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The Teaching- Research Interface: Implications for Practice in HE and FE

Selection of conference papers presented on
29th - 30th April 2008 at the University of Stirling

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Edited by Dr Muir Houston, University of Stirling



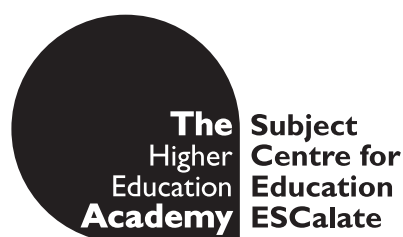
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Introduction

There has been a growing interest in recent years in what has been termed the nexus between teaching and research and its impact on student learning. As noted by Jenkins, Healey and Zetter (2007 p.33) there can be important disciplinary differences in the relationship based in part on: the nature of knowledge within the discipline; different forms of pedagogy and variations in delivery and assessment; and, the nature and organisation of research within the discipline. Moreover, the relationship, as the papers in this collection, based on presentations delivered at the ESCalate Conference - *The Teaching-Research Interface: Implications for Practice in HE and FE* illustrate, can take many forms.

The first four papers report on research which examines the role of technology in the form of Virtual Learning Environments (VLEs) and video-conferencing in supporting student learning. Turnock and Gannon-Leary report research which examines the role of VLEs in facilitating collaborative learning among students, while the paper by Clarke, examines the role that video-conferencing can play in delivering lecture material to a number of dispersed sites in a largely rural setting. The third paper by Curry, examines research into the role that a Virtual Work Placement tool can play in simulating placement experiences and the impact of this technology on student learning. This is followed by Joyes and Banks, who report on another use of virtual resources this time in the research training of postgraduate students. Using a dedicated on-line training resource, they explore the development of the on-line training suite and its impact on student learning.

The focus of the paper by Borovik is research which examines the way important concepts in mathematics are taught to undergraduate students. According to Borovik, students need a clear understanding of these concepts in order to successfully progress to more detailed and refined mathematical problem solving.

The next four papers all to some extent engage with issues of widening participation and social inclusion. Iredale reports research carried out on an innovative project which seeks to encourage social inclusion, widening participation and urban and social regeneration. Using a student lifecycle model, Iredale outlines the development of the project and provides some evidence of its wider benefits. The paper by Harvey, takes a slightly different approach to widening participation. Reporting on research into work-based learning, Harvey suggests that widening participation by enabling students to use their work-based learning can be both motivating and rewarding. Moving back to more conventional delivery settings, MacLennan examines research on student motivation within the context of the learning cycle and offers some suggestions as to how teaching staff may attempt to motivate students through curriculum design as well as indicating some implications for widening participation. Finally in relation to widening participation, Buckley, Fielding and Martin report on research into learning preparation for mature widening participation entrants.

The paper by Beaton and Malcolm, reports on research which examines the effect of disciplinary cultures and its impact on pedagogical research. They report on how an academic development unit supports colleagues in subject departments in developing educational research and inquiry with a view to dissemination through publication as a way of raising both institutional and personal profiles.

The final four papers report on developments in the FE sector. Teacher training in FE is the focus of the paper by Jones, who utilises an ethnographic approach to examine the impact of recent reforms in qualifications for teaching in FE. She traces the historical development of these new qualifications and outlines a research programme which seeks to understand how these changes have impacted on current trainees. The paper by Joshi examines the development of Foundation Degrees and reviews the literature on work-based learning. Findings are presented on the perceptions of both students and employers in relation to the benefits of work-based learning and suggestions on how to improve communication between the college and employers are made. The role of tutors delivering HE level course in an FE environment are examined by Eland. Issues of identity and tutors perceptions of the language of research and scholarship, commonly used in HE, are examined. Finally, Curry reports on capacity building in relation to research in FE colleges. Curry suggests that developing a staff research culture can aid recruitment, retention and student motivation.

Muir Houston, University of Stirling
muir.houston@stir.ac.uk

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1. Are Virtual Learning Environments used to facilitate collaborative student learning activity? Findings of an institutional evaluation.

Chris Turnock and Pat Gannon-Leary, Northumbria University.
chris.turnock@unn.ac.uk pat.gannon-leary@northumbria.ac.uk

Summary

Virtual Learning Environments (VLEs) are used extensively within higher education, primarily as an educational tool, but can also have additional functionality. There has been considerable debate, both internal to the university and in the external academic community, about the value of a VLE, e.g. MacLaren (2004), Sharp et al. (2005) and Conole and de Laat (2006). The focus of this debate is whether or not a VLE is primarily used as a transmissive tool, in which the teacher determines VLE content and communication and which tends to be teacher initiated while the student adopts a passive role (Jonassen & Land, 2000). Whilst a transmissive approach may be an important element in students' learning experiences, there is little evidence to suggest such usage facilitates deep learning.

Keywords

Virtual learning environments / collaborative learning / transmissive learning / student evaluation.

Introduction

Many authors have identified how additional VLE functionality offers potential use of non-transmissive approaches to education in which there is a belief that deep student learning will occur, e.g. constructivist and collaborative learning methodologies. Whilst the authors were aware of some internal use of non-transmissive approaches to VLE use, there was little evidence to support any anecdotally based conclusions about the extent to which such activity occurred. Therefore, the purpose of this study was to obtain information from students about their use of the university's VLE, enabling the authors to evaluate the extent to which the VLE was used as both a transmissive and non-transmissive tool.

The study's aims were:

- To find out what students used on the VLE
- To determine what students used the VLE for
- To investigate student perceptions of the VLE

- To find out what additional information and features students would like on the VLE
- To identify factors influencing student usage of the VLE

Methodology

The methodology employed in this study followed principles for examining students' experiences of technology recommended for the JISC e-learning programme and which have formed the basis of a number of recent major studies of students' views on the use of technology in Higher Education, such as the JISC LEX (Mayes, 2006) and LXP (Conole & de Laat, 2006) projects. The study used a naturalistic approach, recruiting student volunteers to use various tools that would provide a triangulated, essentially open-ended approach to obtaining students' perspectives on how they used the VLE. To obtain both breadth and depth in data collected about students' use of the VLE, three methods of data collection were used: questionnaire, diary and focus group.

The questionnaire was selected to provide a broad student perspective on their VLE activity and was completed on-line via the Student Union web site. Design of the questionnaire structure enabled the authors to collect information about how students used the VLE from both a transmissive and non-transmissive perspective, ease of use, support provided in VLE use, personal feelings about using the VLE, evaluating impact of VLE use on their learning and demographic data.*

The second data collection tool to be used was a diary that was used after the questionnaire completion period had expired. The diary provided an opportunity, through adoption of an open ended structure, for students' accounts of their VLE use, for example how they used the VLE and the relationship between VLE use and their overall learning, to obtain detailed insights into student activity. The students completed the diary for one VLE session each week over an eight week period.*

The focus group was the final data collection tool used to enable the authors to acquire clarification about student diary data as well as explore further the themes emerging from diary and questionnaire data. Discussion within the two focus groups covered aspects of inconsistencies in the VLE, relationship between the VLE functionality and their learning style as well as the actual and potential of the VLE for student communication and collaboration.*

407 students (1.67% of the university's student body) responded to university wide publicity and volunteered to complete the on-line questionnaire. A purposive sample of 14 students was selected to complete the diary with the same 14 students participating in one of two focus groups. These 14 students were chosen so that all nine of the university school's were represented and that a cross-section of undergraduate and postgraduate programme years were

included as well as international students. Quantitative data resulting from the completed questionnaires and diaries were subjected to descriptive statistical analysis (Patton 2002). Qualitative data obtained from all three data collection methods were analysed following the principles of thematic coding (Boyatzis 1998). One member of the research team read through the transcribed interview transcripts and generated some categories descriptive of the interview contents. After discussion with colleagues in the team, the categories derived were grouped and refined into a thematic coding scheme. Inevitably, in this process, data reduction occurs as the research team took decisions about concepts and, in summarising, coding, eliciting themes and clustering responses. Such a data reduction/transforming process is referred to by Strauss (1987) as the conceptualisation of data. By collaborating as a team, the researchers hoped to reduce the intrusiveness of the researchers by working towards a mutual interpretation of the data. Interview transcripts were revisited by the team members and passages allocated particular codes across the transcripts were extracted, matched and commented upon by each team member. The results section represents the outcome of this process.

Results

The study found that a majority of students (66%) logged into the VLE on a daily basis. The predominant ways in which the VLE was used concerned students either downloading and then annotating learning materials, or using the VLE for assignment preparation.

Table 1 indicates the time in minutes spent in the VLE by students on one day in each of the eight week period of diary completion.

The data provided insight into the students' views of the contribution that the VLE made to their learning, both in a positive and occasionally, a negative way. This paper utilises participants' comments to illustrate

* Copies of all instruments are available from the authors on request.

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the authors' interpretation of the data, which identified the different ways that the VLE enhanced student learning as well as considering factors impeding their learning and how the VLE might be more effectively used.

The data provided an overview of student activity within the VLE. Table 2 illustrates what students did in terms of downloading, note taking, printing and reading notes via the VLE:

Student activity data suggests that the VLE is primarily used as a content repository, with little indication of non-transmissive approaches to learning being used. Themes generated from the qualitative data were as follows:

Extension of subject knowledge

Some students discussed how extension of their subject knowledge was made possible by the provision of supplementary information on the VLE:

The VLE gives you the opportunity to explore subjects in more detail... The VLE ...has helped on essay writing and all other aspects of university project life...it contains useful information on subjects which help you learn but also on subjects which you would be interested in, allowing you to extend your knowledge. (2nd year female UK student)

Modernity and motivation.

Students welcomed the modernity of the VLE and found it motivated them in their learning:

The information was clear and concise and helped me understand the work which I was trying to do. Therefore I felt more motivated to complete it to a higher level..., it was a very contemporary way to receive information...(1st year female international student)

Other students liked the flexibility of the VLE, the "any time, any place" aspect of usage and the ability to communicate with their lecturers via the VLE:

The VLE is an interesting addition to teaching because it means that you have access to everything you need to know for the module and course at any time day or night. (3rd year female UK student)

The VLE as a source of support & interactivity

Almost half of the survey respondents (42%) agreed that the VLE fostered interaction with staff. When their lecturers were unavailable or time was short, students recognised that they could get support from the VLE:

The VLE is a good way to learn ...especially at times when I may find something difficult on my course and do not have the time to speak to a lecturer, I can log on to VLE and get information. (2nd year female UK student)

Support could be forthcoming not only from lecturers but from other students in modules where interactivity was encouraged:

I could not successfully complete a module without the VLE site. I use VLE to allow me to interact with other students and lecturers via the discussion boards and it often helps when I am struggling with work, especially when I know others are also finding it difficult. (2nd year female UK student)

The interactivity and communications aspect of the VLE were described as being beneficial to shy students and to international students who might be inhibited about speaking up in class but felt more confident engaging in on-line discussion. This could help increase such students' confidence.

Independent study and personalisation.

The VLE afforded students the opportunity to pace themselves and engage in independent study:

The VLE ...allows the individual to be more in control of their own learning and go at their own pace... (2nd year female UK student)

Students were aware of how the VLE could cater for different learning styles:

Students each learn differently so by having a mixture of learning options it will allow all students to be able to use the VLE to help themselves. (1st year female UK student)

The reflective student

Furthermore, students described how they used the VLE to reflect on sessions, particularly by downloading and annotating on-line learning materials provided by the lecturer, e.g. lecture notes and further reading links. However, some students believed the VLE was not being used for maximum benefit and as such limited opportunities for students to adopt a student-centred approach to learning:

I have not greatly benefited from the VLE in a sense regarding teaching; it is more an information point for me. It mainly saves me time if I can print off lectures rather than taking a lot of notes... The VLE is not as yet an aid to learning nor a way of learning. There has been nothing more than lectures put on the VLE. (2nd year female UK student)

Certainly students were aware of how the effectiveness of the VLE was dependent on usage by staff and students:

The VLE is certainly an effective addition to teaching in terms of the facility to post learning information and material.

Sometimes it is an interesting addition to teaching. It depends on the lecturer and how they use it. (postgraduate female UK student)

On the other hand there were instances when lecturers used the VLE but the students on the module did not avail themselves of the options made available to them:

It also depends on the student cohort. For example, one of my lecturers started a discussion board this semester which I thought was a really good idea and a good way to stimulate interest but no one bothered to post anything there! (postgraduate female UK student)

This is a common experience with face-to-face courses since students may feel there is no real need to use virtual discussion when they have direct access to their peers. Use of techniques to encourage participation, particularly through staff development activity, might increase discussion board activity:

Students use the VLE just because their tutors ask them to do it. They do not use it on their own initiative. That may be one of the reasons why on-line discussion is not used widely... The function of interactivity is available on VLE, but students are not interested in it. I think one of the main reasons is that the "authors" of VLE are not responsible... too busy to make their module information attractive. (postgraduate female international student)

However, it would be inappropriate to blame students for failing to use the VLE if staff lack the time, experience and training to make on-line material more attractive. Lecturers may not be afforded the time to develop expertise or attend training sessions to enable this.

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Students appeared to adopt a student-centred approach to their learning when using a teacher-controlled facility since they were able to identify ways they met their individual learning needs, as in the following example:

I normally do a lot of research to understand the problem very clear before solving it. I need a clear structure or strategy to learn and establishing them take me a lot of time. I think VLE is suitable for me because the amount of material and how it is organised help me to reduce my time searching for materials and focussing more on the actual problem. (postgraduate male international student)

Impediments to student engagement with the VLE

Students identified a number of impediments to their use of the VLE, including nature of content; lack of effective induction; consistency in navigation functionality; and, access problems.

Text-based content

Some e-Learning systems contain predominantly text-based content which may make users less engaged during on-line learning. Users dislike reading large volumes of text on screen (Carswell, 1998). As Carswell points out, students are used to the 'web culture's colourful punchy documents which display their information quickly and easily' (Carswell, 1998: 47). The VLE was criticised by a number of students for its limited functionality and over-reliance on text, which may partially explain low take-up in some modules:

As I study Law I often have to read long passages of text which can be quite boring but if there were images and interactive questions and answers to test yourself on what you have just read, it would make it more interesting. (1st year female UK student)

Induction

Only 13% of the questionnaire respondents felt that they needed more guidance in using the VLE and, overall, 85% agreed that they were confident using the VLE. However, a number of student focus group participants identified problems in their preparation:

I didn't receive much support at the beginning of my course on how to use the VLE so found that I have taught myself. (1st year female UK student)

It would appear that some students would have preferred greater information about the VLE plus more preparation for using the VLE:

I wish I had understood the significance of it.....I really wish that we had the opportunity to use VLE and navigate our way around the site as if we were downloading lecture notes before a lecture etc as that would have made it stick in my mind so much more. Also if someone had actually said the words "This is the most significant thing you will do today and it will have great significance to the way you will study all year" I would have paid more attention. (postgraduate female UK student)

This comment would seem to indicate a need for a more effective induction programme, including emphasising the importance of the VLE.

Access and navigation

In the case of these two impediments, Britain and Liber (1999) discuss the 'micro-world' of the VLE and the potential impact of how the course structure is set up with linkage of tools to course homepages etc. While 78.5% of questionnaire respondents felt the VLE was easy to navigate, an issue of inconsistent appearance emerged in the study:

Different layouts for different modules can cause confusion...should be a standard layout for each module. Although 'module content', 'learning material' and 'learning resources' might all be the same thing, it can cause confusion...(2nd year male UK student)

These comments provide guidance to staff about the need to consistently design VLE sites, assess ease of navigation through a VLE site and prepare students for using the VLE.

Concluding remarks

Most student activity in the VLE appears to be associated with a transmissive approach to learning. Whilst there is some evidence of non-transmissive approaches being used, particularly student collaboration and constructivist learning activity, it seems to be limited usage. Student data provides little indication that academic facilitation of collaborative and/or constructivist learning occurs, predominant academic use of the VLE being as a repository of teacher produced learning materials.

The VLE offers pedagogic benefits to staff and students. For example it has the potential to help students explore subjects further and in more depth, it can motivate students, it affords students the opportunity to pace themselves and engage in independent study; and it can aid reflective thought.

Students identified other aspects of their VLE use that have implications for development and use of the VLE by staff. Some students believed they needed more preparation in using the VLE. Inconsistencies in site structures hindered students' ability to navigate module sites. A number of students believed that the VLE's communication tools had, if used effectively, the potential to enhance student learning.

The study highlights several areas in which staff may want to consider developing initial student preparation for using the VLE, ensuring students are not only able to use the VLE, but understand its importance in their learning. Furthermore, staff should consider how to best make use of the VLE's potential to support collaborative and/or constructivist learning activity to facilitate deep learning.

Many of these recommendations have implications for staff. However, the authors acknowledge that the study did not obtain staff perspectives on how a VLE can enhance student learning. Another group not included in the study was students on programmes making no use of the VLE. Whilst the authors attempted to obtain the views of such students, none volunteered to complete the online questionnaire specifically designed for them. Both staff VLE users and non VLE student users would form groups worthy of study, though the resources available to the authors meant that the study focussed upon student users.

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Table 1: Minutes spent by diarists on VLE

Teaching Activity	Week Number	Date	Mean	Mode	Median
Semester one teaching	1	Nov 13	67	120	35
	2	Nov 20	78	120	60
	3	Nov 27	54	60	60
	4	Dec 4	78	60	60
Semester 1	5	Dec 11	62.5	60	60
exam period	6	Jan 8	72	60	60
Independent study week	7	Jan 15	52	180	5
Semester 2 teaching	8	Jan 22	53	120	20

Table 2: Downloading, note taking, printing and reading and the VLE

Action	Number using
Downloads	23
Note-taking from screen	4
Printing	24
On-line reading	20

2. Using Video-conferencing to Teach in HE

Simon Clarke, UHI Millennium Institute. Simon.Clarke@shetland.uhi.ac.uk

Summary

This paper will examine the use of video-conferencing (VC) as part of a blended learning approach within the UHI Millennium Institutes's networked taught degree programmes. Discussion will focus on the author's generally positive experiences of using the technology to support students, but will also highlight potential weaknesses which can lead to less satisfactory learner outcomes, and have limited the uptake of the technology amongst UHI's lecturers.

Keywords video-conferencing / networked teaching / UHI Millennium Institute / blended learning

Introduction

Before considering how VC is used in detail it is necessary to outline the reasons for using the technology. UHI is not a conventional educational institution into which students can travel to receive a centralised service. Rather it is a partnership of scattered campuses, colleges and research centres spread across the Highlands and Islands of Scotland. UHI was set up with the aim of eventually becoming a university in and for the Highlands and Islands. The intention was that the region's people would not be obliged to leave their communities in order to study at degree level or pursue a career in academia. It was also hoped that locally managed courses would better reflect the economic needs and cultural aspirations of the indigenous people (UHI 2003, p.3). The reason this has never happened before is that the region has a relatively modest population (about half a million), scattered over a huge area. It has therefore lacked the necessary critical mass for a conventional HEI (Hills and Lingard 2003, figs. 2, 3 and 4). In the late twentieth century two things changed. Firstly a much higher proportion of the population was given the opportunity to go to university and secondly technology started to offer the prospect of bringing services together virtually, through use of the internet and video-conferencing (Hills & Lingard 2003,

p.32). The UHI project has tried to build on existing educational provision in the form of 15 independent educational and research institutions. As well as the main campuses many of the further education institutions have small outreach/learning centres, which means that most of the Highlands and Islands population is within reach of the network.

The difficulties of offering HE in the Highlands and Islands environment is demonstrated by the example of Shetland Further Education College, centring on the main town Lerwick, Shetland. Shetland is physically isolated from the rest of Scotland, a hour's flight or twelve hours on the ferry from Aberdeen. Communication is also a challenge internally. Shetland's population of just under 22,000 people are scattered over an archipelago of 15 inhabited islands, stretching north south for over 120 km, even without counting Fair Isle, which is half way to Orkney (SIC 2006, p.4).

The institution currently supports approximately 75 full time and 120 part time locally based HE students, on programmes ranging from HNC to PhD level (Shetland College 2008), but only one member of staff is wholly engaged in HE. (Most HE students are supported by lecturers whose main business is FE teaching).

Networked Learning Using VC and VLE Technology

Clearly such a small college acting in isolation could not support the diversity of specialisms that are required in a degree programme. The solution has been to draw on the resources of other colleges by means of video-conferenced classes supported by the use of a Virtual Learning Environment (VLE). For example on the BA Culture Studies programme politics, sociology and some literature modules are taught to Shetland students from Inverness College. The arrangement is a reciprocal one, with the author offering archaeology and heritage management modules to students across the network. In semester one of 2007-8 for example the module “History of Material Culture” (a core module for both BSc Environment and Heritage and BA Culture Studies and an option for BA Scottish History) was taught to 44 students based in 16 different campuses and learning centres.

The role of the lecturer in remote colleges is therefore twofold; Firstly lecturers act as academic specialists, providing a service throughout the UHI partnership. Secondly, and equally importantly, they offer non-specialist support to students locally, initially inducting them in the use of VC and VLE and then providing encouragement and general academic support. As has been found elsewhere this second role is vital to student retention and achievement on e-programmes (Goldstein 2002, p.14-15; Boys 2008, p.11).

Both the institution and individual academics benefit from this arrangement. Small colleges are able to offer a greatly expanded range of courses. Because cohorts can be assembled from across the region the lecturer is able to be a specialist, which means they can teach to a higher standard, and keep their work load to reasonable proportions, allowing time for engagement with research. In fact without this arrangement the author’s post in Shetland College would not be educationally or economically viable.

The Learning Experience

Students also benefit from the use of VC technology, getting weekly interactive sessions with their tutors in a way that could not be achieved by a VLE alone. The typical VC set-up has either two screens, or a split screen, with one incoming image and one outgoing. The incoming signal is voice activated to show whoever in the remote audience is currently speaking. Often this will be the lecturer, but if another site asks a question or wants to make a point the image in all the participating suites switches to that student. Indeed as all the sites have essentially the same equipment the technology can have a profoundly levelling effect. There is no front of the class, no podium from which the lecturer holds court. Everyone can, with encouragement, contribute on an equal basis. Used correctly this can be a powerful aid to student-centred learning in which the class are encouraged to play an active, contributory role.

The outgoing signal is typically a camera focused on the local participants, but most UHI VC suites also have alternative input devices. The first is the “document camera” or “object camera” which allows the operator to show slides and documents, even small objects to the remote group. Input is also possible from a PC or laptop so that PowerPoint presentations or video-clips can be shown. This means that teaching sessions have the potential to be as visually rich as in a conventional classroom.

Differences to a Conventional Classroom

While a VC learner experience is in many ways comparable in quality to a face-to-face encounter, the VC delivery is different from conventional classroom teaching in a number of important respects. These need to be bourn in mind if learning is not to be badly degraded. The most striking difference is the absence of instant feedback from VC classes (contra Smyth 2005, who over estimates the capabilities of the technology). During VC sessions sites without an immediate

contribution to make are encouraged to mute their microphones to improve the audio quality (cut out background noise and audio feedback) and to avoid the image changing every time papers rustle or a participant coughs. Noise in the classroom can be a trial, but it is also a vital clue as to the mood of the class; are they bored, uncomprehending etc. Similarly unless the VC has been set to show multiple sites, like “Celebrity Squares” panellists each in a tiny split screen box, the lecturer’s incoming screen will normally show only the last site to have spoken. The majority of the participating sites are therefore not giving any visual cues from body language; has the class slumped at their desks or even left the room! The solution is for the lecturer to constantly be soliciting the various participants for their opinion. At the very least the class should be given the chance to ask questions, and confirm that they have understood the points made so far. Ideally however remote students should be required to actively participate – offer their own opinion on issues raised or provide additional local examples.

It is technically perfectly possible to deliver a formal lecture by VC. However from a pedagogical perspective it is not normally desirable to do so. It is very difficult to hold the attention of a class that you are getting no visual or audio cues from. To be effective, short burst of presentation by VC should be interspersed with question and answer sessions and opportunities for the whole class to contribute. Interaction after all need not just be between the student and lecturer.

There will of course be considerably quantities of “content”, significant facts that any course needs to impart to the class. However if the lecturer is in “broadcast only” mode there are cheaper and more reliable mechanisms than VC available. In the past this might have been done with handouts or a course workbook. In the era of the internet these are conveniently replaced by materials

held on a VLE, for UHI currently Blackboard. This allows most of the necessary *knowledge* to be delivered asynchronously, and thus available to the student at a time of their convenience. A good learning and teaching pattern is to expect students to have read materials ahead of the timetabled VC session. This liberates the class from knowledge transfer allowing it to concentrate on student participation.

