Good Practice Guide in Learning and Teaching

Volume 6

Edited by
Julie Green
Professor Helen Higson

Quality Unit
Aston Business School
January 2009

CONTENTS

EDITORIAL

It is with great pride that we launch this, our Sixth Good Practice Guide. Over the last six academic years we have published over 50 articles from a wide range of academic and support staff. Not only has the Good Practice Guide become a bit of an institution at Aston Business School, it is also testament to the active engagement and innovation in Learning and Teaching, which the School has become known for. It is no accident that, as our research has improved, so has our teaching.

As last year, some of the contributions have arrived as a result of HELM small research grants, while others have been commissioned following innovation identified in Annual Module Reflection Forms. The articles continue to represent some of the current preoccupations of Learning and Teaching practitioners both at Aston and nationally. These encompass managing postgraduate dissertations effectively; tailoring approaches to Executive Education; the importance of making subject matter relevant via the use of guest lecturers; the use of virtual pedagogies and games; how to run effective examination boards without felling so many trees.

Senior, Butler et al, Clegg and Tissington all review a range of approaches to learning which use technologies which students are familiar with. In doing this they all take up the challenge of trying to make students more active in the learning process. Hodgetts and Martin, as well as Binner, show how important it is to make learning sessions as applicable as possible. Their approaches demonstrate many advantages, but make it clear that these innovations are not easy options for the learner. Rudd, shows how one Academic Group manages its dissertation allocation. Finally, we consider the 'paperless exam boards', which have been introduced during the past year, and which won the Undergraduate and Postgraduate exam and assessment teams an Aston Excellence Award – Congratulations.

This Good Practice Guide continues to be linked with ABS's Research Centre in Higher Education Learning and Management (HELM). One of the highlights of HELM activity each year is its lively seminar series. A list of the HELM seminars for 2008/2009 is listed in ***Appendix 1*** of this publication. Further details can be obtained from Selena Teeling (s.teeling@aston.ac.uk), who coordinates the HELM seminars. We have also been working on focussing further the list of suggested journals rankings to guide ABS staff who wish to publish in this area. This list is set out in ***Appendix 2***. These have been submitted for recognition within the ABS Load Model.

Finally, we have attached the catalogue of the HELM Sizer Library as ***Appendix 3.*** Professor John Sizer, who sadly died in 2008 bequeathed his management of higher education collection to HELM and this is being augmented with books and journals on HE pedagogic and management. These items are available to borrow from Selena Teeling in Main Building 6th Floor HELM Office.

Julie Green
J.E.Green@aston.ac.uk
Quality Manager
Aston Business School

Professor Helen Higson
H.E.Higson@aston.ac.uk
Head of Academic Programmes
Aston Business School
Pro-Vice-Chancellor: International Relations
Aston University

RESTRUCTURING THE PROCESS OF DISSERTATION SUPERVISION ALLOCATION

JOHN RUDD

Introduction

The Marketing Group of Aston Business School (ABS) operates under high ratios of students requiring dissertation supervision, to those academic staff qualified to supervise dissertations. It is not uncommon for academic staff to supervise eight or nine MSc students, two MBA students and a couple of PhD students (as part of a team). This is in addition to teaching undergraduate and postgraduate students, writing research papers and administrative duties. Hence, an efficient, effective and systematic approach to matching students requiring dissertation supervision to supervisors is required. This article outlines the guiding principles and underlying assumptions that have influenced the system currently used. An outline and critique of the previous system of matching MSc Marketing students to dissertation supervisors is provided, as well as a description of the new system.

The original dissertation supervisor allocation system

New intakes of MSc Marketing Management students were originally expected to select an area of interest and to approach potential supervisors with a written project proposal. This would then be discussed with the respective supervisor and agreement would be reached on whether a formal student/supervisor arrangement should exist. Only two deadlines existed under this system. First, students were expected to have an agreement with a supervisor by Easter break at the end of Term two. Students who had not reached a supervisory agreement by this date were required to attend a meeting with the Course Director where a plan of action would be discussed. This would often involve a time-consuming series of discussions between the Course Director, the student and Academic Group members until a suitable supervisor could be identified. The second and final deadline was the submission date of the completed dissertation. This was, and remains, late July / early August.

Critique of the original dissertation supervisor allocation system

While the above system allowed students a high degree of personal autonomy it also presented a number of problems:

1. As the deadline for supervisory agreement was Easter, many students would not write a project proposal until the last minute. Hence, academics and the Course Director were swamped with proposals and requests for meetings towards the end of Term 2. Furthermore, supervisors deemed “nice” by students tended to receive far more requests for supervision than those not known to students, or those not considered “nice” at all.
2. Many of the proposals were of a poor quality as they had been rushed in order to meet the Easter deadline. It was common to see project proposals with no academic references consisting of an idea and little else.
3. Students’ proposals generally lacked development. Hence, projects were not agreed until some weeks after Easter when students had incorporated initial feedback. In practice, this left only four

months to complete a dissertation, resulting in some extremely poor submissions, despite the efforts of supervisors.

For the reasons set out above it, was clear that the original system had to change. A number of guiding principles and underlying assumptions, however, were first outlined, in order to inform the formulation of a new process. These are listed below.

Informing a new dissertation supervisor allocation process: Guiding principles and underlying assumptions

Postgraduate students are driven and motivated individuals who are hungry for knowledge

While this is true of many postgraduate students, it is equally true that there are those who are not motivated to perform to a high level. These students require structure and, in some circumstances, a degree of coercion in order to engage fully with the demands of a dissertation project. For these students, a degree of latitude early on in the dissertation journey will not encourage engagement with the task at hand.

Students are well informed and know what dissertation project they wish to pursue

I am not alone I am sure, in facing very enthusiastic, dissertation students who state quite categorically that their dissertation will be about "Marketing" (feel free to fill in any other domain of research here). "Marketing" I reply. "Do you have any idea of a particular area of Marketing, or just all of it?" "Oh, all of it" comes the enthusiastically nodded reply. The enthusiasm will no doubt be a key asset for student in their future business life, however, on its own, the chances of this resulting in a theoretically sound and robust piece of research are remote.

Additionally, I have supervised students who have been cogent and convincing at the initial meeting. They have told me (with a straight face most of them) that they are fully aware of all the key references in a particular area of research. Their zeal is contagious, and I have felt myself being taken up and carried on a surge of academic enthusiasm. It has not lasted however. A month into the project the student has become bored and another, even more shiny, research area is suggested by the student who now wishes to "change the project". This change of heart is usually based on a cursory glance at some of the empirical literature in the domain. This is usually enough to provoke emotions of fear and dread in students, who realise that a dissertation project in Branding, for example, will not require them to simply accost a couple of consumers outside M&S. Indeed, the full horror of psychometric scales, correlations, regression calculations and even worse, a critical literature review unfold before their eyes.

The learning outcomes of a dissertation include "enjoyment"

Enjoyment in a commercial setting (and a huge percentage of MSc graduates will work in a commercial setting not an academic one) has little or nothing to do with the learning outcomes of a piece of research. Picture the scene, the Chief Executive Officer dashes in to a junior manager (naturally an ABS MSc graduate) with an idea for a new project. It requires research, however, and the research in question is to be done on the most boring thing imaginable (OK possibly Marketing). Do you have the option to suggest that as you find the idea a little passé, and that someone else should be sourced for this project as the idea simply does not move your needle? No, this is fairly unlikely. (Well you could if you were really brave / stupid – but you would be wrong). A well structured and rigorous piece of research with clearly defined objectives, outcomes and recommendations is to be delivered, on time, by you!

Now, while you may not have *enjoyed* yourself, the boss will be happy and you will keep your job (at least for now); or you may begin the process of looking for another one safe in the knowledge that you

have an income. The point here (and there is one) is that while it is truly wonderful if students enjoy the dissertation process, but it is not essential. What is essential, is that when they leave to seek employment, they can conduct research to a high standard. This is our responsibility.

The dissertation topic will somehow dictate their career path

This is a popular misconception by students, and can be answered in only one way, NO IT WON'T! I am convinced that it is of help in an interview, if a student has conducted a piece of research that is of particular relevance, to a particular organisation or industry. If the said student interviews badly, however, or has failed the taught part of their dissertation, or their psychological profile suggests that if you get close enough you can hear them ticking (and we all know those students) then it is unlikely that the coveted role will be theirs.

It is the skill set that has enabled them to have conducted a rigorous piece of research, achieved the objectives set, and made some recommendations based upon these that will be of interest to the interviewer.

There is a limited time in which to complete the Masters dissertation

Students have 10 months in which to complete their dissertation. Whether this is appropriate or indeed long enough to complete an academic research project is not for debate here, however, this is a relatively short time, and it is of crucial importance that students begin to engage with the dissertation as soon as possible. I have often in the past, been approached by students less than four months before their MSc dissertation submission deadline and been asked if I would like to supervise their dissertation. At this point they generally have no real project, no academic references and only a vague idea of the domain of research that they would "like to have a crack at". Of late, I have not supervised these students but have done so in the past and I would not recommend it to anyone. It is not a pleasant experience for the supervisor or indeed the student.

In defence of the student

Of the guiding principles/assumptions listed, none should be of surprise. Why should students who have never completed a Masters programme know how to specify a research project and what is involved? Why should they have a clear overview of the conceptual or empirical literature within a specific domain? Why should they have a clear idea of how to approach a literature review, synthesise this into a conceptual model and test this model with a rigorous methodology? Why should they have an overview on roughly how much time this will, or should, take? The answer of course, is that for the majority of students whom we admit to our postgraduate programmes they should not know and, most probably, will not know how to do these things. It is our responsibility as dissertation supervisors, Course Directors and module leaders to create the framework within which this learning can occur, with any luck culminating in a dissertation that is submitted on time and commensurate with the students' abilities.

In summary

1. Start Early. An early start is an essential requirement for a considered and theoretically sound dissertation. Students engaging with the dissertation process at an early stage do well. Students benefit from an early start as any mistakes or misunderstandings between supervisor and student can be rectified by timely and effective feedback. This allows students time to reflect and learn about the processes involved in constructing a dissertation, rather than having to rush through it. Students having to rush their dissertations tend to see the submission and subsequent pass as the *only* goal. These students generally miss the intrinsic learning within the process.
2. Additionally, the dissertation is the result of a partnership between supervisor and student. The earlier the communication within the partnership can be established, the more fruitful and effective will be that partnership.
3. Students require knowledgeable and structured supervision, based in theory.

4. It is helpful, but not essential, if students enjoy/like their dissertation topic.
5. The supervisor generally has other things to do within their wider job role and hence, standards and levels of communication are required to be set and adhered to by both parties.

The revised dissertation supervisor allocation process

The following section outlines the extensive revisions made to the dissertation supervisor allocation process. As far, as is possible, the sections are presented in temporal order.

Prior to commencing the MSc Degree

Prior to commencing the taught part of the MSc degree, students attend a welcome talk, part of which is dedicated to the dissertation. The talk outlines broadly what a dissertation is and what is expected of an MSc student, the importance of the dissertation and the seriousness of getting a supervisor and a project at an early stage. Students are also familiarised with some of the processes and paperwork that are currently unique to MSc Marketing Management students, but are under consideration by other MSc degrees. Additionally, it is stressed that the project on which they are about to embark is *their* project, and that the mark they receive will be based on the effort applied. To reinforce this notion, a code of conduct is also introduced to students at this stage (***see Appendix 1***). Students are asked to read this in the session, and highlight any questions they may have.

In order to ensure that all parties (attendees and non-attendees at the welcome talk) have access to the information presented, it is replicated on an MSc Marketing Management "Projects" Blackboard™ site.

Term 1: Week 1 – Week 4
Students are required to access information posted on the Blackboard™ site via a password protected log-in. This enables the course administrator, in this case, the Course Director, to track who has logged in and when; highlighting students that have not accessed the dissertation information available.

One of the documents of great importance to students in week 1 of the first term is the Dissertation Project Guide. This is collated from dissertation supervisors and posted on the Blackboard™ site by the Course Director over the summer months, prior to the enrolment of a new cohort. The Guide adopts a pre-determined format whereby details of a) dissertation project title, b) focus of the dissertation project, c) the number of students the supervisor would be happy to supervise and c) a list of "starter" academic references are contained.

Students are directed to undertake a review of the projects posted on the Blackboard™ site and to select, in order of decreasing preference, their "top three" projects and supervisors (see next section regarding the dissertation supervisor request form). They are also encouraged to discuss any projects that may be of interest to them with the relevant supervisors, prior to making a selection. In this way any misconceptions with project or supervisor, are dealt with at an early stage.

Students are asked to make a top three choice for a number of reasons:

1. Within certain cultural groups hierarchy and status is of great importance. Hence, to be supervised by anyone other than a Professor is problematic, regardless of academic credentials. Indeed, I have seen dissertation supervisor request forms with simply "Professor" in the relevant box; no second name being highlighted. There is a limited pool of Professors in most academic groups and hence students are required to make a choice.
2. Particularly popular lecturers tend to get chosen a lot by students. Here students who feel an affinity towards a particular individual tend to chose them.

3. There are a limited number of academic staff in any Academic Group, hence, students are made aware that a finite number of students will be supervised by each academic and that supervisions will be allocated on a "first come first served" basis.

Term 1: Week 4
Following a review of the projects offered by Marketing Group academics, students are asked to fill in the "dissertation supervisor request form" (***see Appendix 2***). The form provides details of the student's name, contact e-mail, and the three dissertation supervisor/projects selected. The Course Director collates the forms. Students who submit their forms after the required submission date, or those that do not submit a form, forfeit their right to choose a supervisor (in the presence of no mitigating circumstances) and are allocated one by the Course Director. In this way, students that are proactive in their pursuit of a supervisor, and are clearly interested in their dissertation, are guaranteed one of their three selections. Those that are not, are still guaranteed a supervisor, but this may not necessarily be in an area that they have a particular interest.

Of note, in the five years that this system has been running there has been no significant difference in pass rates between students choosing a supervisor and those having one allocated to them.

Once dissertation supervisors have been allocated to students the Course Director sends an e-mail to all parties. The e-mail states that it is the students responsibility to contact the supervisor, and that an initial face-to-face meeting should take place no later than week 7 of Term one. At this stage, students and supervisors are expected to work towards the dissertation timescales calendar posted on the Blackboard™ site (***see Appendix 3***). The timescales and deadlines posted are expected to guide and inform the choices made by dissertation supervisor and student regarding progress towards submission and hand-in dates etc.

In addition to the supervisors and dissertation projects available, the Blackboard™ site includes additional guidance for students on conducting a critical literature review and methodological considerations. Again, this information is presented as a guide only, and students are expected to develop their capabilities and knowledge in these important areas.

Complementary to the revised dissertation supervisor allocation process

In addition to the measures outlined above, and in-line with the guiding principles and underlying assumptions, a change was made to the taught part of the MSc Marketing Management degree. Students are now expected to complete a mini critical literature review as part of their Term one marketing research module. The mini critical literature review is designed to introduce students to the notion of critically evaluating published research papers, at an early stage in their studies. Additionally, through formal assessment, it forces students to engage with the foundation of their dissertation i.e. their critical literature review.

Further information on this process can be obtained from the author directly.

Dr John Rudd
j.m.rudd@aston.ac.uk
Marketing Group
Example used with MSc Marketing Management students

APPENDIX 1: Code of conduct.

Code of Practice: MSc Marketing Management Dissertations
Academic year 200x – 200y

Please read this form thoroughly before signing it in the presence of your dissertation supervisor. You and your supervisor should both keep a copy of this.

- It is the students' responsibility to establish and maintain contact with their supervisor. During the course of your studies here at Aston, if no contact is made with your supervisor, the assumption will be that you are working on your dissertation and that no problems have arisen.
- Staff will not book office hours by e-mail or by telephone (unless otherwise agreed by them). It is your responsibility to book a timeslot on the door of the respective dissertation supervisor. (These are posted on their office doors and are available weekly). Additional meetings must be agreed with your supervisor directly.
- Any problems or issues with your dissertation progress or associated deadlines (see blackboard for suggested dissertation schedule) should be communicated to your dissertation supervisor in the first instance. If the issue remains unresolved then Dr John Rudd, the Course Director, should be contacted as soon as possible.
- A record of your progress and meeting attendance will be kept by your supervisor.
- Supervisors will provide you with guidance on how to tackle your dissertation. Supervisors will not "map out" your dissertation for you (i.e. it is up to you to "own" your research project).
- **Supervisors are required to read through completed dissertation chapters, ONCE ONLY, at a draft stage** (although most supervisors are likely to provide ad hoc feedback throughout the dissertation). Remember, you should "own" your project. Once a supervisor has commented on a particular piece of work, you should incorporate this feedback and move on. Supervisors will not mark successive (but slightly different) versions of the same chapter. Intuitively, if this is occurring it is arguable whether it is their work or yours.
- Students requiring feedback from their dissertation supervisor on a specific piece of work should allow a minimum of seven days for the supervisor to read and provide comments. (The seven days is counted from the supervisor reading the piece of work, not from the student submitting it, for instance in an e-mail). In the past there have been instances of students e-mailing work to supervisors on the day that feedback is required. This clearly does not allow the supervisor time to fully read and understand what has been submitted.
- Supervisors are not editors or indeed proof readers of your work. It is your responsibility to ensure that any issues regarding grammar, formatting, spelling and referencing are taken care of, although supervisors will generally highlight such issues in early drafts. (Guidance on submission and formatting has been provided in your dissertation guideline packs).
- Extensions are no longer granted by the dissertation supervisor or your course director. Any queries regarding extensions to your final hand-in date should be addressed to the postgraduate exams office.

I have read and understood the above MSc Marketing Management Code of Practice, and will abide by the contents.

Signed_____ ***Date***_____

APPENDIX 2: The dissertation supervisor request form

MSc Marketing Management

Dissertation Supervisor Request Form

Your name

(Print in Capital Letters): ……

PLEASE PRINT IN BLOCK CAPITALS

Preferred contact e-mail address

(Print in capital letters):

……

PLEASE PRINT IN BLOCK CAPITALS

Research Project Request:

The Marketing Group will **endeavour** to allocate one of your first three choices of supervisor and topic, but please remember **this may not always be possible**.
This form should be completed as soon as possible, so that you can commence the dissertation process with your allocated supervisor (see deadline date below).

