".

Gina Wisker
Anglia polytechnic University

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Quality Assessment Update

Here we summarise important information about assessment of teaching quality in HE institutions in England and Northern Ireland gleaned from recent HEFCE circulars.

The three main purposes of the teaching quality assessment programme are:

1. Value from public investment
   - to ensure education is of approved quality
   - to encourage quick rectification of major shortcomings
   - to use assessment to inform funding

2. Improvement in the quality of education
   - by publication of assessment reports
   - by sharing best practice

3. Public information on the quality of education

How is teaching quality assessed?
Here we summarise the main features from the *Assessors' Handbook:*

- All institutions will be visited for each subject area.
- A self-assessment document to be provided by the subject team before the visit.
- Subject provision will be assessed on a core set of aspects

The aspects of provision

Curriculum design, content and organisation

Teaching, learning and assessment

Student progression and assessment

Student support and guidance

Learning resources

Quality assurance and enhancement

- Each aspect will be graded on a 4 point scale, leading to a "graded profile"

Scale points

1 The aims and/or objectives set by the subject provider are not met; there are major shortcomings that must be rectified

2 This aspect makes an acceptable contribution to the attainment of the stated objectives, but significant improvement could be made. The aims set by the subject provider are broadly met

3 This aspect makes a substantial contribution to the attainment of the stated objectives; however there is scope for improvement. The aims set by the subject provider are met

4 This aspect makes a full contribution to the attainment of the stated objectives. The aims set by the subject provider are met

- If any aspect is assessed at threshold level 1, the subject will be revisited.
- Each subject will be given a single final quality assessment report.

HEFCE has stated that it will "link unsatisfactory provision and the allocation of funding". Funding strategy beyond this threshold level is still "under review".

More recent HEFCE communications suggest they are moving to a single system of academic quality assurance. This system is to include the following main features:

- regular internal reviews of programme providers (formerly known as "subjects") with external peer involvement
- external evaluations
- system wide reports on individual disciplines
- closer coordination with professional and other external accrediting bodies.

THE FORWARD PROGRAMME FOR QUALITY ASSESSMENT UNTIL THE YEAR 2001.

October 1996 to September 1998

Unit

17 Agriculture, Forestry and Agricultural Sciences
18 Food Science
19 Mechanical, Aeronautical and Manufacturing Engineering
20 Civil Engineering
21 Electrical and Electronic Engineering
23 General Engineering
24 Material Technology
27 Building
28 Town and Country Planning and Landscape
33 Land and Propery Management
40 American Studies
49 Middle Eastern and African Studies
50 East and South Asican Studies
53 History of Art, Architecture and Design
57 Communication and Media Studies
59 Drama, Dance and Cinematics

October 1998 to September 2000

Unit

1 Medicine
2 Dentistry
3 Veterinary Medicine
4 Anatomy and Physiology
5 Pharmacology and Pharmacy
6 Molecular Biosciences
7 Organismal Biosciences
8 Nursing
9 Other Studies allied to Medicine
12 Physics and Astronomy
13 Psychology
29 Mathematics, Statistics and Operational Research
58 Art and Design

October 2000 to December 2001

Unit

25 Hospitality, Leisure, Recreation, Sport and Tourism
31 Librarianship and Information Management
32 Business and Management
34 Economics
38 Politics
43 Classics and Ancient History
51 Celtic Studies
54 Archaeology
55 Philosophy
56 Theology and Religious Studies
61 Education

This information is based on material provided by Ivan Moore, Chair of the Editorial Board and Assistant Director of the Educational Development Unit at the University of Ulster.

Save Our Students

In 1990, the Government

- introduced student loans
- froze the student grant
- stopped students claiming unemployment benefit
- stopped students claiming income support
- stopped students claiming housing benefit

In the year 1992-93, drop-outs for non-academic reasons jumped by 30%.

25,000 students withdrew from university for reasons other than exam failure.

The Committee of Vice-Chancellors and Principals, the Association of University Teachers and the National Union of Students all agree on one thing: financial hardship is a major cause of this tragic waste.

- Frozen grants mean poverty
- Student loans mean long-term debt
- Poverty and debt lead to failure

Join our campaign to help students regain their ability to study. Take part in a national debate.
Let us know how you think we can Save Our Students.

Write or fax to: The Editor, *The New Academic*, St. Yse, Trethevy, Tintagel, Cornwall, PL34 OBE. fax 01840-770518