Student Satisfaction and Staff Uptake

Module evaluation from ‘History of Material Culture’ suggests most students are happy or very happy with their experience. In particular they value the detailed on-line notes and directions for further reading (much of it identified on-line). Although VLE interaction is possible and positively encouraged through the discussion board, most students much prefer the live VC discussion which occurs interspersed with short bursts of slide presentations by the lecturer. Used properly VC can give a classroom experience comparable to conventional face to face teaching. Student satisfaction is by no means confined to “generation-y” born to the age of e-communication. UHI’s networked courses recruit very high proportions of mature students, including pensioners. If supported adequately the UHI experience is that most students quickly get used to the technology, even if they have had little previous experience.

Sadly the blended learning experience represented by the “History of Material Culture” module might be regarded as exceptional. A recent survey of UHI’s VC teaching found only one other UHI module was taught to as many learning centres. A significant proportion of UHI VC teaching is to only one or two other centres, and student cohorts are usually modest (VC Stakeholders Group 2007). Such VC use is certainly extending the range of subjects available across the different partners and probably the specialist qualifications of those leading classes. These are worthwhile achievements,

but it is not clear that UHI's use of the technology is generally being managed to make delivery more efficient or financially sustainable. Furthermore blended delivery is not the dominant mode within UHI, because the majority of courses continue to be delivered conventionally face to face to small local cohorts in parallel rather than by networked provision, even where the same qualification is available in more than one centre.

One reason for this is certainly the perception amongst staff and students that VC delivery represents a second rate experience compared to conventional classroom contact. Recent focus groups in Inverness College for example have been highly critical of VC provision, citing poorly prepared support materials, poor VC room set up and a lack of interaction in VC classes (VC Stakeholders Group 2008).

Good and Bad VC Practice

There is no detail in the focus group reports to suggest which modules or even which courses students are being critical of. However considerable anecdotal evidence exists of less than ideal practice. One of the most common problems has been staff failing to modify their conventional classroom derived technique. Often little or no allowance is made for the strengths and weaknesses of the technology so that materials are unavailable or illegible and activities poorly considered or non-existent for remote students.

In some cases students are based locally in the centre from which a lecturer is delivering. It is not impossible for combined local and remote classes, but often the lecturer ends up addressing the local group to the exclusion of the remote learners. Unless the lecturer make a conscious effort to address the camera, creating the illusion of eye contact, the students watching by VC will quickly feel excluded. In the most extreme cases due to the way rooms have been set up

teaching staff have turned their backs on the VC camera in order to face those present locally. Nothing could be more calculated to generate a sense of alienation in the remote students, who naturally feel that they are passive onlookers intruding on someone else's learning experience. Comments and questions from the local group are even harder to handle well, easily degenerating into local round table discussions to the exclusion of the wider group. Care needs to be taken to ensure that microphones can pick up students' contributions and ideally that they too can address the VC camera.

Everyone participating in the VC, not just the lecturer, needs to make an effort to ensure they get the most out of the technical capabilities of the equipment. The whole point of VC is to be seen and heard, and that means appropriate room layout, direction of the camera and lighting. Sitting off camera or in the dark are simply not acceptable. If you cannot see the participants' faces they may just as well have joined by phone! Lecturers obviously need to set a good example themselves, but they also need to actively correct students in their use, as they would challenge disruptive behaviour in a conventional classroom or poor grammar in written work. Quite apart from the impact on the VC session itself these are important transferable skills in the knowledge economy.

Institutional Support

The infrastructure required to connect students and lecturers to their classes is formidable. UHI has invested heavily in large numbers of VC suites (five in Shetland College alone), network bandwidth and the "bridging facilities". It also employs a full time team of VC technicians to oversee the facilities and manage the booking and connection process. Classes are pre-booked with all the details of which suites are to be connected at what time and for how long recorded on an automated system. The VC bridge team is based in Shetland College, but

could have been based anywhere; monitoring the process and fixing problems remotely. The majority of classes start smoothly with only a minimum of technical input from the lecturer who is free to concentrate on teaching. If a VC suite is wrongly connected or fails to due to technical problems help is only a phone call away.

The efficiency of this process is an important prerequisite for success. UHI's considerable technical competence however is not enough in itself. As Dearing noted "all HE institutions should develop managers who combine a deep understanding of communications and information technology with senior management experience" (Dearing 1997; paragraph 42). Development of widely networked courses have been materially obstructed by the fractured nature of UHI's administration – what it refers to as its "federal collegiate model of governance" (UHI 2006). The most graphic illustration of this is partner institutions' extremely reluctant to relinquish control of time tables and room booking systems, to the extent that while VC connections can be booked centrally, the rooms that the equipment sit in need to be booked separately with each of the colleges and learning centres. Similarly the detail of semester timetables has never been centrally agreed (Hills and Lingard 2003, p.190). While the UHI's start and finish dates are generally adhered to, colleges set their own holidays and differences, especially at the Easter and October breaks, are particularly problematic to networked courses. Some students miss out on a significant amount of support because they are not able to attend VCs. This raises the issue of equivalence of the learning experience at different centres, and undermines students' confidence in the administrative competence of UHI. Similarly a common system of VC teaching slots based on standard 90 minute sessions has been established across the main networked UHI courses for several years, but is widely flouted. A recent survey found that almost half of bookings for teaching by VC did not conform (VC Stakeholders Group 2007). This means that the VC equipment cannot be

used efficiently and potentially that students are denied access to particular modules due to the availability of the VC suites.

Many staff are reluctant to leave the comfort zone of traditional teaching and some fear they would be innovating themselves out of a job. JISC's statement that e-learning has enabled some courses to enrol additional students without increasing the staff base (JISC 2008, p.31), will be regarded with deep suspicion by many academics. Blended teaching using VC and VLE requires substantial investment ahead of delivery, for example in the development of on-line materials (Inglis et al 2002, pp.56-7, pp.75-6). This requires initiative and drive on the part of lecturers, but also institutional support for new ways of working. This has not always been forthcoming in UHI where some colleges' thinking continues to be dominated by narrow definitions of "contact time" – hours spent in front of classes, with little or no acknowledgement of time supporting students on-line or creating and maintaining materials for asynchronous delivery.

Within UHI it is notable that areas of pre-existing teaching strength, such as computing and business administration, present in almost every partner college, have generally continued with parallel local teaching rather than collaborating to teach across the network. In contrast ambitious networked programmes such as Culture Studies have often been created from scratch, staffed substantially by new appointments, with no existing local courses to build out from.

With these institutional impediments to progress it is perhaps not surprising that take up has not been wider.

Conclusion

To conclude, looking firstly at the positive, VC teaching has significantly extended what is possible for staff to teach and students study in remote UHI campuses. On a personal level it was the only way my appointment to teach archaeology in Shetland could have been viable.

Personally I have found the combination of VC with VLE rewarding, giving me the sense of connection with students, and the feedback to improve my teaching that would probably have been absent from VLE alone. From the perspective of Shetland College students the approach has met with considerable success. In 2007 four students graduated in Shetland from the Culture Studies honours programme; two with firsts, two with upper second class degrees. Three of the four were students that would not have been able to attend a conventional course, so the provision can be said to have significantly broadened access to HE in Shetland.

There is however a down side which partially explains the failure of VC delivery to have been taken up more widely. Firstly VC delivery requires individual staff to completely revise their teaching practice, and many are struggling in the absence of effective direction and encouragement. At the institutional level a massive outlay in hardware in the form of VC equipment is only part of what is required. Courses networked across the UHI partnership also represent a formidable organisational challenge for which UHI lacks a cross institutional line-management system or the political will to enforce the kind of standardisation of operation necessary for efficient and effective integrated student support across the partnership.

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3. The experience of simulating student work experience through the Virtual Work Placement tool

John Curry, City of Bath College. CurryJ@CityBathColl.ac.uk

Summary

Educational theory indicates that the work placement has a clear role in professional type courses and in preparing older students for work. Research by the National Centre for Work Experience (2007) demonstrated that work placements were valued by students and potential employers as linking academic skills with the work place. Work experience can be a 'maturing experience' with the students growing in confidence and generating increased application to their studies.

Keywords Virtual work placement / VWP / work experience, assessment

Introduction

Some jobs are largely procedure based, and crudely, consist of following established procedures when requested by a customer or line manager. A good example of this is the fast food industry, where staff are trained to rapidly produce packaged food to a set standard. The success of this training in this industry is perhaps demonstrated by the ability of some firms to move staff trained in one outlet and use them in another outlet, even in another country, with only a minimal induction at the new site.

However, many professional jobs rely on staff using high order thinking and problem solving skills. Training staff to follow procedures, such as described above may have only limited relevance. For example, a goal is set by the line manager with minimal guidance about how to achieve it. The employee is expected to use their initiative to solve the problem. There is often no standard, 'off the shelf' solution that exactly matches the particular problem they have been given. To solve the problem may involve: clarifying the problem or even spending time identifying what the issues actually are; research of the relevant facts; supplementing this fact finding by asking appropriate questions; and finally, choosing between conflicting options before applying a solution.

Although the work placement has clear benefits in training students in such high order thinking, there are significant issues in identifying suitable work placements for increasing numbers of students. Obtaining and maintaining work placements requires a substantial investment of staff time. There may not be sufficient suitable employers able to offer valid work experience within the geographical and financial constraints of the students. Institutional concerns include rising insurance costs for students on work placement and fear of litigation. From the learner's perspective, the variation in delegated work based tasks is outside the control of the student's own institution and variations subsequently lead to significant differences between individual student learning experiences.

The Aim of the Research

The aim of this research was to develop a general-purpose web based tool to simulate some aspects of a project based work placement by virtual means. In many subjects, students were issued with an assignment brief that consisted of thousands of words describing the case study with clearly stated aims and objectives. The tasks would be included, as would instructions on how to format the report, the sections to include and the assessment criteria. While

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this level of support and guidance, explicit in the assessment material, assists the students, it bears little resemblance to the real world of work. It reduces the scope for them to develop and practise the high order skills as posited by Bloom's Taxonomy (Bloom, 1956).

The tool was designed to facilitate the presentation of the real world case study material in a more realistic way in order for the student to complete an assessment task within the specified time constraints. In addition, the tool was designed to minimise the administrative burden on the academic staff acting as 'work placement' supervisors.

The solution was found to be a web-based tool using 'content-management software' designed by CSIM (www.tickboxmarketing.co.uk), a Somerset based IT company with clients in commercial training and education. The result was software that utilised a straightforward interface so that the academic could rapidly develop and customise all aspects of the case study in the virtual work placement.

Virtual Work Placement

Students were given a web address of the 'business' that required their services and a strict deadline for the project to be completed by. In addition, the students were given the administrative rules of the scenario they were going to experience.

The company website for the organisation that required their services contained background material such as the services offered by the company and the staff.

In order to find out more about the project, the students had to log-on to a contractors area within the website. When they logged in, they found an introduction consisting of a phone call (accessible via the software) inviting them as consultants to submit a tender for producing an IT system.

As the virtual 'work placement' progressed, subsequent multi-media material was released to the students day-by-day through the contractor's area. This included video interviews, notes, memos, diagrams, documents and photographs. Experience shows that the wider the range of material, the more the student's interest increased. The recent improvements in video technology made it possible to produce realistic interviews of less than 5 minutes duration at a reasonable level of video quality and suitably compressed to be downloaded quickly.

In a real business environment, it might be expected that meetings could take considerable time, but when presented with a video of an interview it was found that 3-4 minutes was the maximum length that a video could keep the students attention.

The case study contained deliberate omissions and prompts such as memos to encourage the students to develop their investigation by submitting further questions by email. The tool allows some staff working in the virtual firm to be contactable by email. The virtual work placement tool forwarded the student emails to the work placement supervisor who then replied in the appropriate role.

Of course, the students were also required to role-play in their emails. If the student submitted questions in an unprofessional manner, such as being rude, the response was a terse email stating that questions must be asked in an appropriate manner. Real business staff would not be expected to tolerate rude contractors.

If the students asked for data that a real firm would not have collected, e.g. how many appointments last for 15 minutes in proportion to those lasting 30 minutes, then they were told that such information was not available within the time frame for submitting the solution.

In order to reduce the workload of responding to emails, an FAQ (Frequently Asked Questions) list was developed during the case study to allow the supervisor to 'cut and paste' the answer into an 'in character' response. As questions were asked, the responses were simply saved with an appropriate heading, so the same response could be used when the same question was asked again.

Assessing the Virtual Work Placement

In order to assist the students to focus on the virtual work placement, the course team agreed to make the project set by the virtual firm as a formal assessment. Inevitably, some students raised concerns about this on the grounds that the aim of the project was not spelt out when the assessment was set.

Some of the more academically able students found that not having all the case study material laid out in a standard 5,000 word case study forced them to adapt their learning strategy. They reported this experience as uncomfortable as they were forced to ask questions in order to clarify the situation. Conversely, breaking down the case study information into multiple smaller chunks made it easier for some students to understand the problem.

One of the most frequent questions to supervising staff was from students seeking guidance on which 'characters' in the case study they should believe. Some of the 'characters' involved in the virtual firm had apparently different views on what the final system should include. Supervising staff always suggested students should attempt to test the information they had been given by asking questions, looking at staff job roles or simply applying 'common sense'. An example was an IT contractor who used to work for the virtual firm, giving obviously misleading information as they resented being replaced by a new contractor.

An essential part of the case study were the hidden aspects of it. These required students to ask, by email, the correct person within the organisation. For example, students would have to ask for a copy of reports mentioned in an interview; they would not be given them automatically. There were obvious omissions in the project brief, such as the potential budget, but there were subtler gaps to give opportunities for students who understood the case study to demonstrate this.

Internal verification is an essential part of an FECs quality control processes. The virtual work placement presented unique problems to the verification process. The case studies were broken down, perhaps into 15 small parts, often using multi-media and were supplemented by answers that students would not receive if they did not ask the right questions. It was stated that the assessment was considered a simulated work placement and since it was a vocational course, a realistic case study could not be considered unreasonable.

Issues with Virtual Work Placement

Staff identified that younger students required a 'trial run' case study, with guidance on how to tackle a less structured case study than they would normally have encountered in their academic careers.

Not all students were comfortable with asking questions by email. Some students experience of work was apparently of having a job within a tight geographical area where other staff were available and willing to take verbal questions as they occur.

The 'e' nature of the work placement allowed students to tackle the problems in non-traditional office hours, however some students had unrealistic expectations of the response time of the 'virtual staff' and were perplexed that questions emailed in the middle of the night had not been responded to by 9.15 am the following morning.

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Some of the students demonstrated little insight into what was reasonable to ask the 'virtual staff' for and what was not. In extreme cases, students were requesting substantial information at very short notice.

Student Feedback

Student evaluation of their learning experience within the virtual work placement was very positive, however a minority of students rated the experience as useful, but they did not like it as it was uncomfortable, for example some mature students complained the virtual work placement was 'too realistic'

Student quotes

In doing this assignment I have learnt that systems analysis is difficult.

You will often be given little information, and it will be hard to obtain any information that you require.

People may not necessarily be very helpful in giving you information, so you need to ask the right people the right questions, and be very clear what you require; get straight to the point.

I found this more interesting than a paper based case study.

The virtual work placement was very good and I could see this type of assignment used more and more.

It was more realistic and different than my other assignments, and this made it more interesting to me.

The Impact of Using Virtual Work Placements

The timely completion of the assessment set using the virtual work placement for four cohorts of students significantly increased, but other factors could account for the different performance. Overall, student evaluation rated the virtual work placement assessment as more valuable than the other assessments they had taken on the course, as it required application of their learning in what they perceived to be a near work environment. They also noted it had significantly developed their confidence for a real work placement.

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www.work-experience.org

Virtual Work Placement tool
www.virtualworkplacement.co.uk

4. New pedagogies for postgraduate research teaching: integrating on-line research narratives.

Gordon Joyes, University of Nottingham & Sheena Banks, University of Sheffield.
Gordon.Joyes@nottingham.ac.uk s.b.banks@sheffield.ac.uk

Summary

This paper argues that within the context of growing numbers of doctoral students enrolled on courses in the UK and the increasing diversity of doctorates there is a need to explore web based pedagogic approaches that can connect research students with their research and researcher communities. This approach underpins the work arising from an ESCalate funded project (<http://escalate.ac.uk/1051>) and continued within the HEFCE funded FDTL5 project Virtual Resources for Online Research Training (www.v-resort.ac.uk). It presents an on-line pedagogic approach that builds a bridge between the contexts and understandings of the research students and the theory laden and 'reified' body of knowledge that is represented in the literature. This free and highly navigable resource is explored and the design principles are discussed. Research into the impact of the project and the lecturer and student experience is also presented.

Keywords Capacity building / postgraduate training / virtual resources / methods

Introduction

In the last 15 years there has been a rapid growth in the number of graduate students as well as international growth in the provision of doctoral studies - HESA data shows that the total postgraduate population has grown by over 50% in the 10 years to 2006/7. Over 120 UK universities offer doctoral programmes (Powell & Green 2007) accounting for almost 25% of total student numbers in 2004 (Woodward & Denicolo 2004) - this is still increasing.

Doctoral students do not form a 'homogeneous population' (Humphrey & McCarthy 1999). Recent trends with the emergence of professional doctorates in an increasing range of professional fields involving those new to research have led to a concern that current provision does not acknowledge and respond to the diversity of students now undertaking doctoral study. Wellington & Sikes (2006, p725) comment that 'doctorates are now more accurately characterised by diversity than dichotomy' and that doctoral students have a 'wide

range of academic, personal and professional needs'. It is also acknowledged that current provision does not recognise the diversity in the new modes of production of research knowledge being developed through these programmes and this has led to critical questioning of the purpose of doctoral programmes and how research knowledge and practice in these challenging contexts can be nurtured. For full-time students, this complexity is being addressed increasingly through the provision of a taught element in doctoral programmes. This is becoming the norm, the provision for part-time students (HESA data indicates that these students represent over 56% of the total) has been to some extent left behind due to the complexity involved in providing programmes that match this diverse set of learners' needs. It is recognised that 'research into doctoral pedagogy is becoming a priority'. (Scott et al 2004) and we would argue that research into the use of technology-enhanced learning to support new pedagogies for these relatively 'ignored' part-time students is an overlooked priority.

The need for technology-enhanced learning and current use within research training

The literature identifies the potential for technology to bring more flexibility into the learning and teaching of research methods (for example Birbili 2002. Deem & Lucas 2006, Joyes & Banks 2008.) Currently, however, there is not much evidence that this is happening. A recent survey of those involved in research-training in November 2006 within the UKGRAD Yorkshire and North East Hub provided evidence that e-learning was viewed as a way of reaching the increasing numbers of part-time and distance postgraduate researchers. However, use was found to be limited to small scale responses to specific problems and was very much in the hands of a few individual staff with the relevant expertise, resulting in patchy provision and issues of long-term sustainability.

Park (2007), speaking at a recent UKCGE (UK Council for Graduate Education) conference on digital futures, sees the role of technology in doctorate programmes as simply one of providing access to digital resources, for example electronic archives and digital libraries, rather than impacting on learning and teaching. While electronic resources, such as repositories of electronic dissertations, are important, we argue that learning technology has the potential to change the pedagogic practice within doctorates, not only through flexible learning in relation to time, place, topics and use of resources; but, also for the development of higher order knowledge and metacognition, where we can involve students in rich interactions with peers and more experienced researchers and engagement with authentic examples and insights about practice.

The V-ResORT project set out to explore ways of designing a resource that would be able to be reusable in a wide range of contexts that incorporated what we believe

are five key principles of designing for reusable learning (Joyes 2008). These are:

1. The choice of a generic area that has the potential for wide applicability, i.e. not bounded within one subject discipline;
2. Adopting a suitable pedagogic approach that allows for personalisation;
3. Adopting an 'invented everywhere' approach that allows for an element of localisation;
4. Adopting an action research approach to the design that involves potential users in an ongoing design process; and,
5. Ongoing research into the process and principles behind designing for reusable learning to inform subsequent design.

The outcome, the V-ResORT website at <http://www.v-resort.ac.uk> is described in the following section.

The Virtual Resources for Online Research Training (V-ResORT) website

The V-ResORT project has developed a freely available on-line resource to support the training of educational studies research students at Masters and Doctoral level. The project involved four UK partner universities, the Universities of Sheffield, Bath and Canterbury Christ Church and was led by the University of Nottingham, with a wider number of institutions contributing resources as a result of the action research development process. Central to the design is the recognition that video narratives: can present authentic multiple representations of 'real' researchers projecting their knowledge and experience of the research process; can show complexity and the contested nature of educational research; and, can help to build on-line learning communities. The project has developed a conceptual and a pedagogic framework to support the materials. It uses Internet-based technologies that support video streaming and captures a wide range of researcher experiences, case studies and expert views organized into flexible e-learning materials to

give an authentic context for theory and practice. These are supported by skills training and links to resources. This represents a radical departure from conventional text based and theory led approaches to introducing research methods in education and responses from academics indicate that they may be suitable for use across a much wider range of subject contexts than education studies.

Figure 1 provides a view of the main navigation page, showing six key questions the researchers answered in describing their research journey. Learners can select a question, a researcher and then one of the short video clips shown. The selection of one researcher and their responses will reveal a complete research journey. The selection of a question and then the selection of all researchers in turn enables comparisons between all of the research to be made. The main navigation page representing the research journey and the profile of one of the researchers featured in the narratives is shown in Figure 1 while Figure 2 illustrates one of the video narrative clips for this researcher.

A key feature of the V-ResORT website is the way the materials are integrated into a meaningful learning resource. The complete research narratives are linked to reports, articles, data, thesis chapters and other useful on-line and text based resources. Skills training is provided that relates directly to skills referred to within the narratives, i.e. the use of interviews, focus groups and data analysis software. Figure 3 shows a skills based training video clip covering approaches to writing at research degree level which is also used for analysis of the conduct of focus groups.

Discussant narratives are also included that explore general methodological issues that arise directly from the research narratives. This internal referencing was a deliberate pedagogic choice,

the researcher narrative providing context and meaning for the learner - something research methodology texts often fail to do.

Figure 1 represents one approach to navigation around the video narratives. A second approach uses a keyword search facility as shown in Figure 4. If a lecturer or a student enters a keyword such as 'ethics' all the video narrative clips that engage with this issues are presented. This was thought to be of particular use in research training within taught components of research courses.

As a result of the action research process that the project used to engage with potential users, resources were suggested that would broaden the re-use of the website. One of these suggestions resulted in the inclusion of video narratives to support the development of Master's dissertations. As can be seen from Figure 5, three Master's students can be viewed presenting their perspectives at different stages of developing their dissertations.

The following section explores the impact of the resource from institutional through to lecturer and student use. This evaluation data was gathered in a range of ways during the project. E-mail contact was made with registered users who were requested to complete a survey. Follow up telephone interviews were conducted with volunteer respondents who identified that they were using the website in interesting ways.

Impact:

Institutional impact

The interest we have had from our own institutions and from others has often been from senior academics with institutional responsibilities for graduate education, graduate schools and research methods programmes. We believe that we have had an impact in demonstrating how technology can be used in these programmes that effectively supports the diversity of learners now undertaking masters and doctoral

degrees. This in turn is leading to strategic change, for example, in understanding how collaboration and re-use of resources can facilitate development. It has also raised awareness of the value of on-line visual learning, in particular video and this is important given the predominance of text-based on-line learning materials within this area.

Departmental impact

Local mentors were identified as key contacts within the institutions the project engaged with. These mentors were critical in cross-fertilising good practice from the project into existing practice. The materials were designed for educational research methods students and so the impact has been strongest at departmental, teacher and student level. The materials were designed to be able to be used flexibly and the evaluation has revealed some examples where the materials have been fully integrated into research training courses with specific activities being integrated within on-line materials. In one institution students engage in on-line discussion through fora and/or blogs to develop understanding of the research process using the V-ResORT website as the key stimulus. However in most institutions the V-ResORT website is provided as a useful link for students on courses - we cannot be sure how many departments provide this link on their research training websites for their research students, but we do know of five who do this.

Lecturer impact

There has been impact on the local mentors and on other lecturers. We know this from the requests that we have had to help with the localisation of materials. In addition twelve lecturers outside of the four partner institutions who use the resources responded to the project evaluation. There was evidence of lecturers incorporating the website into face-to-face taught sessions. It was also common to recommend the website for self-study of video narratives and also for resources.

'I have used extracts in teaching some research methods sessions. They provided illustrations of some of the processes I am expecting of my students and an opportunity for them to hear, from someone other than myself, the language of research in use. I found the sections outlining the identification of research topics helpful'. Senior Lecturer pre-1992 University

'I used this in the taught session first as a demonstration and advised students to look at them independently, we did some focused discussion on motives for carrying out research and then they used these as self study resources'. Senior lecturer pre-1992 University

The following comment is interesting as it reveals why these resources may be appealing to some lecturers. They seem to reflect the ways they were wanting to teach but were limited by the lack of resources. It seems for some V-ResORT has met a real need.