Requested Choice Order	Requested Project Supervisor (name)	Requested Project Title
1st Choice		
2nd Choice		
3rd Choice		

Please complete this form and return it to the PG Student Support Office (Room 222 in the PG suite) by 5pm on the 15/10/07

APPENDIX 3: Dissertation Timescales Calendar

Dissertation Key Dates and Timescales 2007 - 2008

*NB: The timescales presented here are designed to give you the **latest dates** that key objectives should be met by. The dates presented here are known to your supervisors and they will expect them to be adhered to (unless otherwise agreed with them).*

TERM 1: Commences w/c 01/10/07

Date	Task	Notes
Week 2 (w/c 08/10/07)	Students examine the dissertation projects posted on the Marketing Projects Blackboard site.	
Week 3 (15/10/07 - Before 5pm)	Submit your completed Dissertation Supervisor Request Form to the Student Support Office (Room 222 in the PG suite).	The form should indicate your preferred "top three" choices of project and supervisor. NB: It is important that the forms are submitted at the earliest opportunity, as project supervisors are allocated on a first come first served basis (as far as is possible)
Week 4 (w/c 22/10/07)	Students are notified of their allotted dissertation supervisor.	Students are notified by e-mail to their Aston Business School account It is the responsibility of the student to contact their allocated dissertation supervisor.
Week 7 (w/c 12/11/07)	Students and supervisors should have met at least once and should have a good idea of how the dissertation will progress.	Again, an early start is important as some supervisors like to see a short "project proposal" from their dissertation students.
Christmas Vacation (3 weeks from w/c 17/12/07 – w/c 07/01/08)	Students should use this time to finalise their literature review and prepare for submission of 1st draft in week 2 of term 2.	

TERM 2: Commences

Date	Task	Notes
Week 1 w/c 07/01/08	Hand in draft literature review to allocated dissertation supervisor for review and feedback.	This is the LATEST date students should hand in draft literature review chapters.
Weeks 2 & 3 w/c 14/01/08 – w/c 21/01/08	Assimilate feedback from supervisor on literature review and move on to next stage.	From this point key dates for progression should now be agreed with allocated dissertation supervisor.
Easter Vacation (3 weeks from 17/03/08 – 07/04/08)		This time is to be used to gather data and make up any lost time. It is important that the dissertation is not left until the last minute.

TERM 3: Commences w/c 07/04/08

Date	Task	Notes
Students to organise individual meetings with supervisors during office hours as required	Review development of dissertation with supervisor, and discuss any causes of concern.	
JULY	Complete writing-up and arrange binding.	(NB: Due to many projects being finished at this time of year binding will take longer than anticipated – LEAVE ENOUGH TIME).
July 31st 2008	**DISSERTATION SUBMISSION**	

NB: It is **your** responsibility to complete your dissertation in the time allowed. To this end it is vital that you meet the deadlines shown above and communicate regularly with your supervisor who is there to help. The final submission date for MSc Marketing Management dissertations is the 31st July 2008. Failure to hand in your dissertation on, or before this date (without a compelling reason with appropriate corroborating evidence) will result in failure of the Masters degree. Further advice on these matters can be sourced from the postgraduate exams office.

USING REFLECTIVE LEARNING TO STIMULATE COMPREHENSION AND APPLICATION IN EXECUTIVE EDUCATION

TERRY HODGETTS AND ROBIN MARTIN

Introduction

For some time, Executive Education has successfully delivered programmes to clients based heavily on existing postgraduate (PG) programme module content. In most cases, these programmes have led to the award of an Aston University Diploma, and have carried credit against the equivalent MBA modules. We have also developed more bespoke learning programmes, which have not carried any academic credit, but which are eligible for the award of an Aston University Certificate, by virtue of them comprising a minimum amount of contact teaching time, together with the submission of a work-based project.

We are seeing a shift in emphasis from our corporate clients towards greater applicability to specific client/workplace needs. This tends to lead us to favour the Certificate model, since by its nature it is designed around client business requirements, whereas the Diploma by its nature is designed to conform to MBA curriculum standards. As a result of this shift, we have sought to develop methods and solutions which can be more easily shown to provide real workplace value. We recognise that this approach may be more difficult to apply in a "traditional" undergraduate/postgraduate environment, where groups are larger, teaching time is at a premium, and cohorts come from multiple organisations and backgrounds, however, we offer this as an idea which may prove useful in specific circumstances.

The Requirement

A client in the utilities sector wanted us to develop and run a programme for a cohort of 18 specialist engineering managers. Their educational background was mixed, from joining the company as school leavers to holders of MScs. All cohort members were distinguished by having been viewed as successful in their own environment. Their work environment was characterised by being high pressure and demanding. The group has a culture of being "hooked on their Blackberries" – there is a definite sense of indispensability.

We were asked to develop a programme that would expose the group to some of the latest thinking in terms of management, leadership and operations, and which would support them in applying their learning back in the workplace. It was crucial that the client (and the cohort) could see real, practical benefit in the learning they received; learning for learning's sake would not be enough.

The Process

We developed a series of four "Master Classes", each of two days duration with an "action learning day" for follow up. The follow up sessions were designed to be run on a regional basis, with the group split into three roughly equal cohorts of six.

We sold the programmes as including an "Action Learning" element, although the design was not true action learning:

- Short term (one hit) rather than ongoing work
- Learning elements for the action learning sessions were driven by our curriculum and design rather than by participant's questions and needs (although, of course, our design took their overall needs into account)
- There was no formal executive sponsorship for the action learning sessions and outputs, although there was senior level support for the programme overall
- The sessions focused on the reflective application of concepts and tools studied, rather than on the group's perceptions of high priority problems to be addressed.

Questions and exercises were set for the groups during their two-day sessions at Aston Business School. They then had a short period (typically 2-3 weeks) to work in groups on the questions and report back. The questions were driven out of our judgement of the best fit to client needs based on our initial diagnostic and design work.

The Results

The programme is still ongoing at the time of writing; however, the first two modules and associated action learning days have been completed. What is clear is that the groups have engaged with enthusiasm and high energy in this process. We have been extremely impressed with the amount of additional work undertaken by participants, and by the quality of their outputs. The analysis and presentations are easily to the upper quartile of MBA standards. The amount of effort expended in preparation is all the more impressive given the obvious demands on the participant's time: we have the distinct impression that this is one of the most "hard working" of all of the Executive Education cohorts we have encountered.

Furthermore, the quality of the discussions and the insight generated suggests to us that the work they have done for these sessions will have real "staying power". Indeed, on the basis of one set of action learning day activities, a number of specific proposals for change have been presented to senior management.

Issues Surrounding this Approach

While this approach has been extremely effective in this instance, it has required significant work to make it a success (both from the client side and our own), and there are some key issues which should be borne in mind.

The client cohort needs a strong group dynamic for this approach to work effectively. The element of teamwork and discussion is absolutely key to get the necessary quality of reflection and deep learning through the process – individuals would struggle to get the same depth of insight on their own. In the case of this group, the presence of a certain amount of friendly regional competition may have served to have raised their game further in the group work stage.

Of course, without careful facilitation and programme management, such friendly competition can easily become counter-productive, and we have had to be careful to ensure that participants focus upon all of the group outputs, not just those of their team. We have had to field questions along the lines of "Was our presentation better than the other team?" on more than one occasion.

There is a risk of social loafing if the group is not effective at self-management – especially where groups are geographically dispersed. This appeared not to be an issue in this case, partly because of the group dynamic, and partly (accidentally) because the group size was small enough (maximum six) to make this manageable.

It is critical to focus the group on "action" as a part of this exercise; otherwise, there is a real risk that what ensues is an interesting but unproductive talking shop. This demands careful design and facilitation from the tutor. The content, while academically grounded, must be linked closely to the business needs for action to make sense, and the facilitation of the group process must be strongly focused on deliverables as opposed to a more reflective approach.

Facilitation skills are at a premium. The tutor must avoid the temptation to step in with easy answers. Given time and the right support/encouragement, the group will reach their own conclusions – and they will be better than ours, and easier to get buy-in to. Based on our experience, there is at times a strong temptation to short-circuit the process and simply impart our knowledge, but patience really is rewarded in this process.

We question how this approach might be applied to more traditional teaching modes and environments. The traditional pedagogical approach may make it difficult to apply this process to accredited programmes, but we should seek to find ways to try to leverage this approach where possible. For example, utilising this approach on the full-time MBA may be difficult (although we are currently exploring how we may apply this approach in a limited form to this year's full-time MBA group), but part-time MBA students could be encouraged to engage in this reflective application process in their own workplace. How the follow-up might be facilitated is a more difficult question.

Conclusions

This programme has been extremely well received by the client so far, and we are at the early stages of what we hope will be a long and highly fruitful relationship with this organisation. Feedback and engagement from participants suggests a level of commitment and energy which is rarely seen on programmes of this kind.

Several significant ideas for business improvement have been developed already. Of particular interest is the fact that, in this strongly engineering-focused environment, the first two modules covered Leadership and Change Management, and yet we are still seeing strong evidence of application of areas which the group would have admitted to considering "woolly" before they started. We await with interest the results of their implementation.

The quality of learning and group work we have seen suggests we should explore the wider application of this approach to other programmes and in fact this model is attracting interest from other clients. Our view is that, where possible, future Executive Education programmes should include at least an element of this approach. Of course, there are limitations at Diploma level in terms of programme design and curriculum standards. Also, this mode of delivery is more expensive for the client, due to a number of action days being delivered to a group in lieu of one "taught" day. Nonetheless, the learning benefits are such that we are keen to integrate this approach wherever possible

Terry Hodgetts
t.hodgetts@aston.ac.uk
Executive Education
Professor Robin Martin
r.martin@aston.ac.uk
Work and Organisational Psychology Group

THE GUEST LECTURE WHAT DO CENTRAL BANKERS DO?
JANE BINNER

This article discusses the Guest Lecture as an example of how academics can enhance the employability of their students and help to ease their path out into the business world, whilst at the same time providing industrialists with tailor-made recruiting opportunities. For the student, guest speakers can bring practical examples and professional diversity, encouraging them to understand more about the opportunities ahead of them and helping them to make important choices about where to base their future careers. A variety of teaching approaches to presenting course material is also highly beneficial for students as they are more likely to recall vivid experiences in the classroom.

Although I have used Guest Lecturers in many of my modules over the years, this article is based predominantly on my latest involvement with the final year module 'Applied Econometrics and Forecasting'. I have always been very keen to bring the 'real world' into the lecture theatre as the whole ethos of this module is to train students in the art of constructing econometric models that have a direct application in business. For example, business problems can be solved via the creation of accurate forecasts allowing policymakers to make decisions that are more informed. When considering where to start, I realised that, having worked on the construction of monetary aggregates for over twenty years in my research, my work was well known to the Bank of England – I have served as a consultant on money measurement issues. Hence my first move was to contact the Bank to request a Guest Lecturer to speak on the topic of '*Macroeconomic Forecasting in Practic*e', i.e. to discuss the (potentially somewhat dry and mathematical) academic topic of macroeconomic forecasting from a very practical standpoint. This approach worked well from the start; the students indicating clearly that they very much appreciated having someone from the Bank to lecture to them. Amongst other things, it makes them feel very important that such a person is giving up their valuable time to lecture to them. In addition, the lecture provides a wealth of useful material on the difficulties of adopting theoretical models into practice; the whole issue of model verification, i.e. of being certain of the legitimacy of the forecast, come up again and again.

My colleague from the Bank of England also very much appreciates the opportunity to meet students and present the Bank as a worthwhile place to work. Whilst it could be viewed as surprising that the Bank is not overwhelmed with applications from earnest students, the reality is that many do not consider such a career, preferring to be 'where the action is' in industry. From the Bank's viewpoint, the larger the number of applicants they get, the more selective they can be and hence the higher the quality of the staff that they employ.

So, what are the primary advantages and challenges of organising a Guest Lecturer? I would list them as follows:

Advantages:

1. Highly positive student feedback returns and increased numbers of students opting for the module; student numbers more than doubled as a result of including the Bank of England lecture.
2. We are bringing our highly marketable, ambitious students into direct contact with a highly reputable and desirable future employer. Hence our guest finds himself surrounded by prospective central bankers at the close of his lecture as the students try to find out what the career path is to become a central banker. Lengthy discussions ensue about requisite degree

grade for the Bank of England's graduate recruitment programme and the relevance of certain specialisations. Questions regarding the career path followed by our speaker to get to his current position are common.

3. The speaker is the economist in charge of producing the Bank of England's Quarterly 'Inflation Report' – the Bank's most influential publication. The Report sets out the detailed economic analysis and inflation projections on which the Bank's Monetary Policy Committee bases its interest rate decisions and presents an assessment of the prospects for UK inflation, a topic of prime concern. So the lecture is timed for the day or two after the publication of the Inflation Report, when the desk is clear and the immediate pressure is off. A major advantage is that we are the first people to get a detailed and 'behind the scenes' presentation of the Autumn Inflation Report. We also catch the speaker at an excellent time in his cycle as all the work is behind him and he is ready to relax and enjoy the benefits of his own labours in an invigorating atmosphere and deal with our students many questions followed by lunch.
4. The lecture directly provides 'real world' experience to the students. My opening question in Lecture 1 is *'Who would like to be a business modeller econometrician when they graduate?'*, naturally I get complete silence in response. Giving his talk in week 9 and having been encouraged to refer to what is taught in weeks 1 – 8 means that the speaker is also able to demonstrate how the modelling techniques introduced underpin the more sophisticated versions used in the Bank's inflation forecasting model. It has been the most remarkable experience for me in all my many years of teaching undergraduates to witness the turnaround as the students realise how important the subject is; they become quite eager to learn more.
5. The coursework assessment of this module requires the students to build their own short run inflation forecasting model for the UK. With the inclusion of the Guest Lecture, they can use the speaker as a source of valuable information and resource for extra ideas on how to refine their own inflation models. Realisation that the work they are undertaking for their coursework is essentially the same as what happens on a larger scale at the Bank of England adds excitement and motivation to the coursework and drives the students to perform at a higher level.
6. Liaising directly with the employers of our students can also lead to further teaching/research collaborations and bring wider benefits to the University, opening up new opportunities for future developments.

Challenges:

1. Although as indicated above, the students clearly very much appreciate the Guest Lecture once they have heard it, getting them to attend in the first place can be more of a challenge. Some students can be very focused on just passing the module, hence attending lectures just for the experience of finding out what goes on at the Bank of England can seem like a waste of time for weaker students who are not contemplating a career in the Bank. Since it is clearly very important to have a good turnout for the lecture in order to give a good impression of the University and ensure that the lecture is given every year for the foreseeable future, I have found it necessary to incorporate a question based on the Guest Lecture into the exam paper.
2. This move, however, is not without its own difficulties. The deadline for submitting exam papers is week 4, but the lecture is not until week 9. This means that the speaker has to consider what they are going to be saying weeks before they have decided the exact details of their presentation.
3. Since establishing the concept of the Guest Lecturer for this module, and ensuring that any difficulties were ironed out whilst having just a single speaker (see Challenges above), I have now gained the confidence to increase the number of speakers. This year, for example, a colleague

from the Federal Reserve Bank of St Louis in the US will also be giving a Guest Lecture. Indeed, with the 'credit crunch' being so topical, I have persuaded him to give two lectures, one on '*Monetary Policy in Practice'* and a second on *'Financial Turmoil in the USA'*, as part of my postgraduate 'Macroeconomics' module. In this case, the benefit to the Federal Reserve Bank is less clear cut; they are unlikely to attract many applicants looking for jobs, which is the primary advantage for the Bank of England. Rather, the involvement with the Federal Reserve Bank came about because I was able to exploit my role as an Advisor to the Federal Reserve and get the first lecture agreed as part of the package when the individual concerned came across to Aston for a 3 week research-intensive period. Persuading him to give the second lecture was achieved purely through having a good working relationship with the individual concerned. It has the additional benefit, however, of being of very broad interest and hence I am planning to book a larger lecture theatre for this lecture and invite other staff and students from across the Business School – and possibly the media as well.

Recommended Approach

To disseminate good practice and assist colleagues in organising Guest Lectures for their modules, I would recommend the following approach:

1. Pick your organisation and, if possible, the Guest Lecturer him/herself very carefully – the status of both is very important. Inviting a high profile speaker into the classroom adds variety and excitement to the curriculum and brings a subject to life.
2. The topic must be something of direct relevance to the module. It is better for you to choose the topic and then suggest a couple of working titles to the Guest Lecturer. Do not allow them to morph the topic into something of peripheral interest to the module or the students will rapidly become disinterested.
3. It is important to remember that education is fun and the learning process is one to be enjoyed by all participants, so do your best to keep the lecture from being 'dry'. Do not be afraid to provide (tactful) advice to improve things for next time where needed.
4. Confirm the availability of your speaker very early as where they appear in the module schedule can influence how they build on and develop the existing knowledge of the students.
5. Ensure that the speaker is aware exactly what level to pitch the lecture at and what knowledge they are building upon. It may have been many years since the speakers were at University themselves and they may be inclined either to pitch their lecture at too high, or too low, a level.
6. To encourage attendance from the (weaker) students and help to focus their attention, I have found it necessary to ensure that the students know that the lecture will be formally examined. The question(s) itself should be agreed jointly between yourself and the speaker to ensure that it is of the right quality and standard. Of course, this process works easiest if you are operating sufficiently early that you can get a glimpse of the intended talk in advance so that you will have the opportunity to draft out a potential examination question for your guest to modify. Note: I have never yet met a guest lecturer who is prepared to do the marking, so the full details of the required solution have to be ironed out on the day of the visit.
7. You will need to ensure that there is plenty of time for open discussion at the end of the lecture as this is one of the most important parts of the process and 'where the real business is done'. A good response here can help to ensure that the speaker wants to come back the following year.
8. In certain cases, it may be possible to advertise the Guest Lecture more generally around your Academic Group if you feel that the lecture will have wider appeal.

9. You will, of course, need to double check with your Head of Academic Group exactly what the financial arrangements are in terms of reimbursement and lunch/dinner offers or even overnight accommodation.

It is hoped that these thoughts will be of benefit and assistance to colleagues across the University. Those with questions are welcome to come and see me.

Dr Jane Binner
j.m.binner@aston.ac.uk
Economics and Strategy Group
Example used final year module
BS3336: Applied Econometrics and Forecasting and
BSM918: Macroeconomics

THE VIRTUAL PEDAGOGY INITIATIVE
CARL SENIOR, MICHAEL JR BUTLER, JON WOOD, AND PETER REDDY

Summary

Contemporary Higher Education Institutions must adapt to address government funded calls for expansion and widened participation. The adoption of e-learning strategies, such as the use of the podcasts, can facilitate flexible learning around the needs and expectations of students. In this article we outline a number of e-learning developments at Aston University collectively referred to as the *Virtual Pedagogy Initiative.* Each of the strands, podcasts, vodcasts, mobile telephony and the campus wide remote broadcasts, are described pedagogically as well as technically. Where possible data highlighting the student response and experience are included. The article begins with the contention that contemporary undergraduates may be qualitatively different and can considered 'digital natives'.

