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ANTS, SMALL MAMMALS AND ENTHUSIASTIC STUDENTS

I first became aware of the full impact of 'non-lecture' teaching when I met eight bleary eyed students on a June morning in 1989. Their somewhat bedraggled appearance was not the result of riotous living but the fault of rampaging enthusiasm.

One group of undergraduates had been taking hourly readings at their ant trail throughout the day and night. Another group had chosen to study the nocturnal habits of small mammals. That such behaviour was not atypical on the Genetics fieldtrip made me seriously consider the factors which had brought about such fervour and motivation. I am now of the firm opinion that 'ownership and control' are the key factors influencing enthusiastic study and learning.

The field trip students had identified, in groups, their own experimental subject, had designed their own experiments, had tested their own hypotheses and presented their group results to their colleagues. Tutor input had been kept to a minimum at all stages and staff had taken on the role of advising-facilitators rather than lecturers. It didn't matter that, probably, all the experimental results could be found in a good library, what did matter was the nurturing of enquiring scientific minds and the development of good experimental practice. The experience students obtain in analysing their own data and presenting their findings to colleagues is also invaluable.

I now realize that my experience was by no means novel. Many scientists have developed innovative teaching and learning methods which incorporate elements of student ownership and control whilst striving to make the content and process relevant to 'real life' situations. So why keep on re-inventing the wheel? Surely, in many cases, it is more efficient to adapt and customize rather than to start from scratch. With that underlying belief, Ivan Moore and I began collecting examples of exciting science teaching from colleagues who are working in Higher Education.

Kate A. Exley

Pages 11-14 describe some of the innovations in science teaching discovered by Kate Exley and Ivan Moore.

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Administrator:
Jill Brookes,
69 Cotton Lane, Moseley,
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Tel: 021-449 6313
Fax: 021-449 6314

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David Baume and Carole Baume

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EDITORIAL

NUMBERS, PROFESSIONALISM AND QUALITY-BUT NOT FOR FROGS

'I've got 390 assignments to mark and I don't know how I'm going to find the time.'

We are now well into the decade during which student numbers are set to rise by 50%. Staff are feeling the strain.

From one point of view–what's the problem? After all, student/staff ratios have much more than doubled in many public sector institutions over the last two decades. Another 50% in a decade is surely no big deal??

Institutions have only learned how to make incremental changes, how to accommodate a few percent increase in student numbers each year. Work a bit harder; put a few more into the lecture theatre, one or two more into the seminar group, the laboratory; stay up a little later marking.

And we could probably go on doing it. But, in Charles Handy's horribly graphic illustration [1], the frog which learns to accommodate incremental increases in water temperature 'will in the end let itself be boiled alive, too comfortable with continuity to realise that continuous change at some time becomes discontinuous and demands a change in behaviour.'

But we are not frogs, and we are far from comfortable with continuity of increase in our particular temperature, namely student/staff ratio. We do not particularly wish to discover the temperature at which we will die. What changes in behaviour–of lecturers and of institutions–will help us and our students thrive on the coming increases in temperature?

The (new) lecturer with 390 assignments to mark felt a personal sense of failure that she couldn't see how to meet the demands being made on her. She was at the sharp end of a course and/or an institutional failure. Of course she can't sensibly, within her contracted hours , mark 390 assignments. And she can't solve this problem on her own:

- her course needs to change its assessment system.
- her school or department needs to rethink what assessment is for in her subject area, what criteria it will apply to the validation of proposed new assessment systems, and what guidance it will give to courses in the subject as they redesign their assessments.
- her institution needs to encourage her and her colleagues to say 'this is ridiculous', and then to provide them with the confidence and the resources to encourage individuals, courses, departments and schools to experiment, to devise new approaches to, in this case, assessment.
- and her new profession–teaching–needs to provide her with the practical tools and theoretical understandings to do her job, for more and more students, in 1993, 4, 5 ...

Only this way may quality be–discovered?

[1] Handy, C. *(1990) The Age of Unreason.* London: Arrow Books.

APOLOGY

Two quotations on page 22 of the first issue of *The New Academic* were incorrectly attributed to Sir Frederick Crawford, Vice-Chancellor of Aston University. The second quotation attributed to Sir Frederick was actually said by David Triesman of NATFHE. The third was by Dr Pat Partington, Director of the CVCP Universities' Staff Development and Training Unit. We apologise to Sir Frederick Crawford, David Triesman and Dr Pat Partington for these errors.

The Summer 1992 edition of *The New Academic* will be edited by Terry Wareham of Lancaster University.
Ideas, comments and articles to Terry c/o SCED.

The Special Supplement in the Summer Issue will be on Developments in Art and Design Education. Ideas and contributions to this supplement to David and Carole Baume via SCED by 1st May 1992.

Professor Lewis Elton has long campaigned and worked to improve the quality of teaching in higher education. Here he uses change theory to argue the need for a Higher Education Development Centre to support staff in further enhancing quality.

QUALITY ENHANCEMENT AND ACADEMIC PROFESSIONALISM

Lewis Elton

We have had Quality Assurance, Accountability, Audit and Assessment. As Pat Partington, Director of the Universities' Staff Development and Training Unit, said at a recent conference, it is time we moved on to another letter: from A to E, from all the Quality A's to Quality Enhancement. This is not a small step. All the A's are concerned with Control - not only of quality, but also of the people who control quality. Enhancement by contrast is concerned with Empowerment, Enthusiasm, Expertise and Excellence, as we shall see.

The present stress on the A's is understandable. The changes that have taken and are taking place in higher education would never have happened, but for the intense and relentless pressures emanating from government over the past ten years.

These pressures have been fierce and often perhaps unfair, and they have created resentment and resistance. Unfortunately, the immediate and normal reaction to such pressures takes two forms:

- Claims to, and a spirited defence of, past excellence
- Reluctant acceptance of the demands of outside pressures.

The first of these reactions, but only within reason, is necessary to make sure that what was genuinely good in the past is not sacrificed unnecessarily to the legitimate demands of the future. The second reaction leads to an appearance of change which hides its lack of reality. How to move on from this second reaction is what I wish to consider in this article.

Universities and polytechnics differ in many ways, both through their histories and for instance in the way that the various A's have affected them. These differences; particularly where they are not associated with differences in their missions; are likely to become progressively less, once the binary line is gone. Hence, when I speak of the future, I shall refer to all as universities - the polytechnics, to become universities in name, have after all been universities for some time in reality.

The use of change theory

Higher education is at present a good way along the 'unfreezing' stage, which Kurt Lewin has characterised as the first stage of successful change of a system [1]. In this stage, the agent of change comes from outside the system, and applies what are proverbially referred to as sticks and carrots. Initially, there must be more sticks, in order to make the present increasingly uncomfortable for those inside the system. However, the balance must shift gradually towards carrots, if those inside the system are to be motivated to move forward and away from their defensive positions. How much positive effect even a small carrot can have has been demonstrated by the success of the Enterprise in Higher Education (EHE) Initiative. What is now needed for higher education as a whole is a somewhat larger carrot and somewhat less stick. The advent of the new Funding Councils could be a psychologically important moment to institute this shift.

The reaction from within the system to such a shift from stick to carrot ought to be to move forward from the current defensive position, where priority is given to satisfying the paymasters that their demands for quality are being met, to one in which those within the system actually want to change, because they believe in the goals that the change implies, ie to move from the A's to the E's. This would take higher education to the second, 'changing' stage of Lewin, defined as [1]

> *developing new beliefs, attitudes, values, and behaviour patterns on the basis of new information obtained and cognitive redefinition.*

(Lewin describes a third stage, in which the changed system is 'refrozen', but it is much too early to think of that.)

Timing and information

There are two difficulties with initiating the second stage. The external agent may believe that the required change has already been achieved, and release the pressure, thereby removing the extrinsic motivation to change. Alternatively, the agent may recognise that the change has not yet been achieved, and may therefore increase the stick at the very moment when the carrot is needed, so as to facilitate a move from extrinsic to intrinsic motivation.