'To me as a tutor they were valuable - the kind of thing I would have liked to do myself but could not because of time and resourcing - using them as self access(to look at particular aspects) is a good thing and makes it seem as we have researched the provision of resources rather than simply relying on last year's handout' Senior lecturer pre-1992 University UK

There were several unexpected outcomes. It was common for lecturers to be using the resources to explore some of the research reported on the site.

'I looked through the materials (I think it was the first three) which stimulated thinking on research design. I liked the videos and the link to a paper written by the person whose research I was most interested in.' Senior Lecturer at a post-1992 university

There was also evidence that lecturers who had been introduced to the materials as part of their research training were also recommending the materials for their students who were also undergoing research training. We have also had feedback that lecturers find the video narratives useful as a model of how to design and use video narratives/visual learning in their own practice. We have also had requests from lecturers to select individual video narratives to incorporate into on-line postgraduate teaching within a Virtual Learning Environment. This is a difficult issue because removing a video narrative from the learning context that supports it undermines the contextual integrity of the resource, though we can also see that it is another approach to re-usability that needs to be considered.

Student learning

The evaluation survey data provides evidence of student learning. There is also evidence from within a Masters in Research Methods course, in which we had access to the discussion forum and blog activities, that the students were actively using the V-ResORT materials:

*'I met this resource as part of my masters course in research methods and found the video narratives compulsive viewing. I particularly liked the Patya video as I **related to the ways she seemed to be still exploring the methodological issues.** I watched this from start to finish one evening at home, it was so useful in developing an understanding of the real research process. The course readers are of course helpful but the video brought the research process alive for me.'* Masters student at a pre-1992 UK university

There was evidence that the resources were useful at all stages of the research process not just in initial research training. This student was using the resource at the end of her doctorate and gives a sense of ways the resource can help a student overcome the

sense of isolation that can be felt at this stage.

*'At my stage (final months of PhD write-up) the resources are valuable for those of us (probably most of us) working at a distance from our institutions ... it is nice to **feel part of a wider network of people** going through the same agony!'* Professional Doctoral student at a pre-1992 UK university

Developing a sense of community

The words highlighted in the quotes above provide evidence of the ways the resource provides opportunities for students to identify themselves as part of a network of research students, a network of researchers and a network of distance learners. This is a particular strength of the video narrative approach, but it is also strengthened by the underlying conceptual framework that was developed at the start of the project. This consists of six main questions, represented in figure 1 as the research journey, that could be asked of any researcher or about any research. This framework has been found to be highly successful in revealing authentic research 'stories' that research students can find connections with.

These questions are:

- Where did the ideas for the research come from?
- What is the aim/purpose of the research?
- Why were the theoretical and methodological approaches chosen?
- How was your research project designed and conducted? - How? When? Who with? Where?
- How was the research reported and communicated to a range of audiences?
- What happened to the research after it was completed?

Wenger's notion that the 'reification' (stratification and codification) of knowledge provides a barrier to those new to a discipline gives an insight into the reasons why beginning research can often be

problematic, not only for research students but for new lecturers in education. 'There is a pedagogical cost to reifying that requires additional work - even possibly, a new practice - to make sense of the reification' (Wenger 1998, p. 264). The reified account of the research process provides a rather tidy separation of choice of methodology, methods, field work, analysis, writing. Our research within the project found that researchers talked quite openly of the messiness of the whole process adhering to a complexity model rather than a more simplistic one. The conceptual framework allows for the description of this complex process. For example, question 4 allows for literature review, fieldwork, analysis, further fieldwork, refining of research questions, etc. to be reported in the ways the process happened. This tends not to be the way research is reported in the literature and we would argue is a confusing misrepresentation for those new to the area and an approach students cannot easily identify with and represents a barrier to their identity as members of a researcher community.

Concluding remarks

V-ResORT is widely used in the sector and there is evidence that it has impacted on pedagogic approaches within research training, but there are issues about the visibility of the website. We found that students would be introduced to the website by lecturers/supervisors and/or other students but would often not bookmark the site and then 'forget' of its existence. There is an issue about where this and other useful resources are located within institutions, i.e. departmental and graduate research school web pages are seen as more helpful than within a course in a VLE which is often password protected.

The resource will continue to be hosted by the educational development innovation technologies lab (ed:it) at the University of Nottingham

(<http://editlab.nottingham.ac.uk/index.php/>) ed:it is currently developing Web2.0 tools for sharing and discussing media (audio and video). One of these, the Virtual Interactive Player (ViP), allows for upload and tagging of video, the creation of video quotations, and private or open group discussion around the videos. The strength of the V-ResORT approach is the high quality of the videos and the strong navigation features, the weakness is that it is very resource intensive to create a video narrative and this can only be done by a technician. The strength of the ViP approach is that anyone can upload the video, however quality cannot be assured and navigation will be user dependent. In reality there is a place for both the V-ResORT and the ViP approaches; they can be used alongside each other as powerful ways of establishing researcher communities.

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Figure 1: The research journey and a researcher profile

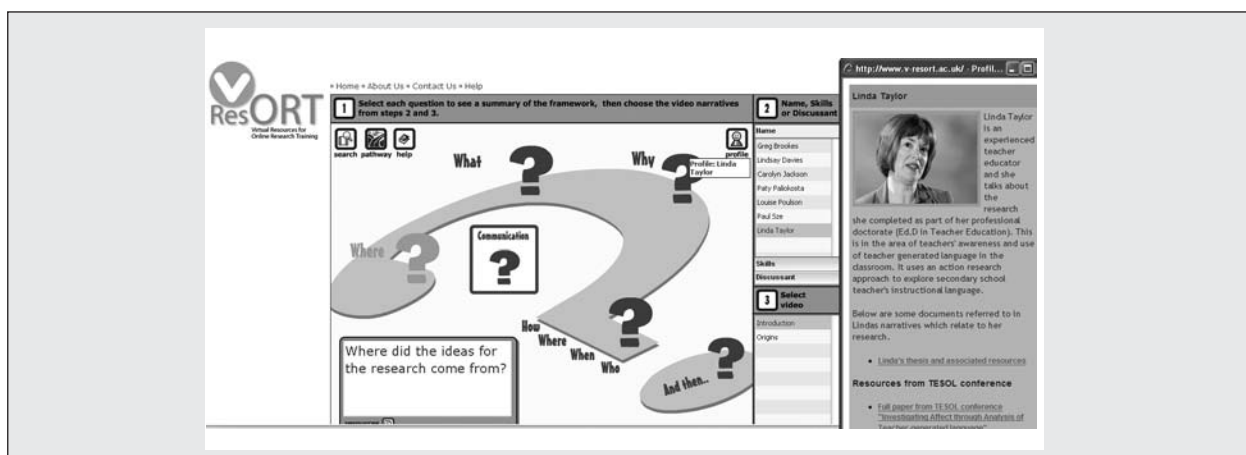
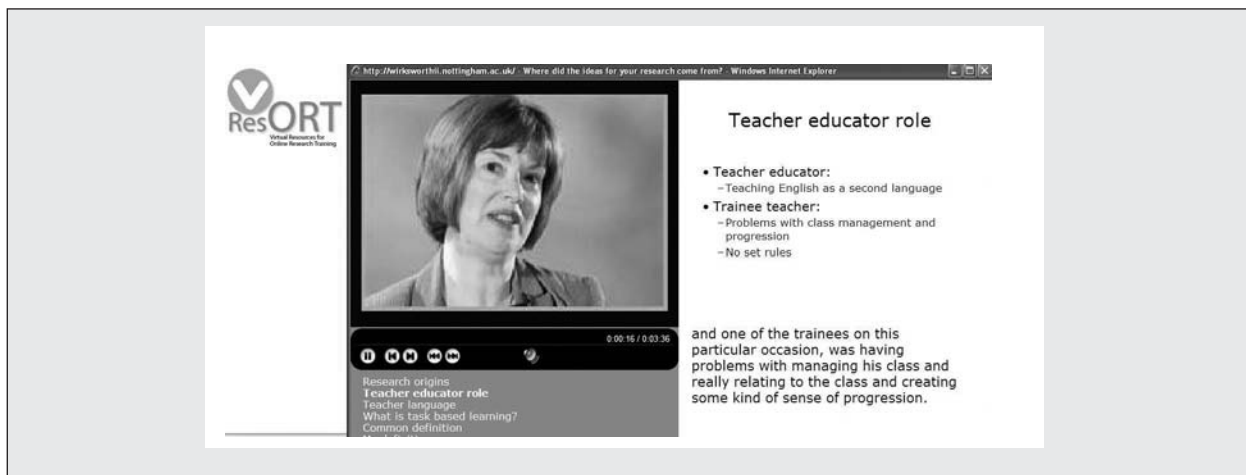


Figure 2: A research narrative



New pedagogies for postgraduate research teaching: integrating on-line research narratives

Figure 3: Skills training: discussing writing and analysing the focus group



Figure 4: Keyword search facility

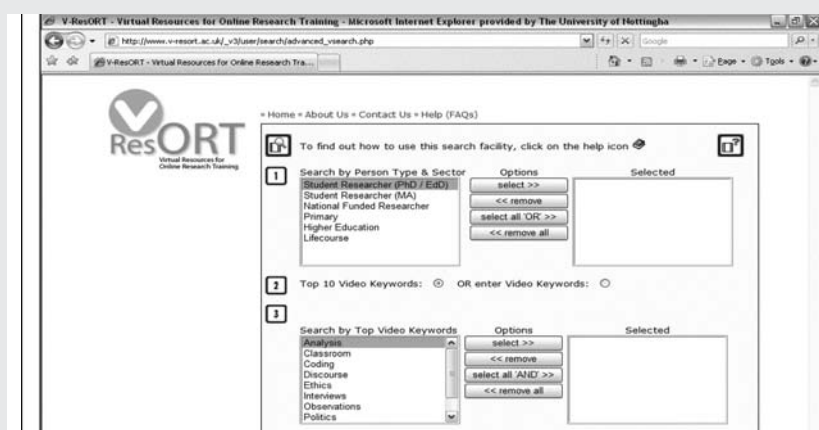


Figure 5: The Master's dissertation journey

Evelyn Sandra Kanj

Evelyn Sandra Kanj (Sandra) describes her **Masters dissertation research** on 'Why Students Fail to Develop Speaking Competency in English: A case study in a Lebanese ESL (English as a second language) School'. The research journey as described after its completion can be found by selecting the questions in the V-ResORT narratives questions page. After viewing this narrative you may wish to explore the process of completing a Masters dissertation further. The table below provides video narratives of three Masters students (including Sandra) describing the developing dissertations with Dr Richard Pemberton just after starting their work and mid-way through this - the pre-re stages each has reached is different and this is reflected in some of the issues discussed.

Masters dissertation research **video narratives** - three students from an English Language Teaching course

Main question/s	Maigorzata (Starting)	Maigorzata (Mid-point)	Eva (Starting)	Eva (Mid-point)	Sandra (Starting)	Sandra (Mid-point)
Getting started What were your initial reactions? Where did the ideas for your research come from? What is the aim and purpose of the research? Why were the approaches taken? How did you plan your work?	Initial reactions Ideas Planning Balanced structured Literature review	Introduction Ideas Aims Methods Data collection Instruments	Introduction Ideas Aims Methods Data collection Instruments	Introduction Ideas Aims Methods Data collection Instruments	Introduction Ideas Aims Methods Data collection Instruments	Introduction Ideas Aims Methods Data collection Instruments
Methodology and analysis How was your research project designed and conducted? Where, when, Who with?						

5. Didactic transformation in mathematics teaching

Alexandre Borovik, University of Manchester. alexandre.borovik@gmail.com

Summary

This paper is a mathematician's attempt to explain to a wider educational community a specific feature of mathematics teaching at the university level: the volume and crucial role of *didactic transformation*, hidden preparatory work. I start by observing that, in Britain, almost every course in university mathematics departments and most mathematics courses in service teaching are tailor made. This is different from the usual practice, say, in American universities where courses in so-called "pre-calculus" are frequently based on standard mass print textbooks and can be taught to mixed – and large – audiences of mathematics and engineering majors. For the sake of consistency I restrict the scope of the present paper to issues in teaching to mathematics 'honours' degree students in British universities.

Keywords mathematics / didactic transformation / evidence-based practice

Introduction

My recent experience of close reading of three dozen final examination papers from a good Scottish university (in my role of an external examiner) yet again reminded me how much *mathematical* effort is invested in development of courses and design of examination problems – and how little of this effort is seen by the inexperienced eye of an outsider.

I argue that in its intrinsic nature this hidden work of a teacher is essentially a form of mathematical research; it uses the same methods and is based on the same value system. The difference is the form of output; instead of a peer reviewed academic publication (or a technical report for the customer, as it is frequently the case in applied and industrial mathematics) the output may take the form, say, of a detailed syllabus for a course which exposes classical theorems in unusual order, or just a page in lecture notes with a new treatment of a particular mathematical topic. The criterion of success is the level of students' understanding, not approval by peers. The mathematical problems solved by a lecturer in the process of course development and conversion of

mathematical material into a form suitable for teaching are far from glamorous. They are not in the same league as the Poincaré Conjecture or the Riemann Hypothesis¹, they are more like 'find a way to explain to your students orthogonal diagonalisation of quadratic forms without introducing inner product and without ever mentioning orthogonal matrices – but make sure that the method works' – I am using an example from my own practice. As mathematical research stands, this kind of work is perhaps unambitious, but it is nevertheless mathematical problem solving made very challenging by severe restrictions on the mathematical tools allowed.

Why are mathematics lecturers readily engaged in this taxing and time consuming work? Motivation comes mostly from various external factors, starting from time constraints to requests to cover particular material from colleagues who teach subsequent courses. (Indeed intricate and critical interdependency of different mathematics courses is a delicate issue deserving a discussion in a separate paper.) One may wish to add to the list: changes in the school syllabus, the widening participation agenda, etc.

¹ These are two of the seven Millennium Prize Problems in mathematics. (Clay Mathematics Institute, 2000)

I argue that the intrinsic methodological link with research makes teaching of mathematics at university level different from teaching many other university disciplines. Of course, it also makes university teaching very different from the secondary school teaching. I believe that for that reason university level mathematics teaching deserves some special treatment in the educational research arena.

Didactic transformation

It is time to introduce some definitions. A remarkably compact formulation of what makes mathematics education so special can be found in a paper by the prominent mathematician Hyman Bass:

'Upon his retirement in 1990 as president of the International Commission on Mathematical Instruction, Jean-Pierre Kahane described the connection between mathematics and mathematics education in the following terms:

- In no other living science is the part of presentation, of the transformation of disciplinary knowledge to knowledge as it is to be taught (transformation didactique) so important at a research level.*
- In no other discipline, however, is the distance between the taught and the new so large.*
- In no other science has teaching and learning such social importance.*
- In no other science is there such an old tradition of scientists' commitment to educational questions.'* (Bass, 2005, p417)

The concept of didactic transformation is fairly old and can be traced back to Auguste Comte (1852, preface):

'A discourse, then, which is in the full sense didactic, ought to differ essentially from one simply logical, in which the thinker freely follows his own course, paying no attention to the natural conditions of all communication. [...]

On the other hand, this transformation for the purposes of teaching is only practicable where the doctrines are sufficiently worked out for us to be able to distinctly compare the different methods of expanding them as a whole and to easily foresee the objections which they will naturally elicit.'

However, a Google Scholar search shows that the concept is used in the literature on university mathematics teaching less widely than one would anticipate. The reason for that is that, in mathematics, didactic transformation is indeed a form of mathematical practice. Moreover, it is in a sense applied research since it is aimed at a specific application of mathematics: teaching. It remains mostly unpublished, underrated and ignored because it is frequently confined to the early stages of course development or to the ephemera of classroom practice.

Didactic transformation could, and should be informed by advice from researchers in education and cognitive psychologists – but methodologically it remains a part of hardcore mathematics. Indeed, returning to Comte's words:

'...the doctrines are sufficiently worked out for us to be able to distinctly compare the different methods of expanding them...' (op. cit.)

We see that, in the context of university level mathematics teaching, the expressions 'to work out' and 'expand' refer to purely mathematical activities: essentially, they mean 'to prove mathematically'. The situation with the words 'distinctly compare' is even more interesting: here we see in action the reflexive power of mathematics as a precise and flexible tool for study of the structure and function of mathematics itself.

Now I wish to turn to a couple of case studies. Their choice is motivated mostly by the desire to refrain from technical jargon and not overuse mathematical formulae.

Case study 1: Kid Krypto

One of the more interesting recent ideas in undergraduate mathematics teaching is the concept of *Kid Krypto* as formulated by Neal Koblitz, one of the creators of modern cryptography (Koblitz 1998; Fellows and Koblitz 1992). In Koblitz's (1997) words, Kid Krypto is

'(The)... Development of cryptographic ideas that are accessible and appealing (and moderately secure) to those who do not have university-level mathematical training.'

In a course developed by Dr. Richard Booth and myself at UMIST (Booth and Borovik 2002), we used this principle as the way of justifying the need for mathematical rigour. In effect, we expanded Koblitz's thesis to include:

'Proving to the students that a sound mathematical theory is required, by giving them their own experience of breaking down cryptographic systems intentionally built on a weaker mathematical foundation.'

We applied the Kid Krypto approach to a traditional (with full proofs!) first year course of elementary number theory. After carefully selecting the minimal amount of mathematical material which allowed the development of simple RSA-based cryptosystems, we gave students a chain of rigorous proofs and definitions where every step was motivated by the needs of practical computer implementation of cryptographic schemes – and, crucially, their survivability under sustained cryptanalytic attacks (Borovik 2002). The introduction of an adversarial aspect – so typical for cryptology – brought a lot of excitement and fun to the students. A relatively modest transformation

of mathematical content allowed us to achieve a dramatic change in the presentation of challenging material, and, I wish to emphasise this point, without sacrificing the mathematical rigour of exposition. The main reason why I mention this case study is because it demonstrates how transformation of mathematical content can bring emotional charge into the students' teaching experience. Indeed, our students were taking their peers' attacks on their cryptosystem so personally that some of them were prepared to spend a lot of time and effort studying much more advanced cryptanalytic methods, to take revenge for their initial defeat and to attempt to destroy the attacker.

The next case study is quite different. It is less concerned with emotions and presentation and more with the very nature of some of the deepest concepts at the heart of mathematical education.

Case study 2: Continuity, limit, derivatives

Few topics in undergraduate education generate more controversy than the classical epsilon-delta approach to limits and continuity. I quote Raphael Nunez (2005, p. 179):

'Formal definitions and axioms in mathematics are themselves created by human ideas [...] and they only capture very limited aspects of the richness of mathematical ideas. Moreover, definitions and axioms often neither formalize nor generalize human everyday concepts. A clear example is provided by the modern definitions of limits and continuity, which were coined after the work by Cauchy, Weierstrass, Dedekind, and others in the 19th century. These definitions are at odds with the inferential organization of natural continuity provided by cognitive mechanisms such as fictive and metaphorical motion. Anyone who has taught calculus to new students can tell how counter-intuitive and hard to

understand the epsilon-delta definitions of limits and continuity are (and this is an extremely well-documented fact in the mathematics education literature). The reason is (cognitively) simple. Static epsilon-delta formalisms neither formalize nor generalize the rich human dynamic concepts underlying continuity and the “approaching” the location.’

This thesis is fully developed in a book by Lakoff and Nunez (2000) and is representative of a school of thought in mathematics education largely informed by neurophysiological research. However, one striking feature of Nunez’s thesis (and the debate on the role of the concept of limit in mathematics education in general) is that it ignores an impressive variety of alternative treatments of calculus available in the mathematical (research) literature, some of them being remarkably intuitive and elementary.

For example, there is a well established area of research on the boundary of real analysis and mathematical logic – the so-called theory of o-minimal structures – where all (definable) functions of single variable have happened to be piecewise monotone and take all intermediate values. In naive terms, these are functions whose graphs can be drawn with a pencil, with the concept “can be drawn” being made explicit and rigorous (van den Dries 1998). Historically, the theory of o-minimal structures is a direct descendant of Euclid’s *Elements* – it originates in Tarski’s work on a decision procedure for Euclidean geometry (Tarski 1949).

There is another approach, due to the famous logician Abraham Robinson (1996), which places infinitesimals (quantities and variables which are bigger than zero but smaller than any positive real number), purged from calculus in 19th century, back at the core of the subject. So far, this approach has made only relatively modest inroads into mainstream teaching (Keisler 1971).

Next, there is a lecture course by Donald Knuth on calculus in O-notation, taught by Knuth for many years and exceptionally well polished pedagogically. It is available from Knuth’s website and is partially published in Graham et al. (1989). One has to know the cult status of Knuth in the mathematical and computer science communities to fully appreciate his influence: when I placed the text of his letter about teaching undergraduate calculus (Knuth 1998) on my blog (<http://micromath.wordpress.com/2008/04/14/donald-knuth-calculus-via-o-notation/>), the post got 25,000 hits in 24 hours.

Finally, there is also a very promising approach to calculus based on eliminating the concept of a limit and replacing it by uniform Lipschitz bounds (Marsden and Weinstein 1981). It is close in its spirit to Knuth’s calculus in O-notation but differs in some important aspects and notation. For example, definition of derivative $f'(a)$ of the function $y = f(x)$ at point $x = a$ becomes

$$|f(x) - f(a) - f'(a)(x - a)| \leq K(x - a)^2;$$

for a non-mathematician, it suffices to notice that the notorious epsilons ε and deltas δ are not present in the formula. The “rich human dynamic concepts underlying continuity” so loved by Nunez have also gone, having been replaced by a closely related – but different – concept, that of approximation.

And here we discover the most peculiar phenomenon: in order to be able to discuss and compare alternative treatments of *undergraduate* calculus one has to be able to see it within a much wider mathematical perspective; in particular, some basic understanding of set-theoretic topology, functional analysis and model theory is really useful – even if we are talking about Donald Knuth’s method formulated in a rather traditional and elementary language.

Some practical questions arise from these examples

Mathematics provides a bewildering array of apparently incomparable approaches to the same topic. We also have to remember that we cannot freely bend them into the desired shape or pick and mix elements of different approaches: each of them has its own internal logic which cannot be interfered with.

In that case, how do we *predict* and assess the relative advantages and disadvantages of a particular approach in teaching to a given group of students in a given course?

As a practicing teacher of mathematics, I can rely on my colleagues' collective wisdom, but so far I could not find usable advice in the literature on mathematics education. I understand that this is a serious and challenging problem.

Indeed, it is the reality of university life that the student population is very non-homogeneous. In a large university – like the University of Manchester – we have to teach mixed cohorts of British and foreign students who represent vast swathes of the socioeconomic, educational and cultural spectra (and, in case of foreign students, countries from Afghanistan to Zambia). Next, students' background varies unpredictably on a year to year basis due to changes in the English school curriculum and fluctuations in the exchange rate of the pound – the latter affects the enrollment of foreign students from particular countries. The non-homogeneity of sampling renders statistical methods somewhat unreliable.

Therefore I find myself in agreement with Gert Biesta's critical assessment of 'evidence-based practice' (Biesta 2007). Perhaps

evidence-based practice still makes sense in the school curriculum where tens of thousands of children are coached for the same standard examination – but it is much more difficult to apply in the specific environment of university mathematics teaching.

Instead, we need a systematic programme of recording the experience of individual lecturers and documenting the criteria used by them in the selection of mathematical material and methods of its exposition.

Every mathematician is aware of the existence of so-called mathematical folklore, the corpus of small problems, examples, brainteasers, jokes, etc., not properly documented and existing mostly in oral tradition and as anecdote. It is a small universe on its own, and mathematicians' pedagogical observations form an important part. Occasionally, they find their way to print; a nice example is provided by Steven Kranz's book (1999). But in general the collective pedagogical experience of university mathematicians remains uncharted territory.

Concluding remarks

It is only natural to suggest that didactic transformation should form part of the professional toolbox of a mathematics lecturer. This modest thesis, however, has serious implications for lecturers' training and professional development. The British mathematical community is trying to address the issue through the activities of the Mathematics, Statistics and Operation Research network (MSOR), but much more has to be done. In this short paper, I can only point to the exceptional importance of this complex task.

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6. Connecting inclusive learner participation within culturally responsive teaching in Higher Education

Alison Iredale, University of Huddersfield. A.Iredale@hud.ac.uk

Summary

What we think we know about student retention and progression in UK Higher Education has largely been informed by three writers in the field, Vincent Tinto, Mantz Yorke, and Bernard Longden. Established literature also exists around cultural capital (Bourdieu 1986). Yet it is not clear that there is any sense of a cohesive theoretical framework for examining issues of access to and participation in Higher Education (HE). This paper challenges the basis for institutional level strategic interventions which seek to improve access to and participation in Higher Education in the UK. The notion of cultural capital is examined in relation to a specific diverse and multicultural community, where this aligns within a conceptual and ideological framework surrounding the widening access and participation agenda. It uses a specific example of a widening participation intervention, and focuses on one northern town in England.

