

What is research-led teaching?

Multi-disciplinary perspectives



Members



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What is research-led teaching?
Multi-disciplinary perspectives

Edited by
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and Jeremy Strong

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Foreword

Chris Gaskell, Royal Agricultural College
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Debates about Higher Education reform have often concentrated on teaching quality and incentives to improve it. At other times we have talked about world-class research and how it will drive economic performance and the global reputation of our universities. Ministers regularly talk about teaching institutions and research-intensive universities, but less often about how the two important agendas come together.

Knowledge is not static or one-dimensional. Knowledge and our understanding and application of it, is evolving and changing every day. Teachers, researchers and students all play their part in understanding, exploring and applying knowledge. A key skill for all graduates is the ability to assess and use new knowledge throughout their careers.

This publication sets out a series of case studies in which research and teaching do come together – in institutions that regularly top the tables for teaching quality and employability. *The Sunday Times University Guide* for 2013 ranks six institutions represented in this collection – Harper Adams University College, University of Chichester, Newman University College, University of Winchester, Leeds Trinity University College and St Mary's University College Twickenham – in the top twenty nationally for teaching excellence. All contributing institutions work closely with potential employers in key sectors, ensuring that students have the opportunity to test and apply their research skills.

The best teaching and learning is always informed and improved by research and contributes to shaping research issues and agendas. Classifying institutions as one or the other, or separating out these activities from one another, will be to the detriment of our universities and our students. It will also hold back the development of local economies and key sectors where understanding and applying new knowledge is crucial.

We must celebrate and support teaching that is led by and combined with research and informs critical and creative inquiry. This collection of case studies is a good start.

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Introduction

Alisa Miller, CREST and GuildHE

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This origins of this book lie within a comment made by the Minister for Higher Education, David Willetts, in 2012, very much in the midst of recent fee reforms, when everyone involved in teaching, learning and research in the United Kingdom was considering, even more so than usual, the ‘value’ of a university education. In May 2012, the mission group Million+ debuted a report called *Research that Matters*, and hosted a launch event at the House of Commons in Westminster. There, the Minister suggested that, impressed as he was with the report’s emphasis on engaged research, he would like to see a similar report on *Teaching that Matters* – which Million+ subsequently produced in 2012. This focused on the student experience, and explored another aspect of the role Higher Education plays in changing lives.

The debate surrounding how research, teaching and learning interact within the academy and the wider cultural landscape very much struck a chord with members of the Consortium for Research Excellence, Support and Training (CREST). CREST had been set up in 2009 as a sub-association of the representative body GuildHE, with seed funding from the Higher Education Funding Council for England (HEFCE) matched by institutional subscriptions, with the aim of drawing together researchers working in clusters located in small, specialist and regional Universities and University Colleges across the United Kingdom. These researchers were producing work of an excellent quality as determined by the Research Assessment Exercise (RAE) benchmark in 2008 – while working within institutions where teaching and learning remained paramount. In these institutions, and for this group of individuals, research had

never been treated as something apart from or above their work with students. Indeed it informed their teaching and practice, often leading to new and exciting approaches to how students (undergraduate and postgraduate) and their lecturers go about knowledge and skills creation.

As the CREST work on cross and interdisciplinary collaboration and research development expanded – informed by a growing network of Vice Chancellors and Principals, Heads of Research, research-active staff and students – the desire to articulate a shared vision about the how research and teaching interacted grew. So did the need to explore the common links and questions posed by communities of practice across the CREST, including research and learning in the creative disciplines, humanities, education, the agricultural sciences, technology, sport, health and ageing.

The result is this publication which addresses the open question of ‘what is research-led teaching?’ Here, as in CREST and GuildHE Members’ institutions, students *and* staff contribute to the debate about practice. They utilise educational theory to interrogate and improve their research and teaching. They provide examples of curricular innovation in the arts, sciences and humanities. They present case-studies illustrating the challenges and solutions arising within particular disciplines, relying on the constant discovery, self-examination and feedback implicit in research and teaching processes.

The result is an exploration of ‘what research-led teaching is’ that is diverse, eclectic and ultimately collaborative. A flavour of this is presented in the three sections of this publication which follow.