General Background

In 1998 the Carnegie Foundation for the Advancement of Teaching in the US commissioned an investigation into the current state of undergraduate teaching in America. This investigation and the subsequent report was headed up by the then President of the Carnegie Foundation, Professor Ernest Boyer. Boyer was charged with examining the state of undergraduate research education and to *'confront the nation's colleges and universities to break out of the tired old teaching versus research debate and define, in more creative ways, what it means to be a scholar*' (Boyer, 1997, p1). The results of the subsequent five-year investigation into the efficacy of inquiry-based education have influenced US higher education in a number of ways.

The report maintained that prior to 1997 undergraduate enquiry-based training was practically non-existent. Furthermore for higher education to deliver authentic learning universities would need '…*to be able to give their students a dimension of experience and capability they cannot get in any other setting…* ' (Boyer, 1997, p 27). Boyer was primarily concerned with the research led universities that considered their research infrastructure as a primary concern. It was felt that some students at these institutions left without actually seeing research staff or experiencing the research that the universities prided themselves upon. There was not a symbiotic relationship in which undergraduates invigorated research agendas and in return receiving training in research skills. Boyer argued that it was imperative that members of staff do not become '…*tenured drones who deliver set lectures from yellowed notes, making no effort to engage the bored minds of the students in front of them…'* (Boyer, 1997, p. 5).

The Boyer report provided a ten point agenda for change, which can facilitate the development of this symbiosis between research staff and students. Of this 'new model' the current article is concerned with the first four points, and these are:

1. **Remove all barriers to an interdisciplinary education.** Scientific enquiry is becoming more and more interdisciplinary. A proficient graduate would need the skill set to be able draw upon many different, but convergent, techniques and disciplines.
2. **Develop communication skills at every opportunity**. The Boyer commission realised the importance of strong and professional communication skills to the competent graduate.

3. **Use information technology creatively**. Undergraduate students should use (and also be exposed) to creative use of technological advancements. Competent graduates need more than just a working knowledge of standard software packages.
4. **Cultivate a sense of community.** To engage fully with any initiative it was of vital importance that a sense of community be develop from the very first stages of the graduates career.

As it challenged the existing educational orthodoxy the Boyer report was initially greeted with controversy and debate. Even so the report did have an immense impact on higher education in America. The year after Boyer' publication an opinion article on the potential impact the report would have was published in the *Chronicle of Higher Education.* Here it was noted that '*Institutions are having a hard time placing PhD students in academic jobs and are now being forced* [our underline] *to pay more attention to…undergraduates'* (Wilson, 1998 p. 12). However, the same article also reports that '*conditions have improved for universities… perceived pressures… with undergraduates have lessened a bit'* (Wilson, 1998 p. 12). This article concludes with a statement by Ernest Boyer's predecessor, Shirley Strum Kenny who notes that while universities '*…have done a lot of interesting things…*' to aid undergraduate education, Boyer's original ten point agenda for change had not become '*…part of the real value system of research universities and it's really time to do something about it…*' (Wilson, 1998, p13).

Ten years after the publication of the Boyer report Higher Education Institutions in the UK are also faced with concern at the quality of undergraduate education and with responding to changes in students and student experience. Many undergraduate students embrace information technology to such an extent that they have evolved into what have been described as 'digital natives' (compared to their lecturers who are termed 'digital immigrants'; Prensky, 2001). Unfortunately ten years after Boyers initial report the digital native/immigrant divide still exists. At a recent keynote lecture at the Technologies in Learning and Teaching conference (TILT2008) held at UCL last April, Sir David Watson (Director, Institute of Education) stressed that the need for the digital natives to develop a broad collection of skills that had employment value was probably the single biggest factor affecting the higher education sector. Given that the modern day undergraduate student is acutely aware of the employment value of a degree and the overall experience of obtaining the degree, it is incumbent on educators to recognise the needs of the digital native. The 'digital native' student enters the HE sector with an 'information age mindset', (Frand, 2000, p15) and as such will have the characteristics below.

1. **Zero tolerance for delays.** Undergraduates have been brought up in a world of SMS, MMS, mobile telephony and the internet. Information is instantly available and it is expected to be at hand 24/7. This is not to say the information age students are lazy – far from it, in fact testament to the durable work ethic of the undergraduates is the fact that even with the need to engage in significant part-time employment and their studies, student volunteering has also increased significantly (Watson, 2008). Students cannot understand departmental infrastructure where decisions sometimes can take several committees worth of time before they are acted on. At the same time student interaction needs to be transparent – getting assignment feedback to the students within a week is fine as long as they are aware of the return date and also the reason for this period of time.
2. **The internet is better than TV.** The internet is now the primary source of entertainment and learning for digital age students. The vertical transfer of information via the TV set is simply not sufficient. The internet is a bottomless pit of information and students embrace this repository at every stage of their undergraduate careers. Unfortunately, there is usually no peer review or quality assurance of the work that is to be used. Students thus need to be guided appropriately to ensure that they '*detect what is sophistical, and discard what is irrelevant'* (Newman, 1873 p. 160)
3. **Doing rather than knowing.** Frand (2000) argues that the very nature of the industrial world that undergraduate students will be entering defines the nature of the experience that they will have at

university. As graduates they will have to contend with a work place that is global and rapid. The skills that they seek will have to be in preparation for this kind of work place. In a world where the one of the richest individuals dropped out of university (Bill Gates), what you can do, (find out, solve problems, access information and solutions) may be more important than what you know.

4. **Computers aren't technology.** A new technology is defined as being something that wasn't around when you were born. The technological evolution, however, is occurring at such a fast pace that what was recently the processing power of high-end computer workstations is now available in most mobile telephones. Having the ability to access the Internet from any place on earth via your mobile phone is the standard that is expected by today's undergraduates.
5. **Staying connected**. Students now need to feel, and be, connected to each other on a 24/7 basis. This means on the bus, at work even in lectures. Mobile telephony is the premier vector of choice to ensure that communication is maintained. In light of the recent debate in the THES regarding lecture time texting it would seem that that this phenomena is becoming more and more prevalent (See eg., Furedi, 2008). The expansion of social networking sites such as Facebook, MySpace *etc* has seen their use rise within an academic setting. The very thought of not being in touch at any place or time is alien to the digital native student. As connectivity grows, however this in turn shapes the flow of information and the old synchronous constraints disappear towards a more asynchronous dialogue which can take place at any time and place.
6. **Nintendo over logic.** The Nintendo games console brought with it a unique skill set that clearly differentiates people from the information age. When a digital native picks up a Nintendo game and starts to play it they lose and start again, and again and again. In fact, the only way to learn how to play the game is to lose but with constant trial and error the user starts to gain expertise over the game. This approach is anathema to the digital immigrant who is used to poring over books and instructions manuals before letting themselves lose on a task or piece of equipment. Every time the digital natives lose on Nintendo they gain, as each loss is a learning experience. It remains to been seen, however, how far trial and error learning can sustain student attention in academic work – games have carefully constructed levels that scaffold learning and reward progress.
7. **Multitasking is a way of life**. We have access to information in a steadily growing number and diversity of means – 1,000s of TV channels and potentially infinite number of internet sites is at our finger tips. Within each of these channels the capacity for information transfer is increasing, e.g., during a five minute viewing session on MTV an observer is exposed to hundreds of different images. Given that the human sensory system is not designed for such a heavy information transfer we regularly experience the phenomena of information overload – it is a similar effect to the semantic saturation effect that you experience if you say a single word over and over again (try saying 'apple' in quick succession and you will temporarily lose the concept of the word). With regards to our everyday lives we simply do not take in the information that is presented to us. The digital native student counters for this limitation by multitasking. This multitasking may occur at every level of the students' day - they will text questions regarding a lecture or coursework to their peers while at work and they use social networking sites to create study groups for example. For many the singular mode of information transfer is simply inefficient.
8. **Typing rather than handwriting.** This does not imply that the digital native generation has lost penmanship altogether, rather they have evolved a new form of penmanship that is unique to the word processor. On a word processor, it is possible to generate a document in a lateral fashion jumping back and forth from a plan to the body of the text. This process results in the generation of a document that has been generated in a more meaningful way '*it's not the typing but the power behind the typing that is so important'* (Frand, 2000, p 18).

The Frand criteria for digital natives are diagnostic of a mindset for the modern day undergraduates. This style of thinking and (more importantly) doing things differs markedly from the generation of students that came before them. Given the fact that with this mindset comes the expectation that this is what they will experience during their university life it is important that educators meet the expectations as best we can. More importantly given the fact that undergraduate admissions applications tend to reflect the HEFCE fee allocation it is very important to meet the expectations of the incoming undergraduate cohort as best as possible.

The problem: In light of Boyer's earlier recommendations lectures should be sufficiently engaging so that they inspire and engage the students within a learning community. Given that integration into an undergraduate social community is correlated with student retention and overall course satisfaction, it is essential that a community be maintained for the continued development of an academic course (Tinto, 1997).

The solution: The Virtual Pedagogy Initiative (VPI) is a five strand teaching project that helps undergraduate students to learn in a more flexible manner. No longer will lectures just consist of a room of students intently listening to their tutor at the front of the class! The initiative may be able to accelerate the process of change in terms of the way students learn. Here, we provide an overview of each of the five strands of the VPI, in additional to data that we have collected from the students and their experiences of using each of these techniques. Some data is still being collected from some of the strands. Finally we also provide a technical section and SWOT analysis to assist colleagues who want to adopt these techniques in their own teaching.

The initiative has attracted media interest (see evidence below) and has already been used to allow students in South Africa to take part in lectures at Aston and also to show a real time brain scan as part of a first year undergraduate lecture. Individual components of the VPI are in place at other institutions but the entire development, and application, of the VPI here at Aston is a grass roots initiative. That is the students have told us what they need and we have developed the technology around these needs. Such an approach is unique and the initiative was recognized recently by being shortlisted for the 2007 *Outstanding ICT Initiative of the Year* award by the Times Higher Education Supplement at the Park Lane Hotel, London.

The overall aim of this article is to provide a progress report of where the VPI currently stands at Aston and also to provide technical details so that colleagues can readily adopt any if the techniques noted here should they wish to do so.

Podcasting

What is it ?

Podcasting is the creation of a professional quality audio stream that students can either stream onto an iPod or listen to online anywhere in the world. It must be stressed that podcasting refers to a process as well as the object. For a broadcast to be considered a podcast users must be able to subscribe from it via the internet. If the material can only be obtained via a VLE (which requires a password) or other closed networks the broadcasts are called 'narrowcasts'.

Podcasting Technical Requirements and Process Walkthrough

Lecture-based podcasts were recorded on a *Sony MZ-R700 Recording Minidisc Walkman*. An omnidirectional, back electret condensing *Yoga EM116* microphone was used via the MIC input of the Minidisc recorder. This specific microphone has a sensitivity of -65dB and an impedance of 1kΩ. Hardware based audio compression was set to record at a long playing setting (LP2), effectively giving approximately 160 minutes of stereo recording on a single standard 80 minute minidisc. The recording level was manually set to approximately 75%, so that the integrated level meter measured peaks around the -12dB indicator when the lecturer spoke as if to the room.

Once secured to the lecturer, the recording was started and the HOLD switch used to lock the controls from accidental use during recording. The resulting audio file was transferred to PC via a *Creative Soundblaster Audigy 2* soundcard. The software used for editing was environment was Windows XP SP2 running on a 2.80GHz Pentium 4 processor and 1 GB of RAM. *Audacity* version 1.2.6 (available at http://audacity.sourceforge.net/ and covered by a GNU General Public License) was used to record and edit the soundfile.

Once completed, an export was made of the entire audio so that it could be dubbed to the video for later use. Then, edits were made of periods not relevant to the podcast, such as group activity within the theatre. The edited audio was opened and closed with a selected piece of royalty free music. The whole lecture was then exported at 128Kbps in mp3 format.

What do students think of it ?

To examine student attitudes towards the use of pod and vodcasting a series of eight lectures on the Psychology first year practical module were made available as audio and video files (see vodcast section below) and broadcast on the internet. For comparison purposes the students were randomly divided into three groups where they were asked to subscribe to either a) podcasts, b) vodcasts or c) powerpoints slides only. Ninety three students then returned open ended WebCT surveys on their attitudes and experiences of these media. The full results of this study are reported in Parsons *et al*, (2008) and only the thematic data is summarised here.

Results

Given that the students were merely asked to subscribe to one broadcast group the purpose of the survey was to examine usage patterns of the other media to examine, which one they preferred to use. The usage patterns shows that the students used all three of the learning aids equally. Following a thematic analysis the items from the open ended questionnaires were separated into three thematic clusters and summary data for each of these themes are shown here.

Theme 1 : Facilitation of Community Involvement

The internet broadcasts were considered to be a resource that others could tap into, giving other people the chance to learn something from anywhere in the world. The students felt that this was a very positive and altruistic advantage, and something that the University should take pride in. In line with Boyer's earlier recommendations the broadcasts did facilitate community involvement.

> *"We should all share and share alike ;-) If someone in another country can broaden their knowledge by watching our lectures and we can broaden our knowledge by watching theirs than we can all share our knowledge and experiences. This benefits all."*

> *"It's good that everyone can access them to help widen peoples' knowledge about psychological practices"*

Perhaps quite unsurprisingly the students also felt that having lecture material online was good for the University as a whole on an international platform and prospective students how innovative and technologically advanced the course was an important aspect for future students in an increasingly technological world.

> *"What's wrong with letting others see how cool our lectures are?"*

> *"It is beneficial to Aston because it would give prospective students a real insight into how the course is run. In general terms it may inspire more people to choose to study psychology."*

> *"Why not, they are entertaining and help to illustrate how technically innovative university is becoming"*

Theme 2: Improving learning and Theme 3 Facilitating Flexible Learning

The educational benefit of the broadcast media was acknowledged by the students.

> *"If you have missed something in the lecture or you need visual revision for certain procedures then having this facility would really help."*

> *"It's brilliant. It is great to recall the lectures this way; it is more visual and easier to remember. It is actually exciting to see it and one looks forward to it."*

Perhaps unsurprisingly students also felt that online material was a convenient way to learn in a flexible manner.

> "*If we do end up missing a lecture, this is a VERY helpful way to catch up. Also, it is a much better way to revise. If we don't remember a certain part, or if we did go to the lecture but didn't feel too well, therefore couldn't concentrate, we can go back to it later. This term I couldn't concentrate too much or work too well because I was quite occupied with adjusting and trying not to be too homesick. So going over the broadcasts over the holiday will be very helpful. I wish I could watch all my lectures again."*

SWOT analysis (Podcasts)

Strengths:

1. The user has complete control and flexibility with its usage therefore facilitating multitasking. It is also an excellent way to review lecture information at a future point.
2. Relatively light bandwidth requirements ensure that there is little, if any, delay in network transfer thereby ensuring availability on a range of different computers.
3. To date only one provider has charged for subscription to a podcast (Ricky Gervais show) all other subscriptions are free which ensures that a podcast will have excellent market penetration.

Weaknesses:

1. Dependant on a broadcast player such as an IPOD, or computer with head phones/speakers to listen to the podcast.
2. The user has to connect to the internet on a regular basis in order subscribe to the broadcast this also requires a small element of technical knowledge which would exclude older generations.
3. Relies on a single sensory stream (audition) therefore may exclude the hearing impaired.

Opportunities:

1. When used with embedded powerpoint slides to create enhanced podcasts both the lecture slides and auditory stream can be access by the student simultaneously.
2. As podcasts are dependant on the internet for broadcast it is possible to host distance learning courses for a potential global audience.
3. Listening to material demands less attention that the watching a video excerpt and as such they can be readily adopted when embedded within existing material.

Threats:

1. At this time podcasts cannot be broadcast to mobile phones – given the market saturation of mobile telephony the development of any audio broadcast subscription service to a mobile phone provider would replace podcasts.
2. The advent of push technology in certain websites would allow consumers to access material without connecting to the internet at regular intervals.

3. By its nature the student must subscribe to a podcast service before receiving regular broadcasts some individuals may not feel comfortable with having to subscribe to service or may not own their own computers which would allow for a personal subscription.

Vodcasting

What is it ?

The second strand of the initiative is Vodcasting (as for podcasting but with video material), and this really takes lectures out of the classroom and to the students. The beauty of vodcasts is that they can potentially capture both the lecture, the audience participation and the lecturers' own personal style, and this does have an impact.

Vodcasting Technical Requirements and Process Walkthrough

Lecture based vodcasts were recorded on a *Sony DCR-HC94E Digital Video* (DV) camera. All audio used in the vodcast was taken from that recorded for the podcast. Hardware recording parameters were set as follows, with any unmentioned set at factory default. Recording mode was set at a standard play (SP) speed, providing 60 minutes capacity from a *TDK DVM60 MiniDV* cassette. Aspect ration was set to 4:3 rather than 16:9 widescreen in order to fully optimise the viewable area when synced to video capable 5th generation iPods. Recording was undertaken by a member of staff in two different roles. During static shots, an audience point-of-view (POV) was used to capture presentation slides and also panned to include the speaker. When finer details were to be recorded during the teaching sessions, the camera was manipulated upon a counterbalanced weight, which enabled smooth and flexible motion. An example of this technology can be found at: http://www.cs.cmu.edu/~johnny/steadycam/. The resulting video was captured onto PC via USB connection using Microsoft's *Windows Movie Maker*. PC hardware specification was as described in the podcast technical walkthrough.

The audio from this video was muted and the mp3 file of the unedited audio, recorded for the purpose of podcasting, was dubbed onto the video. A suitable visual cue was used to synchronise this audio with the video. This was achieved by sliding the audio and video along a common timeline. Once synchronised, an export was made at the *High Quality Video (large)* setting, of the entire unedited movie so that audio and video could be locked together. Details for this export are set by Windows to be: 640 x 480 pixel resolution, with a variable bit rate and at 25 frames per second, Windows Media Video (.wmv) file format.

This new movie was then imported into Movie Maker so that edits could be made of periods not relevant to the vodcast. The edited movie was opened and closed with a selected piece of royalty free music, together with title and credit slides, as appropriate. This edited movie was then exported to the same specification as before.

The final movie was then optimised for iPod screen resolution (320 x 240 pixels) using Mac software, *iSquint* v1.5, (produced by Techspansion and available from http://www.isquint.org) and exported as an MPEG-4 file (.mp4) at standard quality output and with all user-definable settings at default. Resulting files were approximately 1.5Mb per minute of video.