Keywords Culturally responsive teaching / inclusive learner participation / widening access and participation / cultural capital / retention and progression / community cohesion / cultural diversity

Introduction

There are five main areas where culturally responsive pedagogy impacts on access, participation and persistence. Gay (2000) identifies validation, comprehensiveness, multidimensional aspects, empowerment, transformation, and emancipation.

At an individual level access to and participation in HE is affected by constraints and opportunities which occur within the emerging research areas of language and cultural diversity, and existing, established theoretical frameworks surrounding learner identity and cultural capital and mediation. These are set against the corollary effect of shifting expectations of individuals, employers, and other stakeholders, and more importantly often conflicting assumptions of the HE experience held by students and their teachers. While the HE sector in the UK actually compares favourably with other OECD countries in this area it is vital not to undervalue the

importance of success for learners in both further and higher education in terms of the socio-economic benefits for the wider economy (OECD, 2007). The recent Public Accounts Committee report highlighted the need for Universities to make changes, in response to the changing needs of the students, tentatively concluding that:

'Increasing and widening participation in higher education attracts more students from under-represented groups who are more likely to withdraw from courses early. These students may need more support to complete their courses. Universities need to understand the needs of their changing student populations. They should use market research techniques such as customer segmentation to help them provide teaching and support services which appropriately reflect students' different cultural, social and economic backgrounds, for example through flexible timetabling of lectures.'
(Public Accounts Committee report HC 322 2008)

Parallel Lives: the socio-cultural context

'Communities leading parallel lives delineated by high levels of segregation in housing and schools, reinforced by differences in language, culture and religion.' Cattle 2006a, p4)

The sense of frustration reported by Ted Cattle in 2006, from residents and representatives from the communities of the borough of Oldham illustrates the complex issues associated with culture and identity, played out in a small northern town. Home to just over 200,000 people, covering 55 square miles and lying seven miles from the city of Manchester; Oldham is one of the 50th most deprived local authority districts in England (Oldham Partnership 2005). It is also one of the most diverse in terms of ethnicity; with a higher than average proportion of minority ethnic groups among its primary and secondary school pupil population.

Against this background educational achievement is of concern, with figures pointing to Oldham having the highest percentage of those who do not have a level 2 qualification within Greater Manchester. It also has the lowest proportion of those qualified to level 2, 3 and 4 within Greater Manchester, the North West and England (Oldham Partnership 2005).

Cattle (2006b) asserts that minority groups are among the most disadvantaged sections of our communities, still experiencing prejudice and unequal life chances. He links the notion of parallel lives (separate identities, segregation, transnational and diasporic affinities) with the rise in inter-ethnic conflict seen during the 'disturbances' experienced in Burnley, Bury, Oldham and other northern towns and cities during the summer of 2001. Following the disturbances an independent panel, chaired by David Ritchie identified a specific recommendation related to HE provision; that the DFES should drive forward initiatives designed to increase achievement and

aspirations among young people, and improve the uptake of HE places locally.

The socio-economic context must not be viewed at this local level in isolation however, but rather be seen in conjunction with historical and economic factors surrounding the growth and development of a diverse population in towns such as Oldham, where specific groups of ethnic populations settled from the Indian sub-continent as a result of the increasing demand for labour in the 1960s. One reason for this demand can be related to the increasing mobility of the resident labour force who found the improvements in working conditions provided by other industries in the area more attractive; together with a general rise in living standards during the decade, and a propensity to travel more widely in search of jobs. Oldham mill owners, dependent largely on the one dominant industry, that of cotton spinning, struggled to attract workers to jobs that depended on anti-social shift patterns.

One dominant industry, unskilled migrant workers, and the resultant slump in the cotton industry which began in the late 1970s left the town unable to resist the spiral downwards into economic and social deprivation. Despite the introduction of new technology in the cotton industry, Oldham continued to decline, and without an injection of new manufacturing industries it began to collapse in the 1980s leaving a town suffering from large scale unemployment.

By 2006 the effects, in educational terms at least, of these phenomena, include data which points to lower than average national and regional participation rates in HE, particularly the take up of post 16 education among young Asian women (Dale, 2002). This is despite the wider region (Greater Manchester) having one of the greatest concentrations of Higher Education provision in Europe.

The challenges for Oldham in terms of its need to widen participation in HE can be illustrated with reference to its diverse population. The borough has the highest percentage of the population with a Bangladeshi background in the North of England. At 8.6% this is almost 16 times the national average. The percentage of the population from the Pakistani ethnic minority at 12.4% is one of the highest in the North of England and over nine times the national average. In some parts of the borough there is a white working-class culture associated with low educational aspirations. A high index of deprivation is reflected in a poor health record with a relatively high proportion (19.2%), of those of working age who have limiting long term illnesses – this percentage is some 42% above the national average. Finally, there is a significantly low proportion of those in employment in professional and managerial occupations (16.7% c.f. national average of 26.3%) (Oldham Partnership 2005).

These statistics, outlined in brief, combine with notions of identity and cultural capital and mediation to assist with an examination of learner participation in Education at a post compulsory level, and particularly in HE. Access and participation in HE derive out of an accumulation of life chances along a continuum formed as early as in the first few years of school, where intervening factors, (education attainment, test scores, behavioural measures, etc.) are shown to have little effect on improvements in intergenerational mobility within family cohorts in lower socio- economic status groups. This is compared with previous studies (Blandon and Machin 2007: pp 10-18) which identified the stark contrast in degree attainment in those from the poorest parental income groups set against those from the highest. Their report, viewed alongside the recent Committee of Public Accounts report cited above, points to a worrying trend for policy makers, especially

when large scale interventions, such as Aim Higher, financial support and HEFCE funding allocations appear to be having little effect on changes in social mobility in relation to access and participation in HE.

The current scope of research and debate

'Nor is Widening Participation about well-qualified students from poorer or minority backgrounds making irrational choices of institution.' (Watson 2006: p7)

It is the nature of this emerging evidence which should signal a move towards a greater understanding of the learner in relation to their access to and participation in HE. However, according to David Watson (2006: p7) the research field is 'cluttered with non-commensurate, non-replicable research such that anyone with a strongly held opinion can find a research study to back it up.' Socio-economic analysis of trends, and large scale interventions based on their conclusions fail to recognise the complexity of the underlying issues, and these very interventions (Aim Higher, Junior University, and Young Professionals) compete to demonstrate measurable outcomes against arbitrary key performance indicators, leaving the socio-psychological field of study largely untouched. The existing picture, (Yorke & Longden 2006) particularly around defining and scoping retention, is problematic when the following issues are present:

- Retention rates differ by: sector of education; age of the students; level of course, subject of course; socio-economic group; and institution
- Data on student retention is often of poor quality and may be inaccurate or misleading.
- Reasons for student drop-out operate at individual student, institutional and supra-institutional levels
- The field is under-researched area of gender and ethnicity
- Most attrition occurs in year 1 (60-90%)

Connecting inclusive learner participation within culturally responsive teaching in Higher Education

Students cite a plethora of risk factors leading to course withdrawal, including:

- Workload and Time Management
- Feedback and Assessment
- Teaching related
- Curriculum aspects
- Finance related
- Friendship/Relationships
- Pre-entry attitudes/information
- Personal Matters
- Induction Process
- Accommodation related
- Homesickness/Loneliness

Commentators point to the stress created by what is still effectively a traditional (elite) HE system with greater numbers of students (Scott, 1996). The national target for progression to HE is that by 2010, 50% of those aged 18–30 enter higher education (HEFCE 2006). Nationally, this equates to 350,000 additional full-time equivalent students enrolled in HE in 2010. The HEFCE Strategic Plan 2006–2011 states that the intention is to:

‘.. ensure that everyone with the potential to benefit from HE has the opportunity to do so, whatever their background and whenever they need it’ and to work in partnership with others to raise aspirations and educational attainment among people from underrepresented communities, thereby ensuring equality of opportunity for ‘disabled students, mature students, women and men, and all racial groups.’

The HE curriculum is still in many cases simply not designed to cope with mass/universal participation. Problems are identified with many existing interventions such as the effect on year two achievements when weak students have been bolstered during year one; the lack of sufficiently trained personal tutors who understand the nature of the widening participation cohort, and that 90% of students with A levels as against only 50% with vocational

qualifications progress to HE study, leading to a growth in higher level diverse qualifications and routes into HE for employed people and professionals. Tinto (1993) identified seven principles for effective action on retention, three of which are:

- Student experience and preparedness
- Social and Cultural engagement
- Learning, teaching and assessment

However still we find little evidential basis for interventions supported by principles and models such as that of Tinto, the recommendations of Yorke and Longden, or the Student Lifecycle model devised by HEFCE (illustrated in Figure 1). Perhaps one main reason is that, according to Bruner (1990, p33–65) culture is not easily atomised into logic, and whereas cultural shifts in post-industrial society tend to favour a post-modernist relativist investigation, this approach may not be entirely helpful in the search for an understanding of learner identity as it impinges on participation in post compulsory education. This may be particularly so, when notions of culture and identity are caught up in identity constructions mediated by language use (Brown & Jones 2001: p 72). Halsey (1997 p38) also cautions against the loss of a research methodology based on ‘political arithmetic’ in favour of a socially reflexive, insightful methodology, especially where change is dependent on a connection between shared views on the direction in which society is moving.

It is not entirely certain that there is at present any sense of a shared understanding or perspective, particularly within culturally diverse communities, leaving both an epistemological and ontological problem which the author seeks to unravel. If it is problematic to sustain an argument for widening participation from incomplete, incongruous and incoherent empirical evidence, it seems that it may also be a problem to focus on the individual learner,

where identity, cultural capital and mediation through culturally responsive teaching affects their access to and participation in HE.

Connecting the problem

One starting point is to consider some theoretical frameworks, one of which is the notion of cultural capital, defined by Bourdieu (1977) as the long-lasting dispositions of the mind and the body, the objects of use by a group or an individual, and the institutionalised appropriation of these dispositions and objects, into, for example qualifications. He contrasts this accumulated history and labour to games of chance and suggests it is

‘an imaginary universe of perfect competition or perfect equality of opportunity, a world without inertia, without accumulation, without heredity or acquired properties.’ (Ibid. p241)

Albeit axiomatic, Bourdieu suggests that this notion of cultural capital can be used to link inequalities in educational achievement with its distribution between social classes. Educational attainment is necessarily an individualised measurement, whereas the accumulation of life chances and skills sets (objectified and packaged for ease of measurement as credentials and qualifications) hinge, according to Halsey et al. (1997), on inequalities based on social class, creating a “compensatory education”. The ideas around the compensatory education movement are worth exploring briefly here as a theoretical and policy perspective on discussions relating to improving retention, particularly within the context of the wider socio-structural issues facing the lifelong learning sector and HE.

It is suggested that education (particularly children’s education) should be structured to “compensate for the cognitive and affective shortcomings of their culture (Winch & Gingell 1999: p35), and despite its critics, in

the US and the UK evidence suggests that over time interventions in the classroom and at institutional level can help learners to “avoid practical problems in later life” (op.cit. p35). Critics point to the danger of problematising the learner (and his/her family) when it is the education system which is deficient (Labov, 1972 in Winch & Gingell 1999: p35), whereas other critics challenge the basis of the evidence itself (Winch, 1990 in Winch & Gingell, 1999: p35).

Following the principles outlined above, adapted to accommodate the needs of young people and adults, personal and social skills are repackaged and delivered to those identified and targeted because of their perceived lack of cultural capital in order that those targeted can better exploit the opportunities available in HE and the employment market (Halsey et al. 1997: p11). We see evidence of this phenomenon in specific aspiration raising interventions such as Aim Higher, Junior University, Young Professionals, Gifted and Talented, and a whole wealth of other targeted provision. The young person (as is usually the target) is often by 16 years old a “non-participant” and the widening participation agenda is defined comprehensively to mop up all eventualities and examples of at-risk groups.

‘Widening participation is taken to mean extending and enhancing access to HE experiences of people from so-called under-represented and diverse subject backgrounds, families, groups and communities and positively enabling such people to participate in and benefit from HE. People from socially disadvantaged families and/or deprived geographical areas, including deprived remote, rural and coastal areas or from families that have no prior experience of HE may be of key concern. Widening participation is also concerned with diversity in terms of ethnicity, gender, disability and social background in particular HE disciplines, modes and institutions. It can also include

access and participation across the ages, extending conceptions of learning across the life-course, and in relation to family responsibilities, particularly by gender and maturity.' (TLRP cited in Watson 2006: p7)

The reasons for lack of aspiration and non-participation are under researched, leaving, as Watson identifies, a passive and silent group who far from being passive by choice may indeed be "seriously angry about the hand they have been dealt" (Gorard 2006 cited in Watson, 2006: p8). Unless we can map the territory of the non-participants, beginning to understand their identities, culture and motivations as well as the ones who succeed at 'A' level then according to Watson the problem of raising aspirations is a tiny one compared to the challenges of widening participation..

The language of identity, according to Saussure (Easthorpe 1992 in Brown and Jones 2001: p 72) not only names the reality but also produces it, a self-narrative in effect, and this is often seen in remarks from the middle classes about the rise in vocational education being "a great idea for other people's children" (Wolf 2003: p56). Policy makers then begin to problematise learners from diverse backgrounds and cultures, bringing to bear a universal "WE", constructed from prevailing socially accepted and hierarchical norms and acceptable differences. Even when HE is expanded to include a route for those from diverse, often deprived backgrounds lacking in cultural capital, limited earnings and job prospects still prevail.

'Certain ethnic minority groups appear to be significantly disadvantaged in the British labour market. Their members experience considerable additional unemployment risks and earnings gaps and these inevitably lead to major material consequences and negatively impact the economic advancement of relevant ethnic groups. Limited economic opportunities

are closely bound up with social exclusion.' (Tolley and Rundle, 2006: p21).

Appendix 1 outlines a specific intervention emerging out of the recent government initiative to increase the number of HE institutions by 44 in the coming decade exemplifies such an intervention, bringing together an economic imperative, and a wider sense of responsiveness to the needs of a community.

Conclusion

Compensatory education (Halsey et al., 1997: p11) can be comprehensive and multidimensional, and has the potential to empower, transform, and emancipate only when an understanding of identity forms a significant part of the wider, evidential institutional and supra-institutional socio-economic debate. Watson (2006) highlights the problem of the 'product' i.e. the overall HE experience, failing to change in response to the imperative of widening participation, creating what is in effect an elite system trying to accommodate universal or mass education.

In conclusion the author identifies a problem in sustaining an argument for widening participation from incomplete, incongruous and incoherent empirical evidence, and seeks to encourage a wider debate which includes consideration of a culturally responsive pedagogy for HE.

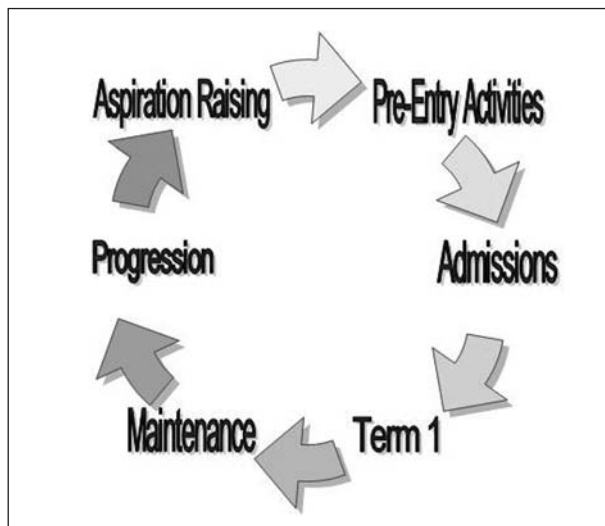
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Figure 1: Student Lifecycle UCO



Appendix One. The University Centre Oldham, a campus of the University of Huddersfield, is an innovative project combining educational development through widening participation with objectives for urban and social regeneration. It involves combined funding from HEFCE, and Regional Development Agencies, and with European regeneration funds in South Yorkshire for its sister site in Barnsley. The objective is to take HE to students in their own communities rather than rely on the students travelling to HE (which they are clearly not doing). So far the overall headcount increase over 3 years is 34%, and the ethnic mix in the centre is diverse, representing the local and wider region. This approach connects Tinto's (1993) model with the risk factors identified by Yorke and Longden, (2006) whilst in addition accepting that no individual intervention or approach has any specific evidential basis for improving widening access to or participation in HE. What it does offer is a way for teachers and institutions to think in a learner-centred way, recognising that aspiration raising for example is not about encouraging a well qualified but poor 'A' level student to travel to a prestigious university, but that a decision to choose a locally available course can be a good, life-affirming choice.

Figure 1 is based on a model derived from HEFCE, provides a framework for course teams to consider the range of strategic interventions and related activities designed and integrated into the management of the provision at University Centre Oldham (UCO), each taking into account the individual student and his/her journey from aspiration, through to access, participation, persistence and achievement in HE. Specific interventions include:

Aspiration raising:

- Providing information and promoting awareness about higher education opportunities to potential students in schools, colleges, communities and workplaces.

Pre-entry activities:

- supporting students to develop the confidence, skills and knowledge to apply to HE and to make the transition as effectively as possible through information sessions, taster activities, pre-induction, competitions, student support liaison etc.

Admissions:

- ensuring that the process of applying to and being selected for higher education is 'fair'.

First term/semester:

- the transition to higher education is difficult for all students, but especially for those with additional needs or with more limited family support. Central to this process are the induction arrangements - providing information about academic expectations and cultures, institutional systems and welfare support, and facilitating the development of social networks, particularly for students who are not able to participate in traditional student activities. Effective transition can help to improve rates of initial retention and ongoing success.

Maintenance and moving through the course:

- pedagogy, curriculum and assessment, finance and part-time employment, student services etc may all enhance or inhibit student retention and success.

Progression:

- to the following year, employment and/or postgraduate study. There is evidence of discrimination in progression opportunities for students from under-represented groups and thus institutions can prepare for and support the progression of graduates.

Academic tutors at the University Centre Oldham are currently evaluating their current course design, using the student lifecycle model as an audit tool. The intention is to identify aspects of good practice that can be evidenced with improved retention, attainment and progression data, responding to the specific needs of students living, working and studying in Oldham and the local area. Evidence is already pointing to performance and attainment levels continuing to improve, but there is no room for complacency and the teaching and learning ethos at the University Centre Oldham is at the heart of a major shift in expectation and aspiration for staff and students alike.

7. Widening participation through workplace learning

Morag Harvey, The Open University. M.E.Harvey@open.ac.uk

Summary

The Centre for Outcomes-Based Education (COBE) at the Open University (OU) has been carrying out research and development into work-based learning for the last seven years. These developments have been based on the premise that successful practitioners in the workplace recognise their self-efficacy (Bandura, 1977) and learning in the workplace enhances the performance of practitioners (Argyris & Schön, 1974). We have found that widening participation by enabling students to use their work-based learning as a basis for higher level study can be both motivating and rewarding. In particular learners who can relate their further studies to their own experience of finding solutions to work-related problems have a firm foundation on which to continue their learning journeys. A key aspect of facilitating widening participation through workplace learning is the role of the tutor. Although summative assessment has a necessary place within higher education study, we have found that tutors who are supporting workplace learners need to be particularly aware of the way that formative assessment in the form of tutor feedback can support and develop students in their learning journeys.

Keywords widening participation / work-based learning / tutor feedback / formative assessment / student motivation

Introduction

Widening participation in higher education is a key part of the government's education policy in the United Kingdom (UK) as evidenced by the strategic aims of both the Department for Innovation, Universities and Skills (DIUS) and the Higher Education Funding Council for England (HEFCE). The focus of these aims is the need to increase the skills of the UK workforce so as to compete effectively in the global market (Leitch, 2006). In order to increase participation in higher education it is important to highlight ways of giving access to those individuals who would not usually think of taking up this option. Whilst some young people leave their secondary school to go onto university education, a large number leave school to join the workforce. Learning is a legitimate workplace activity and for a wide range of people it is where they continue to develop their knowledge and skills after they have left full time education. Real work experiences are

considered invaluable for full-time university students as it enables them to carry out research activities and helps them to gain important skills in finding solutions to actual problems as they arise. This paper puts forward the viewpoint that that it is equally valid to develop links between learning at work and higher education for those who are beginning their learning journeys in the workplace. To be a successful practitioner it is essential to gain higher level skills and knowledge in such areas as complex problem-solving, decision-making and creating new innovations (Schön, 1987). Such skills and knowledge can be used as the basis of building links with university-level learning outcomes. Widening participation through workplace learning can therefore be achieved through enabling students to reflect on their own work experiences and through the support given by tutors who are able to develop positive learning relationships.

Work-based learning

Our research and development within COBE, at the OU, has included approaches that rely on generic work-based learning frameworks which can be applied across a range of occupations. Our generic support model enables learners to negotiate support within their own workplace whilst OU tutors support them in their HE studies. Such frameworks have been designed for workplaces where observation of competencies is not required and where learning is the focus. Our research has also highlighted the importance of having work-based learning approaches that take account of a variety of occupational standards which require face-to-face assessment in the work setting: for example, professions such as teaching and nursing. Our aim has been to enable widening participation by linking work experience with education (Dewey, 1938). In developing new work-based curriculum initiatives we have sort to provide flexible routes to learning achievements. As successful practitioners recognise their self-efficacy and possess skills and knowledge at a range of levels we have taken this as a relevant way to provide flexible routes into higher education.

Self-beliefs

The concept of self-efficacy, that is, a belief in one's own capabilities, was developed in Bandura's (1977) publication of 'Self-efficacy: Toward a Unifying Theory of Behavioural Change'. This concept is relevant to learning in the workplace as successful practitioners will have needed to develop the abilities to cope with a wide range of different work-based learning situations. For example practical professionals such as electricians and plumbers are often required to use their existing knowledge to research into ways of developing new solutions to problems as they arise (Harvey & Norman, 2007).

Practitioners also rely on their social and cultural understanding of their local contexts to apply their knowledge in the most

effective ways. Self-efficacy beliefs have been the focus of a wide range of educational research, particularly in the topic of academic motivation (Pintrich & DeGroot, 1991; Relich et al., 1986). In fact it has been suggested that self-efficacy is crucial to motivation and learning (Margolis, 2005), and self-beliefs have been linked to educational performances (Multon et al., 1991). Although many of these studies have focussed on children's academic achievements, a study by Hendry et al. (2005) suggests that self-efficacy is a relevant area of interest for tutors who are attempting to support students in their higher education learning. In the case of widening participation through work-based learning, tutors will be able to build on the beliefs of successful parishioners.

Personal perspectives relating to individuals' beliefs about themselves and others, and research into the general concept of self-efficacy can be compared with Dweck's (1999) more specific view of self-theories that suggests unsuccessful learning experiences, rather than successful experiences, may mean that students are more motivated to overcome learning problems as they will have learnt different ways already to solve any difficulties that arise. This approach disputes the view that success always develops greater confidence and that confidence always supports success (Norman & Hyland, 2003). This view of self-beliefs is different from a more generalised approach to self-efficacy which suggests that those who have a strong belief in their own capabilities can apply that belief to a wide range of situations (Luszczynska et al., 2005). Dweck's approach can be related to the experience of work-based learners who have had to deal with learning issues in relation to their workplace. In finding out how to manage situations that arise in their workplaces work-based learners are likely to have had to overcome a series of unsuccessful experiences in order to find successful ways of creating relevant

solutions. This suggests that they will have discovered ways of coping with a variety of learning experiences that could be very motivating if they choose to progress into higher education study.

Motivation, Emotions and Tutor Feedback

A study by Dembo & Seli (2004) suggests that researchers into educational issues have failed to recognise that motivation has a major impact on approaches to study and learning. By providing those workers who have been motivated through their experiences of learning in the workplace a chance to progress into higher education study it is possible to develop meaningful widening participation opportunities. It is acknowledged that not all learners will find this opportunity motivating, but for those who are motivated work-based learning can offer real benefits in terms of learning progression because valuable learning activities have already been experienced. Motivation has been shown to be more than just a single, universal experience. Researchers have identified intrinsic motivation, i.e. satisfaction in performance, and extrinsic motivation, i.e. satisfaction in achievement, and these have been seen in some studies as opposing viewpoints and in other studies as different points along the same continuum (Hayamizu, 1997). So motivations are key areas of concern for tutors who are striving to support educational attainment and success (McGivney, 2000). Tutors need to take the motivational needs of their learners into account when they are providing formative assessment in the form of feedback on their assignments. In the case of work-based learners, tutors will need to find out about the types of workplace experiences that learners have encountered, how their workplace has influenced their practice and how they have overcome any problems that have arisen.