But even if the external agent acts correctly and increases the carrot, those who are the main decision makers within the system are likely to lack the 'new information' which is to lead to 'cognitive redefinition'

and hence to 'new beliefs, attitudes, values and behaviour patterns'. At this point, the external agent has the two tasks: To facilitate the creation and dissemination of this new information; and to support the development of those within the system who are in a position to use this new information to engender constructive change of the system.

The current situation in higher education

Higher education is at present balanced on a knife edge between moving forward successfully into the second of Lewin's stages and regressing into the early parts of the first stage.

The current stress is on the A's, ie on control of quality through internal and partially external audit and through wholly external assessment. Vice-Chancellors, the Academic Audit Unit and HMI may protest that this is an unfair assessment, since they are concerned also with quality enhancement. However, they see such enhancement as coming essentially from improvements within the system, not from radical changes of the system itself. The respective evidence for this is: the stress by CVCP on the identification of current 'best practice', as for instance in the Reynolds reports, and on initial staff training; the terms of reference of the AAU; and the importance attached to classroom observation by HMI. The situation in the polytechnics is in principle more hopeful, since the CNAA-initiated tradition of course review often leads to quite radical change.

A largely untrained profession

But how good can best practice be, even in the polytechnics, if practised by a largely untrained profession; and how relevant can such practice be to the future very different needs in a rapidly expanding system of higher education? Under such conditions so-called enhancement of quality can often mean to do better what perhaps should never have been done in the first place, and almost certainly should not be done in the future.

Academics thus face an additional problem, in comparison with other professions that have to undergo change; as teachers they are an essentially untrained profession, if indeed the term 'profession' can be applied to any untrained group of people. Their expertise is based almost entirely on personal experience, largely unaffected by sharing that experience with others, by evaluating it or having it evaluated, or by learning from what is known through research. Ashby called this phenomenon 'a curious gap in the attitude of the profession to that part of its duty which concerns teaching' [2], and it accounts of course for the extraordinary stability of teaching methods in higher education over many centuries.

Significantly, when the Society for Research into Higher Education (SRHE) ran a conference on 'Education for the Professions' [3], it did not concern itself with the training of the university profession, but only with the training within universities of other professions, although the conference significantly was subtitled "Quis custodiet . . .?"

Outside support

What is needed in order to move forward to Lewin's 'changing' stage is organizational and systemic change, both in individual institutions and in the higher education system as a whole. The change agent for this stage must consist of those people who can provide the conditions for this change, ie who can provide the new information that can engender change and then facilitate the change.

However, such systemic change must start with activities within the still unchanged system, activities which are designed to lead to its change. Hence we can already now look for appropriate indicators that herald future systemic change. These indicators will be very different from indicators for current so-called excellence; they are current indicators for future excellence. Inevitably they are therefore input indicators of resources, recognition and rewards in support of appropriate agents of change. As such, they were for instance included among the indicators of individual teaching excellence in a recent paper [4], since one of the activities of an excellent teacher is to be a change agent. The nature of the systemic change required is still little appreciated by many of those within the system who have decision making positions. The support for the change agents therefore may have initially to come from outside the system, perhaps from the Funding Councils.

Agencies for systemic change

What then are the agencies for change, within which agents of change work? The most obvious and important is staff development and training; not the kind of 'initial' training that is quite rightly provided now in most institutions and that fits staff to the existing system, but training and development designed to change the system and to work within the changed system. Even the well developed and resourced curriculum development units that exist in most of the current polytechnics rarely consider this to be their task, and few universities even have such units. In contrast, the current SCED proposal for the initial accreditation of teachers in higher education [5] specifies not only competences of the kind acquired in the traditional kind of initial training, but goes on to specify competences that are needed for systemic change. Hence the competences required by this accreditation would place the majority of current experienced teachers in higher education into the 'initial' category.

It is clear therefore that the required change cannot be engendered wholly by individual institutions on their own. This is particularly so for two areas which must support the efforts within individual institutions, ie the training of staff trainers and the creation and dissemination of the required knowledge base through research and development in higher education.

What is needed for both, and also for a number of other functions enumerated below, is what I want to call a national Higher Education Development Centre (HEDC). The training of trainers will be its most urgent task. At present, many institutions already have to rely to a large extent on 'buying in' expertise, and the current supply of experienced trainers is rapidly being exhausted, to some extent through the appointment of

such people in the EHE Initiative. However, in the longer run, in this as in all areas of modern society [6], it is an adequate knowledge base that will prove the most important agent for change.

A national Higher Education Development Centre

In putting forward the idea of HEDC, I am not thinking of a large building complex, teeming with people. I am not even thinking of it as being all in one place, although it will need a centre which stimulates and coordinates activities elsewhere and sets an example to others. I see its activities initially as encompassing most of the following [with some indications of where such activities are at present carried out and apologies for omissions]:

- Stimulation of local and regional activities in staff development [Regional consortia, Universities' Staff Development and Training Unit (USDTU)]
- Self-study materials for staff development and for the training of trainers [Open University, Oxford Centre for Staff Development (OCSD), University of Surrey, USDTU, etc]
- Creation of materials to be used by trainers [CNAA, SCED, Staff Development Group of the SRHE (SRHE(SD)), USDTU]
- Courses, conferences and newsletters for staff developers [SCED, SRHE(SD), USDTU]
- Specialist courses and workshops for academic staff at national level [OCSD, USDTU, etc]
- Training and development of top management in higher education [Commercial programmes, Independent consultants, The Staff College (Coombe Lodge), USDTU]
- International networking [Conference of European Rectors, International Seminar on Staff and Educational Development, 'Maidstone' Conference of European staff developers, TEMPUS programmes]
- Recognition of teacher training and accreditation programmes [SCED]
- Research in higher education [as reported in the publications of SRHE and elsewhere]
- Commissioning of R&D in higher education and provision of a knowledge base [CNAA, SRHE(SD)]
- Dissemination of the results of R&D in higher education [CNAA, SRHE, USDTU]
- Staff development of writers and users of self-study materials for students [Open Polytechnic]
- Creation of self-study materials for students [Open Polytechnic, Open University]

Perhaps the most important of current relevant developments - and I may be biassed here - is the USDTU project on 'Effective Learning and Teaching in Higher Education', funded by the Employment Department. This is producing materials for academics - to be used both by individuals and in workshops - which, together with the SCED accreditation scheme, can for the first time provide a basis for cost-effective professional on-the-job training for all academic staff. Further, the way that the materials have been produced by teams of authors from seven universities, five polytechnics, the Employment Department, USDTU and an independent consultant shows how a small unit can have a HEDC function, out of all proportion to its size. The fact that this development was funded from outside, as are the current initiatives to maintain quality at decreasing unit cost which are funded by the present Funding Councils, illustrates the need for such funding at this stage to come from outside the system.

So what about the E's?

At the beginning of this article I referred to the five E's: Enhancement, Empowerment, Enthusiasm, Expertise and Excellence. The first of these, Enhancement, when applied to quality, must be the objective of all in higher education, while Excellence will set standards for all to aim at. Empowerment of all involved in higher education implies that the responsibility for quality enhancement is shared by all, which is the basis of Total Quality Management. Enthusiasm, ranging from commitment to dedication, will be needed in the face of adversity.

But all will come to naught without Expertise. To foster this and extend it across the changing system of higher education will be the task of HEDC. And if all that happens, then higher education will move forward from the present knife edge into Lewin's second stage, ie into a changed system that is truly professional and fit for the 21st century.

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[3] Goodlad, S. (ed.) (1984) *Education for the Professions*. Guildford: SRHE & NFER-NELSON.

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[6] Kennaway, A. (1992) 'Handicaps to British "innovation"', *Nature*, 355, pp.198 - 200.

Lewis Elton is Emeritus Professor of Higher Education, University of Surrey, and a Higher Education Adviser in the Employment Department. The views presented in this article are his own and do not commit the Employment Department.