Despite the variety of approaches and disciplines represented in the publication, common themes emerge. All show that, despite the structural challenges facing UK Higher Education with respect to the funding of research and teaching, the academy, students and the wider society need to inform each other. Research and teaching both rely heavily on the principle of creativity in both staff and students; creativity combined with rigorous and innovative methods of inquiry. The skills that Higher Education must develop in staff and students alike are instilled by a process of critical enquiry and engagement involving questioning, exploration and communication that draws on resources from across the spectrum of research, teaching and learning. These skills are, in many cases, generated and amplified as a result of close collaboration with industries and communities, as well as through the interactions of colleagues across the Higher Education sector.

Thus, it is the combined power of creativity, critique and application that is at the heart of research and teaching across the CREST and the sector. The discussion about how best to structure support for all activities undertaken within Universities and University Colleges will continue, but the ideals, practices and skills explored in this publication remain central to the academic and social 'value' proposition of Higher Education in the United Kingdom.

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Visualising the Research-Teaching Nexus

Geoff Stoakes and Pauline Couper

University College Plymouth St Mark & St John

'The relationship between teaching and research in the modern university is one of international concern... Both research-intensive and teaching-intensive universities need to set out to consciously create a meaningful relationship within their institutions' (Prosser, 2005).

This chapter explains how one higher education institution, University College Plymouth St Mark and St John (UCP Marjon) set out to 'consciously create a meaningful relationship' between research and teaching, and how a visual representation of it assisted its dissemination and adoption. Discussions around the pedagogies and practices of research-led and research-informed teaching remain a cornerstone of academic debate across the Higher Education sector.

The Research-Teaching Nexus

Research has not always been central to academic life; 'At the turn of the twentieth century most UK academics typically engaged in scholarship and undergraduate teaching, but research as it is now understood was relatively rare' (Schofield, 2006). The threat posed by the German government's investment in its universities' scientific research led the UK government to follow suit in the 1920s. However, it was the expansion of higher education system in the UK in the 1960s and the emergence of new universities with government funding for research that transformed research from being an elite activity undertaken by specialist groups in a small number of institutions to something expected of all academics.

More recently, however, the limits on government funding have made research more competitive, symbolised by the introduction of the Research Assessment Exercise (RAE) and, subsequently, the Research Excellence Framework (REF). This has led to the separation of research and teaching with some universities introducing 'teaching-only' contracts and increasingly using postgraduates as teachers in order to free up research-active staff to publish and to secure more funding, but thereby reducing their involvement in teaching. This led some academics to suggest that the RAE had 'effectively broken the link' (between research and teaching).

Moreover this helped to shape the belief in political circles that 'the relationship between teaching and research was *not* symbiotic' (Tapper and Salter, 2002). As a result, government developed separate guidance on the transparent approach to costing research and teaching. The difficulty in fully funding the outcome of RAE 2001 reinforced the disconnect between research and teaching, with the Higher Educational Funding Council for England (HEFCE) promoting institutional diversity and introducing separate funding to support excellence in learning and teaching, widening participation and knowledge exchange via the Teaching Quality Enhancement Fund. In 2005, perhaps responding to a campaign stressing that research directly benefited the student learning experience, HEFCE introduced funding to support research-informed teaching in less research-intensive institutions. However, despite this concession, the different quality assurance and funding mechanisms

for research and teaching have meant that a structural separation of the two remains embedded in national policy.

Perhaps as a result, a significant amount of academic work has been devoted to examining the nature of any relationship between research and teaching in Higher Education. Empirical research has tended to adopt two broad approaches, correlating quantitative measures of teaching quality with measures of research, or examining the views of the parties involved (primarily academic staff and students). More speculative and theoretical accounts have developed models of the relations between research and teaching, and proposed ways in which the integration of the two can, or should, be promoted.

The correlation-based studies provide conflicting evidence: departments and institutions may score highly in measures of both research and teaching (positive correlation), or high in one and low in the other (negative correlation), while in some studies no correlation is apparent. This lack of consistency in findings is likely to be partly, if not wholly, due to different measures of research and teaching being used, and it reveals only that these complex activities are not easily reduced to simple quantitative indicators. Qualitative studies have highlighted this complexity, with perceptions and experiences of the research/teaching interface differing between individual academics, students, departments, disciplines and institutions. Some argue that the relation is most visible when attention is paid to the *processes*, rather than *products*, of research, the methodology rather than the output. This has led to descriptions of academic disciplines as ‘communities of practice’, with staff inducting HE

students into the practices of the discipline. After two decades of research, the dominant conclusion is that the ‘research/teaching nexus’ is not a simple, single thing.