Studies into formative assessment have suggested that tutor feedback is an

important source of motivation (Ecclestone & Pryor, 2002). Other research shows that emotion is strongly linked to motivation and plays an equally important part in how students relate to their learning relationships with their tutors (Meyer & Turner, 2002; Schutz & DeCuri, 2002). In view of this, tutor feedback needs to be appropriate and meaningful for the individual learner who is receiving it. Without the capacity to personalise and individualise feedback to take account of learners' perceptions (Worthington, 2002) and emotional variety (Pekrun et al., 2002) and to use the opportunity to motivate and support work-based learners, the tutor will be unable to meet individual expectations and needs.

Implications for Tutors' Practice

There has been a wide range of interest from researchers and higher education practitioners in formative approaches to assessment that can motivate learners' engagement with learning and improve their educational achievement (Black & Wiliam, 1998; Ecclestone & Pryor, 2002). Taras (2001) suggests that adults can be helped to form positive views of their learning abilities through particular types of tutor feedback. Higgins et al., (2001) found that students look for feedback to help them understand their learning in a 'deep way' which supports the view that feedback should be 'designed as a tool for learning' so that it can be related to a learner's individual understanding and reactions to feedback (Gijbels et al., 2005). This is particularly relevant for work-based learners who are trying to move from practice-based learning to more formal, text-based learning.

Through the use of formative assessment, which removes the stress of trying to gain high grades, work-based learners can be guided to achieve successful higher education outcomes and to progress their learning. Those who are new to study at higher education level need the appropriate support and guidance in order to acquire the

necessary skills to successfully complete assessments at this level. Formative assessment has been found to have a constructive influence on learning weighted against other features of teaching. Furthermore it has been suggested that tutor feedback can have a positive effect on individual's views of their learning capabilities and for the work-based learner who is trying to understand the requirements of higher education it is essential that they form a positive opinion of their own learning abilities. Encouraging an individual's confidence in learning situations helps to increase motivation and this in turn leads to a greater likelihood of successful completion of HE study so work-based learners are more likely to progress to other study options if they have had a good relationship with their higher education tutor which is based on trust. Understanding how individuals perceive and react to feedback will help tutors clarify their own role in this process.

In order to understand the relationship between motivation and feedback, Schutz & De Cuir (2002) highlighted the part played by emotions in the process of learning. This viewpoint is supported by Pekrun et al. (2002) who also emphasise the significance of the wide range of 'academic emotions' and their findings suggest that these emotions are closely linked to individual motivations and educational achievements. Learners' feelings and emotions affect their own perceptions and the way that tutor feedback is received (Meyer & Turner, 2002). So whereas positive feelings can be motivating, negative emotions can have the opposite effect (Boud, 1994). When considering the motivational and emotional aspects of student-tutor relationships the reliance on trust as the basis for a shared learning experience is crucial (Curzon-Hobson, 2002). Trust in a learning

relationship can be described as a learner's faith in, and eagerness to comply with, the advice of their tutor. Tutors need to be aware that this type of relationship involves risk and vulnerability (Rousseau et al., 1998) so that work-based learners can be given appropriate learning support.

Conclusion

We have found that widening participation by enabling students to use their work-based learning as a basis for higher level study can be both motivating and rewarding. In particular learners who can relate their further studies to their own experience of finding solutions to work-related problems have a firm foundation on which to continue their learning journeys. However, when tutors are supporting work-based learners they need to be aware that workers may have different self-beliefs about their own learning capabilities. Successful practitioners are likely to have developed the ability to cope with a wide range of different work-based learning situations and therefore have formed positive beliefs about their own capabilities (Bandura, 1977). In contrast those workers who have learnt how to overcome unsuccessful experiences may have learnt a range of very valuable ways of overcoming learning problems and so may have developed a range of useful learning strategies (Dweck, 1999). Therefore a key aspect of facilitating widening participation through workplace learning is the role of the tutor. We have found that tutors who are supporting workplace learners need to be particularly aware of the way that formative assessment in the form of tutor feedback can support and develop students in their learning journeys. By building learning relationships based on trust, tutors can support work-based learners in their learning journeys into higher education study.

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8. Maintaining Motivation: implications for widening student participation

Effie Maclellan, University of Strathclyde. e.maclellan@strath.ac.uk

Summary

The focus of this paper is to derive some implications of motivation for widening student participation. This consideration is provoked by the expansion of student numbers in higher education which, apparently, has two related manifestations. One is the increased numbers of students who enter higher education with non-conventional qualifications (Dart, 1997) and the other is the preponderance of students who seem reluctant to embrace practices associated with increased cognitive participation (Simpson, 2008). While motivation is thought to be central in explaining learning and achievement behaviour (Spinath, 2005), there is a growing body of literature to suggest that what motivates some students may alienate others (Harlen & Deacon Crick, 2003). This is perhaps complicated by the realisation that motivation is a psychological construct and is not synonymous with the actual behaviours involved in a particular activity (Hufton, Elliott & Illushin, 2002).

Keywords Motivation / learning cycle / goal-orientation / interest / self-efficacy / attributions

Introduction

Historically, motivation was viewed as some (quantifiable) characteristic between the endpoints of 'motivated' and 'not motivated'. Furthermore, motivation (within educational contexts) was viewed as the tutor's responsibility. These two ideas are logically connected. If motivation is quantifiable and objective, it may be possible to alter it. Given that the tutor's role was construed, historically, as the ultimate shaper of student achievement, nobody should be surprised that this 'fount of all knowledge' could motivate students.

These ideas are now under attack (Boekaerts & Minnaert, 1999; Boekaerts, 2003). Rather than being a quantifiable characteristic, motivation is multifaceted. It is both dynamic and context sensitive. Students can be motivated in multiple ways. And their motivations are inherently changeable and domain specific. What has become evident is that students themselves mediate their motivation (Pintrich & Schunk, 2002) rather than being passive and pliable in response to other's attempts to motivate them.

That motivation is dynamic and context sensitive and is mediated by the student, has two important implications. It is a misconception that:

- Some students are motivated but others are not. Whilst there may be students who are not motivated to behave in the way that tutors would like them to behave, we cannot say that they are not motivated. Rather they are motivated to behave in ways that the tutor might not like.
- One person can directly motivate another. Motivation is a subjective experience. Individuals are motivated by different things and so experience motivation personally and probably differently. There is no guaranteed equivalence between what people think/believe motivates them and behaviours that allegedly evidence motivation.

Because motivation is not a 'thing' that we can see, the explanations for why people behave as they do (which is the essential meaning of motivation) are themselves at an abstract level. The key constructs to be

used in this paper are goal orientation, volition, interest and attributions, as influences in the episodes of the learning cycle (Maclellan, 2008).

Episodes of the Learning Cycle

The process of engagement in formal education typically operates in a cycle of episodes: a learning task (or series of tasks) is determined; the student attends to the task (usually over continuing time); and the completion of the task is marked by some sort of feedback about student performance. The episodes presuppose interdependence in the cycle. For example without some notion of how the task is or was being carried out, feedback is a meaningless idea. Equally, continuation or completion of a task necessarily implies that at some point the task was determined. Finally, (rational) determinations of tasks imply a necessary relationship to previous learning. The episodes of Task Determination, Task Continuation and Task Completion provide the structural framework within which to consider motivation.

Task Determination

In formal higher education, students follow courses that have been planned and specified in advance so that they can be coherent, developmental and at an appropriate level of cognitive demand. In pedagogical terms this is typically translated into tutor determination of task. Tutors thus have learning intentions and achievement-directed behaviour in mind when determining tasks. But students also have reasons for engaging in such tasks (Oettingen, Hönig & Gollwitzer, 2000). These goal orientations are important because they underpin students' definitions of their own competence (Pintrich & Schunk, 2002). Simply put, these orientations are in terms of the mastery or performance goals. Students with mastery goals define competence in terms of self-defined improvement. In so doing, they variously experience enhanced interest in learning,

more positive attitudes toward learning, errors as informational, high levels of academic engagement and effort, perseverance in the face of challenges and focussed help-seeking (Pintrich, 2003). With performance goals, on the other hand, students are more likely to engage in self-handicapping behaviours, such as cheating, avoiding help when they need it, and withdrawing effort. They may view errors as indicating a lack of ability, experience high levels of anxiety, exert less effort, place less value on tasks, give up in the face of difficulty, and ultimately demonstrate lower levels of achievement (Pintrich, 2003).

However, it cannot be assumed that students always have a mastery orientation, nor indeed should they (Elliot, Shell, Henry & Maier, 2005). Basic psychological needs of autonomy, competence and social relatedness (Krapp, 2003) may result in a perfectly proper preference for performance goals and indeed, at any one time both mastery and performance goals can co-exist. It is not therefore the intention to characterise performance goals in exclusively negative terms. However, the general desirability of mastery goal orientations and the maladaptive possibilities arising from performance-avoidance goal orientations draw attention to their pivotal role in establishing the direction of subsequent learning.

Implication 1

Because of the possibility that students' and tutors' intentions for learning may not be congruent, it follows that both tutor and student to be explicit about their perspective goal orientations, possibly to the point of establishing multiple and even conflicting goals for learning. Without such discourse students will continue to believe that they have no role in task determination. Explicit and systematic consideration of task-determination might help students to identify both task-specific, target goals and high-level purpose goals without which motivation

can be no more than a vague aspiration. Although goal orientation is important for initial student 'ownership' of learning, it is of itself insufficient.

Task Continuation

Once the task has been determined, maintaining focus and effort in the achievement of goals despite potential distractions is necessary. One condition which engenders student volition (Corno, 1994) is interest; a construct that is more involved than lay usage might suggest. The appeal of an activity (Krapp & Lewalter, 2001), rather than the individual's personal preference for the activity (Mitchell, 1993), is known as situational interest. Situational interest includes dimensions of novelty, challenge and the attentional demands of the task (Chen, Darst & Pangrazi, 2001).

Situational interest is of critical importance in formal education (Hidi & Harackiewicz, 2000) because it is this that provides the basis for increasing domain knowledge.

Situational interest that triggers engagement may lead to personal interest which is the constant and consistent interaction with a particular domain. It is personal interest that allows recognition of meaning in a learning task, leads to the use of deeper cognitive strategies (and thus to meaningful learning behaviours), is associated with increased attention and persistence, promotes long-term storage of knowledge, and provides motivation for continued engagement in learning (Chen et al, 2001). These features of personal interest depend on domain knowledge. Thus it is domain knowledge which is the essence of the interest; which might seem counter-intuitive in everyday parlance where interest is characterised as an affective quality of engagement. However, while interest is desirable, unbridled interest can make it harder to be adaptive so students need to articulate interest with overall goals (Heckhausen & Farruggia, 2003). Student volition can be supported by adaptive help-seeking (Newman, 1994). That people avoid seeking

help even when to do so might solve difficulty has been explained as (student) reluctance either because they perceive help-seeking to be inconsistent with personal needs for autonomy or a (threatening) sign of incompetence (Butler, 1998). However, the help most frequently sought is process-related information: information that enables students to build on what they themselves are trying to work out, rather than seeking confirmation of previous work or correct answers (Newman, 1998). Students with strong performance goals, in contexts that emphasise performance goals, are particularly reluctant to seek help while those working in a mastery oriented context are more willing to seek help, suggesting that contextual variables may well be powerful (Newman, 1998). To maintain motivation throughout the duration of a task students need to be willing to acknowledge personal difficulty and desire interaction with more knowledgeable others. Further they need goals and beliefs that are associated with personal agency and control, a desire for challenge and tolerance for task difficulty (Newman, 2002).

Implication 2

Task-continuation will be ideally maintained when students experience the activity's domain knowledge to be psychologically satisfying. Situational and personal interest articulate with aspects of task-determination in non-trivial ways and to maintain motivation this interest must be managed by both tutor and student, interactively. One mechanism to be invoked in such management is adaptive help-seeking. The judicious balance of volition, interest and help-seeking needed to continue with a task is an aspect of pedagogical practice that is worthy of further study and elaboration.

Task Completion

Task completion can be an opportunity to reflect on progress and achievement or it can be viewed as a time-ordered, evaluative marker, which is largely in the gift of the

tutor. These different views will have varying effects on subsequent motivation and achievement (Struthers, Menec, Schonwetter & Perry, 1996; Struyven, Dochy & Janssens, 2003) since the interpretation of events is mediated by the attributions people make of the locus of control, stability, and controllability of the tasks to be completed (Weiner, 1979; 1985). Students drawing from an internal locus of control, viewing 'success' and 'failure' as contingent on their own behaviour, have greater potential for high-achievement than do students who deny the importance of their own agency and attribute successful task-completion to external factors that they may feel are unchangeable (Pintrich & Schunk, 2002). Students who do not actually complete tasks or complete tasks with low expectations of success and who experience a continuing cycle of failure, conclude that continued engagement serves only to confirm their failure. Regrettable as this may be, it is a difficult cycle to penetrate when learners try hard and fail or when tutors' own efficacy is not strong in respect of influencing learners (Dweck, 2000). Strengthening the internal locus of control is therefore a pedagogical concern to change views of intelligence from a fixed and unchangeable trait to a malleable, improvable skill (Dweck, 2000), and to improve self-efficacy (Bandura, 1997).

Experiencing reward through effort is one way of improving efficacy. Such mastery experiences, however, must not be at the 'cost' of carrying out a task that is insufficiently challenging (Dweck, 2000), which would attenuate the need to be effortful. Similarly encouragement can improve efficacy but the tutor is not being supportive if the encouragement is not calibrated to realistic levels of accomplishment in terms of task component capabilities. Effusive, non task-specific praise is meaningless, and misleading when it causes students to overestimate their abilities (Maclellan, 2005). Although it might

appear to be common sense that tutors should say what they can to reassure students who appraise themselves negatively, blunderbuss reassurance may be counter-productive. Ego-involving feedback is much less likely to encourage students to engage with the essentials of the task (Butler, 1987; Butler & Neuman, 1995), underlining later work (Struyven et al, 2003) that anxious students benefit from their attention being focused on the assessment task demands, rather than on their emotional pre-occupations which may actually attenuate perseverance. The potential power of students' own attributions suggests that greater attention be paid to the students' views on the tasks to be done and on the judgements of their achievements. It may also be appropriate to invoke attribution training whilst recognising that we have limited access to our own mental processes (Nisbett & Wilson, 1977) and also recognising the pervasiveness of the self-serving attributional bias in which people make more internal, stable, and global attributions for positive events than for negative events.

Implication 3

By requiring students to be much more proactive in task-determination, continuation and completion, they would have the opportunity to take ownership of the criteria for assessment; to have increased responsibility for their learning; to become self-monitoring and independent; to realise that their judgements are respected; and to encourage critical self-reflection on learning behaviours. However, such practices can be emotionally challenging and compromised by reliability and validity issues. These difficulties may cement emotionally immature attitudes (such as low frustration tolerance or tutor dependence) towards learning, perpetuate expectations of low or minimal standards and privilege the public monitoring of academic performance (with possibly humiliating connotations).

Conclusion

If students are to maintain motivation throughout the learning cycle, tutors do have to consider their practices such that students' and tutors' respective goals can be discussed, interest and volition are sustained, and views on the completion/outcome tasks feed into subsequent goals and practices. Motivation is a dynamic phenomenon which interacts with all episodes in the learning cycle. However, what is also implicit in all that has been said is that students have a considerable responsibility to progress their own learning. If it is tutor practice to clarify the subject matter, offer examples, or suggest arguments for or against a point of view, the students' need to think is minimised. If students view the tutor's cognition as essential for the development of their own skills and knowledge, they are positioned in a set of expectations and practices which reduce their motivation. Equally students left to determine both what and how to learn without any criteria to judge their progress can be readily de-motivated, making a nonsense of formal, higher education as a planned and designed system. The motivational skills of tutors reside in the practices that they employ to support and scaffold students' development towards autonomous learning behaviours.

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9. Hop, skip and a jump: a three step approach to supporting independent learners

Carina Buckley, Sarah Fielding and Judith Martin, University of Portsmouth.
Carina.Buckley@port.ac.uk sarah.fielding@port.ac.uk judith.martin@port.ac.uk

Summary

Foundation degree students often enter university after a considerable period of time out of education, bringing anxieties and expectations that must be met and overcome for them to engage and succeed. Foundation Direct is a CETL dedicated to supporting Foundation degree students at the University of Portsmouth. New students frequently consult with Foundation Direct's drop-in centre on a wide range of academic and technical skills that traditional new entrants would usually have already gained prior to entry into higher education. However, more significantly for this paper, the centre also provides three learning contexts with tailored layers of support to guide mature, widening participation students through their degree. By combining the three moves, making a slightly bigger leap each time, it is possible to cover a longer distance than a single long jump.

Keywords Foundation degrees / widening participation / learning preparation / mentoring

Introduction

The Preparatory Learning Context

Laing and Robinson (2003, p.178) report that the policy of widening participation in the United Kingdom has created a situation in which 'a higher proportion of entering students do not have recent experience of continuous and intensive study'. This has resulted in students arriving at university without the academic and technical skills expected of traditional learners. Parnham (2001, p.58) suggests that institutions need to recognise students' personal circumstances and respond to individual needs, providing both individual and group support for learners.

The new entrants are placed under increased pressure as they have to acquire these skills at a time when they are also adapting to university life and beginning their subject related studies. This causes a great deal of stress, compounding their difficulties with time management, which tends to reach

crisis point in the period immediately before the first assignment is due to be submitted. The School of Health Sciences and Social Work, at the University of Portsmouth, recognised the skills gap at an early stage and responded by setting up a series of six pre-entry workshops for students who were considering entering Foundation degrees in the school. These have been successful, but are limited to potential students for that school. In addition, the limited time span made it difficult to cover individual needs; places are limited and shift work patterns in the NHS have meant that few participants are able to attend all of the sessions.

The Foundation Direct team recognised that flexible pre-entry provision was required if they were to help prepare students for the realities of academic life without the stress involved in delivering study skills input while students are involved in course related study. Thus, a preparatory learning context was developed for new students in the pre-entry phase.

As Foundation degrees are work based learning courses, participants tend to be in full-time or virtually full-time employment and many have family responsibilities. Thus it was necessary to find a flexible means of delivering the programme to accommodate all potential participants, and on-line delivery fulfilled this requirement. Although it was apparent that many potential students did not have the technical skills needed to use this effectively, it seemed to be an efficient means of enabling them to gain the skills and confidence that they would need to participate in on-line learning once they joined their course. However, to ensure their ability to participate it was important that it should be delivered in a supported way that would prevent exclusion through a lack of prior technical skills.

The result was a blended delivery with on-line resources supported by a pre-entry team. Resources are posted on the pre-entry website and participants can either start using them independently or contact the named pre-entry team to arrange a personalised, guided introductory session. The pre-entry team are available to give support throughout the pre-entry period. However, learners are encouraged to become more independent throughout the pre-entry period. Participants only need to work on their areas of need, rather than studying all of the materials and guidance is given about which areas are most appropriate for particular courses.

The supported on-line provision is blended with taster days when participants are able to attend the Foundation Direct centre, participate in workshops and meet key members of university support staff. Thus they are able to gain new skills, get a taste of university life and meet the people who will be available to them when they start their course.

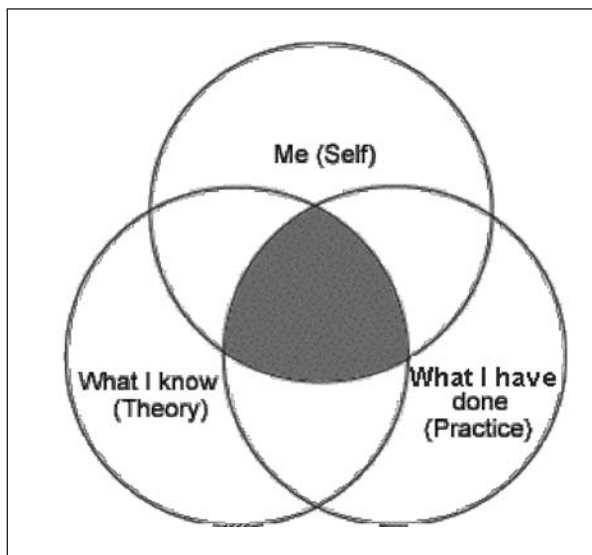
The benefits of preparation

The pre-entry provision helps participants to build their generic, basic, technical and academic skills and to become independent learners. Thus the pre-entry period gives them an opportunity to concentrate on themselves, their skills and their learning before joining courses where they will be expected to reflect on their subject knowledge and professional practice. This preparatory learning context is designed to prepare them for joining a community of learning which will be part of their experience when they enter the second stage affirming learning context. It is hoped that those students who have participated in the preparatory learning context will become leading figures in forming the community of learning and encouraging and supporting their fellow students.

From a Preparatory to an Affirming Learning Context

The pre-entry programme at Foundation Direct is called Pathways, as it is planned that it will encompass more than the pre-entry phase and will guide the students through their whole degree. One possible pathway that newly enrolled students might follow is through Foundation Direct's Professional Development Unit, or PDU. This assessed form of personal development planning (PDP) is delivered on-line and helps to maintain the momentum gained during the pre-entry phase. At present the PDU is incorporated into the curriculum of three Foundation degrees – Education Administration, Early Years Care and Education (EYCE) and Government – with another two degrees in Creative Technologies and Leadership and Management due to take it up in the 2008-09 academic year. It is designed to place a student's academic and personal development within a professional context, and encourages them to better understand the relationship between their workplace practice and the underpinning theory they learn at university by using a model of three overlapping circles (figure 1):

Figure 1: The three domains of learning (after Barnett & Coate, 2005)



The new student begins by writing a Benchmark Statement, setting out what they know, and what they want to know, using the model of three circles. Their Benchmark Statement forms the basis for future reflection and provides a means for the student to monitor progress and thereby gain confidence. Since student anxiety is usually highest and their continuation on the course most uncertain during the first semester (Laing & Robinson 2003, p.177), this is the point at which the initial period of reflection and review takes place. The PDU therefore creates a safe environment in which students can confirm their progress in knowledge acquisition and its application.

The PDU mediates an affirming learning context in two ways; both are concerned with moving the student into the central overlap of the three circles. Firstly, it has a professional perspective, helping the student make the link between what they are learning at university and how that is put into practice in the workplace. One 3rd year EYCE student articulated her position in the model by reporting that the work-based aspect of her degree affirmed what she was doing in the workplace and why she was doing it. She found that she was looking at and dealing

with the children in her care differently, because she was able to use the theory in the context of her actions and those of the children and understand better why they were behaving the way they were. This feeling was echoed by a 2nd year student on the same course, who similarly credited the PDU with explicitly requiring her to look at her own practice in light of her learning. Both women found their confidence in the workplace to have increased as a direct result of this new knowledge, and both had started to take on a more assertive role with their colleagues.

Despite the fact that the PDU is focussed, as the name suggests, on the professional development of its students, it was much more common for students to report on changes to their own sense of self and the kind of person they felt themselves to be. In this way, the PDU facilitates personal affirmation and validation. Most acknowledged the contribution of reflective review in their new-found and frequently-reported confidence. Another final year EYCE student reported that writing the Benchmark statement and the periodical reviews throughout the PDU was eye-opening because:

'that's how we know how far we've travelled so far through the PDU, by making you stop and look at where you were at the beginning. It was amazing; you can see the growth, even in one year'.

Her colleague noted that for part time students in particular, being able to gain this reassurance of their progress was vital to keeping them going on the course. Indeed, the students' confidence has usually developed so much by the end of the first year of the degree that their Benchmark statements become paradoxically almost a source of embarrassment to them, so far have they developed:

'At the end of my first year, when I read my Benchmark, I was embarrassed by it! Even from this first year I've improved my essay writing and my marks have gone up'
2nd year EYCE

By having this reflective structure to the unit in place, students are supported and encouraged separately from assignment marks and professional achievement. The focus is on them as an individual, that subject about which they are the expert. This affirming learning context helps students to use their own experiences as a form of support, enabling them to increase their capacity to be an independent learner and successful practitioner. The PDU recognises the importance of the personal through its pedagogy of interaction, collaboration and active learning (Guldborg & Pilkington, 2006) and provides a structure and a means of being part of a group. During the first semester students are guided in the formation of communities of learning, with the aim of encouraging them to look on their peers as an additional learning resource.