What do students think of it ?

As vodcasts and podcasts were piloted together the thematic summary described in the podcast section applies to this broadcast as well.

SWOT analysis (Vodcasts)

Strengths:

1. As both video and audio streams are played vodcasting allows the playback of the full lecture experience including the capture of the idiosyncratic lecturers style.
2. Students may start to feel more affiliation to a lecturer that they can physically see as opposed to just hear via the podcast.
3. Feedback and class discussion can also be captured (as well as the lecturers response to it).

Weaknesses:

1. Relatively high bandwidth required for optimal play back therefore not accessible for all types of computers.
2. Any editing (or cutting of fluffs etc) is likely to impact significantly on the overall quality of the broadcasts and therefore the lecturer has to be careful of mistakes
3. Do to the global nature of the vodcasts and podcasts some lecturers may be reticent about talking about their latest work as it has the potential to be broadcast around the globe and they may lose out to competitors etc

Opportunities:

1. The rise in access of internet based mobile telephony could see a near 100% saturation of vodcast usage with the videos being downloaded to students mobile phones.
2. As described above, vodcasts, like podcasts are hosted via the internet and as such have a potential global market reach.
3. There is also ample and easy opportunity to ensure that brand platforms can be placed in prominent positions throughout the vodcasts thus allowing the opportunity for certain forms of sponsorship.

Threats:

1. The relatively slow down load time means that lecturers will start to broadcast smaller and smaller vodcasts which will see an eventual reduction in content.
2. The quality of the video feed is dependant on the quality of the students monitors. Students with low quality monitors will be slow adopters for this technology.
3. Watching a video demands more attention that listening to a podcast and as such vodcasts are relatively obtrusive.

Mobile telephony

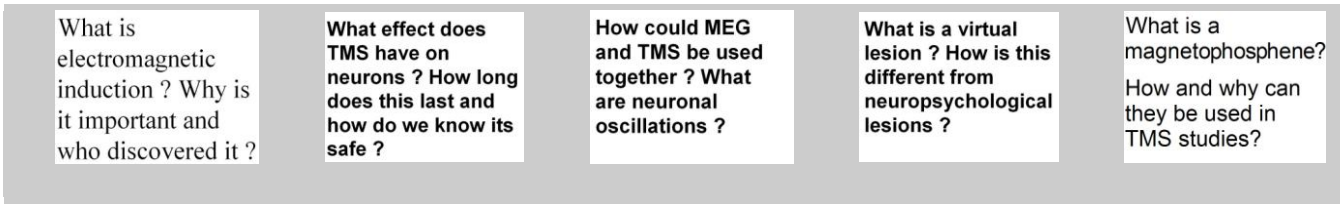
What is it ?

Originally it was planned to develop ‘Minipods’, high-quality, short video files that would be sent to individual student mobile phones using MMS or Bluetooth technology. These Mini-pods would provide students with a 30-second snapshot of the most salient points of a lecture, which they can then refer to at a later date. Students can subscribe to this service via their mobile phones. Student feedback, however, has been mixed – while undergraduates do like to communicate via mobile phones, some feel uncomfortable watching a video clip of their lecturer talking to them. So the strategy has been defined and redeveloped slightly to take this into account and now involves peer-to-peer data transfer via the free bluetooth protocol.

Mobile Telephony Requirements and Process Walkthrough

A series of lecture 'slides' were prepared as images in jpeg format at a resolution of 640 x 480 pixels. This resolution was deemed most appropriate so that it could be viewed on even the lowest of specification mobile phone screens capable of showing images. The slides were visually optimised so that they encapsulated the salient points of the topic under examination and were clear to read at any resolution without the need to upload to a computer to view. All this was undertaken in *Paint* software, bundled with all Microsoft Windows environments. Examples of slides prepared are provided in Fig. 1.

Fig. 1. Lecture 'slides' prepared for Bluetooth transfer to mobile phones.



Once prepared, all these images were transferred via Bluetooth to the lecturer's mobile phone from an iMac with suitable connectivity built in. At a suitable point in the lecture session, students were asked to switch on any Bluetooth enabled devices and make such devices discoverable for a short period. Many devices have a 'discoverable for 60 seconds' setting to enable privacy. Once a list of 20 devices had been populated on the lecturer's mobile phone (a Motorola L6), the image file was copied via bluetooth to a recipient chosen at random from the list of available devices. If connection could not be established within a few seconds, the transfer was cancelled and another device chosen at random.

Once transfer was completed, the lecturer checked that someone within the room had received the transfer. The class were then instructed to disseminate the image to their peers if they received it. This would encourage viral delivery of the material.

What do students think of it ?

In the 2006/07 session, we carried out a pilot study on the efficacy and delivery of video clips via mobile phones. Quite emphatically the student body did not take to this technology, in fact some were aggressively anti-minipods. Further investigation of this attitude revealed that the students felt that a video delivered to their mobile phone was in some ways a violation of their privacy. Comments such as '*when I go home I don't want Dr ….. telling me what to read on my phone*' (S3) reinforced the notion that the mobile telephones were considered personal and private. The students, however, also suggested that they did want the bulletins that contained short take home msgs or directions to further readings. The cost implication was also mentioned in some of the interviews/questionnaires. Later in 2007 we decided to build on our earlier exercise and deliver a complete lecture via free peer-to-peer bluetooth technology. This was a development of the earlier strategy and involved the delivery of a single lecture over the course of five weeks via a single JPG snapshot to one member of the class. (We stressed that it was the responsibility of the student members to forward it to each other as we also wanted to examine the efficacy of 'viral delivery' of lectures). The topic of the lecture was the neuropsychological technique of Transcranial magnetic stimulation (TMS; see Senior, 2002), which is a technique that, due to the various health and safety restrictions we can no longer deliver to the students in the standard lecture format. Each of the JPG bulletins contained a max of four lines of a statement about the principles of TMS and some directions to further reading. The students were told that they were going to have a WebCT quiz on TMS after the course (which is the standard assessment on this module) alongside a WebCT based questionnaire on their experiences and attitudes towards mobile telephone in an academic setting. These data are still being analysed but an initial thematic analysis of the data revealed positive attitude towards this approach. When asked *why* the students felt that the delivery of lectures via bluetooth was a good thing comments revealed a largely positive attitudes towards this approach:

'because all students have a mobile phone so its good to make educational uses of it'

'it's the next logical step, but still weird'.

'accessibility, convinience [sic], gives more opportunity for discussion between students'

As described above the data are still being analysed but will be submitted to peer reviewed publication in due course.

SWOT analysis (Mobile telephony).

Strengths:

1. Mobile telephony is ubiquitous with a near 100% market penetration along and with this level of usage comes a level of competence so little time will be spent learning how to use this technology.
2. Fixed price 'all-you-can-eat' deals for mobile content are helping to drive content consumption.
3. The technology is evolving rapidly with the advent if video and WIFI capable mobile telephones thus ensuring that users are familiar with these technologies.

Weaknesses:

1. In terms of handsets, the market is actually getting more fragmented which means that it is getting harder rather than easier to work towards a user experience which is satisfactory across the board.
2. There is a still a cost implication for MMS messaging (although SMS messaging is largely covered by most contracts).
3. Students consider mobiles phones to be a personal thing and thus feel uncomfortable with videos of their lecturers reminding them about lecture highlights etc.

Opportunities:

1. The mobile phone is a very personal device and thus has great utility for the retention and acquisition of novel bulletins.
2. The novelty aspect of a lecture bulletin delivered via mobile telephony ensures that it can be spread to peers in a rapid fashion thus facilitating a viral delivery of lecture points.
3. Near field communication strategies such as 'bluecasting' allows a free msg to be sent to a large group of people as they walk past a transmission point thus allowing passive and free delivery of lecture bulletins

Threats:

1. It continues to get more difficult for companies to provide a consistent experience across different browsers and the ever expanding variety of handsets and personal devices on the market.
2. From the point of view of the mobile operators, there are numerous threats which boil down to any disintermediation from the value chain.
3. The advent of personal digital assistants and also email compatible mobile phone handsets will ensure that student access delivered information via their free email accounts.

Campuscam

What is it ?

The initial rationale for the development of this strand of the VPI was to engage to the students with the range of technologies that we have access to here at Aston, including the brain imaging facilities. Clearly, it is not possible to take 100+ students into the MRI lab for a hands on lecture. Hence, we had to take the MRI to the students. Such an approach serves to engage the student with the wider Aston community by exposing them to the state of the art facilities that are on campus (which otherwise they will not have access to until they reach the postgraduate level). After initial problems with the technology we have developed an MSN live messenger protocol that allows a near seamless transmission of an actual MRI experiment to any of the lecture rooms on site (or via the internet to any other site on the planet). The initial broadcast of the first live MRI lecture attracted the attention of the BBC who came in to the film the entire event.

CampusCam Technical Requirements and Process Walkthrough

Two practical sessions were broadcast from either controlled areas or remote laboratories with suitable access challenges. Both environments required the same technical requirements and process. Video was transmitted from the laboratory areas via an *Axis 212 PTZ* network camera. This method allows a preconfigured camera to be connected directly to a live network point on the campus and viewed from an internet browser, anywhere on campus via client software.

Hardware configuration was largely set to camera defaults. These being a maximum resolution of 640x480 pixels and broadcasting in motion JPEG. While the software features remote control (pan, tilt and zoom) of the camera, these features are best not used for the purpose of *campuscam*. Although the over sampling technology within the camera maintains a high quality image despite digital zoom, there are issues over remote control making physical manipulation of the camera difficult. For instance, if the camera is remote zoomed to a corner of the viewable area, then local movement of the camera becomes difficult for the operator. With the view set to a wide angle, this allows handheld manipulation of the camera and monitoring of the signal output, viewed on a computer across the room. This local monitoring ensures suitable direction of 'broadcast' images.

While these cameras have potential for simultaneous audio streams to be carried with the video, we chose to use to carry audio over the university telephone network. The *Cisco 7940 IP series* of telephone has a loudspeaker, so that a two-way communication can occur without the use of the handset. A secondary microphone was linked to the lecture theatre audio input so that the sound from the telephone speaker would be amplified to an appropriate level for a large group.

The laboratory phone was used to initiate the call with the lecture theatre. This is because the audio from the initiating call will always take precedence over the audio from the receiving telephone. This order prevents audio being broadcast from being silenced by audio feedback and comments being made in the lecture auditorium.

Prior to the teaching session the audio link was made via telephone as directed above and volume levels set appropriately in order to prevent feedback. This link was maintained throughout the session even when not required. This enabled monitoring from the remote location of the status of the lecture. To prevent unintended audio noise from being heard during the lecture the mute button was used in the remote location. When the lecturer announced a link, the phone was unmuted and conversation ensued.

At this stage, the lecturer will switch to their internet browser to the appropriate address for the webcam. At Aston, there are two remote cameras, one placed in the MRI suite, located in the *Aston Academy of Life Sciences* (AALS) and the other in the MEG suite on the Neuroscience Research corridor in the Vision Science building. The IP addresses for these cameras are:

MEG laboratory: http://134.151.102.160
MRI suite: http://134.151.102.161

Login details for these cameras are required. The username is *demo* and the password is *aston*. As this technique forms a live broadcast, no post-production is required.

What do students think of it ?

Initial feedback is good - the data is currently being collected

SWOT analysis (Campus Cam).

Strengths:

1. Allows a large group of students to observe and participate in various activities that they would not have previously been able to to do so e.g., functional brain imaging experiments etc.
2. By its nature it is immersive thereby and thus directly facilitates involvement in a learning community.
3. The technology is very low level and as such accessible to many institutes.

Weaknesses:

1. It is reliant on the University phone lines for the transfer for the information for internal broadcasts within the campus network and therefore sensitive to the normal problems that that may occur with such a network.
2. Any involvement with the facility being connected with would have to be at a group level therefore denying individual students the change to engage with the technique being demonstrated. This would mean that the standard class dynamics would still be in place (shy students don't say any thing etc..).
3. The technology only allows you to communicate a topic to another site – there is no control over the nature of that topic or the lecturing style (it could still be boring!).

Opportunities:

1. It is possible to use this to have national, European and international real-time lectures or debates across various sites.
2. The use of the campus cam technique also makes it possible for Aston students to have interactive sessions with facilities that aren't at Aston such as high field MRI (7 Tesla).
3. Most students have access to a webcam and can therefore contribute towards a class from any place on the planet – it is not just being in a class when the campus link is projected in.

Threats:

1. Places like the MRI labs have to be free for the class to take place and therefore requires bookings around other usage of the facilities such as clinical time etc
2. To experience the campus cam lecture the students have to be in place in the lecture room at the timetabled time and there is no way to replay the lecture if they arrive late or want to revise it at a later date
3. The ability to feed video directly onto places like 'youtube' etc from your mobile phone is likely to impact on the use of the campus cam.

REFERENCES

Boyatzis, R. E. (1998). Transforming Qualitative Information: Thematic Analysis and Code Development. Thousand Oaks, CA: Sage.

Boyer, E.L.(1997) *Scholarship Reconsidered: Priorities of the Professoriate*. Carnegie Foundation for the Advancement of Teaching. Jossey-Bass, USA.

Frand JL (2000). The Information age mindset : Changes in students and implications for Higher Education. Educause Review 35(5).14-24

Furedi F (2008). It's a vxd question: why your lecture isn't as important as an SMS. *Times Higher Education*. 17 April 2008

Graham G (2005). The Institution of Intellectual Values: Realism and Idealism in Higher Education. Imprint Academic, UK

Newman JH (1873). The idea of a university. Regenary Gateway Press, USA.

Parson V, Reddy PA, Wood JB, & Senior C (2008, under review), Educating the IPOD generation: Examination of undergraduate attitudes, experiences and knowledge of internet broadcast media. *Learning, Media & Technology*

Prensky, M. (2001), Digital Natives, Digital Immigrants, *NCB University Press*, 9 (5), 1-6

Watson D (2008). The inner game of higher education. Keynote lecture presented at the TILT 2008 Conference, University College London, (15th April 2008).

Wilson R (1998). Research-University Presidents Dispute Carnegie Report on Undergraduate Education. The Chronicle of Higher Education. 44(36).10-13

Tinto, V. (1997). Classrooms as communities. *Journal of Higher Education*, 68, 599-623.

Senior C. (2002). Principles, safety and utility of transcranial magnetic stimulation in cognitive neuropsychology. *Australian Journal of Psychology.* 54(1). 40-45.

Dr Michael JR Butler
Aston Business School
m.j.r.butler@aston.ac.uk
Dr Carl Senior, Jon Wood, & Peter Reddy
School of Life & Health Sciences
c.senior@aston.ac.uk
j.b.wood@aston.ac.uk
p.a.reddy@aston.ac.uk

THE LARGE LECTURE – BEYOND GETTING OUT OF THERE ALIVE!
PATRICK TISSINGTON

Introduction

My father was a school teacher for over 30 years and amongst the many things which prevented me from following in his foot steps was him once remarking that a class of 30 fifteen year old boys could easily overpower him - and his recurring nightmare that one day maybe they would! This is at the back of my mind when I say that I began my academic career with the aim of getting out of the lecture theatre alive. These days, I have raised my sights a little but when faced with a group of 500 students at a time, I began to wonder how much value I was able to deliver to the individual student. The following article contains reflections on my experience but I would never presume that I am more able to meet the current challenges than any of my colleagues. This article is written as a way of sharing my experience over eight cohorts on this module in the hope that disseminating some ideas might be of some value.

Situation

In a great many ways it is “A Good Thing” that we have so many students, and surely “A Very Good Thing” that we continue to be on an upswing in terms of pretty much every performance measure devised. But in the real world of teaching, we also all know that these successes have thrown some considerable challenges our way. Of high significance amongst these challenges is the necessity of teaching large groups of students – sometimes at postgraduate level, but it is fast becoming the norm at undergraduate level – whilst maintaining the very high standards we have set ourselves. Our reputation and the introduction of tuition fees means that student expectations of us as lecturers are higher than ever and it is a very long time since the days when lecturers could expect the students to be grateful for whatever they felt like giving them; and quite rightly so. Students are not in our lecture rooms as a result of the charity of local authorities but because they and their parents are paying directly for it and they expect a return on their investment and decent service for the fee. In addition, the staff/student ratio is unrecognisable from past eras and the employment consequences of the current economic pressures have not escaped the notice of our students, who are more focussed than ever on achieving good grades. So lecturers are faced with the prospect of seemingly ever larger groups of students who at the same time are demanding a higher level of service. In short, we are expected to do more with less.

This short article is an attempt to share some successes and failures at engaging a very large group of students (N=935 this year) and meeting the challenge of trying to make a huge lecture feel interactive. First, an overview of the potpourri of support methods deployed on the module before describing in detail one particular innovation. First the challenges:

Challenges

Impersonal

When classes become larger than a certain number, there seems to be a steep drop in the personal attention you are able to give to individual students. Some have tried to put numbers on this – for example Davis and McLeod (1996) put the cut-off at about 40 which is perhaps a little low – but surely when you get to 100, you will not know the students by name. Many of us are at the multiple hundreds these days so we are deep into impersonal territory. In fact, I would argue when it gets over 100 students, a conceptual shift from conventional lecturer/student relationship is needed and a move from a tailored, individual response to student's learning requirements to the provision of resources to back up lively, stimulating and entertaining lectures.

Interaction

One of the critical shifts of scale is in interactivity. When you have 20 or 30 students, a general classroom discussion is perfectly possible if managed correctly (and the students feel able/willing to contribute). In that size of class, students will probably feel that in discussion elements, there is at least a chance that they will get a chance to have their say and also feel at least a chance they will be called on so are likely to pay attention. With the larger groups, this is not so. At the same time, a current buzzword is "interactive" which is the perfectly sensible idea that students will learn more if they are able to feel that they have had some input in their own learning.

Attention

Having lured the students into the lecture, the next aim is to keep their attention during the lecture. Estimates vary on how long the attention span is for stand up lecture (or 'death by PowerPoint') and because the variables of how interesting the lecture is to the student vary as do the cognitive resources of the students, a generalisable figure isn't really meaningful. We can be sure, however, that unless the lecturer works at it, this time span is not very long at all so it makes sense to vary the pace to allow for this.

A sense of personal involvement

Clearly, when a student is sitting in a lecture theatre with 499 others, it is unlikely that they will feel personally involved. When in a crowd, the loss of our identity can lead to less pro-social behaviour which further presses the length of attention span because we are less focused on what is going on and also there is inevitably background noise – ranging from coughing as germs are shared around the halls of residence to occasional chatter and comings and goings.