UCP Marjon and research

University College Plymouth St Mark and St John is a small University College, which offered vocational and non-vocational programmes at undergraduate and postgraduate level under an accreditation agreement with the University of Exeter until it acquired Taught Degree-Awarding Powers in 2007. Before 1992 it was, like the then polytechnics, ineligible to submit to the Research Assessment Exercise. Its first small-scale submission to the 1996 RAE attracted only a very modest amount of funding, but this nevertheless largely determined the institutional Research Strategy, with income being channelled into those successful units of assessment, facilitating research-led appointments, sabbaticals, reduced teaching loads and the supervision (jointly with the University of Exeter) of doctoral students. The result of the submission was thus to create a distinction between those departments which were ‘research-active’ (those successful in the RAE) and the rest.

Arguably, the availability, and pursuit, of additional external funding led to the acceptance of the RAE definition of research with which a large proportion of the academic staff could not identify. The RAE 2001 defined research as ‘original investigation undertaken to gain knowledge and understanding’. It largely separated the notion of scholarship from research, embracing it only so far as it involved: ‘the creation, development

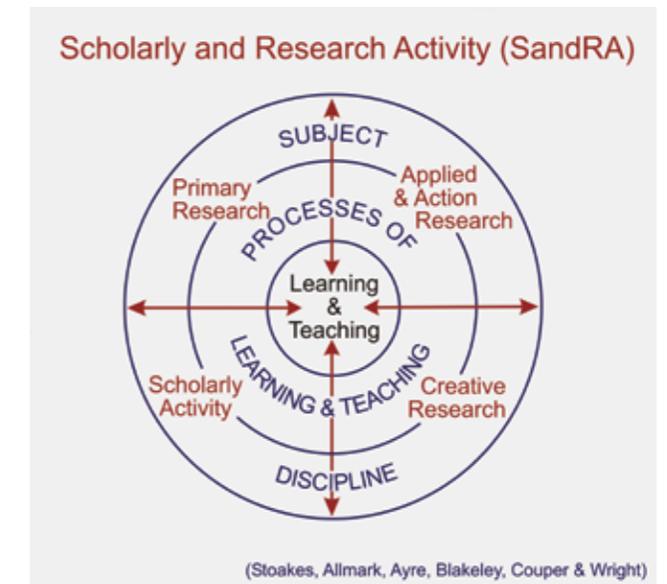
and maintenance of the intellectual infrastructure of subjects and disciplines,’ and recognising, as research, only publications ‘such as dictionaries, scholarly editions, catalogues and contributions to major research databases’. In short, it reduced scholarship to the process of keeping up-to-date with the latest research. This is a far cry from the notion of scholarship articulated by Ernest Boyer in 1990, which included *inquiry, integration, application* and *teaching* and ‘emphasised the equivalences... between interpretation and insight as well as applied problem-solving’.

The RAE certainly problematized the link between research and teaching. If only a small number of staff were considered to be genuinely ‘research-active’, research-informed teaching might be demonstrable only in the delivery by such staff of Master’s and Doctoral-level provision.

However, the change in HE policy after 2002, with the greater emphasis on institutional diversity and the dedicated support for research-informed teaching (TQEF) occasioned, if not caused, a fundamental re-think of the institution’s Research Strategy. In 2004, a new Strategy defined research in a far more inclusive manner as ‘systematic enquiry leading to the advancement of knowledge, practice and understanding’. The Strategy explicitly acknowledged what had always been implicit, that the institutional mission was ‘teaching-led and research-informed’. Moreover, it started from the assumption that connection(s) between teaching and research was an essential feature of higher education.

Fig 1: The ‘SandRA’ diagram, developed by Geoff Stoakes, Barbara Allmark, Anne Ayre, John Blakely, Pauline Couper and Tony Wright at the Change Academy, September 2005.