WHAT DO STUDENTS REALLY THINK THEY HAVE LET THEMSELVES IN FOR?

Geoff Moore and Wendy Stewart-David

One of the problems that we all face as teaching staff is helping new students to understand 'how things are done here'. Many students find it difficult to adjust to the change from school to college/ higher education.. Most adapt sooner or later, but a few leave, go through an uncomfortable first few months, or even fail at the end of the first year because they were unable to 'settle down'.

So how can we help students to know what to expect, so that they settle in more easily?

In an effort to overcome such problems, and to act as an ice-breaker when the students first get together as a cohort, the BA (Hons) Business Studies course at Newcastle Polytechnic has used 'The Expectations Approach' with the past two freshers' groups, with encouraging results.

The Expectations Approach

The Expectations Approach was developed at Durham University Business School as a Management Control System [1]. Management by Objectives, probably the best known of such control systems, was becoming discredited because of its complexity. The Expectations Approach, like all good management ideas, was both simple and flexible. It was tested and used by over 40 organisations, and a software package developed to facilitate the process. The only surprise is that it has not been more widely adopted.

Take two people or groups who interact in some way (it could be a married couple, two managers or, in our case, staff and students).

The first stage is for each individual or group to write down the expectations they hold of the other, on a spectrum from the very specific to the rather vague. For example, students could expect a course leader to give them a timetable and ensure the course maintains a high reputation with employers. (How to meet the expectations is not important at this stage!)

In the second stage, the individual or group lists the expectations they perceive the other to hold of them, again from the specific to the vague.

At the third stage they compare how far the sets of expectations match. The example in the box shows the kind of thing that might happen. You can probably think of parallels in your own situation.

The fourth and final stage is a negotiation between the two parties to sort out their differences and to arrive, hopefully, at an agreed set of expectations of each other. If there are differences, these may need to be passed 'up the hierarchy' to be resolved. Where does Person A get her ad-hoc advice from, if not from B, for example?

The application of this simple technique is obvious, whether to personal relationships or to an organisation with a complex set of interrelationships and several managers. Naturally, expectations, and the complexity of keeping track of everything, increase with the number of participants - hence the software package.

Applying it to students

We have used this approach in Freshers' Week. Almost the first thing we ask the students to do after arriving at the introductory session is to divide into groups of 4 or 5. Having introduced themselves to each other, they write up to ten expectations they hold of the course. This exercise generally takes about 30 minutes. Then, in different groups, they repeat the process, writing down the expectations they perceive us, the staff, to hold of them.

At the same time we, the staff, (or our representatives in the form of Course Leader, Deputy Course Leader, Year Tutor) carry out the reverse exercise; identifying our expectations of the students and what we perceive they expect of us.

Students feed back their lists, immediately or in a separate session, in a plenary. Most groups have similar lists - the number of expectations (actual and perceived) is usually around 15 each. This exercise is useful in another way because students have to 'appoint' a spokesperson, and form the understanding that participation in class is encouraged; a staff

Person A is a recently appointed course leader in an institution of higher education.

Person B is responsible for the examination section of the Faculty Office at the same institution.

Person A expects Person B to:

- provide her with rooms for examinations;
- provide her with ad-hoc information on examination success rates etc.;

and perceives Person B to expect from her:

- information with which to book exam rooms;
- the booking of computer laboratories for exams (these being specialist requirements).

Person B expects Person A to:

- provide him with information with which to book exam rooms;

and perceives Person A to expect from him:

- the booking of computer laboratories for exams;
- the provision of rooms for exams.

Result:

A and B have agreed expectations about the provision of information for and the booking of exam rooms.

A does not get help with ad-hoc information about examination success rates etc.; this is an unreciprocated expectation.

A and B both attempt to book computer laboratories; this is a more serious unreciprocated expectation because it wastes time and resources.

expectation that students often do not reciprocate!

At this point the staff representatives have a bit of work to do in setting out the lists of expectations. One suggested format is shown in the box; it shows clearly where expectations are matched (even if expressed differently), and where expectations are unreciprocated.

Ideally towards the end of the week, the negotiation session is held. In most cases, unreciprocated expectations are simply the result of students not knowing quite what to expect - which is precisely the point of the exercise. The only unreciprocated and unresolved expectation after negotiation that has been encountered so far is students expecting staff to have a sense of humour!

This process is illuminating for the students because it is at this stage that they see the staff's expectations of them. It also affords the opportunity for staff to explain issues like course committees, student representatives, how important the noticeboard is, what to do if a student misses a lecture or seminar and so on.

A final list of agreed expectations can be produced so that staff and students know what they have finally put their names to–see the box again. This can also be circulated to other teaching staff on the course, with an explanatory note.

Perceived benefits

From the experience of the past two years, the perceived benefits are that the process is:

- A good ice-breaking exercise, which gives the students something positive to do rather than just introducing themselves to each other;
- A useful method of getting students used to the idea of working in groups and participating in class;
- A lively way of clarifying 'how things are done here', rather than just giving out a list of Do's and Don'ts.
- A good way of clearing up students' misconceptions, and so helping them to settle in.
- A means of obtaining commitments from the students which enable the smooth running of the course.

Informal feedback from students is that they found the exercise enjoyable, informative and a good way of helping the cohort to become a cohesive group. Finding out what we expect of them was perhaps its main benefit as far as the students was concerned.

One problem has been that students have subsequently admitted that their expectations of the course were based more on what they thought they ought to write down, rather than what they actually wanted to say. This is obviously a problem with freshers, who want to please and are frightened to say anything which may be taken the wrong way. While there is probably no easy way round this (telling them they can be entirely open will probably have the opposite effect!), the process itself should help to break down this barrier.

Overall, we have found the exercise very useful; it is certainly a technique we will be using again.

And it might have applications well beyond student induction!

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[1] Machin, J. and Tai, C. (1979) 'Senior managers aAudit their own communication', *Journal of Enterprise Management*, 2. Pergamon Press.

Geoff Moore is Course Leader, and Wendy Stewart-David is Deputy Course Leader, of the BA (Hons) Business Studies (Sandwich) Course at Newcastle Polytechnic

Jenni Wallace of Kingston's Educational Development Unit is supporting an American peer-learning programme called Supplemental Instruction

STUDENTS HELPING STUDENTS TO LEARN

Students have clear views on how their learning should occur. Both as a teacher and as a staff developer, I was looking for an activity that actually enabled students to be true partners in learning - an activity with maximum value for both student and tutor. I selected an area which would achieve maximum support for both students and tutors who have concerns about the first year experience, and the first year 'drop out' which can occur. They have also been concerned about the teaching of study skills.
A possible response to both these concerns emerged in the American process of Supplemental Instruction.

The first year experience and drop out

In United States Higher Education, a 50% drop out rate is not unusual. In the United Kingdom the figure, though lower than this, is still cause for concern. One cause of early drop out in the first year may be the mismatch between student expectations and perceptions and the reality of first year undergraduate experience. (*Editors' note. What do students really think they have let themselves in for? in this issue presents one way to clarify expectations.*)

Looking to the United States, we found an institution - The University of Missouri at Kansas City (UMKC) - which had, since the mid-1970s, successfully tackled the problem of early drop out using a technique called Supplemental Instruction. Their breakthrough was acknowledging that there is such a thing as a difficult course; typically a course dealing with unfamiliar or abstract concepts, and a course taught predominantly by lectures. In such settings students are often reluctant to ask questions or participate actively. Low marks and drop out often follow.

Study Skills

The other concern at Kingston is that teaching of study skills in the traditional way just does not work. Students often have no idea how to transfer their study skills learning to their courses. Supplemental Instruction integrates mastery of course content with the development of effective learning strategies.

The Supplemental Instruction model

Supplemental Instruction involves second year students (called SI leaders) running sessions for first years. The whole process is voluntary.