The knowledge level of a community of learning (or a community of practice) increases in proportion to the number of members of that community who join in discussions and knowledge sharing activities (Huang *et al.* 2007, p.620). Such a community is influenced by the participation of its members, and each individual participant's contribution will reflect their understanding of what is important (Tillema & Orland-Barak 2006, p.603). It is clearly in the students' interests that as many of them as possible feel able to involve themselves in knowledge sharing. Given the shared experience of reflection and review on the PDU, and the unit's emphasis on discussion and conversation, the students have formed close bonds and their learning – and general university experience – has benefited as a direct consequence:

'The last three years we've been able to support each other. We're quite open, so we can say, "Have you thought of that?" And we don't take offence. Sometimes at work it's a criticism, but because we've got that friendship here, you can'.
3rd Year EYCE

'I've become very close to some people who I've done lots of group work with; we've had to do lots of group presentations, discussion and things, so you do form quite close bonds'.
2nd year EYCE

'I think if I hadn't had that support, I'd have walked away'. 3rd year EYCE

The alternative can be an isolating and anxious experience. Two students following the Foundation degree in Applied Medical Technology are separated from the rest of their cohort by age (they are in their forties, compared to the school leavers who complete the class) and do not have the neutral mediation of the PDU to bring them all together. They rely only on each other and the difference in their outlook compared to those following a degree that utilises the PDU appears significant.

The reflection and collaboration supported and guided by the PDU validates the learning experiences of unsure students by helping to transform past anxieties and sources of confusion into a means for building confidence and affirming their development.

Reflection and collaboration continue to be strong themes in the third and final learning context; that of mentoring as an applied learning context. Mentoring can be described as a 'synergistic partnership' (Ayo & Fraser 2008, p. 61) and it interlinks with, and overlaps, the previous two learning contexts described. The fluid and dynamic nature of mentoring is a strength in terms of its transferability and application, but a weakness with respect to attempting to pin

down a singular definition encompassing both the role and process. Ferrar (2004, p. 54) notes, 'Any relationship between...mentor and learner is shaped by the characteristics and personalities of those involved, and this adds further complications in attempting to define...mentoring' but also acknowledges that some degree of clarity is necessary in order to prevent 'misaligned expectations'.

Mentoring overlaps with the preparatory learning context in that a certain type of mentor is able to initiate new students into the culture of the academic institution. Although course teams report that they prefer mentors not to comment on students' written academic work, many students seek guidance and feedback from their mentor on academic conventions and interpreting assessment criteria. For students these sometimes inscrutable rules and guidelines are an important part of socialisation into academic culture, the traditional learning of "This is how things are done here".

'I think, where they were both graduates they knew what I should be aiming towards...whereas if I'd had a colleague who hadn't done the course or hadn't done...more relevant training, I think I would have struggled because they wouldn't know the level of work I should be producing.' 1st year EYCE

Mentoring also overlaps with the affirming learning context. When students are able to self-select their own mentor, they opt for someone they know and respect. Few mentors receive financial recompense for their time; the majority participate voluntarily, altruistically citing a wish to help others develop as their motivation. Students appear to value the investment and personal affirmation of a mentor in their development.

'I think I mentor every member of staff...'
Business & Management mentor

'It's quite nice that even though you've got people you are friends with at uni...when you get an assignment back it's someone who's happy that you've done well.'
1st year EYCE

Large numbers of students experiencing high levels of anxiety in their first year represent a problem for academic tutors in terms of time. Mentors with the ability to reliably comment on, or clarify, rules and criteria (not academic content or 'worthiness' of work) through their own experience could be beneficial in relieving these pressures. The reassurances and affirmation provided by mentors in dealing with low level socialisation (cultural learning) may have a significant effect on student retention.

'I got really stuck...and I thought "I might just as well quit the course cause I don't understand...this is the first term and I'm not getting anywhere"...and she said 'This is the level you should be working towards, this is the kind of language you should be using...' 1st year EYCE

Under the right conditions, mentoring provides a unique learning context for reflection and collaboration between each student and mentor. The actions and interactions of a student cohort within the structured framework of a unit can still trigger student anxiety in courses with students from relatively heterogeneous backgrounds, such as Business and Management and Learning Support. When students are asked to complete an assignment based on unique details of their professional experiences, many students feel anxious if they are unable to compare settings and experiences; in doing so they find common ground and reassurance from their peers. Possibly this anxiety is reduced in courses with a more homogenous work-based background, such as paramedic science. A mentor who is a practising professional with very similar professional experience to the student (although not

necessarily positioned in the work place) can further reduce student anxiety through intensive, focused discourse, where the participants are on a more equal footing.

Mentoring practice is also reflexive, helping the students in examining their own development and practice. Many students describe 'bouncing ideas' off of their mentors. Students can access the experiences of the mentor as additional sources of reflection, providing greater opportunities to practice applying their theoretical knowledge in the context of their professional practice, without the need for submitting an assessed piece of work.

Evidence strongly suggests that most, if not all, students desire mentors who are graduates or current students, due to their unique experiences through a combination of academe and professional practice. By raising the criteria of skills and knowledge required for mentoring, any pool of potential mentors will be reduced. Foundation degrees are no longer in their infancy and growing numbers of courses and applicants may help to swell the population of potential mentors. However several foundation degrees report problems in recruiting sufficient mentors for students without raising the criteria to only include graduates or current students. If mentors with little to no HE experience are to be recruited, training for such mentors should include clear guidance in how to interpret the 'rules' of academic work and the accompanying boundaries.

There is also evidence to indicate that being involved in mentoring raises staff morale (Dimsdale, 2002; Pulsford, Boit & Owen, 2002), encourages lifelong learning and increases staff (in this context, student) retention (Dimsdale, 2002). There are now a number of foundation degrees dedicated to coaching and mentoring, although these are mostly all grounded in the field of education.

All of this suggests that if implemented, monitored and evaluated properly, mentoring can have a significant impact on the development and retention of students.

Conclusion

Foundation Direct has developed a three step model of student support. Each learning context has been shown individually to have a positive impact on the student life course, by fostering a sense of growth, awareness and confidence, and resulting in increasingly independent lifelong learners. The next stage of research intends to examine what impact having access to two or more of these learning contexts over the course of the university experience has on student identity and community. The intention is that all students end up in the sand. Some might jump further than others, but they all land on their feet and achieve a personal best.

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10. Anyone can do it? Supporting educational research in other disciplines

Fran Beaton and Janice Malcolm, University of Kent. F.M.Beaton@kent.ac.uk
J.Malcolm@kent.ac.uk

Summary

This paper addresses the question of how disciplinary discourses shape conceptualisations of educational research, and the implications of this for the promotion of educational (including pedagogic) research among academics in other disciplines.

The promotion of the 'teaching-research nexus' is currently a popular focus, both within education policy and in the practice of teacher education and development for academic staff. The authors, education academics in an academic development unit, are expected as part of their role to support colleagues in subject departments in developing educational enquiry within their disciplines. Publication is encouraged as a form of dissemination, as a means of raising the institutional profile, and to support the career development of the academics concerned.

Keywords Disciplinary pedagogical research / research methodologies / role of educational development

Introduction

The wide-ranging work of, for example, Barry Stierer, and the Preparing for Academic Practice CETL explores the questions of disciplinary practice in research and, indeed the extent to which disciplinary academics can be expected to 'write education' as part of their academic practice. Stierer cites McCarthy's (1994) view that '[For many lecturers].. education as a set of specialised knowledge and language practices is a 'strange land' – indeed as strange a land as an unfamiliar subject area can be for typical university students. 'We were particularly interested in exploring the question at institutional level, based on the work we have been doing with individual academics from a range of departments across the university. This derives also from our own research interests: exploring teacher identity the extent to which forms of disciplinary practices are considered part of the identity.

It is relevant at this point to describe our own roles with the institution. The University of Kent is relatively unusual in not having a

Department of Education, Centre for Educational Research or other education mainstream provision. Consequently, educational research activity has tended to be generated in academic departments (as well as from the central Unit in which we are based), without any obvious forum where this can readily be disseminated or shared. Colleagues within the institution may only learn of activity elsewhere in the institution through attending external events, such as conferences. We are both experienced education academics who had previously taught and researched in such departments at other universities, appointed to our current posts in large measure because of that experience and track record, now based in a central academic development unit. Our work encompasses initial teacher education for new academics and part-time teaching staff (registered on the Kent Postgraduate Certificate in Higher Education) and working with more experienced staff in academic departments. The work with more experienced staff is manifested in several ways: organically through common subject

interests; supporting individual members of staff or course teams addressing broader curriculum issues; working with staff on projects, preparing applications for University prizes or National Teaching Fellowships; establishing networks of staff with specific supporting or leadership roles and responsibilities such as mentoring, acting as Departmental Senior Tutor or Directors of Learning and Teaching. For the purposes of this paper, however, we focus on working with academics as they prepare to develop educational inquiry in their discipline. This work includes identifying where such research is already taking place and developing a framework for disseminating and debating this work more widely. The disciplinary conceptions on which such work is based form an important part of the discourse which develops in the course of interdisciplinary exchanges; in the next section we will consider the ways in which these conceptions evolve and the implications of these for practice.

We believe that disciplinary conceptions go beyond questions of language or, indeed, academic 'literacies'.¹ Disciplinary research training itself provides the fundamental concepts for designing, conducting and evaluating research. The new postgraduate student learns how research questions can be formulated, and indeed which kinds of questions are considered legitimate to ask. The nature of admissible evidence, how that evidence may be gathered and whether there are permissible variations according to circumstances also form part of the disciplinary induction into the community of practice. The tyro researcher is also exposed to a number of other questions and disciplinary practices. These include, for example, the legitimacy of drawing inferences from evidence; the extent to which it is possible or appropriate to demonstrate causality; the role of data in supporting or refuting claims; and, crucially, how research should be presented. In short, we learn about disciplinary ontology and

epistemology and the practices appropriate to the methodology of our disciplinary field.

The examples we have chosen to focus on are drawn from a number of sources. Chief among these is work by university academics (either work-in-progress or already published), including research projects undertaken as part of the PGCHE programme. We have also drawn on examples from HE Academy Subject Centres. A third source relates to our institution-wide role: we advise and support staff preparing National Teaching Fellowship applications, a process perceived by our colleagues as engaging with a different discourse. All three show different views of educational research: both its aim and how it is conducted. They further make assumptions about the anticipated reader, and the genres of communication appropriate to what are – or are imagined to be – that reader's expectations. It is for that reason, among others, that the NTFS is an interesting field to study. NTFS awards are made across all subject areas, and all applications will be read by one subject specialist and one non-specialist.² It could reasonably be inferred that applications which can gain and hold the attention of both are more likely to be successful than those which do not; could it not be supposed that applications from Social Scientists, more familiar with the discourse, would predominate? While we do not claim to have investigated the disciplinary background of all NTFS holders – and indeed the national listings do not always declare it – it is instructive to look at the awards made between 2006 and 2008: Sciences (including Medical Education) and Humanities predominate. This could suggest that a capacity to switch discourse is less critical than we suppose, or deliberately discounted, or a relatively minor consideration in the criteria; if so, then it raises questions about the function of the non-specialist reader. With this in mind, let us consider the examples drawn from the work of academics in departments.

¹ Lea, M.R. & Stierer, B., 2000

² <http://www.heacademy.ac.uk/ourwork/professional/ntfs/individual>

Examples:

Biosciences

A mid-career lecturer in Biosciences wished to investigate the impact of an educational intervention. He took the following steps:

1. Identified the educational rationale for the intervention;
2. Established a control group and an experiment group;
3. Established a procedure for implementing the intervention;
4. Developed a framework for reporting the results;
5. Intervened;
6. Drew interim conclusions from the results of the intervention;
7. Reiterated with a further group;
8. Drew further interim conclusions from both sets of results;
9. Considered the effectiveness of the data based on a) concrete data and b) the affective impact based on his own observation and as reported by students; and,
10. Wrote up preliminary findings based on all the above, concluding that the intervention appeared to have been effective and could be usefully replicated across the student cohort as a whole.

Indeed, it would not be possible to assure its impact until it had been much more widely implemented.

The basis for the intervention had been the procedure applied in his own discipline; as a non-specialist, one might query the ethical implications of putting students in the control group at an educational disadvantage. Had the intervention not been successful, this could of course have applied to the other group. The process by which each group was selected was not explained. The fact that the intervention needed to be tested by

replication on a large scale is also rooted in disciplinary practice. A colleague in the same department was horrified to read an account of a Social Sciences research project which ‘only had one experiment in it’³. How could this be considered publishable research? Contrast this with a lecturer in Economics, who described his discipline as ‘occupying messy territory’⁴, positioned between Sciences and Social Sciences. What would our scientist make of a discipline whose threshold concepts include the notion of ‘all other things being equal’ - where a closed experiment can lead to several possible deductions rather than proof?

Computer Science

The Computer Science Subject Centre notes that ‘few results in educational research are, in any sense, ‘precise.’’⁵ It is not clear whether this is a cause for concern or celebration, but can certainly be interpreted as an attempt to signpost a different set of assumptions. The site, *Getting Started in Computer Science Education Research* provides an overview of Social Sciences research methods for the new educational researcher. Sally Fincher (Computing Laboratory, University of Kent) and Josh Tenenbergs (Institute of Technology, University of Washington, Tacoma), in their work on disciplinary commons, describe a ‘bootstrapping’⁶ approach to developing a Computer Science Education Research community of practice. The term ‘bootstrap’ refers to a model of Computer Science with which participants are familiar (‘....processes whereby a complex system emerges by starting simply and, bit by bit, developing more complex capabilities on top of the simpler ones’) as well as its meaning in more general use as in ‘pulling oneself up by the bootstraps’. Fincher and Tenenbergs identify three distinct and overlapping levels as a means of establishing CSEd as ‘a distinct and rigorous research paradigm and

³ Private conversation, 2007

⁴ Private conversation, 2007

⁵ http://www.ics.heacademy.ac.uk/resources/pedagogical/cs_research/

⁶ Fincher, S. & Tenenbergs, J., 2006

⁷ *ibid*

simultaneously hastening individuals' full participation'. These are

'Bootstrapping the novice CEd researcher by providing entry points into the theory and methods of carrying out CEd research;

Bootstrapping a community of practice of CEd researcher practitioners with similar skills, practices and language for engaging in shared research endeavours;

Bootstrapping the wider CEd research community by establishing a critical mass of researchers with rigorous practices and standards for carrying out and evaluating CEd research'⁷

Thus the creation of this community of practice applies a familiar conceptual model to a new context, initiating the development of a new discourse. Fincher and Tenenberg subsequently describe the practical steps taken to ensure that participants at all three levels are both gaining from, and giving to, the community as a whole. The process itself provides a structure within which the novice researcher is an active and creative member of the evolving community and thereby moves from legitimate peripheral participation to full membership.

Mathematics

This paper was written by a group of early career academics and a more experienced member of staff. They sought to investigate the correlation between student attendance, performance (including that in assessed work) and their development as 'mathematical thinkers'. The first part of the paper tabulated statistical data based on the departmental practice of record-keeping, monitoring student participation in various teaching contexts (typically problems classes, workshops and lectures) and student performance in formative and summative assessment tasks. However the

paper, while inferring that the correlation between attendance and performance was very close, then considered the students' own perceptions and expectations, which were at marked variance with that of the academic staff. Students expected mathematics at university level to provide rules, certainties and provable propositions; staff valued attributes such as uncertainty, hypothesising and analytical sophistication. Finally, the paper specifically questioned the effectiveness of the traditional transmission approach to mathematics teaching and the extent to which this ran counter to the very attributes they prized and wished students to develop. To that end, a programme team plans a review of teaching approaches as a means of developing those critical and creative skills, and considering how this implementation can be embedded and evaluated.

Languages, Linguistics and Area Studies.

The final example is drawn from the Languages, Linguistics and Area Studies Subject Centre. This comprises a wide range of disciplinary fields. Some areas are closer to Social Sciences: Applied Linguistics, Second Language Acquisition researchers, socio-cultural practitioners, language education specialists. Others, such as Area Studies, are more closely aligned with Humanities. This can lead both to conflicting views on research methodology and, equally crucially, to practical disadvantages. If Humanities-oriented subjects are less well versed in 'speaking the language', they risk being left behind in the pursuit of funding to pursue, or make visible, research questions in their disciplinary field. The Subject Centre, while warning of the risks in making too much of the assumption that Social Sciences and Humanities approaches to research are at variance, suggest that the HE Academy's own emphasis on evidence-based approaches 'further implies that social sciences are presumed to provide the

approach by which pedagogic research can be done'. The commentary continues:

'...[this idea] may be fatally flawed. Standpoints and philosophies such as feminism, Marxism, post-structuralism resonate with practitioners in social sciences and the humanities, albeit in very different ways. It could be argued that there has been a failure to engage critically with pedagogic research and that the prevailing paradigm is not a social science one but an inherently conservative one which does not challenge the existing 'safe system'.⁸

In terms of educational research this Subject Centre makes explicit the questions we have been addressing here, locating them in the wider Higher Education research context.

- Is pedagogic research a concern for discipline-based practitioners or do education specialists undertake pedagogic research best?
- Is the low status given to pedagogic research a consequence of low academic quality or a symptom of its marginalisation of pedagogy as a disciplinary concern?

This is not simply a matter of what educational research is, or who should undertake it, but its impact and currency: how is educational research perceived in relation to discipline-specific research? Lueddeke suggests that there could be 'room for both disciplinary research and disciplinary pedagogical research with complementary or distinctive career paths', citing the University of Pennsylvania as an example of rewarding and recognising distinguished performance through Chairs in Practice for 'outstanding teachers who are also distinguished professionals in their fields'.⁹ Malcolm¹⁰ notes that 'This discipline - oriented work remains largely within a teaching and learning frame...rarely

elevated to the status of 'real' research. This is not surprising, given that it may be undertaken in ways which fail to meet the requirements of research within the discipline itself, and at the same time would not pass muster as 'real' *educational* research.' The Kent PGCHE, for example, is not alone in encouraging academic staff to explore and interrogate the distinctive features of their own practice, part of the long-running argument about the balance of generic and discipline-specific practice in teacher education: what does all this imply?

Conclusion

The key question remains: can anyone do it? Attempting to superimpose Social Sciences or education methods onto the knowledge structures and practices of other disciplines is, we believe, likely to satisfy the requirements of neither. It is likely to be unsatisfactory for the individual and – in career terms – probably counter-productive. It also devalues educational research as a field of practice. Educational inquiry needs to become an integral part of disciplinary identity, developed and made explicit by practitioners themselves. The ways in which meaning and understanding are constructed and, a central tenet in relation to learning and teaching, could, be usefully reviewed in the context of researcher development. This may mean the development of a new discourse over time but this is not the same as the wholesale importing of educational discourse. In many instances, disciplinary training (for example for PhD study) does not include explicit consideration of epistemology, or why certain methodologies are considered legitimate. Scientific method, for example, may be taught with no real consideration of how, or why, it differs from any other discipline. This would enable novices to learn about and explore the distinctive features of their own practice, a journey facilitated by more experienced

⁸ <http://www.llas.ac.uk/resources/paper.aspx?resourceid=2434>

⁹ Malcolm, J., 2008

¹⁰ Fincher, S. & Ten

members of that community and supported by institutional and educational structures. This is clearly a longer term project which needs extensive disciplinary inquiry and a review of the postgraduate curriculum. It is part of our role, as education specialists working with individuals across the disciplinary range, to foster and promote a positive spirit of inquiry in this work.

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11. Excellence In Teacher Training: Impact on Teaching and Learning

Wendy H. Jones, Bournemouth and Poole College. w.jones64@btinternet.com

Summary

'People are always wanting teachers to change. Rarely has that been more true than in recent years. Few people want to do much about the economy, but everyone – politicians, the media and the public alike – wants to do something about education.' (Hargreaves 1994, p.5)

Although, describing secondary school teaching in the 1990's this could be considered equally pertinent in teaching in the post compulsory sector today, which is currently in a state of transition. Sweeping reforms are currently taking place as outlined in the following extract from the Government White Paper *Further Education: Raising Skills, Improving Life Chances*.

'We will only achieve this [world class skills status] if our FE system is fit for purpose in meeting the two strategic challenges of transforming 14-19 education and up-skilling the adult workforce. This will mean major reform for colleges and training providers, so that FE gains the esteem it deserves as the engine room of a successful economy, with the power to transform lives.' (Department for Education and Skills (DfES), 2006 p.5)

Keywords Teacher training / further education / excellence / standards

Introduction

In order to move forward these reforms the Government had a vision that standards of teaching and learning should improve within the Lifelong Learning Sector, and that in support of this Centre's of Excellence in Teacher Training (CETT's) would be developed (DfES, 2004 p.4). However, this leads to the question as to whether CETT's, or indeed excellence in Teacher Training, can move forward teaching and learning as a whole. The following research question was therefore developed:

'What are the interrelations between excellence in Teacher Training, Centres for Excellence in Teacher Training and the quality of Teaching and Learning in a Further Education College?'

Aims and Methodology

At this early stage the aims of the research are: to identify the many facets which are involved in quantifying excellence in teacher

training; examine this from the point of view of trainees, individuals delivering the programmes, providers and stakeholders; examine the effect of CETT's on ITT and overall teaching and learning; and, to improve the abilities and skills of the Education Studies team within the college, and those in the wider FE context. It is envisaged that these aims will be refined throughout the period of the research.

Having considered both qualitative and quantitative methods it was decided to use a qualitative and in particular ethnographic approach to the study. Ethnography as a research method has grown from its 19th century origins where non-western cultures were studied in their own environment (Hammersley and Atkinson, 2007, p.1). It is now generally held to be the study of a social group, in an everyday context, by listening to the voices of individuals within the group (Cresswell, 2007, p.242, Hammersley and Atkinson, 2007 p.3). Ethnography is now

becoming more widely acceptable across all social sciences and is used within a range of settings, when studying one's own culture (Johnson et al. 2006 p.111-112). O'Donaghue (2007 p.5) adds that ethnography can provide a rich source of data about the beliefs and activities of those who are within a particular setting such as education. It allows the researcher to examine a situation through the eyes of those participating, and the research to evolve over time (Cohen et al. 2006). Having taken this into consideration it would appear that an ethnographic approach would support the nature of the research which will need to be set in its cultural context in order to be relevant. Rudestam and Newton (2007 p.42) described a new dimension of ethnography: critical enquiry, which should include a political dimension. This research is set within the current political situation in the United Kingdom, which is driving forward changes in Initial Teacher Training in the Lifelong Learning Sector. Therefore it could be argued that ethnography is particularly suited to support a study of the current situation within education.

Data Collection

Having considered a number of authors such as Hammersley and Atkinson (2007 p.183), Cresswell (2007, p.43), Phelps et al. (2007, p.180), David and Sutton (2004, p.44), Robson (2002, p.174, 385) and Hentschel (1999, p.68) it was decided to use a triangulation approach to data collection, in particular semi-structured interviews and participant observation. Triangulation allows cross checking of data and therefore prevents bias.

Both semi-structured and structured interviews were considered, however, it was felt that semi-structured would allow pre-prepared questions to be used as a basic framework, whilst allowing for flexibility. This gives the interviewer the ability to moderate the interview if it is felt appropriate at the time (Robson, 2002 p.270). There is an

argument that in ethnography, directed questioning should not be used in order to eradicate researcher bias. However, Hammersley and Atkinson (2007 p.101) argue against this stating that as the very presence of the researcher can cause bias it would be impossible to eradicate this entirely.

Participant observation will also be used allowing the researcher to immerse herself in the culture of Teacher Training and to understand the "behaviour, motivation and attitudes" of those under study" (Dawson, 2007 p.34). However, it is intended to use overt participation (Dawson, 2007, p.34), as the researcher will be known to most of the participants. She believes this to be an equally valid method of research, whereas others, such as Cresswell (2007, p.120) argue that for the research to be valid the researcher should be completely unknown to most of the participants. In this instance, however, it would be difficult as the researcher is known in the wider academic community of Teacher Training. Johnson et al. (2006, p.113) ask whether it is the participant or the observer who is more dominant. The researcher in this case has responsibility for observation of the teaching process as well as having a teaching role. Roles may also change according to circumstances (Johnson et al. 2006 p.115). There may be difficulty with the power invested in the researcher's work role which could change the nature of the research. This is supported by Cresswell (2007, p.122) who states that multiple strategies of validation should be used to offset this.