Attendance

It is surely true that you cannot hope to teach students very much if they do not come to the lectures. The rights and wrongs of lectures as an effective educational event is perhaps a topic for another article because for the moment at least it remains a mainstay of the offer we make to students. In fact, it seems a fairly central part of the expectation of what university education is about from the point of view of students and (probably more significantly) their parents. So, one of the most visible metrics I use on my own performance is seeing whether students actually come to the lectures. Once they are there, I at least have the chance of creating an environment which will deliver some learning. I really hope a vast amount of learning happens outside the lecture theatre but it is in the lecture which I use to awaken curiosity which will drive this learning whilst also perhaps providing illustrations of key points.

Solution menu

To meet these challenges, it became clear that the traditional support mechanism of individual office hours or even group tutorials would not help because the numbers would be too large to make them much more interactive than the lecture and loaded to much cost for little (if any) benefit. Therefore, I have built a multiple method solution menu where students decide what modes of support they access from a menu of different modes. The menu consists in part of technologically delivered support via a Virtual Learning Environment (podcast lecture summaries, interactive links to websites, online exercises) and partly by adapting traditional techniques (specialist sections in lectures on essay writing, drop-in surgeries, voluntary lecture sessions on referencing and essay writing, highlighted access to central learning support) to provide multi-source support which can be accessed flexibly. This support is offered as an adjunct to the lecture but this past year I have been experimenting with the use of SMS messaging sometimes during the lectures, which is now described in more detail.

The system

The University has bought a system called txttools which is a web-based texting system whereby messages can be sent and received via the internet. I should stress that this means you do not have to give out your mobile number to the students nor do you need to send hundreds of individual messages from your phone. Txttools is incredibly simple to use – you go to their website and use the login details you are given and then you see a screen similar to your email with lists of contacts, inbox, sent items and so forth. Outbound messages can be pre-written and timed for release or just sent in real time. The system is designed to link to SITS and Blackboard to obtain mobile numbers.

Potential uses

Outbound: you could send messages to remind students of key dates (e.g. “you should have written your essay by now”) in the calendar or to notify last minute changes of lecture venue. There is potential for messages to be sent which could form part of a research study.

Inbound: Students can text questions to the lecturer at any time during the week or even during the lecture.

Successes

(i) out of class.
This system was trialled on a small group (n=40) in both in and out bound modes. At the start of the module, I laid out an expectation that students would read the chapter or paper I set in preparation for the lecture and that there would be a discussion of this material at the start of the lecture. Messages were sent at pre-determined times to remind students to do the reading and that we would be discussing it in the lecture. Whilst this was not a controlled study so I have no conclusive data to present here, I had the best discussions I have ever had with this group because all the students had done the reading and had developed views on it. Perhaps this was just a motivated group of students who would have done the reading and participated anyway but they reported that it was helpful and whilst registering to receive the texts was voluntary, every single student on the module did so and also reported enthusiastically how helpful the receiving texts had been.

(ii) In class – small group
Students were divided into small groups to discuss controversial topics. As the group came up with ideas, these were sent in by text and collated onto a PowerPoint slide. Responses of all the groups

could be seen by the whole class and since the messages were not attributable to individuals, extremely frank and open responses were obtained.

(iii) In class – large group
I then took some of these ideas forward to the large group where they have been piloted this year. At the start of the lecture, a question was posted on the screen asking for their opinion on a relevant topic and giving the text number. For example, at the start of the leadership lecture I asked who they thought to be a great leader and why. I pasted responses into a slide which was incorporated into the lecture. During a lecture on decision-making, I went through a dilemma in the lecture and paused to allow students to discuss this in small groups and provide their solution. Again, the responses were pasted into PowerPoint and formed part of the lecture session.

Shortcomings.

Sadly, the links from TxtTools to Blackboard™ and SITS do not work at the moment so if you want to send texts to students, you need to get them to text you first and you reply to them. You can also import a list of mobile numbers which are extracted from the student records. This is incredibly fiddly and I eventually gave up trying to make it work. Perhaps if I asked a computing student (or perhaps a 10 year old boy!) it could have been made to work. It might be possible for this functionality to be worked on in future since there is no technical reason why it does not work just that the time/money hasn't been available to make it happen.

The SMS system only allows messages of up to 160 characters. This is fine for quick responses but is too short for any details. There doesn't seem any solution to this apart from restricting the use of the technique to questions which will have short answers.

Finally, at the moment, the outbound option is really not feasible given the difficulties of accessing students' mobile numbers. In addition, each outbound message costs 4p which means each message was sent to the entire student cohort would cost £38. Inbound messages, however, are free to the university – it costs the students the same as any other text message. So, the trial was with the inbound system.

Conclusion

There seems to be potential to use text messages for a number of educational purposes, but as ever there are resource implications – cost of sending large number of messages and technical input to iron out the wrinkles in the system. My observation is that students do not check their emails all that often, whereas the vast majority have mobile phones which they check incessantly. It might be that text messaging is a more direct way of reaching students which can be exploited in a range of different ways. Perhaps the challenge which remains is for us to work out how this fits with all the other forms of communication we have at our disposal already and could we also use MSN, Twitter, Facebook or other communication media somehow to our advantage? The word of caution is of course to be careful that we know why we are using these tools and to ensure that their use is actually helping enrich the student learning experience.

Reference

Davis, G., & McLeod, N. (1996). Teaching large classes: the silver lining, *HERDSA News*, **18**(1), 3-5, 20.

Dr Patrick Tissington
p.a.tissington@aston.ac.uk
Work and Organisational Psychology Group
Example used with first year student on
BH1107: Introduction to Organisational Behaviour

CREATING GUSTO THROUGH GAMES AND GOALS
BEN CLEGG

Introduction

Goal-based learning (GBL) has long been used for teaching (Schank and Kass, 1996) and training (Collins, 1994), and game playing is also very widely used (Fudenberg and Levine, 1998). When both are used together it can become a winning combination that focuses students' attention, dismisses precepts about a subject, lowers barriers to preferred learning-styles and open minds to new tools, ideas and concepts. The combination can be achieved using basic traditional physical props (e.g. pens and paper) or advanced internet technology. This report briefly describes an offline and online approach and then summarises some of the main benefits to be gained from combining games and goals to get students going in the right pedagogical direction.

Offline Example: Statistical Process Control 'Short Straws' Game

I have found this goal-based game approach particularly powerful when quantitative issues are being introduced to students that do not have a numerical background which sometimes means that students struggle with and shy away from tackling valuable topics head on. For instance, in the subject of Quality Management there are a broad range of topics ranging from the extremely quantitative to the extremely soft fuzzy qualitative ones. I believe that games in this subject can successfully encouraged students to tackle the more quantitative issues. For instance, Statistical Process Control (SPC) is well supported by the 'Short-Straws' game. I have used this game for undergraduate teaching and executive education training and it has been equally well received by both groups that contrast markedly in terms of experience and attitude.

The 'Short-Straws' game recreates a scenario for generating variable shop floor data, capturing and displaying it, analysing it and making suggestions for improvement actions for a production environment. This is achieved using basic stationary equipment and a few other easily available materials (i.e. drinking straws, dry spaghetti and rubber bands) to substitute material used on the production shop floor. In brief students work in teams of three, one cutting materials, one measuring and one recording lengths of cut material and one plotting the findings on a graph; all of them are them required to analyse the findings and propose some improvement recommendations. The 'Short-Straws' game can be performed in about 1 hr and should immediately follow a (I-2 hour) lecture on the theory and mathematics of SPC. It is amazing and very rewarding to see the transformation that students go through in this teaching session, it can be from one of total fear (of the formulas and concept) to one of total confidence and happiness. I believe this is because students can contextualize why the calculations are necessary, where the data comes from, and the purpose of the charts that are drawn and values that are calculated.

To make the game livelier I introduce a competitive goal-based element to it where each team must attempt to achieve the best results (i.e. process capability) possible and then present it back to the class at the end of the session. Unbeknownst to them each team has different materials to work with and slightly different equipment to use that is more or less accurate than equipment used by other teams. During the debrief all of these issues come out and combine with other factors such as human error, data rounding and process variability and brings home the reasons why SPC and production control systems are necessary if quality yield and output is to increase. After this students can find calculations that were once quite scary almost elementary by comparison.

Online Example: 'Supply Chain Management' Game

Information technology is well suited to supporting learning games and goal-based learning (Montgomery, 1994), as it can create rich scenarios and provide a medium for interactions to take place (Clegg *et al.* 2000; Clegg and Turner, 2002). The Supply Chain Game is one such goal-based game that is a web-hosted, discrete-event simulator of a network of factories and warehouses geographically distributed across as many as five different delivery regions.

I have used this Supply Chain Game for teaching large undergraduate classes on supply chain management, but it could also be appropriate for courses that include material on forecasting, inventory control, logistics, and supply chain design. I tailored the assignments to a suitable level of complexity and focused it on suitable topics related to the rest of the lectures by selecting and setting simulation parameters (e.g. production costs and holding costs) that the students will be able to modify and monitor during the game. The game's web-hosted technology facilitates a supply chain that is managed by a single firm (controlled by the student team) producing a single product for multiple unique regional markets. The student teams accessed their supply chains via the Internet.

Other than standard browsers, no software is required; and it is very easy to monitor the students' progress and settings, as well as perform other administrative functions such as starting, controlling and resetting the game. This game overcomes many of the difficulties associated with computer-based assignments, as I (or any other tutor) only need a web browser that can access the Internet. As a result, you do not need to be concerned with software installation and maintenance, or platform compatibility issues and there is no problem about getting new software installed on machines in student IT laboratories because the software resides on a central server maintained by the provider (Responsive Learning Technologies, 2008). In addition, all student assignments and handouts can be put online, so there is nothing to be physically handed out.

The Supply Chain Game, however, requires careful integration into the lecture and tutorial schedule to be successful. For example, I always give a demonstration of the online game's interface screen at least a week before the game starts, to let the students know what to expect and time to read the game scenarios and assignments. In a typical assignment, I get students to work in teams (pairs) and register their teams over the Internet. After the teams have registered, I start the game from the administrator web site. Students manage their supply chains by setting ordering parameters such as the order quantity and re-order points between each factory and warehouse. I then hold tutorials in computer labs during the running of a game (which lasts for one week). In these tutorials the students will be playing the game live whilst I am present and one-to-one clarifications can be given about the dynamics of the assignment. Students make decisions about factors such as adding capacity to existing factories or, if allowed in the assignment, to build factories and warehouses in new regions. Each team's supply chain sees the exact same environment. For example, a particular order will arrive at each teams' supply chain at exactly the same moment.

After each one-week assignment is completed, (which varies in difficultly) the cohort is debriefed in the lecture immediately following; this covers what should have been done and the most successful teams describe what they did and their rationale they used in their winning strategy. The students must then reflect on how they have done and write up the exercise reflecting on this and what they might have done better; this requires them to draw upon theories covered throughout the module. The assignments are mainly marked on the analysis in the report although a small portion of the marks also depends on the team's final ranking in the game; I find this gets a really exciting buzz going amongst the class.

Students quickly learn that most of the decisions to be made in the game are driven by forecasts, so forecasting complex demand is a key aspect of the game and is covered extensively in lectures prior to the game being run. Demand patterns can be arbitrarily complex, including cyclicality, long-run trends, infrequent large orders versus frequent small orders, end of life, and different degrees of randomness. Depending on the demand pattern, different types of extrapolation, smoothing, and

forecast updating can be appropriate. There are five regions in the Supply Chain Game and each region has its own demand. The teams need to show their judgement in order to select the most suitable forecasting methods for each region they choose to supply. I make the objectives of the game very clear: the team with the most cash at the end of the game wins. Revenues are accumulated by filling demand within a lead time requirement, investment and running costs are incurred by the teams. Learning objectives cover:

- Short-term and long term financial modelling
- Short-term and long term production and supply dynamics
- Strategic planning of resource capacity.

Typical comments from students over the last three years have been, "… *it [the game] was enjoyable to use, and it was interesting to see how various strategies worked and the competitiveness was fun*"; "*the game was a good learning experience … very different to other simulations done at University*" and "*very relevant; I particularly enjoyed the games as they are a great way of putting theory into practice*". Finally, the constant availability of team standings (to see who's winning) in the Supply Chain Game builds excitement and allows students to continually assess their performance relative to peers.

Summary

The Supply Chain and 'Short-Straws' Games are good examples of goal-based games. Schank *et al* (1994) describe goal-based games as comprising a "clear, concrete goal to be achieved, a set of target skills to be learned and practiced in the service of this goal, and a task environment in which to work." Goal-based game scenarios are especially appropriate for generating an understanding of complex dynamic systems (e.g. production and supply systems), which allows students to systematically refine their understanding and intuition of system behaviour through exploration and iterative experimentation. By iteratively discussing and making decisions, observing the impact of their decisions, and refining those decisions, students develop an intuition for how supply chains and production processes behave. Students also develop the set of skills that apply lecture concepts. For example, a lecture may present the theory of 6-sigma quality control, process capability calculations, continuous replenishment system calculations and forecasting techniques and such games then allows students to develop the necessary skills to execute them. By providing a scenario that is somewhat representative of a real situation where course material can be applied, goal-based games can build student gusto for course material and learning in general.

References

Clegg BT, Turner MJ, *'Understanding Enterprise Behaviour: A Feasibility Study'*. Stanford University, Centre for Integrated Facility Engineering (CIFE). Working Paper No. 074. August 2002. http://www.stanford.edu/group/CIFE/Publications/index.html

Clegg B.T., Alexander I.F., Boardman A.J., Wingrove S.J. and Boardman J.T. 2000. *'Tool Support for Integrating Extended Enterprises'*. IEE Proceedings: Software. Vol. 147, No.4. pp795-811.

Collins, A. 1994. '*Goal-Based Scenarios and the Problem of Situated Learning: A Commentary on Andersen Consulting's Design of Goal-Based Scenarios'*. Educational Technology, Vol.34, No. 9, p30-32.

Fudenberg, D. and Levine D.K., 1998. '*The Theory of Learning Games'*. MIT Press.

Montgomery, J., 1994. '*Conducting and Supporting a Goal-Based Scenario Learning Environment*'. Educational Technology. Vol. 34, No.9, pp.15-20.

Responsive Learning Technologies http://www.responsive.net, 1.12.2008

Schank, R.C., Fano, A., Bell, B., and Jona, M., 1994. '*The design of goal-based scenarios*'. The Journal of Learning Science. *Vol.* 3, No. 4.

Schank, R.C. and Kass, A. 1996. '*A Goal-Based Scenario for High School Students'*. Communications of the ACM. Vol. 39, Iss 4. Pp28-29.

Dr Ben Clegg
b.t.clegg@aston.ac.uk
Operations and Information Management Group
Example used with undergraduate and Executive Education

PAPERLESS EXAMINATION BOARDS
LINDSEY ALLSOPP, REBECCA DALY, ANNE ESSEX, JENNY HOLT, LAURA HAWKRIDGE

Introduction

Aston Business School used 'paperless' Boards for the first time this year. In previous years, each member of the Board had a copy of the reports. In the Undergraduate Programme some reports were up to 30 pages long, and Boards had up to 20 members. In the Postgraduate Programme, four Boards are held each year, with an average of 800 MSc and MBA students considered at each Board. Each student's results were presented on a separate piece of paper. With over 30 staff attending each Board, each with their own set of papers, a large amount of paper was used, which was then destroyed by a costly confidential waste disposal service.

The Electronic Boards

For the Postgraduate electronic Board, reports are run for 15 degrees, in Business Objects[1] and saved as PDF files.

The Postgraduate Boards are held in the AMIRS[2] Suite, which has a whiteboard and individual computers for each member. PDF files are uploaded onto the computers, the data is projected onto the whiteboard, and the academics can either view these on the large screen or on their computer screen. The split was about 50/50 with regards to the preference on this. Having the data on individual computers gives members the ability to pause on individual students to check details, where necessary, while the main business of the Board continues. The Board can return to a specific student if a member requires clarification or further information on a particular student or decision.

The vast majority of students proceed through their course without problems and we skip over these students (marks and decisions are checked and re-checked and a pre-Board is held and this has always been the practice, even with paper Boards), however academics can still view these results on their individual screen if they wish. The Board has a running order which highlights the students to pause on and make a decision. The page numbers are shown at the side of the screen and the Chair reads out the page numbers of the students that the Board needs to consider, members simply click on the appropriate page number and are taken directly to the results in question. At the same time an administrator operating the computer that is projecting the same data on to the large screen.

We do not update data at the Board - we have a small number of paper copies which administrative staff use to mark the decisions taken and the changes are made post-Board.

We find that this system gives us the added advantage of being able to distribute the information contained in the PDF to Course Directors and module lecturers in advance, giving them the opportunity to consider the information prior to the Board. Previously the first time this information had been available was at the actual Board meeting, so this system means that the relevant people are much more informed and prepared when they attend the Board.

[1] Business Objects is a fully integrated query, reporting and multi–dimensional data analysis tool used in conjunction with Aston University's SITS student record system
[2] AMIRS, Aston Multimedia & Interactive Research Suite

We have now run three exam boards electronically. The only change we have made between the two is in the lay-out of the room, which at the first meeting was very informal and meant that some academics had their backs to the whiteboard. The second and third meetings we held in class-room style and was much easier for all concerned to view the data in the form they prefer. In the third meeting we moved out of AMIRS and in to a PG lecture room, at no detriment to the experience.

We did canvass academics to see if they would be happy to view the data only on a large screen but the feeling was that being able to view at leisure, if required, was an added benefit and was also an additional fail-safe as it allows people to check decisions in detail, as the board moves fairly quickly over each student. The feedback we have had from academics and externals has been very positive, it has saved considerable amounts of money in terms of printing and paper costs and we no longer have the issue and expense of disposing of confidential waste. At our most recent meeting we offered to provide laptops, but most were happy to use the screen.

This paperless system enables the capture of data electronically at a particular point in time, which can be used for future reference. Once Exam Board decisions have been input into SITS, it is not possible to recreate this data. Module statistics can be compared with previous years electronically and not as previously, by producing photocopied reports from previous years.

The Undergraduate Boards were similar to this. The main differences were due to the larger number of Boards (up to 50 per year) and the smaller number of members at each Board, because of this, Undergraduate Boards rely on projecting results on the wall without individual computers. One Exam Board member asked for a paper set of results, due to poor eyesight, and we were able to provide these.