The SI leader is introduced as a student of the subject. He or she then models the use of the core concepts of the subject. The leader provides a forum where first year students can gain a mastery of the subject content, in part through developing appropriate study strategies.

As at UMKC, difficult courses rather than students with difficulties are targeted. This approach gives SI a non-remedial focus, and acknowledges that some subjects are harder to learn than some first year students expect. SI is pro-active - it anticipates the learners' needs and makes appropriate provision to meet them - but it also requires the students to take responsibility for identifying their own needs.

How SI operates

- SI is attached to a specific high risk or historically difficult course.
- SI only operates where the tutor requests it.
- SI leaders (second year students) have two days of initial training, and weekly supervision sessions with the SI coordinator.
- SI leaders are facilitators of learning, not teachers.
- SI leaders act as role models to help students master course content.
- SI leaders work on process, not content.
- SI leaders liaise with the course tutors to discuss process. They do not discuss individual students.
- SI sessions are voluntary.
- SI sessions are confidential; only the leader and the co- ordinator know who attends.
- SI promotes a high degree of student interaction and mutual support. This interaction leads to the formation of peer study groups, and facilitates the mainstreaming of minority and disadvantaged groups of learners.

The effectiveness of SI

In the United States, students participating in SI achieve higher grades than non-participating students. In the small Kingston pilot, with eight SI leaders supporting three courses, we have a similar result. This year, following requests from course tutors, 30 SI leaders are now at work. This suggests satisfaction with the process; it will also provide much more evaluation data at the end of this academic year.

An unexpected outcome

The second year SI leaders have also benefited from the scheme; we have seen the development of these students as articulate and self-assured young people. Some of last years receivers of SI are this year acting as very effective SI leaders. Leaders' marks have also increased; SI leadership is a powerful form of revision! SI leaders have also trained other leaders, and talked to academics from other institutions, HMI's and a Government Minister - all good cv material.

Conclusion

We have been discovering more about the potential of students when invited into a true learning partnership. We are seeing group work led by students, the integration of study skills and the transferability of learning. Above all I think we are seeing the beginnings of a more integrated student community.

Further Information

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Jenni Wallace can be reached at EDU, Kingston Polytechnic, Millenium House, 21 Eden Street, Kingston upon Thames, Surrey, KT1 1BL. Telephone 081 549 7410 ext 275

LETTERS

Dear Editor,
I am not sure whether I qualify as a New Academic. However as a lecturer in Engineering I consider myself competent to comment on a section of Graham Gibbs' 'Myths about Assessment'. He says:

Engineering students are customarily submitted to larger curricula and longer teaching hours than other students on the grounds that there are a wide range of things which engineers simply have to know or their bridges will fall down. Every engineering course that I have seen, however, has an assessment system which is incapable of certifying competence. Students take tests which cover a proportion of the course. They choose to answer a proportion of questions and gain their engineering degree for achieving 40% of the marks. It is possible to score 40% without getting a single calculation correct - and bridges do fall down

The implied logic behind this comment is:
• engineering students are over-lectured
• assessment of engineering students does not certify competence
• engineers design bridges
• bridges fall down:
therefore
• engineers are incompetent
• the teaching and assessment methods of engineering students are wrong.
By the same logic one might more correctly reason
• the vast majority of bridges stay up
therefore
• engineers are fully competent
• teaching and assessment of engineering students is good.
While I may be taking Graham Gibbs' ill-chosen example out of context, it is the kind of flawed logic that often leads to excessive and unjustified criticism of traditional methods in education. I do not seek to defend total conservatism in teaching but I would urge that *The New Academic* should not dismiss the best of traditional practices through such false argument.
'Learning from mistakes' and 'discovery of the unknown' have been vital to technical progress since antiquity and are important elements in even the most traditional engineering courses. These concepts cannot be far removed from problem-based learning which is hailed in an advertisement in your magazine as a 'new and radical approach in HE'.
A classic example of the value of failure analysis in engineering is the collapse of the Tacoma Narrows Suspension Bridge (affectionately known as Galloping Gurtie). This subject is often shown as a dramatic engineering failure which demonstrates hitherto unknown effect of wind on suspension bridge decks. It would be unfair to attribute the cause of failure to inadequacy of the teaching, assessment and certification of the engineers who designed and built the bridge. The lessons learned from the incident have enabled suspension bridges to be designed and built to a higher degree of integrity, using knowledge that had not previously existed. Similar experiences are seen in other industries.
It might also be noted that certification of competence of practising engineers is jointly the responsibility of the professional institutions, which in addition to devising their own assessment for Chartered Engineer status, impose particular demands in the validation of Engineering degree courses in HEIs.
Yours faithfully,
Prof A Beevers
Head of Joining Technology Research Centre
School of Engineering
Oxford Polytechnic

Graham Gibbs replies
Perhaps I ought to have anticipated that whatever examples of assessment practices I chose would have been seen as a direct attack on the discipline or profession concerned. I was not attempting to comment on the competence of Engineers, but rather on the ability of a norm-referenced assessment system to certify competence (regardless of the course, discipline or profession). Norm-referenced assessment cannot certify competence, only criterion-referenced assessment can. It may well be that the engineering profession has developed a wide range of effective quality assurance mechanisms but that does not bear on the assessment methods used in undergraduate programmes or on their ability to provide the kinds of information about students' competence which might be more appropriate. What intrigues me is what a qualified engineer is incompetent at if he or she only got a 3rd class degree, and whether this incompetence matters. If it does matter then perhaps it would be useful to know about it. If it doesn't, why are engineering syllabii so large and which bits could safely be dropped? It is clear that a student with a 3rd. has dropped lots of bits of the syllabus. But are they the safe bits? In other areas - for example through the Management Charter Initiative approach to management education, and through the Law Society's approach to competency-based Law education - professions are taking competency and criterion referenced testing seriously. I fail to see why Engineering should be an exception.

Dear David,
.... My congratulations to you and to SCED for producing a 'quality' contribution to the literature to encourage professionalism for the teaching responsibilities of academics.
... It was good to note the emphasis on assessment and I share many of the views expressed by Graham Gibbs. However, I feel that academics may not be receptive to some of his concerns. For example:
i) Are these really 'myths' ie. over-arching ideas held widely by (most) academics?
ii) Item 4 - While I fully understand (and share) his concern about a 40% pass level and implications for competency, professions like engineering and accountancy require more than a degree for professional status (and responsibility). In a future issue, it would be useful to address the myths associated with pass level (to some extent addressed in item 6).
iii) Item 5 - The example of a PhD in Chemistry is somewhat ingenuous. The degree is an indicator of attainment regardless of the starting point of the recipient (or any other qualities).
iv) Item 6 - The reference to 'acknowledged by external examiners' is of interest since I have just finished reading David Warren Piper's PhD thesis *External Examining: Are Professors Professionals?* Part of his conclusion might be of interest:

Only when the professional identity of academics is defined by the job they do, rather than the subject they teach, can we expect a professional training in teaching and examining to become a common place notion.

v) Item 8 - You will known that academics respond (react?) to language. They are not likely to be receptive to rhetoric which uses words such as 'stupidities' and 'stupid' ....
Yours sincerely,
Brad Imrie
City Polytechnic
Hong Kong

In this second issue of *The New Academic*, we look at developments in the teaching of science—from chemistry to enviromental health. The supplement has been edited by Kate Exley of the Training and Staff Development Unit at Nottingham University, formerly a lecturer in genetics, and Ivan Moore, academic staff developer and lecturer in the Department of Electrical Engineering, University of Ulster.

Creativity Applied

Traditionally, the work of science faculties has been to 'push back the frontiers of science'. This has been achieved by research, both theoretical and applied. The work has required the efforts of some of the best minds in the country, and these minds have been prepared for the task at undergraduate level. The task has been to fill these minds with 'the knowledge' - the story so far. The story tellers have been those currently working at the edge. As masters, they passed on their newly found knowledge to their prodigies in the time honoured manner in 'The Lecture'. The expectation was that if the students took in all of this 'knowledge' they would then be able to take it forward, to extend the understanding of the subject, and to become masters in their own time and hence to continue the cycle.