Recognising that effecting the cultural change embodied in the new strategy would not be easy, a cross-college research team attended the Leadership Foundation/Higher Education Academy’s 2005 Change Academy to devise an implementation plan. Firstly, the team decided that the more established notion of scholarship whereby staff not only kept up-to-date with the latest research in their field, but also applied or modelled it in their teaching, was centrally important to the institution. Henceforth it would refer not to ‘research and scholarly activity’ but to ‘scholarly and research activity’ (or ‘SandRA’ for short),



thus indicating the change in cultural emphasis. Secondly, the team produced a diagrammatic representation of the relationship between SandRA and learning and teaching (Figure 1).

For the team who designed it, the diagram encapsulated a number of key features of interface between scholarly and research activity and learning and teaching:

- The circular structure was intended to symbolise the all-encompassing nature of the relationship.
- The four quadrants were intended to indicate that all types of research activity whether it be primary research, applied or action research, creative research or scholarly activity were valued equally.
- The fact that the various types of research activity cut across the 'division' between subject and pedagogical research symbolised the equality of status accorded to both.
- The use of concentric circles with learning and teaching at the heart of the diagram indicated its central importance within the institution, and the use of arrows between the quadrants stressed the impact of subject or pedagogic research on learning and teaching.

However, this diagram was not intended to be a finished product, but to provoke debate. Without this, there would be no ownership of the related strategy. It was, therefore, used in structured staff development sessions in the college, and later in dissemination activities with external groups. Staff were asked to locate their own research and learning and teaching activities on a large print version

of the diagram. Despite queries about the terms used within it, no definitions were provided. This forced the participants to articulate their own views on the links between research and learning and teaching.

The responses were highly instructive. They included:

- Questioning the definition and inclusion of 'scholarly activity', and arguing that this should not be separated from the other quadrants. This response seemed to conform with the RAE view of scholarship as an activity subsidiary, if not unconnected, to research. The design team resisted this suggestion, believing that awarding equal status to scholarly activity was necessary to signify the break with the previous strategy.
- Suggesting that the centre circle should be changed from learning and teaching to 'knowledge construction', which would embrace the outcome of both staff and student activity. The design team were initially surprised by how easily student activities could be located on the diagram. On reflection, this perhaps showed the shift in 'emphasis towards student learning and away from traditional notions of teaching as the transmission of knowledge' (Locke, 2004). Focusing on how knowledge is constructed revealed more clearly how student activities paralleled staff research.
- Suggesting that the arrows, which were originally uni-directional with all the types of scholarly/ research activities pointing to the centre, should be bi-directional, thereby indicating that classroom activities can stimulate scholarly enquiry (particularly in the area of pedagogic research) as well as being informed by it.

The relationship between research (more widely defined) and learning and teaching could indeed be symbiotic.

Implementation

There is no doubt that the SandRA diagram stimulated discussion of the research-teaching nexus. Its deliberate vagueness – the absence of definitions; the fact that it does not frame research specifically as either commodity or process (to return to the literature review noted above) or prescribe the inter-dependency between research and teaching – encouraged academics to define the nexus for themselves.

The University College has since given concrete expression to the importance of the linkages by establishing an annual Learning, Teaching and Research conference, celebrating the interaction between key aspects of academic practice. Furthermore, it is now a requirement of validation that programmes demonstrate how research skills are taught and experienced within the curriculum. Another key change is a commitment to ensuring that all staff have experience of research by providing financial assistance for those recruited with considerable professional experience but without higher degrees to undertake doctoral studies. This gets to the heart of the issue of research-informed teaching in an era of mass higher education, as one leading academic told a House of Commons Select Committee in March 2009:

It is essential that the people who teach students know about the limits of knowledge. It is essential that they have been researchers... that they keep up

to date with their subject...but the central fact about most of our teachers is that most of the time they are teaching beyond their research zone. They are teaching things they themselves did not research. It is their academic experience they are teaching and that is what the students are learning, and that is why it is important to pick up on ...the notion that students need to engage in research while they are studying.

Conclusion

Some academics have questioned whether research is essential to teaching at HE level. The answer is yes. It is vital that students are exposed to the research of their tutors and engage in research in their own right as part of HE pedagogy. This is what distinguishes higher education from further education.