Background and Historical Context

The impact of these changes can only be fully understood if examined in their historical context. Traditionally, FE teaching has not been held in high regard with The McNair Report (1944), identifying teaching as being dull with outdated teaching methods. McNair recommended that teachers in FE should have a recognised teaching qualification to

support their vocational qualifications, this being repeated in the Willis Jackson Report (1957) and the Russell Report (1966). Despite this it would appear that FE teaching continued to be poor with nothing tangible being done to improve the situation (Bristow, 1970). Teaching in Further Education was described as in a state of crisis, marginalised and having low status (Robson, 1998 p.585). This is supported by Tight (2002 p.139) who suggests that institutions and educators have not been delivering to standards acceptable to the Government or funding authorities. This was despite the 1993 move from LEA control to a market driven model (Smithers and Robinson 2000 p.3), which should have ensured that teaching within the FE sector was excellent to justify its place in the market. In spite of this repeated advice that major changes were required in the training of vocational lecturers, Lucas (2004, p.64, 77) continued to highlight the general feeling that vocational expertise was sufficient to teach in Further Education (FE). He went on to outline the link between uninspired teaching and poor retention and achievement. It could be extrapolated from this that if Initial Teacher Training is poor then this will have an impact on the teaching in the classrooms.

Tight (2002 p.29) identified three key levels where stakeholders feel that the situation should improve. He describes these as the macro-, meso- and micro-levels as follows:

- At the macro-level the Government wishes to increase the literacy and numeracy Level 2 qualifications;
- At the meso-level organisations wish to improve retention and achievement; and,
- At the micro-level individuals want to be good teachers.

One could argue that all of these could be achieved if there was a high standard of Initial Teacher Training, where Trainee Teachers go through the process of becoming excellent teachers.

Comparison with Schools

The current situation in FE can be better understood if it is set in the context of comparison with schools. FE has long been accepted as being the “Cinderella Service” when compared to schools (Randle & Brady, 1997 p.121) with Titmus (1999, p346) describing FE’s struggle to gain equivalence with schools. During the early 1990’s there were many changes within Teacher Training in Schools, with teachers being encouraged to become agents of change and take responsibility for professional learning and continuous improvement (Hargreaves, 1994, p.12). This was linked to increased professionalism through changes in Initial Teacher Training (ITT), well qualified applicants to ITT, and greater accountability for the quality of ITT (Furlong et al. 2000, p3). There is an argument that post-modern society requires the workforce to demonstrate “new qualities and skills” (Hargreaves, 1994, p.48). This would appear to determine that teachers, and indeed teacher trainers, would require a new portfolio of skills in order to meet the needs of the changing workforce.

The changes in Teacher Training in the Lifelong Learning Sector today would seem to mirror this with the emphasis on first class training and the expectation that FE teachers will be required to undertake Teacher Training and take responsibility for their own Continual Professional Development (CPD). The vision is for a highly professional and competent workforce who will meet the needs of the students and employers of the future.

Key Documents

A study of the Key Documents involved in these changes is necessary in order to understand the implications. In 1973 the Haycocks Report (1973) recommended that there be increased Initial Teacher Training for teachers working in FE, but, as previously highlighted, this was never implemented. Education and Training for the 21st Century

(1991) linked funding to growth. This means that recruitment numbers are key to ensuring funding. In order to recruit students, colleges and other providers must demonstrate high class educational provision, with a high retention and achievement rate. However, Randle and Brady (1997, p.129), are of the view that this emphasis on recruitment leads to a reduction in the quality of provision. This fine balancing act of numbers versus quality can surely only be guaranteed if teaching and learning is sound and meets the needs of all learners. The Kennedy Report (1997) introduced the concept of widening participation and highlighted that FE providers were key players in ensuring that this was moved forward. Teaching and Learning were becoming increasingly more significant and Success for All (2002, p.29) emphasised this as a key priority, placing 'Teaching and Learning at the heart of what we do.' The Government's strategy for how this could be achieved was set out in Equipping our Teachers for the Future (2004, p.4). This outlined new standards for teacher training in the lifelong learning sector, which was closely linked to changes to Initial Teacher Training and the award of Qualified Teacher Learning and Skills (QTLS) status. Teacher Trainers are also expected to demonstrate a wide range of skills in the field of education. This document also introduced the concept of CETT's to move forward Excellence in Teacher Training in Lifelong Learning and Skills.

Teacher Training Reforms

These recommendations ended a period of what is described as 'benign neglect' in FE and increased its stature; however this in turn has brought increased regulation (Lucas, 2004, p.35). This is supported by Bailey and Robson (2004, p.333) particularly with regard to the training of FE teachers.

As a response to the above recommendations new qualifications were bought in to replace the existing ones. These were based on the new standards for Teacher Training, and were to be known as

the Certificate in Teaching in the Lifelong Learning Sector (CTLLS) and the Diploma in Teaching in the Lifelong Learning Sector. Both of these qualifications were to incorporate a new baseline qualification, known as Preparing to Teach in the Lifelong Learning Sector (PTLLS), designed to allow new teachers to gain the immediate teaching skills they would require whilst working towards their qualification.

The initial implementation started in September 2007 and all providers of Teacher Training within FE are now delivering these qualifications. It is important to note that although many HE providers are using the new standards, and incorporating the PTLLS element, they are still continuing to call them Cert. Ed. rather than DTLLS. It appears to many that these changes were implemented too quickly and before providers were in a position to assimilate the changes. Again, this would appear to mirror the situation when changing Initial Teacher Training in Schools where there was also a feeling that the changes were moved through too quickly with the speed of change seen as unsettling (Elliott, 1996, p.59).

A significant part of these reforms is the requirement to demonstrate Continual Professional Development in order to obtain QTLS status. On the surface this would appear to be a positive step, and one which could pave the way towards excellence. However, Hargreaves (1994, p.74) warns that self development if not well managed can become:

- Self indulgent;
- Politically naive in that it focuses on the self rather than the broader context; and,
- Grandiose.

This would suggest that CPD must be rooted in realism and the cultural context rather than focusing on the individual themselves. The needs of the student and organisational requirements are an important element of the CPD process.

Excellence

In order to move forward the debate on excellence it is first necessary to establish what is meant by *excellence*. The Universal Dictionary (1987, p.535) describes it as being 'the state, quality or condition of excelling, superiority, pre-eminence', and it is towards this that teacher trainers should be striving. It is hoped that by modelling excellence then this will be instilled in their trainees. Currently excellence in Teacher Training is measured using Ofsted criteria, however, it is intended through this research to examine overall Teaching and Learning in the trainee teachers organisation's as the criteria for success. This is considered critical by Kealy (1995, p.47) who states that quality in teacher training can only be measured in terms of the teacher's ability to support learning in their own students. Elliott (1996, p.69) however, found that although quality was being considered it appeared to be low on the agenda. Retention and achievement rates will also be considered as there is evidence that the quality of teaching and learning is linked to achievement (Robson, 1998 p.590). Wiesen (2000, p.44) outlines the qualities which she considers demonstrate excellence in teaching, and many of these, such as innovative teaching methods, a broad knowledge of the syllabus, the transmission of material in an interesting way and modelling theory in the classroom amongst others, could be considered directly translatable into Teacher Training. Technological competence has also been highlighted as being important within teaching in today's society (Hargreaves, 1994 p.84, Wiesen, 2000 p.51) which would indicate that this would need to demonstrate an equal level of importance within teacher training.

There is a belief that excellence comes about through possession or cultivation of certain qualities of personality, such as being respectful of others, principled and fair amongst others (Carr, 2007 p.380). Teacher Training therefore should support the

trainees ability to develop these traits. Dimbley and Cooke (2000, p.73), believe that teaching effectiveness includes using a range of resources and skills to facilitate learning. They go on to say 'the main purpose of all education and training being to enable students to learn' with the student's experience of the teaching/learning interface being key to this. Trainee Teachers should therefore be given the opportunity to learn this within their training. However, Robson (2000, p.61) suggests that this is not always the case, and that many trainees are disappointed with the training and experience they receive.

Training has been described as allowing us to 'respond accurately and appropriately to an expected and typical situation' (Tight, 2002 p.120). If this is taken as the standard in Teacher Training, then, Trainee Teachers should be able to teach well in their normal environment. If excellence in Teacher Training is demonstrated then Trainee Teachers should be able to improve performance in a range of circumstances. Hargreaves (1994, p.60-61) puts forward the view that teachers need to be flexible in their role and ways of teaching in order to meet the needs of students in today's world. Although he is talking about education in schools this 'moving mosaic approach' could be considered equally valid in post compulsory education.

It has been argued that the impact of market forces has had a detrimental effect on provision by limiting choice (Elliott, 1996, p.58). Perhaps, education providers should consider what students may want or get from education, rather than looking at skills from the market/Government viewpoint. In fact if Peter's (1966) viewpoint is taken into consideration then teachers have a moral obligation to make sure that this happens. Dimbleby and Cooke (2000), describe the Bournemouth and Poole College mission as being 'to enable individuals and organisations to realize their potential

through higher quality and innovative lifelong learning, accessible to the whole community', which would appear to support the preceding discussion. Closely allied to this, however, would surely be high quality and innovative teaching and learning in all curriculum areas, but especially in Teacher Training.

Robson et al. (2004, p.187) stress the importance of taking into account the professionalism inherent in the FE teachers first career. They come with existing expert knowledge, which can enhance their skill within the classroom. The blending of subject specialist knowledge and professionalism with teaching knowledge and professionalism could support excellence within the classroom. It should, therefore, be one of the roles of an efficient teacher trainer to facilitate the development of this.

An interesting point is raised by Simmons and Thompson (2007, p.173) who suggest that many employers are reluctant to release staff for Teacher Training with the effect that many Trainee Teachers are completing courses in their own time. This begs the question of whether trainees are able to be completely responsive to training given their employment workloads. This in itself could have an impact on excellence in teaching as well as teacher training. This serves to demonstrate the many aspects which need to be taken into consideration when considering excellence in Teacher Training.

Culture

Culture has been described as being the way in which a community shared its collective knowledge and solutions with any new, and comparatively inexperienced members (Hargreaves, 1994 p.165). Within the teaching arena this would be the way in which Teacher Trainers pass on knowledge and skills to those entering the teaching profession. However, there is much more to teacher training than this. The main role of those within teacher training is not only to support trainees to develop the skills they will require to be part of the teaching culture;

but also to allow them to push that culture forward. Elliot (1996, p.19) suggests that one of the difficulties in FE is that the culture is not clear. This could be due to its relatively young history and the many changes it has experienced, a perspective supported by Lucas (2002, p.38).

One of the difficulties with relying on culture to support learning is that times of cultural uncertainty can lead to lack of innovation and a return to 'safe' working practices (Hargreaves 1994, p.17), which in turn could lead to a reduction in standards. It may be that the very changes which seek to move forward teaching and learning in FE, and change its culture, may in fact hinder the very changes they seek to make. This will need to be closely monitored and measured if excellence is to be achieved.

Teaching and Learning

In a survey completed by Campaign for Learning (1998), 67% of adults stated that learning was important and they valued a variety of methods to help them learn. Learning was associated with enjoyment, fun, discovery, varied methods, finding out, sharing ideas with others and professional growth. Training on the other hand was seen as hard work and learning new skills. This would seem to suggest that the emphasis should be on learning rather than training. Success for All (2002, p.29) put teaching and learning firmly on the agenda and suggested that all teachers should be able to use a wide range of teaching and learning strategies to support their students. It is envisaged that there will be a raising of standards, sharing of good practice and a culture of identifying and rewarding good practice.

In order to measure the standards of teaching and learning, college retention and achievement data will be used as a process based measure as described by Winch and Gingell (1999, p.197). Organisational lesson observation data will also be used as a measure of excellence and/or improvement, as will participant observation.

Conclusion

This review has looked at the historic and current literature surrounding the area of teacher training and of teaching itself. It has drawn comparisons with the changes in teaching in schools and looked at the historical context which has led to the current changes. It is apparent that there are a number of studies which have looked at excellence in teaching, but little has been found in the area of excellence in teacher training. This would appear to suggest that this topic is one which is not only current, but would support research at PhD level. The literature review has revealed a number of strands which would appear to be worthy of study including: the effect of culture and cultural instability on excellence; the views of student teachers regarding what they consider to be excellence in teacher training; their experience on the course, and, the modelling of excellence.

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12. What are Foundation degrees?

Urmi Joshi, Hackney Community College. ujoshi@tcch.ac.uk

Summary

Foundation degrees (FDs) were launched in 2000 by David Blunkett with the rationale of 'widening participation for social inclusion', 'increasing participation for economic competitiveness' and 'bridging the skills gap at the intermediate level' (Blunkett, 2000: 11).

Keywords Foundation degrees / work-based learning / student perceptions / employer perceptions

Introduction

The seeds of FDs had been sown earlier with *The Choosing to Change Report* in 1994, which had recommended that there was a need for intermediate higher education qualifications which combined vocationally orientated courses with the potential to progress to higher education (HE) and employment (DfES, 2004). Sir Ron Dearing's report in 1997 (SCAA, 1996) also underlined the importance of raising the profile of vocational qualifications and this view was supported in 1999 by the Second Report of the National Skills Task Force, *Delivering Skills for All* (NSTF, 1999). Dearing (1996) keenly advocated the continued expansion of HE as a means of competing in a globalized economy and viewed a large part of the growth at sub-degree level coming through qualifications such as the Higher National Certificate (HNC) and the Higher National Diploma (HND). Kennedy in *Learning Works* (1997) highlighted the role of further education (FE) in increasing 'widening participation' (one of the new Government's priorities) through the delivery of this provision, especially at the intermediate skills level (Tight, 2004).

The Government saw sub-degree provision as appealing to a wider spectrum of people (including those who might not have previously considered higher education); addressing the 'skills gap'; involving further education (FE); and, complementing other developments such as National Vocational Qualifications (NVQs) and Modern

Apprenticeships (MAs). It therefore heralded the introduction of a new two-year qualification upon which future expansion would be concentrated. The purpose of this new qualification was to provide employers with staff who had the necessary academic qualifications, with knowledge of and understanding of matching theory to practice encourage widening participation and lifelong learning (Blunkett, 2000)

Theoretical perspective

This research has drawn on the work of three main theorists as a basis for the theoretical framework, these are Bourdieu, (1977a, 1977b, 1977c, 1983, 1984, 1990) Lave and Wenger, (1991, 2002), and Dewey (1933, 1938, 1963). The thesis is framed within the context of these theories. It links to the themes in the literature review with reference to work-based learning (WBL), widening participation, lifelong learning and encompasses the notion of 'communities of practice' in the early years sector, which form a basis for examining, analysing and discussing this research.

Literature Review:

Work-based learning

The assessment structure of FDs is entirely based on work-based assessments which tie in theory with practice. The rationale is that this will enable employers to recruit employees who have a thorough knowledge of both the theoretical and practical aspects of their work. Research indicates that industry prefers to employ people who can combine

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the technical expertise needed to do the job with experience of other skills needed in the workplace (Harvey & Knight, 1996, Hales & Phillips, 2003). This integration is not a new idea as it had been the norm of craft related apprenticeships for a long time (Gray, 2001). In a poll conducted by The Forum of Small Businesses (Lightfoot, 2005), it was reported that university graduates do not always make the best employees as they may lack the social and organizational skills needed in the workplace.

John Dewey's theory (1916, 1938) that education propels and encourages individuals to achieve their potential through *learning by doing* is underpinned in the FD curriculum which has WBL as one of its defining features. Dewey maintained that this manner of learning would enable individuals to develop skills and habits that would aid problem solving skills, develop motivation and encourage critical thinking. This method of learning, he believed, would actively promote flexibility and therefore a more tolerant society. In *Democracy and Education* (1916) he introduces an important re-conceptualization of vocational education. Dewey maintains that new ideas emanate from being involved in work in a 'doing' context. Vocational education enables individuals to see what works in practice and individuals learn because material is not presented in an abstract form. Individuals are actively participating in the learning and in this manner both intellectual and rational processes come into play. This in turn helps to develop reasoning powers and powers of judgement which enable individuals to work together in a democratic manner making judgements and decisions which favour the interests and the groups with whom they are working.

This aspect is important for early years practitioners as they work with children, and the manner and attitudes which they bring in their dealings with children profoundly affect the lives of the children. Research by Graham Matheson (2006) at Canterbury Christ Church

University with learners on EYFD, teaching and learning support and child and youth studies reported that learners valued the opportunity to study whilst working, and their perception was that the course helped in personal development and in creating future opportunities. Dewey's theory (1916) that the interplay of the two principles of continuity and interaction results in experience, is pertinent in the context of FDs as the curriculum content and the delivery of FDs concentrates on building upon the experiences of the learners and facilitating further acquisition of knowledge. This will in turn benefit them as practitioners and the children they look after.

Dewey (ibid) was of the opinion that the emphasis on the subjective quality of learners' experiences and the understanding and acknowledgement from the teacher in the delivery of the lessons would result in a liberating educational experience and enable them to be positive role models in society. Dewey's philosophy focussed on what has traditionally been termed epistemology or the theory of knowledge. Dewey rejected both these terms favouring instead the theory of inquiry or experimental logic.

Biggs (2003) outlined the benefits of WBL, as this method makes a distinction between declarative and functional knowledge. The former refers to knowledge which the students can write about but the latter refers to knowledge which students have to perform in their workplace to demonstrate their understanding. In addition, WBL can also encourage critical reflection (Schon, 1983).

Research by Green (2006: 30) on the perceived benefits of WBL to employers found that the employers perceptions of the roles of employers varied considerably. Employers commented that they had received insufficient information regarding 'any kind of guidance from course staff, the process of supervising, process of giving feedback' and in some cases, the first time

the employer had received any communication from the college was 'when the college was asked to seek a volunteer organisation to respond to the researcher!' (ibid). The success of WBL is largely depended on the support provided by the employers, the understanding of the qualification and regular information and communication with the institutions (Powell & Stickland, 2007; Dear & Lonsdale, 2006; York Consulting, 2004).

The benchmark for FDs stipulates that employer involvement is crucial to the success of FDs and that employers should be involved in all aspects including aspects of course delivery, assessment of learning outcomes and providing a supportive learning environment (QAA, 2005). As indicated in the previous paragraph employers are not fully engaged with WBL and research done by Hillier et al. (2004) suggested that there was a polarization of perceptions from the standpoint of employers and employees. The perceptions of employers indicated that they would be involved with WBL only if time and circumstances permitted and although acknowledging the benefits of FDS, the perceptions of employees was that there was an unevenness of practice in organizations.

More recently, Wenger (2000: 25) has tried to apply his model to organisational substructures such as departments and teams as well as to 'broader learning systems, such as an industry or consortium'. There have been criticisms of this model in relation to contemporary organisations with complex structures, and the failure to take into account factors such as power play and relationships and their influence on individuals' learning and opportunities (Contu & Wilmott, 2000; Fox, 2000; Rainbird, 2000b; Driver, 2002). Imbalance in power relationships leads to tensions and factors such as the amount and kind of learning taking place (Reynolds 2000; Cohen, 1999).

This is pertinent to childcare which has historically seen a neglect of emphasis on learning, learning has been hindered because a large proportion of the workforce work part time and 'power' has been concentrated amongst those formulating policy. Whilst Lave and Wenger (1991) acknowledge the existence of power plays within organisations and also the power of a community to disempower, they have not clarified how these processes might work. The debate over power relations and associated tensions has to some extent been resolved by authors such as Gherardi (1999), who suggests 'seeing' this model from a process instead of a structural viewpoint and Fox (2000), who suggests that 'communities of practice' should be defined mainly in terms of practices which are part of wider dynamic social networks. Fox (ibid) attempts to answer the power question in Lave and Wenger's model by linking it to other theoretical explorations such as those of Foucault (ibid), Callon (1986) and Latour's (1987) Actor-Network theory.

On the other hand, whilst acknowledging the positive benefits of workplace learning, Rainbird (2000a:1) warns that it can also be problematic because the primary objective of the workplace is not learning; 'but the production of goods and services'. It can be argued that the above statement does not apply to early years as it is through learning that the workforce and therefore children benefit. Frequent upgrading of knowledge and skills leads to better services for children. It remains to be seen whether employers will feel that the above mentioned benefits outweigh all the other financial and staffing problems they face.

Research Methodology

A mixed method approach was adopted with data being collected from focus group interviews and questionnaires. This method works well, particularly in education, as it is able to demonstrate a process which can be flexible and adaptable to changing

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circumstances. FE has witnessed dramatic changes in recent years and as the research focussed on learners studying a HE programme in FE, enabled the author to examine the complex range of factors and perceptions which affect all stakeholders involved with FDs. In this approach, as each context falls into its own unique and particular niche it can investigate and report on findings that reflect the changing and dynamic interaction of events, human relationships and the manner in which the combination of these factors affect the analysis of the gathered data.

Perceptions of Work-Based Learning: according to students

Although there were problems with the assessment methods, the benefits of work-based assessments were also highlighted. One student commented:

‘Sometimes I would see what the children were doing and be able to say Piaget says this about child development and feel that what I have been learning at college is useful. Once my colleague commented on a child who just liked carrying things around in a bag and I was able to explain Schemas to her – she was very impressed and then I explained other things like Enveloping and now every time we see a child doing things we talk about the Schemas’.

The student commented on how just the fact that she was able to say a ‘few names’ not only made her feel good but also raised her credibility rating in the workplace. The workplace could actually see the benefits of the course in the way she spoke about children. The student went on to say that even she was surprised at the way her language changed as she used ‘big words’ now.

‘I could talk about what was happening in my workplace and people would listen, the lecturer would take my point and ask me to explain further sometimes I could see others nodding in agreement – I began to feel confident’.

This feeling that their opinion mattered gave learners great confidence. The learners were beginning to get recognition from ‘outside’, in this case the lecturers, work colleagues and other students. Another student commented that:

‘There are many positive aspects to work based assessment. One of them being, that you have the ability to put what you learn on the course into practice. What I learn on the course helps me to challenge my practice and I am constantly learning and implementing new ideas.’

Some students felt that they gained not only theoretical knowledge but also came away with ideas of how they could do certain activities. The class discussion enabled them to gain an over view of how other settings approached similar issues and what were the strategies they employed. It was possible to talk and discuss the strategies employed by other settings and question them. Again, all the discussion could take place in an environment which was safe and where people were not hesitant to talk about the positive and negative elements of their manner of approaching things. One student commented:

‘I was really interested in listening to how this setting had integrated a multilingual child. I was full of ideas and as I had a very supportive manager I told her about it and we tried it out. We had good success!’

Twelve out of twenty-six students from all three colleges talked about how they were able to reflect on their own practice and match it in light of current theory. Now, they felt themselves to be on a course, which allowed them to fit theory with practice. This additionally, gave them an opportunity to think about policies and even agendas (sometimes hidden), which determined the running of their organizations.

'I thought, the manager just wants to save money she won't advertise for another post! Only when we all get really fed up with working so hard – then she will'.

The students were able to compare what would be best for the children they worked with and contrast it with what occurred in reality. Students were able to see the chasms that separated theory from practice and were able to articulate the reasons for this gulf.

'I would have liked to see how this child developed if the physio came in three times a week instead of once a term! I wanted to talk to an expert about what other things I could do with her like how could I encourage her to hold a pencil – but my manager was not interested and would not write or call up the Special Needs Team'.

Students were able to reflect on the culture of their workplace and what elements were lacking which might enhance learning. One example was the lack of knowledge about children with special needs. Do they learn differently? Are they providing the right stimulation to encourage development and growth? And of course, where does funding come into all this? Does the workplace have funds to provide for specialist play equipment, for example. During teaching, learners and lecturers delivering the module (how children learn) were able to have animated and knowledgeable discussions as to how children learn and what their experience of this has been. Learners were able to discuss other elements that affect learning, like culture or their preferred style of learning.

Employer Perceptions

Five employers were interviewed. One of them was from the Local Authority, two from the voluntary sector and one was located within the Further Education sector.

Work-Based Learning/Assessments

WBL is an integral part of the FD and the research question focuses on the perceptions of WBL. WBL was highlighted by employers

as needing a more defined structure in terms of design and delivery to ensure the success of FDs. None of the employers interviewed in this study had been involved in designing or giving their opinions on the assessment structure. In fact, none of them was aware that FDs were designed around the needs of the employers until they read the publicity material. Two employers voiced their concerns around work-based assessments. One of the employers found that she did not have the range of children on whom observations could be conducted and this led to undue anxiety for her staff who then had to arrange to go and observe children in other areas of provision. She could not allow the member of staff to have 'time off', as this would be seen as being unfair to other staff:

'My staff had to arrange observations with another provider in her own time – she ended up taking two days of her annual leave and even after that she found that this other nursery were not willing to give her all the information saying that it was confidential'.

Students (covered under assessments) also made similar points. Another employer commented that she had no idea of the range of assessments, which needed to be work-based:

'Had I been made aware before the start of the course I would have been able to think about the assessments and plan something out. In this case, I was taken by surprise about every assessment'.

Two employers commented that there was not sufficient communication between the colleges, either about the course or the specifics of work-based assessments:

'Before the course started representatives from the college should have come personally and given a breakdown on things like how the students were going to be assessed. If I had an idea of what the assessment was I might have been able to help her more'.