But of course, this new generation of masters needed more than simply an understanding of the current state of knowledge of a particular subject. The development of new scientific theories has often required a radical new approach to current thinking; creativity, innovation and, of course, courage, since many theories were based on theology and culture and to dare to challenge these 'beliefs' was a dangerous activity.

Other skills were also required; the skills of independent learning and an understanding of scientific method as well as knowledge. These skills, tools and personal competences were easy to overlook in the traditional cyclic model of developing and communicating scientific knowledge.

Science researchers are well used to identifying a problem, analysing it and synthesising a solution, or at least a model to explain the phenomenon. Little wonder then, that with the Pure Scientist and the developing breed of Applied and Industrial Scientist, and the associated need to develop many additional personal and professional skills which now form part of their baggage, the Science Departments around the country are coming up with many innovative and exciting developments in the teaching, or should I say in facilitating the learning of their undergraduate students.

Ivan Moore

Chemistry Labs and Transferable Skills

Negotiation

At Nottingham Polytechnic, we ask students at the start of their lab class why they are there. From their rather surprised and negative reaction emerges a list of potential outcomes. These are weighted in negotiation. Students are then very clear on why they are in the lab and what must be done. This is written up into a formal contract which is signed by the tutor and those students who accept the idea. The signing of such a contract means a transfer of ownership of the lab from the tutor to the student.

Assessment

Another part of the contract involves the marking of books as a group exercise. Students and tutor meet at a prearranged time to examine the prepared samples and to exchange and mark books according to the agreed scheme. The process of assessment is therefore open and honest. There is a reluctance for students to cheat on their peers, whereas they may well attempt a certain degree of deception of their tutor.

Cooperation

In another lab class, students are required to meet at the start of each lab class in small groups to inform each other about the experiments they have performed, to look at samples they have made and the results obtained. A check list is provided and each student in turn 'chairs' the group meeting. The object of this is to give students experience of some of the requirements of industry, viz. to work in groups, to help each other and to maintain log books that can be understood by colleagues.

Collaboration

A relatively straightforward lab experiment can become an exciting collaborative project. For example six lab classes are devoted to a single project in which a nickel complex is reacted with amines. The students have the possible outcomes explained to them and they are encouraged to explore the use of different amines and then to investigate the products from the reactions. Students display their experimental results in the lab, sharing their work with each other, and thus developing a team approach to the project. Discussions are held during the sessions and students interpret 'team' results in their individual write-ups.

In all three approaches we are seeking to move away from the independent, somewhat secretive, traditional tutor-led laboratory towards a situation in which the students learn to work together and share responsibility for their own learning.

Bob Murray, Jeff Richards and Ray Wallace

Environmental Health and The Media

David Ruddick and Harold Harvey have adopted a novel approach to teaching final year BSc.(Hons) Environmental Health at the University of Ulster. They believe that many of their students will at some stage be expected to communicate professionally with the mass media.

They have therefore designed a course enabling the students to :-

- Gain experience in handling the Mass Media
- Develop the skills necessary for effective team work and project management.
- Obtain, prioritise and use relevant information

In five three hour sessions, the students, working in small groups, prepare and present five minute Television documentaries on issues relating to environmental health.

In the first session, the students learn how to operate the technical equipment in a TV studio and how to write a short TV script. This includes text, stage direction, lighting effects and camera cuts. The class is then divided into three groups of six, each of which selects an environmental health issue *eg.*

- A complaint to the Council about noisy neighbours
- A court case concerning a cockroach found in a loaf of bread.
- Health and safety in the work place.

The student groups research the legal, scientific and environmental factors which affect their chosen issue in preparation for the second session during which they write their script. The scripts include directions which are to be used by one of the other groups who will act as the technical crew for the production, so clarity of instruction is vital. In this session the staff act as consultants, providing further information and feedback if required. The key skills and competences developed in this phase are those associated with communication and teamwork. Because of the time limit on the presentations, the students also learn to synthesise and summarise relevant information to produce a concise presentation.

During each of the final three sessions one group presents its script, a second group operates the studio equipment and the third group observes. The groups rotate each week and have the opportunity to develop team skills both when performing the acting role and when operating as a technical crew.

By the end of the course each group will have produced a five minute TV documentary on videotape, worked as a technical crew and had the opportunity to discuss their experiences. Each tape is assessed by the staff who award a mark which is divided equally among the students in the group. Additionally, extra marks may be awarded for special contributions by an individual.

The lessons learnt by staff and students have been considerable. Students enjoy the novelty of the course and experiencing the pressure of working to immovable deadlines. Although students are often critical of each other's performances they nevertheless gain confidence from the exercise. An unplanned bonus has been the increased critical ability of the students when judging media presented information and their realisation of professional responsibility.

Kate Exley & Ivan Moore

Enterprise In Rural Business Development

It is never easy to give University students an opportunity to put their academic theory into practice in the real world, and yet potential employers often seek students who have a real insight into the world of business and a comprehensive understanding of how theory may be relevant in practice.

At Nottingham University I have developed a ten week project in the Department of Agriculture and Horticulture which allows final year students in agriculture and food science to be actively involved in the financial and physical planning of a farm business and to convince others that they had a full understanding of the future development of that business.

Outside help was elicited from a farming partnership who agreed to open their farm, their books and their bank accounts to the students who were required to fully appraise the business, see the problems it faced and examine potential changes and developments. The students were encouraged to make extra visits to the farm, to talk with the partners and their families, to develop an understanding of the problems and the needs of the business.

The students were required to prepare a written business plan showing financial changes and present it in a formal interview with the bank managers. A great experience for students, and also a training and learning experience for bankers! The bankers pulled no punches, the students had to show that they had fully dealt with the real world. The presentations, both written and oral, were assessed, and as an added incentive National Westminster Bank kindly donated tankards and rosebowls to the winning group.

Students confirmed that relevant theory could be better understood in the real world. Not because the lecturer said it was crucial but because it applied to 'Peacock Farm' and the Donger Partnership, as they seek to plan for the uncertain future.

The project has proved that rural businesses are keen to be involved with such projects:

- Banks are willing to help and teaching is enhanced.
- Students enjoy the activity in groups, they work extremely hard and surprise themselves at how good a job they can do, they become possessive of their project and strive hard to achieve their full potential.
- Lecturers are stimulated by the keenness of students and feel valued at the frequent and challenging questions they pose.
- Lecturers themselves learn from, and can be encouraged by, the detailed and supportive comments of outside experts and practitioners.

Martin F.Seabrook

CONTRIBUTORS TO THIS SUPPLEMENT

Dr Kate A Exley, Training and Staff Development Unit, University of Nottingham
Dr Peter McGregor and **Dr Francis Gilbert**, Department of Life Science, University of Nottingham
Dr Ivan Moore, Department of Electrical Engineering, University of Ulster
Dr Bob Murray, Dr Jeff Richards and **Dr Ray Wallace**, Department of Chemistry and Physics, University of Nottingham
Dr David Ruddick, Department of Applied Physical Sciences, and **Dr Harold Harvey**, Department of Building, University of Ulster
Dr Martin F Seabrook, Department of Agriculture and Horticulture, University of Nottingham

INQUIRY ON THE RETREAT

Students in the Department of Life Science arrive at Nottingham University not knowing anyone. Our solution to this is to whisk them away on the Retreat, a weekend in October at Dovedale House in the Peak District. The beautiful setting of Ilam near Dovedale provides a spectacular and emotive backdrop for the Inquiry game. The game takes a full day from 9 am to 10 pm and throws people together, giving them the opportunity to develop team skills and their powers of persuasion.