Feedback

The feedback we have had from academics and external examiners has been very positive. This innovation has saved considerable amounts of money in terms of printing and paper costs and we no longer have the expense of disposing of confidential waste.

There is the added advantage of being able to distribute the information contained in the PDF to Course Directors and module lecturers in advance, giving them the opportunity to consider the information prior to the Board. Previously, the first time this information was available was at the actual Board meeting. Relevant people are much better informed and prepared when they attend a Board.

Professor Helen Higson chaired most of the Boards in both areas and comments:

"This year the Boards took less time and were conducted very efficiently. When I was both chairing the Board and manipulating the electronic system (for UG) I found it very easy to use."

In the Postgraduate Programme 30,000 sheets of paper per Board have been saved with a cost saving of around £1,000 per Board. In addition there is staff time saved on photocopying. In the Undergraduate Programme up to 50% of the paper used previously has been saved.

One External Examiner thanked the Board for being invited to participate in the Board process and for organising everything so professionally. All mentioned this as something which was innovative and many said they would be proposing it in their institution. One said in their report: *"The new 'electronic' Board of Examiners format is an improvement as it significantly reduces paper requirements at the meeting without serious drawbacks."*

This innovation enhanced the performance of the Boards, the reputation of the University with the external examiners, acted as a benchmark for other business schools and contributed to Aston's environmental mission by the reduced use of paper and also saved the School money.

Shortcomings

Some paper copies are still produced for example: for the Chair, the external, the administrator, and for anyone who has difficulty seeing the screen or in case of technical problems.

Due to the way Aston reports are written it was difficult for Final Year Undergraduate Boards to keep track of two reports (at the same time) so two laptops and projectors were used. There were also issues regarding some members needing reports with names (the Chair and Secretary) whilst others could only see candidate numbers which added time to the task - but these issues may be specific to Aston.

Rebecca Daly, Anne Essex
Undergraduate Programme Team

Lindsey Allsopp, Jenny Holt, Laura Hawkridge
Postgraduate Programme Team

Example used at UG/PG Exam Boards 2007/2008

APPENDIX 1: HELM SEMINAR SERIES 2008/2009

HELM Seminar Series 2008 – 2009

Thursdays 12:30pm - 2pm, SW1109 or AMIRS
(sandwich lunch provided)

23 October 2008 - SW1109

Dr Monica Giulietti (Aston Business School)
Strategy tools adoption: evidence from UK business schools' alumni

20 November 2008 – AMIRS (MB252)

Dr Robin Clark (CLIPP, Aston University)
Adventures in learning and teaching – the path to a National Teaching Fellowship

11 December 2008 - SW1109

Dr John Fletcher (CEAC, Aston University)
Teaching of sustainability module

12 February 2009 - SW1109

Dr Edgar Whitley (London School of Economics)
Why plagiarism detection software might not catch cheats

12 March 2009 - SW1109

Dr Mark Palmer (Aston Business School)
Transitions, textbooks and troubles: my research agenda for management pedagogy

23 April 2009 – AMIRS (MB252)

Pete Reddy (LHS, Aston University)
Implementation intention and approach to study

21 May 2009 – AMIRS (MB252)

Dr Michael Butler (Aston Business School)
Improving first year retention levels in business schools – taking a mental toughness approach

APPENDIX 2: HELM SUGGESTED JOURNAL RANKINGS

HELM Suggested Journal Rankings

(These have currently been submitted for consideration in the ABS Load Model)

Journal Title	Impact factor	Assoc Bus Schools	Aston	Warwick 2003	Bristol 2006
Academy of Management Learning & Education	2.796	3	**4***		3
Accounting Education		2	2*	4*	
Active Learning in HE		1	1*		
Adult Education Quarterly: A journal of research & theory	0.129		?		
Advances in Developing Human Resources		2	2*		
American Educational Research Journal	1.930	3	2*		
Applied Measurement in Education	0.303		?		
British Educational Research Journal	0.782	3	**3***		
British Journal of Educational Psychology	1.024		2*		
British Journal of Educational Studies	0.467		?		
British Journal of Educational Technology	0.574	2	3*		
British Journal of Guidance & Counselling	0.508	2	2*		
British Journal of Sociology of Education	0.609		?		
Comparative Education	0.435		?		
Contemporary Educational Psychology	1.089		?		
Economics of Education Review	0.557	2	?		
Education & Training		1	1*		
Educational Administration Quarterly	0.333		?		
Educational & Psychological Measurement	0.831		2*		
Educational Management & Administration		2	2*	3*	2
Educational Policy	0.439		?		
Educational Psychologist	2.231		?		
Educational Psychology Review	1.516				
Educational Research (UK)	0.488				
Educational Review	0.558				
Educational Studies	0.246				
European Journal of Education					3

Journal Title	Impact factor	Assoc Bus Schools	Aston	Warwick 2003	Bristol 2006
Harvard Educational Review	1.000		?		
Higher Education	0.608		3*		
Higher Education Quarterly		2	2*		3
Human Resource Development International		2	2*		
Human Resource Development Quarterly		2	2*		
Human Resource Development Review		2	2*		
Industry and Higher Education		1	1*		2
Innovations in Education & Training International		1	1*		2
International Journal of Education Development	0.375		?		
International Journal of Educational Management		1	?		2
International Journal of Innovation & Learning		1	1*		
International Journal of Management Education		1	1*		2
International Journal of Training & Development		1	1*		2
Issues in Accounting Education		2	2*		
Journal of Accounting Education		2	3*	4*	3
Journal of Economic Education	0.137	2	2*		
Journal of Education & Work		2	2*		
Journal of Education Policy	0.935	2	**3***		3
Journal of Educational Psychology	2.353		4*		
Journal of Educational Research	0.548		3*		
Journal of Entrepreneurship Education		1	1*		
Journal of European Business Education		1	?		
Journal of Financial Education			?	2*	
Journal of Further & Higher Education		1	1*		
Journal of Higher Education	0.867	2	3*		
Journal of Management Development		1	1*		
Journal of Management Education		2	2*		
Journal of Marketing Education		2	1*	2*	2
Journal of Planning Education Research	0.849		?		
Marketing Education Review		1	1*		
Oxford Review of Education	0.529		?		
Research in Higher Education	0.699		3*		
Review of Educational Research	2.600		**4***		
Review of Higher Education	0.595		?		
Studies in Higher Education	0.556	3	3*		
Teaching in Higher Education	0.548	1	1*		

APPENDIX 3: HELM SIZER LIBRARY CATALOGUE

These are available to borrow from the HELM Office on the 6th Floor of the Main Building

Books

Author	Year	Title	Place Published	Publisher	ISBN
Albrighton, F.	1986	*Can I Quote You On That?*	Birmingham	Conference of University Administrators	
Albrighton, F. & Watts, S.	2001	*Can I Quote You On That? A Guide to Working with the Media*	Manchester	The Association of University Administrators	
Allan. D. (Ed)	1996	*In at the Deep End: First Experiences of University Teaching*	Lancaster	Unit for Innovation in HE	
Andrews, J. & Higson, H.	2007	*Mislem Project: Manual of Operations and Methodological proceedings*	Birmingham	Aston University	978 1 85449 441 2
Arya, R. & Smith, R.	2004 /2005	*Living at Home: An Investigation into the degree to which University Facilities and access/utilisation policies are appropriate for the range of students' living arrangements currently experienced at Aston University*	Birmingham	Widening Participation Task Group	
Ashburner, L., Ferlie, E., Fitzgerald, L. & Pettigrew, A.	1996	*The Public Management in Action*	New York	Oxford University Press	0 19 828903 0
Aylett, R. P. T. & Gregory, K. J. (Eds)	1997	*The Single Quality Agency: The Future Quality Agenda and its Implications*	London	Goldsmiths College	0 902 986 26 0
Bailey, S.	2006	*Academic Writing: A Handbook for International Students (2nd Ed)*	Oxon	Routledge	
Balderston, F. E.	1974	*Managing Today's University*	London	Jossey-Bass Ltd.	0 87589 236 1
Baldridge, J. V. & Tierney, M. L.	1979	*New Approaches to Management*	London	Jossey-Bass Ltd.	0 87589 420 8
Ball, C.	1985	*Fitness for Purpose: Essays in Higher Education*	Surrey	SRHE & NFER-Nelson	
Bargh, C., Scott, P. & Smith, D.	1996	*Governing Universities: Changing the Culture?*	Buckingham	SRHE and Open University Press	0 335 19538-5
Barnett, R.	2007	*A Will To Learn: Being a Student in an Age of Uncertainty*	Berkshire	Open University Press	978 033522380 0
Barnett, R. (Ed)	1992	*Learning to Effect*	Buckingham	Open University Press	
Barnett, R. (Ed)	2006	*Reshaping the University: New Relationships between research, Scholarship and Teaching*	Buckingham	SRHE & Open University Press	9 780335 217014
Barton, T. & Temple, P.	2000	*Milestones Along the Critical Path: Project Management in Higher Education*	Manchester	The Association of University Administrators	
Baxter, C., O'Leary. P. J. & Westoby, A.	1977	*Economics and Education Policy: A Reader*	New York	Longman Inc	
Becher , T. & Kogan	1980	*Process and Structure in Higher Education*	London	Heinemann Educational Books Ltd	0 435 82507 0
Becher, T. & Trowler, P.R.	2001	*Academic Tribes and Territories*	Buckingham	SRHE & Open University Press	9 780335 206278
Becher, T. (Ed)	1994	*Government and Professional Education*	Buckingham	SRHE & Open University Press	
Becket, N. & Kemp, P. (Eds)	2006	*Enhancing Graduate Employability in Business and Management Hospitality Leisure Sport Tourism*	Newbury Berks	Threshold Press Ltd	

Biggs, J. & Tang, C.	2007	*Teaching for Quality learning at University*	Buckingham	SRHE & Open University Press	9 780335 221264
Binns, A., & Dove, G.	1991	*Alma Matters: A Guide to Alumni Relations*	Manchester	Conference of University Administrators	
Birch, D. W. & Cuthbert, R. E.	1981	*Costing Open Learning in Further Education*	London	Council for Educational Technology	0 86184 033 X
Bishop, N. & Halsall, I.	2007	*From Can't To Can: Unlocking Learning*	Malaysia	Global Information Management Service Sdn Bhd	978 983 43692 0 0
Bloxham, S. & Boyd, P.	2007	*Developing Effective Assessment in Higher Education: A Practical Guide*	Berkshire	Open University Press	978 033522107 3
Bolton, A.	2000	*Managing the Academic Unit*	Buckingham	Open University Press	
Bolton, A.	2000	*Managing the Academic Unit*	Buckingham	Open University Press	
Boxall, M., Temple, P. & Whitchurch, C.	1991	*Cheques and Balances: Business Planning for University Managers*	Manchester	Conference of University Administrators	
Boyer, E. L.	1990	*Scholarship Reconsidered: Priorities of the Professoriate*	New Jersey	The Carnegie Foundation for the Advancement of Teaching	0 931050 43 X
Boyer, E. L., Altbach, P. G. & Whitelaw, M. J.	1994	*The Academic Profession: An International Perspective*	New Jersey	The Carnegie Foundation for the Advancement of Teaching	0 931050 47 2
Brennan, J., De Vries, P. & Williams, R. (Eds)	1997	*Standards and Quality in Higher Education*	London	Jessica Kingsley Publishing Ltd	
Brennan, J., Fedrowitz, J., Huber, M. & Shah, T.	1999	*What Kind of University? International Perspectives on Knowledge, Participation and Governance*	Buckingham	SRHE and Open University Press	0 335 20429 5
Brennan, J., Maassen, P. A. M. & Westerheijden, D. F. (Eds)	1994	*Changing Contexts of Quality Assessment: Recent Trends in West European Higher Education*	Netherlands	Lemma	
Brockbank, A. & McGill, I.	2007	*Facilitating Reflective Learning in Higher Education*	Buckingham	SRHE & Open University Press	9 780335 220915
Brown, R.	2004	*Quality Assurance in Higher Education: The UK Experience Since 1992*	Oxon	Routledge Falmer	
Bryant, P. T.	2005	*Confessions of an Habitual Administrator: An Academic Survival Manual*	Bolton	Anker Publishing Company Inc	
Buchert, L. & King, K. (Eds)	1994	*Learning from Experience: Policy and Practice in Aid to Higher Education*	Unknown	NORRAG	N/A
Burgess, R. (Ed)	1997	*Beyond the first degree: Graduate Education Lifelong Learning and Careers*	Buckingham	SRHE & Open University Press	
Burn, B. B.	1980	*Expanding the International Dimension of Higher Education*	California	Jossey-Bass Inc.	
Cameron, S.	1999	*The Business Student's Handbook: Developing Transferable Skills*	London	Financial Times Pitman Publishing	
Cameron, S.	1999	*The Business Student's Handbook: Instructor's Manual*	London	Financial Times Pitman Publishing	
Carroll, J.	2002	*A Handbook for Deterring Plagiarism in Higher Education*	Oxford	Oxford Centre For Staff And Learning Development	
Carswell, J.	1985	*Government and the Universities in Britain: Programme and Performance 1960-1980*	Cambridge	Press Syndicate of the University of Cambridge	0 521 25826 X
Carter, C.	1980	*Higher Education for the Future*	Oxford	Basil Blackwell Ltd	0 631 11331 2
Carter, J. & Withrington, D. (Eds)	1992	*Scottish Universities: Distinctiveness and Diversity*	Edinburgh	John Donald Pubishers Ltd	0 85976 375 7
Cave, M. & Hanney, S.	1989	*Performance Indicators in Higher Education: An International Survey. Discussion Papers in Economics*	London	Brunel University	N/A
Cave, M., Hanney, S. & Kogan, M.	1991	*The Use of Performance Indicators in Higher Education: A Critical Analysis of Developing Practice (2nd Ed)*	London	Jessica Kingsley Publishers Ltd.	1 85302 518 6
Cave, M., Hanney, S., Henkel, M. & Kogan, M.	1997	*The Use of Performance Indicators in Higher Education: The Challenge of the Quality Movement (3rd Ed)*	London	Jessica Kingsley Publishers Ltd.	1 85302 345 0

Cave, M., Hanney, S., Kogan, M. & Trevett, G.	1988	*The Use of Performance Indicators in Higher Education: A Critical Analysis of Developing Practice*	London	Jessica Kingsley Publishers Ltd.	1 85302 504 6
Clark, B. R.	1998	*Creating Entrepreneurial Universities: Organizational Pathways of Transformation*	Oxford	Iau Press	0 08 043354 5
Clark, B. R.	2004	*Sustaining Change in Universities: Continuities in Case Studies and Concepts*	Berkshire	Open University Press	0 335 21590 4
Corrall, S. (Ed)	1988	*Collection Development: Options for Effective Management*	London	Taylor Graham	0 947568 25 5
Cottrell, S.	2003	*Skills for Success: The Personal Development Planning Handbook*	Hampshire	Palgrave Macmillan	
Cottrell, S.	1999	*The Study Skills Handbook*	London	MacMillan Press Ltd	
Cox, B.	1994	*Practical Pointers for University Teachers*	London	Kogan Page Ltd	
Crawford, R.(Ed)	1997	*A Future for Scottish Higher Education*	Glasgow	The Committee of Scottish Higher Education Principals	0 9521691 5 0
Croft, C. & Cox, R.	1997	*Are You Switched On? The Internet As A Resource For University Administrators*	Manchester	The Association of University Administrators	
Cuthbert, R. (Ed)	1996	*Working in Higher Education*	Buckingham	SRHE & Open University Press	
Cuthbert, R. (Ed)	1996	*Working in Higher Education*	Buckingham	SRHE & Open University Press	
Dainton, F	2001	*Doubts and Certainties*	Sheffield	Sheffield Academic Press	1 84127 168 3
Davies, J.	1996	*Writing the Changes*	Manchester	The Association of University Administrators	
Dawkins, J. S.	1988	*Higher Education: a policy statement*	Canberra	Australian Government Publishing Service	0 66 08300 X
Day, A.	2007	*How to Get Researchy Published in Journals*	Aldershot	Gower publishing Ltd	9780566088155
Dearing, R	1997	*Higher Education in the learning society: Summary Report*	Norwich	Crown	1 85838 253 X
Dochy, F. J. R. C., Segers, M. S. R. & Wijnen, W. H. F. W. (Eds)	1990	*Management Information and Performance Indicators in Higher Education: An International Issue*	Netherlands	Van Gorcum & Comp	90 232 2502 3
Eggins, H. (Ed)	1988	*Restructuring Higher Education*	Milton Keynes	SRHE and Open University Press	0 335 09527 5
Ellett, W.	2007	*The Case Study Handbook: How to read, Discuss, and Write Persuasively About Cases*	Boston	Harvard Business School Press	9 78 1 4221 0158 2
Ellis, D. (Ed.)	2001	*Crediting Key Skills: Report of the Proceedings of the SEEC National Conference*	London	Southern England Consortium for Credit Accumulation and Transfer	0 9522219 3 4
Ennis, P. & White, J.	1995	*An Auditor Calls: Internal Audit Explained: A Guide for Budget Holders*	Manchester	The Association of University Administrators	
Evans, A.	2008	*Moderation in all things: An administrator's guide to the external examiner system*	Manchester	The Association of University Administrators	0 947931 55 4
Evans, K., Hodkinson, P., Rainbird, H. & Unwin, L	2006	*Improving Workplace Learning*	Oxon	Routledge	0 415 37120 1
Ferlie, E., Pettigrew, A., Ashburner, L., Fitzgerald, L.	1996	*The New Public Management in Action*	Oxford	Oxford University Press	9 780198 289036
Ferrell, O. C., Ferrell, L. & Hirt, G.	2006	*Business: A Changing World (5th Ed.)*	New York	McGraw-Hill Irwin	
Field, T.	2002	*Data Day Issues: A Guide to Data Protection*	Manchester	The Association of University Administrators	
Field, T.	1992	*The Time of Your Life*	Manchester	Conference of University Administrators	
Fielden, J. & Pearson, P. K.	1978	*Costing Educational Practice*	London	Council for Educational Technology	0 902204 82 3