Another employer commented that regular contact with the college, in the form of meetings would have helped in understanding the course, the benefits to the staff and the organisation and in trying to help the students.

Conclusion and Recommendations

The structure of assessments could benefit from changes as almost all modules depend on practical observations done in the workplace. Employers need to be informed and given detailed information about the assessment methods and colleges, learners and employers should agree on the details of the observations as soon as the learners have enrolled on the programme. It is suggested that some of the modules should incorporate alternate assessment methods in order to give all learners an equal chance. Employers' suggestions regarding the content and assessment methods should be incorporated into the programme. A thorough training needs analysis of employers needs to be conducted which could be used to fine tune curriculum delivery.

Employers need to be consulted in the summer term (e.g. invited to staff meetings) and suggestions for improving course content incorporated for the delivery of the courses in the new academic year. The organisation of conferences at regional or national level will also allow employers an opportunity to share their experiences. Although these conferences are being held now, the overall impression appears to be that small and medium employers still find accommodating students on the FD difficult. It is precisely these employers who need to be targeted.

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13. Research? When I don't know who I am or what I am! A question of Identity for HE in FE tutors

Jenny Eland, Birmingham City University. jenny.eland@bcu.ac.uk

Summary

The drive for greater participation in higher education has placed an increased emphasis on the provision of higher education (HE) within the further education (FE) sector, bringing with it concerns for staff in both institutions. For many years the FE sector has been regarded as the poor relation and has struggled to prove its credentials in quality, parity and expertise. Many tutors working in FE have to navigate differing cultures and inspection regimes (Ofsted, ALI, QAA plus local LSC and internal QA processes), deal with incompatible paperwork (with no admin support) and strive to attain a plethora of "professional" standards. Being good at jumping through hoops and bending backwards are consummate skills in FE but has the time come to acknowledge the differences and to begin to play on the same pitch?

Keywords Identity / HE in FE / language / research / scholarship

Introduction

This paper draws on some initial research carried out with ten childcare tutors in a partner further education college (FEC) considering the barriers to a more successful partnership. The original aim was to examine how far there is a shared language between HE and FE and how we could develop a consensus of meaning to progress staff development in carrying out research. However the results of the study suggest that there are deeper issues involved and that to move forward we need to address questions of confidence and identity. If we want our FE partners to engage in scholarship of teaching and learning, research-informed practice, evidenced-based practice or any one of the various derivations should we not be clear about what we mean? The barriers are not just to research but to the meanings we ascribe to the terms and the relationship this has to personal and professional identity. The paper considers the view that there is indeed an understanding gap and reflects on the need to develop a consensus of meaning to progress staff development, achieve a positive working relationship bringing together different tribes and cultures and begin to define an identity.

Background

The partner college began delivering HE level programmes in the late 1990s and is looking to expand that provision in line with recent government initiatives. The childcare department has offered HNC/D Early Childhood Studies since 2000 and Foundation Degrees from 2003 and is looking to seek approval to expand this portfolio. As is the case in many FECs, the staff who teach HE provision also carry a high workload of FE programmes and are expected to meet the requirements of both sectors. In regards to professional standards there are expectations on both sectors in regard to continuing professional development in order to maintain, develop and update skills: 'Ensure that knowledge of own specialist area is current and appropriate to the teaching context' (LLUK, 2006 p8) and '...the ability to incorporate research, scholarship and/or professional practice' (HEA 2004, p3).

Many of the staff were aware of the new UK Standards Framework and would like to achieve recognition by the HE Academy. One of the stumbling blocks relates to the interpretation of the standards and in particular the links to research and scholarship of teaching and learning.

It is my belief from having worked in FE there are good examples of research informed practice but this is not formalized, and in many cases not seen as 'research'. My initial ideas were therefore to look at how we could encourage and support the tutors in the college to undertake and utilize research in their professional development and how we could best ensure that they will be able to achieve recognition at Fellow level.

In thinking about this I looked back to a 2005 QAA review of one of the programmes offered at the partner college. At that time, although I had moved to work in the HE institution, I was still carrying out the role of Course Director of the programme and so was intimately involved in the review. During the process I observed that the FE tutors were unsure about answering the questions and would wait for the University staff to speak. In post meeting debriefings many of the tutors noted that they did not fully understand the questions but once they had been "translated" felt they could answer. Two years on and the work on implementing the new UK standards appears to be coming up against the same issues suggesting that language could be creating an obstacle.

So, before considering how to encourage research practices, it was important to inquire into the level of understanding that the FE staff had of the words currently in use across the University. What I initially wanted to find out was the extent to which the college lecturers had an understanding of the terminology used in the link university and to look at the range and type of "research" undertaken. Having ascertained this, the next move would be to consider ways of reaching common definitions and to bring together research and scholarship.

Research Method

The research was carried out with ten tutors in the childcare department of the partner college all of whom were female. The participants taught on a range of HE courses

(Foundation Degrees, HNDs, teacher training and NVQ level 4). Five of the group had taken part in the QAA review the remaining five were new to HE programmes but had been teaching in FE for a number of years. The percentage of time they taught on HE programmes ranged from 10% (1 session per week) to 100%. As this was to be a pilot aimed at discovering initial understanding and perceptions the proposed method was a survey asking for the participants own understanding of the terminology. It was important that this was in their own words so no additional prompts would be given. Five of the participants filled in the surveys at the same time and in the same room, although no interaction took place during the answering of the questions. They had their own debriefing afterwards which I observed. The remaining five completed the task via email. One member of the group wanted to discuss the issues while they were still fresh in her mind and so I carried out an unstructured interview based around the survey.

The survey was in two parts. Firstly, the participants were asked to provide their own definition of four terms that regularly appear in HE texts and discussions: scholarship of teaching and learning (SOTL), research informed practice, pedagogic research and currency. All the terms had been used in the QAA review and all appear either in the guidance for the new standards or in the staff handbook for franchise partners. The final four questions related to how they kept themselves up to date in regard to both their subject and learning and teaching. They were asked:

- How do you keep "up-to-date" in your subject area?
- Do you keep up to date with learning and teaching strategies?
- If yes, how do you do this?
- Do you feel both areas are of equal importance?
- What does research mean to you?

What I hoped to be able to do was then link the two sections and look at how we could find a way to encourage further research making use of what was already in practice.

Findings: SOTL

Scholarship of teaching and learning, a theme running through the standards framework and a central precept of educational development, proved to be one that caused puzzlement. Two of the respondents simply stated that did not know it nor had they come across the term, although one of them followed this up with saying *possibly writing for journals*. Two related the meaning to qualifications for teaching and one other said *teaching studies*.

Three made a link to theory and practice:

...being good at teaching and learning by academic writing (for journals etc)
Self study into how theory impacts upon actual teaching practice
Learning about teaching and learning at a higher level...

One respondent seemed to bring the qualification and theory/practice link together by referring to *those functioning at a level of academic excellence in their discipline...those individuals who have achieved certain standards in academic circles*.

One respondent felt it to be the “art” [her quotation marks] *of conveying ideas and understanding - a “level” of understanding pedagogy*.

To be fair to the respondents this is also a term causing much discussion within academic development circles. It seems to fall into the category of tacit knowledge - everyone understands what it means but cannot provide a single definition. Within the

literature there are many definitions (Elton, 1992, 2003, 2005; Huber, 2002; Kreber, 2002; HEFCE, 2006; Healy, 2005) but if we require staff to attain a standard then a clear definition will be needed to allow this to happen.

Pedagogic research

In defining pedagogic research 30% were not sure as to any meaning for this. One of the respondents knew the dictionary definition of pedagogy and put this into her reply *research into the science of teaching*; 20% said research into teaching and learning; a further 20% mentioned researching teaching with the aim of improving skills; 10% felt it was personal research into good practice; and, 10% that it was concerned with research into particular academic standards. Taken overall only 30% of the respondents had a clear view of the meaning of pedagogic research. Although the others provided a definition it is difficult to fully establish the degree to which this is understood.

Currency

Currency produced a range of replies that could be said to reflect more clearly the understanding given to the term within an FE environment. Only one of the respondents said that they were unsure as to what this meant although the replies of four of the others suggest that there is no consensus:

- *Value added*
- *Finance*
- *Things that are here and now*
- *Current climate-targets, courses that have been identified as a priority for training.*

Three agreed that this related to their own up-to-date practice and ensuring that they keep abreast of changes. Another respondent added to this by saying *in an academic sense your qualifications would be a passport to a career currency to purchase the next qualification*.

One respondent related this to the course - *is the form/mode of (delivery/research/etc) appropriate to group*

In terms of an FE definition of currency, 50% of respondents are very close to each other in their interpretation. Within FE, currency applies more to ensuring that qualifications and professional (vocational) practice are relevant and up-to-date. Indeed in the new regulations this relates to continuous professional development through a “passport to teaching” and the new Qualified Teacher Learning Skills (QTLS) award with a further proviso that they renew their licence to practice on a regular basis. Within this particular HE setting currency has a number of meanings depending on which faculty or administrative division is asking the question. If a course team were asked “how is currency maintained?” (as indeed we were by the QAA) representatives from Registry would discuss credit ratings and levels, vocationally based lecturers would ensure that their industry related experience/qualifications were current; module designers would show how the course reflects the changes in requirements at national and local level; and, “academic” lecturers would show how they use their research, scholarship, consultancy and professional activity to inform their teaching. Again there seems to be some form of tacit understanding in each area and once the boundaries are established HE staff are able to communicate with a shared language.

Research informed practice

Research informed practice produced more of a consensus of opinion with 70% of respondents providing similar replies, noting the links between theory (research of others) and personal practice, although all felt that this was from the literature base rather than carrying out research themselves. One of the respondents said *your own research which is placed in practice* however, this could be ambiguous and without further discussion it is unsure as to exactly what “your own research” means. One of the scripts was

difficult to read but it did mention research into maintaining practice. One respondent said it is a *new word for vocational training*. Across the literature this also seems to be a non-contentious issue in terms of definition, a web search of various universities strategies produces interpretations that are remarkably similar, indeed many also have dual terms noting “research informed/evidenced based”.

Many of the responses suggest that language, which is taken for granted in HE circles, does not communicate well with staff in FE. As Wareing says

‘If expressions which are commonplace in the discourse of educational development are not consistently understood ..., then communication simply does not take place. There is no exchange of information, or at least, of the information which it was the writer’s intention to communicate.’ (2004 p9)

Indeed the word discourse itself (although not one of the terms requiring a definition) had proven problematic to one of the respondents who had recently been on secondment to another HE institution.

*...what really got me was the use of **discourse**, they didn’t have a chat they would have **discourse**. It took me a few weeks to realise that what they meant was that they wanted to talk about something. We would have **discourse** about teaching observations why can’t we just have a chat or a conversation? It’s such a load of crap; it’s almost as if they want to keep people out. (Respondent in unstructured interview)*

This would also indicate that there is some tacit knowledge and understanding at play within the community. For Becher, tacit knowledge is that *‘particular kind of understanding which is so taken for granted by those who possess it that it is never*

explicitly taught, but has instead to be acquired by sustained involvement in the relevant cultural milieu.' (1987 p262)

The staff in an FE setting are not totally immersed in the academic culture of HE and may be left to gain their awareness of processes through some form of osmosis. Although the latter four questions related to their personal attitudes to development they were asked to say what "research" means to them. All the respondents talked about research in terms of an opportunity to delve deeper into areas of interest through texts and other media, there was no reference to any form of applied or practice-based research. In keeping up-to-date with their subject area the main methods were through conferences, books, and journals. 90% of the group thought that keeping up-to-date with learning and teaching strategies was important and used similar methods to do this. One participant felt that this area was not as important and thought that keeping up-to-date in the subject to be of more value.

Discipline

An interesting facet of language that emerged related to "discipline". This was not a term that I had expected would be troublesome, and indeed it was only mentioned at the start of the survey to give a picture of the make up of the group.

When asked do you consider yourself to have a discipline? If so, what is it? 40% of the respondents said no; 40% said yes identifying education/social science. While 20% interpreted the word in terms of personal conditions:

- *To practice my work load in childcare studies*
- *Time management and organisation*

Here again we have a word that is 'the life blood of higher education' (Becher 1994 p 153) not being fully understood and accepted by another section of the profession. If 60% of the respondents do not

have a discipline does this affect their understanding of various aspects of terminology? If as Baume asserts 'many academics derive most of their professional identity from their discipline' (1995 cited in Jenkins 1996 p 50) and if that discipline provides the language, culture, values, codes of conduct and the means to make sense of the world (Becher, 1981; Becher & Trowler 2001) how do you construct your reality? To what tribe or community do you belong? The respondents relate to at least three communities; the HE community of the franchise university, the FE community in which they are based and their "professional" community and it is perhaps this latter group that may stand in for their discipline.

Conclusion and future research

The responses to the questions suggest that the FE staff carry out the actions and activities required by HE but within their own boundaries and territories. For example all the respondents ensured that in some ways they kept up-to-date (maintained currency) in their subject (research informed practice) and the majority felt that knowing about learning and teaching strategies was important (pedagogic research) what they didn't have was the language.

As one of the respondents noted "in considering these questions I feel that some of the terms (scholarship, research, currency) are not as clearly defined as many think. In fact they probably mean different things to different people."

A comment that is borne out in the literature. It can be seen that the respondents' understanding of the terminology is largely different to that of the university and its staff and this could be a barrier to future working relationships. But is any of this due to their perceptions that they do not have a discipline or is their identity that of a

lecturer in an FEC? If their discipline does not provide the words how do they begin interpret and ascribe meaning and take action? These areas need further investigation and a consensus needs to be reached for parity to exist. The Professional Standards are soon to be implemented and we need to ensure that we provide the tools to enable our FE partners to become registered practitioners. The respondents are all prepared to engage in scholarship of teaching and learning and can do so as soon as they know what it is, how it is done and possibly who they are. But before we blindly go on encouraging FE staff to engage with research we need to address the issue of identity and look to which tribe they feel affinity. For FE staff to understand and work comfortably in another culture we need to see the barriers and make strides to overcome them. As one of the FE staff said after the QAA review:

*I wouldn't mind being
Cinderella if I actually got to go
to the ball; the trouble is I
couldn't understand the
invitation.*

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14. The Link Between Research and Education: An FE Example

John Curry, City of Bath College. CurryJ@CityBathColl.ac.uk

Summary

One of the major distinctions between HEI's and HE delivered in FECs is the almost complete absence of an academic research culture. However, a limited number of FE Colleges have started research programmes. This paper reviews a case study of the impact of research in a single FEC.

Keywords Research and teaching / scholarly activity / Further Education / retention / capacity building.

Introduction

The scale of national provision of HE delivered in FE is substantial. Some 96,000 students were studying HE at 270 FECs in 2006-2007. HEFCE has set out policy documents on the role of FECs in the development of HE (HEFCE, 2008). This includes the recognition of the distinctive contribution of FECs and plans for the strategic development of HE in FECs.

Despite obvious disparities in student funding, learning resources and the ability of FECs to offer key teaching staff terms, conditions and financial remuneration to match that offered by HEIs, the quality of provision is reported as largely satisfactory. The QAA review teams had confidence in 90% of the FEC provision, and limited confidence/no confidence in the remaining 10%. As HE in FE is inspected under a different regime to HEIs there is no comparable data on how the 10% limited confidence/no confidence figure compares with HEI's performance

The resources invested by the QAA in reviewing FECs in proportion to their size is far in excess of any inspection regime HEIs have experienced. For example, a subject review in 2003 at the City of Bath College for two subjects (Computing and Engineering) used five reviewers for twenty man-days. It is arguably that as a consequence of this effort

by the QAA, the government has a clearer idea of the standard of HE delivered in FECs than in HEIs.

Views on Research in FE

The QAA (2004) in its report on 'Good Practise for HE in FE' stated it was good practise FECs to be, 'developing a programme of study informed by staff scholarship and professional expertise' for staff teaching HNC/D level work. For degree level work, FECs should be 'developing a programme of study informed by staff research.'

OFSTED (2004) noted features of colleges that were successful and these included two that may be interpreted as supporting research.

'Teachers are knowledgeable and enthusiastic, and the best are inspirational, skilfully imparting their passion to students.'

'A feature of many of the effective lessons is the enthusiasm teacher's show for their subject.'

It would be a reasonable assumption that a lecturer carrying out successful research into their subject would be knowledgeable about that subject. Anecdotal evidence indicates that enthusiasm for the subject is a

necessary pre-requisite for setting aside time to pursue research. The key questions are, 'on average would a lecturer carrying out research:'

'Know more about their subject and have more current subject knowledge, than one who is not?'

'Develop and maintain an enthusiasm for their subject?'

Conversely, OFSTED in its report *Why Colleges Fail* (2004) noted one of the key reasons that colleges failed was:

'...the professional experience and familiarity with current industrial and commercial practice of long-serving teachers have become out of date, but they rarely take up opportunities for professional updating..'

Of course, there are other forms of appropriate professional updating as alternatives to pursuing research.

The Level of Research in FECs

As reported by Davies (2007) there is evidence that '(S)ome FECs are attempting to cultivate research culture' such as at Bournemouth and Poole College or the City of Bath College. However, it is difficult to assess the level of such attempts, as the various QAA inspection methodologies have focused on the student learning experience QAA (2008) rather than the detail, relevance and outcomes of the staff's scholarly activity.

The Case Study

The City of Bath College is an FEC with a range of higher education courses. Part of this provision includes a FdSc and a BSc (Hons) in Computing with approximately one hundred students. The relatively large-scale of the provision in a single subject, in terms of HE delivered in FE, means that the teaching team are focussed almost exclusively on HE delivery to the students. A disproportionate number of each annual

cohort have entered HE under the widening participation agenda. The average full-time student enters with between 80 and 120 UCAS points. Approximately ten percent of the students in 2006-7 were eligible for some form of learning support.

Over the last eight years, the computing programme at the City of Bath College has started to introduce a moderated research culture; largely action based research to inform teaching, but with a handful of conference papers. Significant outputs include:

1 text book (Chris Hill, 2003, *Teaching Using Information and Learning Technology in Further Education*).

1 book chapter (written by a student)

14 conference papers (mainly on subject pedagogy, 3 subject specific)

1 working paper (subject specific)

1 M.Phil Completed, 2 Ph.Ds started (but staff left before completion)

The staff have been supported to some extent by the college in doing research in return for the apparently positive impact of this activity on student recruitment, retention and achievement; and on the inspection system.

The support for research consists of a modest IT budget expenditure, given on the basis that the equipment bought is also used for teaching. Staff are normally supported to attend conferences, in particular if they are presenting a paper. The staff's teaching time has been reduced from 828 annual contact hours by between 60-120 hours per year. In addition, the staff are permitted to go 'off-site' for informal staff development opportunities, such as seeing a local employer or investigating some innovation.

Line Managers Get 'Brownie Points'

The line managers of staff carrying out such research have apparently attempted to gain organisational status as a consequence of the success of their staff's endeavours.

Examples at the college have included, demonstration of high status IT equipment at open evenings (virtual reality equipment, robots, geographical information systems, simulations) and showing this equipment to various visitors to the department. In addition, the teaching staff are expected to disseminate progress with their research, for example in the staff newsletter, posters and college publicity material.

Research and Staffing

A potential obstacle to staff training for some businesses is that unnecessary investment in staff development increases the loss rate of staff. For example, a hypothetical college might not wish to develop the academic skills of its HE staff beyond the immediate requirements of the curriculum to reduce the chance of these high value staff joining a HEI or going into subject specific commercial practising.

During the sample period of 2000-2007, approximately 33 IT teaching staff left the college (the number of staff is an estimate, as some new staff terminated their contracts soon after starting work at the college). The average stay was slightly over two years. Of the seven staff who were termed as 'research active', the average stay was 6.7 years. Four of the seven research staff leaving took up posts with HEIs.

The college currently has four staff delivering HE computing, two of whom are research 'active'. For the purposes of this study, 'research active' was defined as having presented progress of their research to their colleagues, used it to inform their teaching and to have submitted a proposal to a conference. In this case study, it was noted that to be 'research active' seemed to require a post-graduate qualification, or be working towards one. Without such a formal post-graduate qualification, it would seem to be an almost insurmountable obstacle to get sufficient grounding in research skills to attempt an individual effort.

Research and Student Recruitment

In HEI's, the research profile of the staff is paramount, but in FE colleges individual staff's ability to recruit students, retain the students on their courses and help them successfully achieve an award is the nearest equivalent.

HERO (2008) highlights key reasons why parents should encourage their children to go to university such as: job prospects and increased earning potential. The implicit assumption to this are the staff teaching their children in vocational, near market subjects will be using commercially relevant and current subject expertise. Within the field of IT, teaching out of date software might teach some underpinning transferable skills, such as logical reasoning, but it is hard to argue this would greatly enhance the undergraduates job prospects. This would especially be the case, when the undergraduate was competing with another undergraduate who had learnt the same transferable skills, but using current software.

The student post induction survey provided some evidence that seemed to reflect the impact of research on recruitment. Students commented, 'staff seem to be well qualified', 'X (*as in the lecturer*) has a paragraph of letters after their name', 'some interesting stuff is going on down here' and *the teaching staff are* 'Enthusiastic geeks'. In addition, HEIs apparently rate the importance of research interests on recruitment, as demonstrated by the prominence of the research of its staff on almost any HEI website.

Even a limited research profile can apparently boost the credibility of a course from the perspective of the potential student.

Research and Student Retention/Achievement

Whether a student is seen as full or part-time by the institution, nearly all the students have

competing demands on their time, energy and money. In relation to their course, undergraduates are 'selectively negligent' as they cannot give equal attention to all aspects of their course, therefore they devote more time to certain parts of the curriculum than others.

Research can improve retention as the students are more engaged by a lecturer enthused by their research, they can be encouraged to contribute to ongoing research projects and some students perceive the value of the course increases if they see evidence of the currency of the curriculum.

The College staff have attempted to use their research to enhance the delivery of their part of the curriculum. This aimed to increase the student's perceived value of the curriculum and so alter the student's behaviour. The QAA (2003) noted, that college staff were using 'research activities of staff to ensure that students experience challenging learning opportunities'

Research and Inspection

Reviews of HE in FE by various accrediting bodies are essentially attempting to make a value-laden judgement about the quality of what the staff are teaching their students. If the lecturers work is being periodically peer reviewed, they take this as a strong indication that the teaching must be current and relevant. The college has seen many positive comments in inspection reports on the value of the staff's research.

Commercial Work versus Research Activity

FECs are well known for actively focussing on the commercial experience of their staff as part of the marketing literature. The question arises whether commercial experience is as important as research on recruitment, retention and achievement. In order to maintain the credibility of staff

commercial experience, staff must update, presumably by commercial practising. Normally, the aim of commercial activity is to earn income and make a profit, this may or may not be by applying current commercial best practice. Therefore, commercial work does not automatically update the lecturer's skills as its primary aim is to make additional income.

One of the advantages of the research by the college staff, has been using it as opportunities for students to contribute. If the staff are carrying out commercial activity, they might be somewhat reluctant to involve students in any aspect of their relationship with paying clients.

Commercial work has advantages for the students (and the college) if it updates the skills of the staff involved, however it should be noted commercial work does not necessarily do so.

Conclusions

It is difficult to make generalisations largely based on one case study. However, there are some conclusions that can be drawn from this example of a modest research program. Staff engaged in such activity tend to stay longer, however there are clearly other factors involved in staff retention. The evidence of student surveys indicates that the students place greater value on staff who are apparently current in their practise as indicated by their research activities. The students rate highly opportunities to participate and contribute to staff research work. Therefore, research apparently increases retention, recruitment and achievement.

The combination of the market place and the inspection system are apparently driving FE colleges towards commencing modest research programmes. How an institution without a research culture faces the challenge of starting one is a different story.

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ESCalate @ Bristol

University of Bristol
Graduate School of Education
35 Berkeley Square, Clifton
Bristol BS8 1JA UK

Tel: +44 (0)117 331 4291
Email: heacademy-escalate@bristol.ac.uk
Fax: +44 (0)117 925 1537

Dr Julie Anderson
julie.anderson@bristol.ac.uk
Tel: +44 (0)117 331 4290

ESCalate @ Cumbria

University of Cumbria
Centre for the Development
of Learning and Teaching
Bowerham Road, Lancaster LA1 3JD UK

Tel: +44 (0)1524 384232
Email: escalate@cumbria.ac.uk

Dr Alison Jackson
alison.jackson@cumbria.ac.uk
Tel: +44 (0)1524 384619

ESCalate @ Stirling

University of Stirling
DAICE, Institute of Education
Room B33, Pathfoot Building
Stirling FK9 4LA UK

Tel: +44 (0)1786 467940
Email: escalate@stir.ac.uk

Dr Derek Young
derek.young@stir.ac.uk
Tel: +44 (0)1786 467940

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