The Inquiry is a simulation of an application for planning permission to develop a new limestone quarry at Parwich in the Peak National Park. The students divide into four groups of about 6-7 and each group takes on a major role in the planning inquiry. One group represents the company making the application, one the Peak Board, one the local District Council, and one a miscellaneous group of local people (Derbyshire Wildlife Trust, the council for the protection of Rural England *etc.*). It is up to each group to obtain enough information during the day, and then to decide how their case should be presented at the inquiry. Each group receives an information pack containing the brief of the Peak Board, the distribution of quarries in the Peak District and the national need for quarry products *etc.*

The day begins with a visit to a working limestone quarry, the Middle Peak Quarry at Wirksworth. The management provide very knowledgeable guides to escort each group round the site and to answer their questions. After lunch in the best pub in England (The Yew Tree at Cauldon !) we drive to Miller's Dale, where the Reserves Officer of the Derbyshire Wildlife Trust (who is very experienced at taking part in planning inquiries) takes us up to a nature reserve overlooking the Dale. The reserve is an old limestone quarry, now a Site of Special Scientific Interest with a large population of orchids. After a lively discussion, we return to Dovedale House by 5pm, via the site of the proposed quarry. The rest of the time until 8 pm groups prepare their cases.

At 8pm the Inspector arrives (a specially imported expert who is either a lawyer, a local councillor or an academic who has experience of the inquiry procedure) and from then on , the whole procedure becomes formalized. Each group presents their case and is cross-examined by the other groups. The outcome of the case depends upon how well this is done. It is certainly true to say that many decisions have been greeted by disbelief by the students: they sometimes tend to assume that in a National Park it will be very difficult for a commercial company to override the case for conservation. Each Inspector's decision is keenly awaited !!

Peter McGregor & Francis Gilbert

At last - a conference on appraisal designed to bring together all concerned: appraisers, appraisees, personnel officers, staff developers and managers at all levels: with the aim of helping to make academic staff appraisal a positive experience for individuals and institutions.

APPRAISAL:

IMPLICATIONS FOR ACADEMIC STAFF DEVELOPMENT IN HIGHER EDUCATION

20 - 22 May 1992

The Hayes Conference Centre, Swanwick, Derbyshire

A SCED National Conference in association with Derbyshire College of Higher Education

The Conference will begin with a keynote address by the Chairs of the CVCP and CDP, David Harrison and John Stoddart. They will consider issues of good practice in appraisal and staff development in the post-binary era, opening up a stimulating discussion which will continue in many different ways throughout the event.

There will be a range of discussion groups, seminars and workshops. These will be 'clustered' around a particular theme and followed by a plenary which aims to draw together the threads from that thematic group of seminars/workshops. In this way we hope to encourage depth as well as breadth of debate and understanding.

Themes and topics will range from the design of appraisal schemes with a developmental focus to maintaining the quality of the appraisal process; from self and peer appraisal to performance indicators for course appraisal; from training staff to appraise their teaching to training managers in classroom observation; from using competences in the training of managers as appraisers to a checklist system for evaluating appraisal interviews; from the industrial experience of performance related pay to using appraisal to stimulate professional development in structured ways. And many many more.

As can be seen from this list, this is a conference for:

- the appraisee - who will find much practical advice in preparing for appraisal and using it to personal advantage, as well as gaining knowledge that could help in influencing institutional policy.
- the appraiser - who will find much about the conduct of appraisal, using it developmentally, and about training needs within a scheme itself.
- staff developers - who need to find out a lot about appraisal, and ways of implementation if they are to offer developmental leadership within a scheme.
- managers - for whom appraisal is a lever in implementing institutional policy and objectives. There will be many ideas and examples for relating appraisal in structured ways to institutional and staff development.

If you would like to offer a discussion/forum/seminar/workshop, or would simply like to come and participate, please contact -

Chris O'Hagan, Conference Organiser, Media Services, Derbyshire College of HE, Kedleston Road, Derby DE3 1GB. TEL: (0332) 47181 FAX: (0332) 294861

Competency with numbers is essential in mosts walks of life. Yet few who find numbers baffling willingly admit to difficulties and seek help. Half way through a three year project, Durham's Numeracy Fellow tells *The New Academic* about the help which has been requested and given.

RAISING THE NUMERACY OF HIGHER EDUCATION STUDENTS

Michael Cornelius, Numeracy Fellow, University of Durham

An article by Ann Tate [1] on the Enterprise in Higher Education Initiative comments:

> *a broader meaning of enterprise was ... adopted by higher education institutions - a meaning which equates enterprise with more broadly based competencies which underpin personal effectiveness in a wide variety of occupational, social and community settings.*

As part of its EHE programme, the University of Durham has established a 'Numeracy Project' with the aim of improving mathematical awareness throughout the university and providing help for students as and when required.

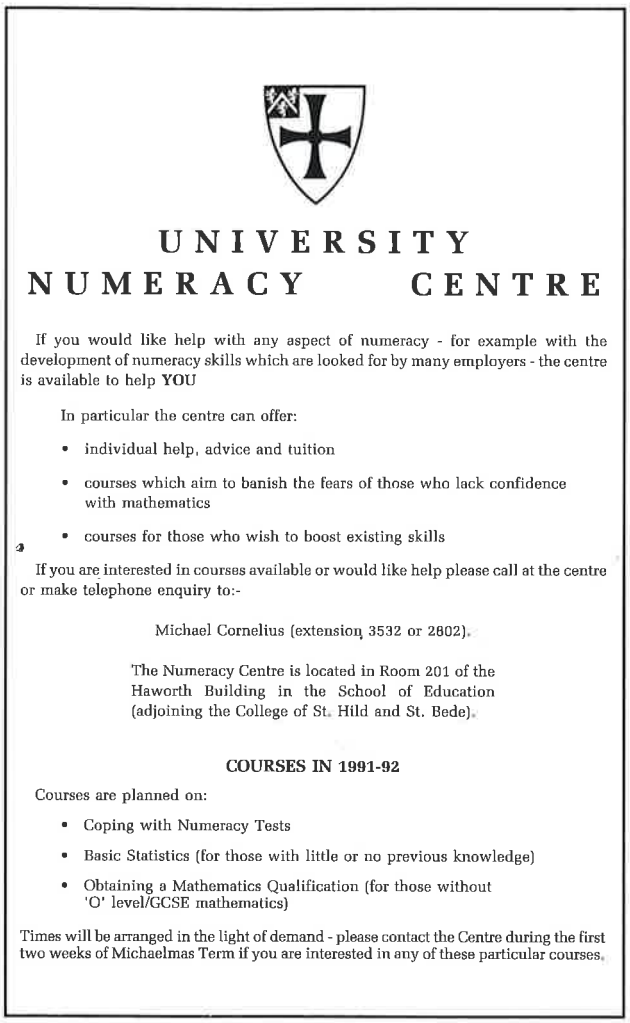
Students were made aware of help available through posters displayed throughout the university and through letters sent to heads of departments and to student representatives. Additionally particular groups have been targeted from time to time: all the students in a particular college were written to on one occasion and, more recently, all students in the university without at least 'O' level or GCSE grade C mathematics have been contacted. Surprisingly, in a university with high entrance requirements, nearly 100 undergraduates were found to lack a basic mathematics qualification (many of these were mature students) - such a qualification is essential for certain jobs, e.g. teaching.

As awareness of the help available has increased, the number of students coming forward for help has grown. In the first term of the second year of the project the number was more than double that of the previous year. On the basis of requests so far received, help is being given to about one student in every 25. (Durham has a total of about 5,000 undergraduates.) The actual amount of help varies from a single meeting of about an hour to extended assistance over a term or more. Students come for help in a number of ways. Some, having learned of assistance available through posters or via other students, arrive seeking individual help; some come at the suggestion of tutors in departments or colleges; some are referred by the Careers Advisory Service when it is found that there are anxieties about numeracy tests or mathematics qualifications. A large amount of advice and tuition is given by the Numeracy Fellow, sometimes to individuals, sometimes to small groups. Additionally students from the final year honours mathematics course and from the Postgraduate Certificate in Education Secondary Mathematics course act as volunteer tutors for individuals - the use of these students enables a large amount of one-to-one tuition to take place.