Fowler, K.	2005	*Managing Change: A Guide for Those Working in Higher Education*	Manchester	The Association of University Administrators	
Frackmann, E. & Maassen, P.	1989	*Towards Excellence in European Higher Education in the 90's*	Netherlands	European Higher Education Society	
Fulton, O. (Ed)	1989	*Access and Institutional Change*	Milton Keynes	SRHE & Open University Press	
Galbraith, J. R. & Nathanson D. A.	1978	*Strategy Implementation: The Role of Structure and Process*	Minnesota	West Publishing Co.	0 8299 0214 7
Gale, H	200/ 2002	*Learning and Teaching Projects 2001/02: Change and Development through Innovation and Research*	Wolverhampton	Centre for Learning and Teaching	
Gambino, A. J.	1979	*Planning and Control in Higher Education*	New York	National Association of Accountants	NAA 79111
Gambino, A. J.	1979	*Planning and Control in Higher Education*	New York	National Association of Accountants	NAA 79111
Garnett, J., Portwood, D. & Costley, C.	2004	*Bridging Rhetoric and Reality: Accreditation of prior experiential learning (APEL) in the UK*	Bolton	The University Vocational Awards Council	
Gibbs, G. & Habeshaw, T.	1997	*Preparing to Teach: An Introduction to Effective Teaching in Higher Education*	Bristol	Technical & Educational Services Ltd	
Glenny, L., Shea. J., Ruyle, J. & Freschi, K.	1976	*Presidents Confront Reality*	California	Jossey-Bass Inc.	
Goedegebuure, L. C. J. & Meek, V. L. (Eds)	1988	*Change in Higher Education; the non-university sector: An International Perspective*	Netherlands	Lemma	90 5189 029 X
Goedegebuure, L. C. J., Maassen, P. A. M. & Westerheijden, D. F. (Eds)	1990	*Peer Review and Performance Indicators: Quality assessment in British and Dutch higher education*	Uitgeverij	Utrecht	90 5189 054 0
Goedegebuure, L., Kaiser, F., Maassen, P., Meek, L., Van Vught, F. & De Weert, E. (Eds)	1994	*Issues in Higher Education: Higher Education Policy An International Comparative Perspective*	Oxford	Pergamon Press	0 08 042393 0
Goodlad, S. (Ed)	1984	*Education for the Professions: Quis custodiet ……?*	Surrey	SRHE & NFER-Nelson	
Goold, M. & Campbell, A.	1987	*Strategies and Styles: The Role of the Centre in Managing Diversified Corporations*	Oxford	Basil Blackwell Ltd	0 631 16846 X
Goold, M. & Quinn, J. J.	1990	*Strategic Control: Milestones for Long-Term Performance*	London	Hutchinson Business Books Ltd	0 09 174618 3
Gosling, D. & Moon, J.	2002	*How to use learning outcomes and assessment criteria*	London	SEEC	0 9522219 9 3
Grande, E., Laat, B., Teich, A.& Warta, K.	2000	*The Interactions Between Research and Teaching*	N/A	Commonwealth Higher Education Management Service	
Green, D. (Ed)	1994	*What is Quality in Higher Education*	Buckingham	SRHE & Open University Press	
Grier, J.	1995	*I Know its Here Somewhere: A Guide to Filing*	Manchester	The Association of University Administrators	
Grier, J.	2001	*Just a minute? A Guide to Committee Servicing*	Manchester	The Association of University Administrators	
Grier, J.	2001	*Just a minute? A Guide to Committee Servicing*	Manchester	The Association of University Administrators	
Grier, J.	2007	*A Sense of Freedom: Committee Servicing and the Freedom of Information Acts*	Manchester	The Association of University Administrators	0 947931 54 6
Hair, J. F. JR., Money, A. H., Page, M, & Samouel, P.	2007	*Research Methods for Business*	West Sussex	John Wiley & Sons Ltd	
Hargreaves, J. D. & Forbes, A. (Eds)	1989	*Aberdeen University 1945-1981: Regional Roles and National Needs*	Aberdeen	Aberdeen University Press	0 08 037971 0
Harry, K. (Ed)	1999	*Higher Education Through Open and Distance Learning*	London	Routledge	
Hartley, G.	2006	*Preparing for the future and reviewing the past: Improving the Achievement and Retention of Students from Low Participation Neighbourhoods*	Birmingham	Widening Participation Task Group	

Hartley, P., Pill, M. & Woods, A. (Eds)	2005	*Enhancing Teaching in Higher Education: New Approaches for Improving Student Learning*	Oxon	Routledge	
Haselgrove, S. (Eds)	1994	*The Student Experience*	Buckingham	SRHE & Open University Press	
Hazlehurst, S.	2004	*Supporting Research: From Proposal to Publication*	Manchester	The Association of University Administrators	
Healey, M. & Roberts, J. (Eds)	2004	*Engaging Students in Active Learning: Case Studies in Geography, Environment and Related Disciplines*	Cleteham	Geography Discipline Network	
Hofer, C. W. & Schendel, D.	1978	*Strategy Formulation: Analytical Concepts*	Minnesota	West Publishing Co.	0 8299 0213 9
Hounsell, D., McCulloch, M. & Scott, M. (Eds)	1996	*The ASSHE Inventory: Changing Assessment Practices in Scottish Higher Education*	Edinburgh	Centre For Teaching, Learning and Assessment	
Hufner, K., Hummel, T. & Rau, E.	1986	*Efficiency in Higher Education: An Annotated Bibliography*	Berlin	Freie University	N/A
Hussain, K. M.	1977	*Mangement Information Systems for Higher Education*	Paris	OECD Publications	92 64 11588 9
Hussain, K. M.	1976	*Institutional Resource Allocation Models in Higher Education*	Paris	OECD Publications	92 64 11551 X
Hyatt, J. A., Santiago, A. A. & Shulman, C. H.	1984	*Reallocation: Strategies for Effective Resource Management*	USA	National Association of College and University Business Officers	0 915164 21 3
Ivory, C., Miskell, P., Neely, A., Shipton, H. & White, A.	2007	*Applied or Scholarly Research: Is there a Trade-off in UK Business Schools?*	Unknown	Unknown	
Jackson Grayson, L, JR. & O' Dell, C. C.	Unknown	*If Only We Knew What We Know*	New York	The Free Press	
Jaques, D. & Richardson, J. (Eds)	1985	*The Future for Higher Education*	Surrey	SRHE & NFER-Nelson	
Jarratt, A.	1986	*The Management of Universities*	Unknown	Unknown	Unknown
Jha, S.	2006	*Exploring the views and experience of Aston University first year undergraduate students in connection with student finances and debt*	Birmingham	Widening Participation Task Group	
Jha, S.	2005	*Aston University undergraduates home students' views and experiences of finance, debt and employment*	Birmingham	Widening Participation Task Group	
Jha, S.	2004	*Aston undergraduate students: Their experiences of financial hardship and the impact of part time work*	Birmingham	Widening Participation Task Group	
Jinkinson, M.	Unknown	*Interviewing People*	Manchester	Conference of University Administrators	
Johnes, J. & Taylor, J.	1990	*Performance Indicators in Higher Education*	Buckingham	SRHE and Open University Press	0 335 09454 6
Jones, G. R.	1996	*Cyberschools: An Education Renaissance*	Englewood	Jones Digital Century Inc	
Jongbloed, B., Maassen, P. & Neave, G.	1999	*From the Eye of the Storm: Higher Education's Changing Institution*	Netherlands	Kluwer Academic Publishers	0 7923 6065 6
Joynson, M.	1990	*Figuring It Out: An Administrators Guide To Some Simple Statistical Techniques*	Manchester	Conference of University Administrators	
Joynson, M. & Wood, J.	1987	*This Committee Business*	Birmingham	Conference of University Administrators	
Kaye, R. & Hawkridge, D.	2003	*Learning and Teaching for Business: Case Studies of Successful Innovation*	London	Kogan Page Ltd	
Keller, G.	1983	*Academic Strategy: The Management Revolution in American Higher Education*	London	The John Hopkins University Press	0 8018 3030 3
Kerr, G.	1987	*Managing People*	Kent	Conference of University Administrators	
King, M.	2007	*Workforce development: how much engagement do employers have with higher education? A review of the evidence on employer demand*	London	The Council for Industry and Higher Educatiion	N/A

Knight, P. T.	2002	*Being a Teacher in Higher Education*	Buckingham	SRHE & Open University Press	
Knight, P. T.	2002	*Being a Teacher in Higher Education*	Buckingham	SRHE & Open University Press	
Knight, P. T. & Yorke, M.	2003	*Assessment, Learning and Employability*			0 335 21228 X
Knight, P. T. & Yorke, M.	2004	*Learning and Employability: Embedding Employability into the Curriculum*	York	Learning and Teaching Support Network	
Knight, P. T. & Yorke, M.	2004	*Learning and Employability: Employability, Judging and Communicating Achievements*	York	Learning and Teaching Support Network	
Koen, C, I.	2005	*Comparative International Management*	Berkshire	McGraw-Hill Education	
Kogan, D. & Kogan, M.	1983	*The Attack on Higher Education*	London	Kogan Page Ltd	0 85038 756 6
Kogan, M. (Ed)	1989	*Evaluating Higher Education*	London	Jessica Kingsley Publishing Ltd	1 85302 510 0
Kuhns, E. & Martorana, S. V.	1975	*Managing Academic Change*	California	Jossey-Bass Inc.	
Lago, C. & Shipton, G.	1994	*Personal Tutoring in Action*	Sheffield	Sheffield University Counselling Service	
Lashley, C. & Best, W.	2001	*12 Steps to Study Success*	London	Continuum	
Layer, G.	2004	*Learning and Employability: Widening Participation and Employability*	York	Learning and Teaching Support Network	
Lee, N. & Lings, I.	2008	*Doing business research: A guide to theory and practice*	London	SAGE Publications	9 781412 928793
Lenning. O. T.	1977	*The Outcome Structure: An Overview and Procedures for Applying it in Postsecondary Education Institutions*	Colorado	National Center for Higher Education Management Systems	N/A
Letham, R. & Hill, P.	1992	*Appraising People*	Manchester	Conference of University Administrators	
Levin, P.	2004	*Write Great Essays: Reading and Essay Writing for Undergraduates and Taught Post Graduates*	Berkshire	Open University Press	
Levin, P.	2005	*Excellent Dissertations*	Berkshire	Open University Press	
Lockwood, G. & Davies, J.	1985	*Universities: The Management Challenge*	Berkshire	SRHE & NFER-Nelson	
Lopata, A. & Roper, P.	2006	*… And Death Came Third: The Definitive Guide to Networking and Speaking in Public*	Great Britain	Bookshaker.Com	
Maassen, P. A. M. and Van Vught, F. A. (Eds)	1989	*Dutch Higher Education in Transition: Policy-issues in Higher Education in the Netherlands*	Netherlands	Lemma	90 5189 034 6
Macdonald, J.	2008	*Blended learning and Online Tutoring*	Hampshire	Gower publishing Ltd	9 780566 088414
MacMillian, I. C.	1978	*Strategy Formulation: Political Concepts*	Minnesota	West Publishing Co.	0 8299 0209 0
Maidment, F. H. (Ed)	2005	*Annual Editions Management 05/06*	Dubuque	McGraw-Hill/Dushkin	
Maskell, P. & Törnqvist, G.	1999	*Building a Cross-Border Learning Region: Emergence of the North European Øresund Region*	Denmark	Copenhagen Business School Press	87 16 13445 1
Matthews, H., Brown, G., Furey-King, B. & Lloyd, M.	2006	*What Is It You Do Again: A Guide To Departmental Administration*	Manchester	The Association of University Administrators	
McAlpine, M.	2002	*Design Requirements of a Databank*	Glasgow	CAA Centre	1 904020 04 6
McAlpine, M.	2002	*A Summary of Methods of Item Analysis*	Glasgow	CAA Centre	1 904020 02 X
McAlpine, M.	2002	*Principles of Assessment*	Bedfordshire	CAA Centre	1 904020 01 1
McClintock, M.	1993	*Supporting Research*	Manchester	The Association of University Administrators	
McCorkie, C. O. & Archibald, S. O.	1982	*Management and Leadership in Higher Education*	California	Jossey-Bass Inc.	
McCormick, R. (Ed)	1982	*Calling Education To Account*	London	Heinemann Educational Books Ltd	0 435 80629 X

McDaniel, O. C.	1997	*The Effects of Government Policies on Higher Education: In Search of Alternative Steering Methods*	Uitgeverij	Vuga	90 5749 019 6
McManus	2005	*Leaving the Lecturn*	Bolton	Anker Publishing Company Inc	
McMillan, K. & Weyers, J.	2006	*The Smarter Student: Skills and Strategies for Success at University*	Essex	Pearson Education Ltd	
Miller, R. I. (Ed)	1981	*New Directions for Institutional Research: Institutional Assessment for Self-Improvement*	London	Jossey-Bass Inc.	
Moodie, G. C. (Ed)	1986	*Standards and Criteria in Higher Education*	Surrey	SRHE & NFER-Nelson	
Moon, J.	1999	*Learning Journals: A Handbook for Academics, Students and Professional Development*	London	Kogan Page Ltd	
Moon, J.	2004	*Learning and Employability: Reflection and Employability*	York	Learning and Teaching Support Network	
Moreland, N.	2004	*Learning and Employability: Entrepreneurship and Higher Education: An Employability Perspective*	York	Learning and Teaching Support Network	
Morris, A. & Sizer, J. (Eds)	1982	*Resources and Higher Education*	Surrey	The Society for Research into Higher Education	0 900868 90 2
Morris, A. & Sizer, J. (Eds)	1982	*Resources and Higher Education*	Surrey	The Society for Research into Higher Education	0 900868 90 2
Murray, R.	2007	*Writing for Academic Journals*	Maidenhead	Open University Press	9 780335 213924
Nathan, R.	2005	*My Freshman Year - What a Professor Learned by Becoming a Student*	New York	Penguin Books	0 8014 4397 0
Neville, C.	2007	*The Complete Guide ro Referencing and Avoiding Plagiarism*	Maidenhead	Open University Press	0 33 522089 4
Norris, G.	1978	*The Effective University: A Management by Objectives Approach*	Hampshire	Saxon House	0 566 00242 6
Oldham, G. (Ed)	1982	*The Future of Research*	Surrey	The Society for Research into HE	0 900868 86 4
Payne, E. & Whittaker, L.	2006	*Developing Essential Study Skills (2nd Ed)*	Essex	Pearson Education Ltd	
Pears, R. & Shields, G.	2006	*Cite Them Right: The Essential Guide to Referencing and Plagiarism*	Newcastle	Pear Tree Books	
Phillips, E. M. & Pugh, D. S.	1994	*How To Get A PhD: A handbook for students and their supervisors (2nd Ed)*	Buckingham	Open University Press	0 335 19214 9
Phipps, L., Seale, J. & Sutherland, A. (Eds	2002	*Access All Areas: Disability, Technology and Learning*	York	TechDis	
Pickford, M.	1975	*University Expansion and Finance*	London	Sussex University Press	
Piper, D. W.	1993	*Quality Management in Universities: Volume 1*	Canberra	Australian Government Publishing Services	0 644 28913 9
Pollitt, C. & Harrison, S. (Eds)	1992	*Handbook of Public Services Management*	Oxford	Blackwell Publishers	0 631 16961 X
Porter, M. E. & Ketels, C. H. M	2003	*DTI Economics paper No.3. UK Competitiveness: moving to the next stage*	Unknown	ESRC	N/A
Price, G. & Maier, P.	2007	*Effective Study Skills: Unlock your potential*	Essex	Pearson Education Ltd	9 781405 840736
Prosser, M. & Tirgwell, K.	1999	*Understanding Learning and Teaching: The Experience in Higher Education*	Buckingham	SRHE and Open University Press	0 335 19831 7
Race, P. & Brown, S.	2001	*The ILTA Guide: Inspiring Learning about Teaching and Assessment*	York	Institute for Learning and Teaching in Higher Education	0 9541709 0 3
Redman, P.	2006	*Good Essay Writing*	London	SAGE Publications	1-4129-2011-6
Richards, M. D.	1978	*Organisational Goal Structures*	Minnesota	West Publishing Co.	0 8299 0210 4
Rust, C. (Ed)	2004	*Improving Student Learning: Theory, Research and Scholarship*	Oxford	The Oxford Centre For Staff and Learning Development	
Rust, C. (Ed)	2005	*Improving Student Learning: Diversity and Inclusivity*	Oxford	The Oxford Centre For Staff and Learning Development	
Schuller, T. (Ed)	1995	*The Changing University?*	Buckingham	SRHE & Open University Press	

Scott, P. (Ed)	1998	*The Globalization of Higher Education*	Buckingham	SRHE and Open University Press	0 335 20244 6
Scott, P.	1995	*The Meanings of Mass Higher Education*	Buckingham	The Society for Research into Higher Education & Open University Press	0 335 19442 7
Shattock, M.	2003	*Managing Successful Universities*	Berkshire	Open University Press	
Shattock, M.	2006	*Managing: Good Governance in Higher Education*	Maidenhead	Open University Press	0 335 21666 8
Shattock, M.	1994	*The UGC and the Management of British Universities*	Buckingham	SRHE and Open University Press	0 335 19161 4
Shattock, M. & Rigby, G. (Eds)	1983	*Resource Allocation in British Universities*	Surrey	Research into Higher Education Monographs	0 900868 97 X
Shattock, M. (Ed)	1983	*The Structure & Governance of Higher Education*	Surrey	The Society for Research into HE	900868 91 0
Silver, H.	1999	*Researching Education: Themes in Teaching and Learning*	Bristol	The Policy Press	
Sizer, J.	1987	*Department of Education and Science Research Project: Comparative Analysis of Universities' Case Studies*	Loughborough	Department of Education and Science	N/A
Sizer, J.	1987	*Department of Education and Science Research Project: Final Report*	Loughborough	Department of Education and Science	N/A
Sizer, J.	1986	*Department of Education and Science Research Project: Background Paper No. 3*	Loughborough	Department of Education and Science	N/A
Sizer, J.	1985	*Department of Education and Science Research Project: Background Paper No. 1*	Loughborough	Department of Education and Science	N/A
Smith, B. & Summer, J.	2004	*Communication Skills Handbook: How to Succeed in Written and Oral Communication*	Miton	John Wiley & Sons Australia Ltd	
Spee, A. & Bormans, R. (Eds)	1991	*Performance Indicators in Government Instituational Relations*	Unknown	Unknown	N/A
Spee, A. A. J.	1994	*Regulating Higher Education*	Enschede	Center for Higher Education Policy Studies (CHEPS)	
Stadtman, V. A.	Unknown	*Academic Adaptation: Higher Education Prepares for the 1980's and 1990's*	California	Jossey-Bass Inc.	
Steeples, D. W. (Ed)	1986	*Institutional Revival: Case Histories*	San Francisco	Jossey-Bass Inc.	87589 716 9
Stott, R. & Avery, S. (Eds)	2001	*Writing with Style*	Essex	Pearson Education Ltd	
Stott, R. & Chapman, P. (Eds)	2001	*Grammar and Writing*	Essex	Pearson Education Ltd	
Stott, R., Snaith, A. & Rylance, R.	2001	*Making Your Case: A Practical Guide to Essay Writing*	Essex	Pearson Education Ltd	
Stott, R., Young, T. & Bryan, C. (Eds)	2001	*Speaking Your Mind: Oral Presentation and Seminar Skills*	Essex	Pearson Education Ltd	
Taylor, J. & Whitchurch, C.	Unknown	*Developing People*	Manchester	Conference of University Administrators	
Temple, P. & Whitchurch, C.	1989	*Strategic Choice: Corporate Strategies for Change in Higher Education*	Reading	Conference of University Administrators	0 947931 15 5
Thomas, H. & Simkins, T. (Eds)	1987	*Economics and the Management of Education: Emerging Themes*	East Sussex	The Falmer Press	1 85000 208 8
Thomas, H. & Simkins, T. (Eds)	1987	*Economics and the Management of Education: Emerging Themes*	East Sussex	The Falmer Press	1 85000 209 6
Thomas, L. & Hixenbaugh, P. (Eds)	2006	*Personal Tutoring in Higher Education*	Stoke On Trent	Trentham Books Ltd	
Thompson, D.	2004	*Improving the Achievement & Retention of Students from Low Participation Neighbourhoods: Final Report and Second Year Progression*	Birmingham	Widening Participation Task Group	
Thorley, H. (Ed)	1998	*Take a Minute: Reflections on Modern Higher Education Administration*	Lancaster	Unit for Innovation in Higher Education	
Thorne, M. (Ed)	1999	*Foresight: Universities in the Future*	London	Department of Trade and Industry	DTI
Tight, M.	2003	*Researching Higher Education*	Maidenhead	SRHE & Open University Press	0 335 21117 8
Tight, M. (Ed)	1988	*Academic Freedom and Responsibility*	Milton Keynes	SRHE & Open University Press	

Titmus, C. (Ed)	1985	*Widening the Field: Continuing Education in Higher Education*	Surrey	SRHE & NFER-Nelson	
Tomkinson, B.	1995	*Striking a Bargain: A Guide to Negotiating*	Manchester	The Association of University Administrators	
Truscot, B.	1951	*Red Brick University*	Middlesex	Penguin Books	N/A
Truss, L.	2005	*Eats, Shoots and Leaves: The Zero Tolerance Approach to Punctuation*	London	Profile Books Ltd	
Tucker, A.	1984	*Chairing the Academic Department: Leadership Among Peers (2nd Ed)*	New York	MacMillan Press Ltd	
Ulrich, N.	2005	*Monitoring and Supporting Mature Students at Aston University*	Birmingham	Widening Participation Task Group	
Unknown	1980	*Three Thousand Futures: The Next Twenty Years for Higher Education*	London	Jossey-Bass Ltd.	0 87589 453 4
Unknown	1985	*Wirtschaftlichkeitskontrolle an Hochschulen*	Essen	Arbeitsgruppe Fortbildung	3 925463 224
Unknown	2006	*Approaches to Enhancing Student Learning: Proceedings of Annual Learning and Teaching Conference*	Nottingham	Audio CD	
Unknown	1988	*Higher Education: A Policy Statement*	Canberra	Australian Government Publishing Services	9 780644 083003
Unknown	1995	*Higher Education Management Review: Report of the Committee of Inquiry*	Canberra	Australian Government Publishing Services	0 644 462 73 6
Unknown	1994	*Quantitative Indicators of Australian Academic Research: Commissioned Report No. 27*	Canberra	Australian Government Publishing Services	0 644 33397 9
Unknown	2006	*Me Them Us: Making Equality Work for Everyone*	Birmingham	b:RAP	N/A
Unknown	1990	*Beitrage Zur Hochschulforschung*	Arabellastr	Bayerisches Staatsinstiut fur Hochschulforschung und Hochschulplanung	0171 645 X
Unknown	2001	*Higher Education Reform: Getting the Incentives Right*	The Netherlands	CHEPS	90 120 9268 X
Unknown	1985	*Report of the Steering Committee for Efficiency Studies in Universities*	Unknown	Committee of Vice-Chancellors and Principals	N/A
Unknown	1998	*Learning for Life: Final report. Review of Higher Education Financing and Policy*	Canberra	Commonwealth of Australia	0 642 23733 6
Unknown	1991	*Performance Indicators in Higher Education: Report of a Trial Evaluation Study. Vol 1*	Canberra	Commonwealth of Australia	0 644 14772 5
Unknown	1991	*Performance Indicators in Higher Education: Report of a Trial Evaluation Study. Vol 2*	Canberra	Commonwealth of Australia	0 644 14773 3
Unknown	2003	*A Framework for Higher Education in Scotland: Higher Education Review Phase 2*	Edinburgh	Crown	N/A
Unknown	1996	*Joint Planning Group for Quality Assurance in Higher Education*	London	CVCP	0 948890 93 2
Unknown	2000	*Modernising Higher Education: Facing the Global Challenge*	Suffolk	DfEE Publications	1 84185 219 8
Unknown	1998	*Higher Education for the 21st Century: Response to the Dearing Report*	Suffolk	DfEE Publications	N/A
Unknown	1993	*Assessment Issues in Higher Education*	Unknown	Employment Department Group	N/A
Unknown	1998	*New Partnership Between Universities and Industry in the 21st Century: A Report from the UK Team*	London	Foundation for Science and Technology	N/A
Unknown	1984	*A Strategy for Higher Education into the 1990s: The University Grants Committee's Advice*	London	Government Publications	0 11 270551 0
Unknown	Unknown	*HEFCE Fundamental Review of Research Policy and Funding: Sub-group to consider the interaction between teaching, research and other activities of HEIs*	N/A	HEFCE	
Unknown	2004	*Guide for Members of Higher Education Governing Bodies in the UK*	Bristol	HEFCE	1 902369 15 7
Unknown	2004	*The relationship between teaching and research*	Unknown	HEFCE	N/A
Unknown	1995	*The Financial Health of Higher Education Institutions in England*	Bristol	HEFCE Publications	N/A
Unknown	2007	*Destinations of Leavers from HEIs 2005/06*	Cheltenham	HESA	N/A

Unknown	2001	*Research Assessment Exercise: The Outcome RAE 2001*	Bristol	Higher Education Funding Council for England (HEFCE)	N/A
Unknown	1995	*Managing for Quality Stories and Strategies: A Case Study Resource for Academic Leaders and Managers*	London	Higher Education Quality Council	
Unknown	1990	*Measuring Up: Performance Indicators in Further Education*	London	HMSO	0 11 494107 6
Unknown	1987	*Review of the University Grants Committee*	London	HMSO	0 10 100812 0
Unknown	1994	*Committee of Public Accounts Eighth Report: The Proper Conduct of Public Business*	London	HMSO	0 10 215494 5
Unknown	1990	*Committee of Public Accounts First Report: Financial Problems at Universities*	London	HMSO	N/A
Unknown	1992	*State Control in Higher Education*	Budapest	Hungarian Institute for Educational Research	
Unknown	1993	*Review of Options for the Additional Funding of Higher Education: A Report by London Economics for the Committee of Vice-Chancellors and Principals*	London	London Economics	N/A
Unknown	2004	*The Relationship between teaching and research: Agenda item 12*	N/A	N/A	
Unknown	1993	*Learning to Succeed: A Radical Look at Education Today and A Strategy for the Future. Report of the Paul Hamlyn Foundation. National Commission on Education*	London	National Commission on Education (Heinemann)	
Unknown	1997	*Higher Education in the learning society: Reports 1-14*	Norwich	NCIHE	1 85838 254 8
Unknown	2001	*Devolution and Globalisation: Implications for Local Decision-Makers*	Paris	OECD Publications	92 64 19656 0
Unknown	2001	*The Framework for Higher Education Qualifications in England, Wales and Northern Ireland*	Gloucester	Quality Assurance Agency for HE	
Unknown	2001	*The Framework for Higher Education Institutions in Scotland*	Gloucester	Quality Assurance Agency for HE	
Unknown	2006	*Academic Credit in Higher Education in England*	Gloucester	Quality Assurance Agency for HE	
Unknown	2004	*Good Practice Guide in Learning and Teaching: Volume 2*	Birmingham	Quality Unit: Aston Business School	
Unknown	2006	*Good Practice Guide in Learning and Teaching: Volume 3*	Birmingham	Quality Unit: Aston Business School	
Unknown	2007	*Good Practice Guide in Learning and Teaching: Volume 4*	Birmingham	Quality Unit: Aston Business School	
Unknown	?	*Working Papers on Teaching and Learning: Good Practice from Aston University*	Birmingham	Quality Unit: Aston Business School	
Unknown	2005	*Learning to improve: quality approaches for lifelong learning*	Edinburgh	Scottish Executive	0 7559 4677 4
Unknown	2001	*Scottish Higher Education Review: First Consultation Paper*	Edinburgh	Crown	N/A
Unknown	2002	*Scottish Higher Education Review: Second Consultation Paper. Shaping Our Future*	Edinburgh	Scottish Executive	N/A
Unknown	2002	*Annual report and accounts 2001-2002*	Edinburgh	Scottish Further Education Funding Council	1899911278
Unknown	2001	*Research and the Knowledge Age: A consulation document from the Scottish Higher Education Funding Council*	Edinburgh	Scottish Higher Education Funding Council	N/A
Unknown	1996	*Report of the SHEFC-COSHEP Joint Review Group on Quality Assessment*	Edinburgh	Scottish Higher Education Funding Council	N/A
Unknown	1989	*Funding Choices: Methods of funding higher education in polytechnics and colleges*	London	The Polytechnics and Colleges Funding Council	N/A
Unknown	2006	*Code of practice for assurance of academic quality and standards in higher education: Section 7*	Mansfield	The Quality Assurance Agency for Higher Education 2006	
Unknown	2006	*Code of practice for assurance of academic quality and standards in higher education: Section 6*	Mansfield	The Quality Assurance Agency for Higher Education 2006	
Unknown	2006	*Code of practice for assurance of academic quality and standards in higher education: Section 10*	Mansfield	The Quality Assurance Agency for Higher Education 2006	
Unknown	1998	*Higher Education for the 21st Century: Response to the Garrick Report*	Edinburgh	The Scottish Office Education and Industry Department	N/A

Unknown	1999	*Scotland: Towards the Knowledge Economy. The Report of the Knowledge Economy Taskforce*	Edinburgh	The Scottish Office Education and Industry Department	0 7480 8220 4
Unknown	1983	*Excellence in Diversity*	Surrey	The Society for Research into HE	0 900868 99 6
Unknown	UnKnown	*How to Get Published: A Guide for Academics*	Unknown	The Times Higher Education Supplement	
Unknown	Unknown	*How to Get Promoted: A Guide for Academics*	Unknown	The Times Higher Education Supplement	
Unknown	2007	*Work based learning*	Unknown	The Times Higher Education Supplement	N/A
Unknown	1994	*Higher Education: The Lessons of Experience*	Washington	The World Bank	0 8213 2745 3
Unknown	2000	*Review of funding options for higher education in the UK: A report for Universities UK by London Economics*	London	Universities UK	1 84036 052 6
Unknown	1988	*Report. Accountancy Teaching in Universities (Business and Management Studies Sub Committee Accountancy Group)*	London	University Grants Committee	N/A
Unknown	8/9Jul 2004	*Proceedings of Conference on The Impact of Employability*	Lancashire	University of Central Lancashire	
Unknown	1999	*Helping Students in Difficulty: A Guide for Personal Tutors and Other Staff*	Leicester	University of Leicester	
Van Vught, F. A	1989	*Governmental Strategies and Innovation in Higher Education*	London	Jessica Kingsley Publishing Ltd	1 85302 513 5
Wagner, L. (Ed)	1982	*Agenda For Institutional Change in Higher Education*	Surrey	Research into Higher Education Monographs	0 900 868 85 6
Wagner, L. (Ed)	1982	*Agenda For Institutional Change in Higher Education*	Surrey	Research into Higher Education Monographs	0 900 868 85 6
Whiston T. G. & Geiger, R. C. (Eds)	1992	*Research and Higher Education: The United Kingdom and The United States*	Buckingham	SRHE & Open University Press	
Whitchurch, C.	1996	*Going Places: Everything You Always Wanted to Know About Study Visits and Never Liked To Ask*	Manchester	The Association of University Administrators	
Williams, G. & Blackstone, T.	1983	*Response to Adversity*	Surrey	Research into Higher Education Monographs	0 900868 92 9
Wolfenden, Lord.	1976	*Turning Point: The Memoirs of Lord Wolfenden*	London	The Bodley Head Ltd	370 10442 0
Woodward, K.	2007	*Social Sciences - The big issues*	Oxon	Routledge	0-415-30079-7
Wright, P. W. G. (Ed)	1990	*Industry and Higher Education: Collaboration to Improve Students' Learning and Training*	Buckingham	Open University Press	
Yorke, M., Moon, J., Moreland, N.		*Learning and Employability Series (1, 4, 6)*		LTSN Generic Centre	
Zerges, K. & Becker, W. (Eds)	1992	*Science and the Media - A European Comparison. University Public Relations in a United Europe*	Berlin	Edited Sigma	3 89404 332 6

Journals

Author	Year	Title of Article	Title of Journal	Issue information	Page Ref
Baume, D. & Yorke, M.	2002	The Reliability of Assessment by Portfolio on a Course to Develop and Accredit Teachers in Higher Education	*Studies in Higher Education*	2 7 (1)	7-25.
Baume, D., Coffey, M. & Yorke, M.	2004	What is Happening When We Assess, and How Can We Use Our Understanding of This to Improve Assessment?	*Assessment and Evaluation in Higher Education*	29 (4) August	451-477
Bell, E. & Taylor, S.	2005	Joining the club: the ideology of quality and business school badging	*Studies in Higher Education*	30 (3) June	239-255

Bell, E. & Taylor, S.	2005	Joining the club: the ideology of quality and business school badging	*Studies in Higher Education*	30 (3) June	239-255
Bennett, D. & Greasley, A.	2004	A virtual learning environment for operations management: Assessing the student's perspective	*International Journal of Operations & Production Management*	24 (10)	974-993
Birdi, K., Fay, D., Patterson, M., Shipton, H. & West, M.	2005	Managing People to Promote Innovation	*Creativity and Innovation Management*	14 (2)	118-128
Brown, G. H. (Ed)	1997 - 2007	Full Journals	*Perspectives: Policy and Practice in Higher Education*	Volume 1 - 11	N/A
Brown, S or Baldwin, L (Eds)	2000-2008	Full Journals	*Active Learning in Higher Education*	Volume 1 - 9	N/A
Christ, O., Van Dick, R., Stellmacher, J. & Wagner, U.	2003	When teachers go the extra mile: Foci of organisational identification as determinants of different forms of organisational citizenship behavior among schoolteachers	*British Journal of Educational Psychology*	73	329-341
Christ, O., Van Dick, R., Stellmacher, J. & Wagner, U.	2004	The utility of a broader conceptualization of organizational identification: Which aspects really matter?	*Journal of Occupational and Organizational Psychology*	77	171-191
Dey, P. K., Higson, H. E. & Ho, W.	2007	An Integrated multiple criteria decision making approach for resource allocation in higher education	*Innovation and Learning*	4 (5)	471-486
Dey, P. K., Higson, H. E. & Ho, W.	2006	Multiple criteria decision-making techniques in higher education	*The International Journal of Management Education*	20 (5)	317-337
Filby, J. & Higson, H.	2005	The Contribution model: A School-level funding model	*Perspectives*	9 (3) July	86-91
Fletcher, K (Ed)	2001-2005	Full Journals	*International Journal of Management Education*	Volumes 1 - 4	N/A
Hawkridge, D (Ed)	2006	Full Journal	*International Journal of Management Education*	5 (1)	N/A
Hawkridge, D (Ed)	2006	Full Journal	*International Journal of Management Education*	5 (2)	N/A
Lapworth	2004	Integrating research and Teaching Strategies: Implications for Institutional Management and Leadership	*Perspectives*	8 (4) October	103-107
Locke, M. S. (Ed)	1982-1984	Full Journals	*Education Management and Administration*	Volumes 10 - 12	N/A
N/A	2006	Full Journal	*The International Journal of Management Education*	5 (2)	N/A
N/A	2000	Full Journal	*Education and Training*	42 (8&9)	N/A
N/A	2004	Full Journal	*Higher Education Policy: The Quarterly Journal of International Association of Universities*	17 (1) March	N/A
N/A	1973-1976	Full Newsletters	*Group for Research and Innovation in Higher Education*	01-Jul	N/A
N/A	2004	Newsletter	*Learning and Skills Developmental Agency*	October	217-226
Plant, H.	2000	Putting Teeth in the Paper Tiger: Teaching case study			165-174
Vita, G. D.	2001	Learning Styles, Culture and Inclusive Instruction in the Multicultural Classroom: A Business and Management Perspective	*Innovations in Education and Teaching International*	38 (2)	221-231
Vita, G. D.	2002	Cultural Equivalence in Assessment of Home and International Business Management Students: a UK exploratory study	*Studies in Higher Education*	27 (2)	N/A
N/A	1991	Full Journal	*Performance Indicators in HE*	2	N/A
N/A	1991	Full Journal	*Performance Indicators in HE*	1	N/A
N/A	2007	Full Journal	*The International Journal of Management Education*	6 (2)	N/A
N/A	2007	Full Journal	*The International Journal of Management Education*	6 (2)	N/A
N/A	1995	Full Journal	*Corporate Governance*	3 (4)	N/A

N/A	1992	Full Journal	*Higher Education Policy: The Quarterly Journal of International Association of Universities*	5 (3) September	N/A
Brown, G. H. (Ed)	2007	Full Journal	*Perspectives: Policy and Practice in Higher Education*	11 (3)	N/A
N/A	2007	Full Journal	*Active Learning in Higher Education*	8 (2) July	N/A
Brown, G. H. (Ed)	2007	Full Journal	*Perspectives: Policy and Practice in HE*	11 (4)	N/A
N/A	2007	Full Journal	*The International Journal of Management Education*	6 (1)	N/A
Brown, G. H. (Ed)	2008	Full Journal	*Perspectives: Policy and Practice in HE*	12 (1)	N/A

Good Practice Guide in
Learning and Teaching
Volume 6

Quality Unit
Aston Business School
Aston University
Birmingham
B4 7ET

Tel: +44 (0) 121 204 3000
Email: j.e.green@aston.ac.uk

ISBN: 978 1 85449 456 6