Requests for help fall largely into three categories:

- help with numerical reasoning tests which students face when applying for jobs,
- help with the mathematics in an undergraduate course e.g. Geology, Economics ...
- help for those who do not possess a mathematics qualification and would like to obtain one.

Most enquiries are from students in the Arts and Social Science faculties but occasionally a Science



UNIVERSITY NUMERACY CENTRE

If you would like help with any aspect of numeracy - for example with the development of numeracy skills which are looked for by many employers - the centre is available to help **YOU**

In particular the centre can offer:

- individual help, advice and tuition
- courses which aim to banish the fears of those who lack confidence with mathematics
- courses for those who wish to boost existing skills

If you are interested in courses available or would like help please call at the centre or make telephone enquiry to:-

Michael Cornelius (extension 3532 or 2802).

The Numeracy Centre is located in Room 201 of the Haworth Building in the School of Education (adjoining the College of St. Hild and St. Bede).

COURSES IN 1991-92

Courses are planned on:

- Coping with Numeracy Tests
- Basic Statistics (for those with little or no previous knowledge)
- Obtaining a Mathematics Qualification (for those without 'O' level/GCSE mathematics)

Times will be arranged in the light of demand - please contact the Centre during the first two weeks of Michaelmas Term if you are interested in any of these particular courses.

student appears wanting help with numeracy tests or, sometimes, with the mathematics in a science course. A rough breakdown of help given so far is:

Help with employers' numeracy tests:	38%
Help with maths in undergraduate course:	33%
Help in acquiring basic qualification:	21%
Help with postgraduate thesis:	3%
Maths for fun:	3%
Other:	2%

Requests for help from students have included:

- geology student needing to know Greek alphabet
- several students with A level maths but frightened of numeracy tests
- archaeology student needing to know Pythagoras' theorem
- help with basic statistics
- help with basic calculus
- help in calculating percentages
- help in using a calculator

There have also been requests from members of staff, for example a lecturer seeking help in the use of a calculator and a secretary wanting to obtain a mathematics qualification.

From the initial evidence available it is clear that many graduates are not 'numerate':

> *The word 'maths' is a natural frightener. My wife's got a degree but she's terrified of numbers. It seems people are frightened of the word 'maths' because 'maths' equals 'difficult'.* [2]

It is a matter of considerable concern that a large number of new graduates will find themselves in responsible positions needing to handle and interpret numerical data when many of them will be severely lacking in both numerical confidence and numerical competence. Attempts are being made to liaise with employers about the problem and ways in which graduates might be helped.

The Cockcroft Report [3] suggested that a numerate person should have:

- an 'at-homeness' with numbers and an ability to make use of mathematical skills which enables an individual to cope with the practical demands of everyday life.
- an ability to have some appreciation and understanding of information which is presented in mathematical terms e.g. graphs, charts, tables, percentage increase/decrease.

Through the medium of EHE attempts are being made to ensure that our graduates are numerate (or at least have the opportunity to boost their skills in numeracy) - there is still a long way to go and still a problem in overcoming an inbuilt resistance on the part of many people to admit to weaknesses in 'numeracy'.

References

[1] Tate, A. (1991) 'Dangerous enterprises', *The New Academic*, 1(1).

[2] BBC Research (1990) *Basic Skills: Numeracy* (unpublished).

[3] HMSO (1992) *Mathematics Counts* (Cockcroft Report)

Michael Cornelius is currently on a three year secondment as Numeracy Fellow in the University of Durham. He taught mathematics in schools for ten years and then mathematics and mathematics education for twenty years in his present university. He has researched and written extensively on the teaching and learning of mathematics.

There may be something to be said for the essays of Bacon and Montesquieu, but not for the student essay—a literary genre whose main goal according to Graham Gibbs is to obscure ignorance.

DOWN WITH ESSAYS!

The student essay is a curious thing. The only person who will read it, the tutor, invariably knows more about its subject matter than the author. The reader has no need for the information in the essay and probably has no desire to read it. This is a very unusual arrangement - possibly unique amongst all forms of communication. Normally a communication is intended to communicate - to inform. Nothing could be further from a student's mind. The primary goal is to obscure ignorance - to make as much as possible from as little as possible and to give an impression of knowledge where none exists - to 'fake good'. It is an exercise in calculated deception.

Sometimes tutors ask their students to imagine that they are writing for 'an intelligent lay person' even though they are clearly actually writing for the intimidating expert sitting in front of them. In the 70s the Open University made a TV programme about essay writing which was intended to provide study skills advice for adult students bemused by the bizarre tasks they were being set. In it a student described how he couldn't make sense of essay writing and failed to get going until he started writing a letter to his friend. In the letter he explained about how difficult he found writing about Economics because all he understood about Economics was .... and he then simply tore off the top of the letter and submitted it as an essay and got a decent grade. He could only understand the writing task if he imagined himself explaining himself to a friend who knew nothing about the subject. This story is instructive in two ways. First it highlights what a nonsensical task conventional essay-writing is for many students. Second, it reveals that attempts to write essays as if for an intelligent lay person are so rare that people make TV programmes about them.

As an undergraduate I learnt how to write essays and get good marks. But I got some of my best marks for essays on topics I knew little about, and cared less, and where I therefore concentrated on getting good marks. On topics I found fascinating, read all about and wrote about with passion, I got poorer marks. While exploring the limits of my (or anyone else's) understanding I was inevitably less coherent. Learning, or attempting to learn, was not rewarded. I soon learnt to play safe. Creativity and attempts genuinely to explore ideas were just too risky.

I was told that learning to write essays would equip me with writing skills which would serve me all my life. It wasn't true. They served me until I graduated and I then had to unlearn a whole range of strategies and start all over again learning different kinds of writing for different kinds of audiences and purposes. Some of my early committee papers were like lengthy essays. They did not get 'A's. They did not even get read. I suddenly had to learn to write completely differently, actually thinking about my audience. This was a painful lesson and one that I felt it might have been useful to learn when I was, supposedly, being educated how to write.

Practically every book and manual on how to write starts with a consideration of the audience you are writing for. But undergraduate essays don't have a real audience and this causes students immense technical problems.

When I started acting as a tutor and running study skills exercises I was fascinated to discover that writers of incoherent clap trap suddenly started writing sensible and understandable prose as soon as the audience and the task became clear to them. Students didn't need to develop fancy skills through cunning training exercises. All they needed was a sense of audience that they could relate to. An essay title like 'Compare and contrast 'child-centred' and 'traditional' classroom practices' would produce turgid gibberish. In contrast the same student would write an imaginative and incisive piece in response to: 'The MP for whom you are a researcher

has decided to speak out against the Conservative's attacks on 'progressive' and 'child-centred' methods in secondary education. Provide her with a 1,000-word briefing outlining the main issues, recent evidence and likely areas of controversy'. This second way of casting the task does not just clarify an audience, it deliberately does not ask for an essay. The last thing an MP would want is an essay. It might be argued that this second kind of task does not require the same level of rigour or sophistication, the same careful use of evidence or the same degree of logic of argument, as an essay. I don't think these qualities are all that common in student essays. But in any case I would disagree with the premise. Lack of these qualities is much more apparent in briefing papers than in essays, the form of which is perfectly suited to obfuscation and incoherent rambling posing as academic rigour.

Essay writing resembles the forms writing takes outside academia in almost no respects. Briefing notes, committee papers, manuals, grant applications, reports on projects, speeches, even articles for The New Academic, do not resemble essays. It is sometimes argued that this doesn't matter as the general skills involved transfer to whatever form of writing students subsequently engage in. However transfer of training is a notoriously problematic phenomenon. Skills transfer from one situation to another with less ease than one would like. The main variable which determines the effectiveness of transfer is the similarity of the two situations involved. If you want writing skills learnt in higher education to transfer to writing in subsequent work then the forms of writing used in education should resemble those used in work as closely as possible. Students should be asked to write letters, magazine articles for different kinds of audiences, reports to their boss, reviews of progress in projects, justifications for budgets and so on.

A total moratorium on the use of essays would be one of the simplest ways of improving the quality of students' writing and learning and, at the same time, starting to bridge the gulf between academic life and subsequent work experience.

Graham Gibbs is Director of the Oxford Centre for Staff Development.
In the next issue he will cast his dispassionate gaze on the efficacy of another pillar of academic life: The Seminar.

HOW WAS IT FOR YOU?

A Practicable Suggestion for Formative Evaluation

John Cowan and Judith George

What's the Point of this Article?

We are both regularly involved in teaching, tutoring and counselling students. For some time we have been looking for a simple way to find out more about the immediate learning experiences which we generate for our students. We believe we have found one. We think it worthwhile to describe what we've been doing, because we hope that other serving teachers may also find it a useful tactic.

We will presume, then, that if you read on you are interested in the possibility of finding out more about what is happening at the learner's end of the teacher-learner exchanges in which you are involved. We suggest that information of this type may help you, after due reflection, to make your teaching and tutoring more effective for the learners with whom you work.

What's the Background?

We have borrowed and adapted an idea which some people call Interpersonal Process Recall (IPR) and some call Structured Recall. We won't quote references here, because we have remoulded the original technique so drastically that we doubt if its authors would recognise it.

What do we recommend that you should do?

- Prepare your class or group by telling them most of what is contained in the description which follows.
- Emphasise that students who have engaged in this activity have found it an exciting one. They have discovered that they can have access, through it, to detailed memories which they never imagined they could dig out. You therefore make no apologies - at least on the first occasion - for inviting students to participate. (It will add more conviction to this introduction if you have had an experience yourself as a subject in a short dummy run of the activity. Then you'll know what's involved in this business of 'digging in the attic of your mind, and brushing the dust off forgotten memories'.)
- Arrange a video camera and recorder in your classroom so that you (the teacher/tutor) are in shot all the time. Make sure the sound can be picked up properly.
- Let the students see that the camera is recording you, and not them (other than incidental sound).
- Run the recording from just before you begin to teach until just after you finish.
- Recruit a student and a helpful colleague beforehand. Get the colleague to skim through the tape as soon as you're finished, to pick out two or three short sections of it - because they are typical, interesting or varied.
- Leave it to your colleague to replay these parts of the tape with the student. The replay should be paused at least every 30 or 40 seconds, at an appropriate point. The question from the colleague to the student is always the same:
  Does that remind you of anything you were thinking or feeling at the time?'
  Your colleague listens to what the student has to say, paraphrasing it back and making a short note of anything which was significant for the student's learning.
  Your colleague and the student should both be aware that they are not to discuss how you did things - merely to dig out anything in the student's memory which is accessible, and which concerns the student's immediate learning experience, or lack of it.
- Your colleague should now report these significant features back to you, and perhaps amplify them for you. (Usually the student will volunteer to be a part of that conversation, and will wish to discuss with you what she or he has managed to dig out.)
- After that, it's up to you to decide what reaction you make to this data.
- In our experience, it has been vital to start the recall session as soon as possible after the learning experience. We have also found that one such session per year with a given student or class gives us more than enough to go on.

Is that what we ourselves do?

That's how we started. However we were frustrated by the fact that this only yielded data from one student in a class group. We have therefore experimented, fairly successfully, with two variants.

In the first of these we recruit four or five colleagues, and a similar number of students. (We haven't had any difficulty with this, because we find that both students and colleagues are interested

in the new idea, when they first hear of it.)

One colleague operates the 'Pause' button. All colleagues sit with their backs to the screen, facing their student partner. Provided they all begin to talk to their student at the same time, as the replay is paused, we find that four or five independent recall sessions take place. These can then be compared and collated in the reporting back.

The main loss here is that, in the one-to-one arrangement, the student can call out for a pause when a particularly sharp memory emerges. That is not really possible with multi-participant recall. But if the students have not known the individual style of working, that lack is not something which seems to frustrate them.

In our second option we have depended on only one colleague - with one student. While the recall session was taking place (a maximum of 20-30 minutes), the remainder of the class group mulled over the experience with their teacher or tutor. They were given an open-ended critical incident questionnaire, asked to complete that on their own, and then snowballed their reporting into summaries from quartets who reported back to the teacher/tutor and discussed the outcomes in plenary.

The reporting back from the colleague who had been simultaneously involved in the recall session in another room was then interjected. Since the student subject might well not have been typical, we found it useful to note which of that student's feedback items had already been mentioned in the main group, or 'rang a bell' with a majority of them, once they were mentioned.

Is it worth it?

We have found it so. In our own experience, and in that of some of our colleagues in the OU in Scotland who have been experimenting with this approach, we can report the feedback of data which

- has not been aired with the teacher or tutor before
- is normally such that it blocks learning rather than facilitates it
- is easily changed, once the person concerned is aware of the need for change
- is welcomed by the teacher/tutor who receives the feedback.

Further, class participation in this activity has radically affected the level of dialogue between students and tutor about the nature of the teaching and learning experience. Reflecting and discussing what happens for the learner in the immediate learning experience has become a respectable, desirable and valued part of the relationship between teacher and learner.

Why not give it a try? We don't know anyone who has done so without a positive reaction to the experience.

Dr John Cowan is Scottish Director, and Dr Judith George is Deputy Scottish Director of the Open University. In the next edition of The New Academic, Sally Brown of Newcastle Polytechnic, Chris Osborne of Middlesex Polytechnic, and Roy Tremlett of South Bank Polytechnic describe three more approaches.

STAFF AND EDUCATIONAL DEVELOPMENT IN HIGHER EDUCATION AT A TIME OF INCREASING PARTICIPATION:

A statement of good practice by The Standing Conference on Educational Development (SCED) and the Society for Research into Higher Education–Staff Development Group

Background

United Kingdom higher education continues to recruit increasing numbers of students. The participation rate of the 18-plus age group will increase by an estimated 50% by the end of the decade. Higher education institutions cannot respond effectively to growth of this order by treating it as just a series of small increases. More students must mean different approaches to courses, teaching and assessment.

Further, many of these additional students will be mature. Different students must also mean different approaches.

Quality in Higher Education

But if the quality of provision is not to suffer, these different approaches must be developed and introduced with forethought, sensitivity and imagination. Indeed, if institutions re-consider their goals at the same time that they make changes to their courses and teaching, the quality of their provision and the quality of student achievement can actually improve.

Approaches to teaching and learning

Positive approaches to teaching, learning and assessment must:

- Apply what is known about effective student learning;
- Recognise and respond to the growing diversity of students;
- Provide equality of opportunity to all students, through the curriculum as well as through the design and operation of courses and assessment;
- Build on students' existing skills, knowledge and attitudes;
- Promote fruitful interaction with others during the learning process;
- Encourage students to take initiatives, and responsibility for their own learning;
- Develop in students a questioning and analytic approach to knowledge;
- Value the search for new knowledge.

The contribution of staff and educational developers

Staff and educational development in higher education is devoted to the discovery, conservation, development, dissemination and use of appropriate teaching and learning methods.

Staff and educational developers thus help institutions to plan and adopt new curricular and teaching strategies. They support staff to develop new ways to design courses, teach and assess students. They help higher education adapt to increasing - and increasingly diverse - enrolments. They also support the processes which assure that quality of provision is at least maintained through these changes.

Above all, staff and educational developers encourage academics to develop critical and reflective approaches to their teaching. They also help staff to develop a similar approach in their students. Critical reflection is an important component of professionalism in every field, including the disciplines taught in higher education. Bringing this approach to bear on the teaching function is crucial to meeting current and future challenges.

Committed to this critical and reflective approach, staff and educational developers are making and seizing opportunities to help create, through a wider provision of higher education, a more informed and effective citizenry.

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