However, higher education institutions need to define for themselves and promote the linkages between research and teaching. The University College has done this in its Research Strategy. However, its success rested on the fact that it was directly aligned with the institution's historic focus on teaching, valuing research specifically because it underpins teaching. The 'SandRA' diagram depicted this visually, but allowed staff and disciplines to interpret it to suit their own practice. This gave the strategy legitimacy within the accepted social order of the institution.

Given the impending withdrawal of most public funding for higher education – in the past, the key external driver of internal policy-making – each HEI needs to find and fund a model that ensures high quality provision and is appropriate to its culture and mission.

Further reading

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Research supervision as apprenticeship

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Introduction

The process of research supervision is a process of guiding a candidate to a level where they can be an academic leader, possessing skills of programme leadership, innovation, and research project leadership including selection of appropriate methodologies. However, this process is often done in relative isolation, leaving the candidate alone for a great deal of the time. The process includes a number of important stages including the moment when the candidate can claim their own personal authority over their subject. Much of the practice in this area is dictated by tradition and there has been little work to document and apply strategies to inform practice.

The Field

In many HE institutions the process of supervision of doctoral theses is not included in teaching and learning and is hived off into the area called research; but the process of running a research project or creating a work of art is very different from the process of doctoral supervision. The argument set out in this chapter is that this is a distinctive and special form of teaching that is as yet under-researched. It will end with suggestions for three research projects which could lead to more research-informed teaching in this area.

The pattern of research supervision with a small group of people or a single person who is in close touch with a single person is one of the last remaining examples of the apprenticeship model of teaching. In the Middle Ages this took 4–6 years (the standard length of a part-time supervision is up to 7 years). It was a structured process of

initiation into a set of competencies with certain marked stages along the way. The current university system sees students through the stages of Bachelor's, Master's and Doctorate – the equivalent of apprentice, journeyman and master. In the process of supervision a student moves to the position of the master and the process of supervision is initiation into the processes of being an authority in a particular field. Indeed the three phases might also be locked on to Higher Education programmes in a way that sees doctoral supervision as apprenticeship, post-doctoral fellowship as journeyman and professorship as master. Even so, however we map these stages on to those of the medieval craft guilds, the processes of supervision are closer to this model of teaching (to some extent preserved in universities like Oxford in the form of individual tutorials) than to the one developed in the school system of class teaching to groups of at least 20 or 30 in size (although it might include such sessions as some points in it). But in the current political climate apprenticeships are more often linked with non-graduate employment and practical skills. Following this line, in doctoral programmes the pedagogical link lies with Professional Doctorates rather than PhDs. Here they become an initiation into a leadership role in a particular profession rather than into the profession of Higher Education.

The Implications of the apprenticeship model

To understand that this is a process of initiation is to be able to deconstruct the process of supervision into phenomenological domains and stages of competency and then to look at appropriate strategies for use in this 7 year initiation process. It raises a number of possibilities:

- The authority of the supervisor in the chosen field and their keeping this authority up-to-date becomes highly significant.
- The process of initiation into various methodologies becomes important to the process. The supervisor needs to reveal their own processes to students so that their own 'craft competency' is apparent to the apprentice. I, for example, often ask for advice in making choices in my own compositions which I am working on when a composition student arrives.
- There need to be projects in which apprentice and supervisor work alongside one another in this process.
- The student needs to be aware of the value systems operating in their chosen field which would include standard ethical procedures and the mores of the chosen field – what is assumed, what practices are accepted?
- The upgrade from master's level to doctoral level should mark the cusp of the student starting to claim authority status, and evidence of the beginning of this needs to be present in this process.
- There needs to be a gradual change of relationship after this process which can have emotional elements within it for both the supervisor and student.

- The thesis in this model assumes the nature of something like the Master Song in Wagner's Mastersingers – the test piece for the entry into the guild community – and the supervisor needs to communicate and embody the rules that govern this entry.

Research informed supervisory training

This gives us a way of focussing research into the processes involved in supervision. At Winchester University we have validated a Postgraduate Certificate in postgraduate research Supervision. This certificate, based on the research of Professor Pat Cryer, sees that supervisors require three nodes of expertise – knowledge, skills and values. Knowledge is located in the areas of regulations on research supervision of the accrediting institution, national codes of practice and policy documents and high profile supervisory issues. Skills include:

- Playing an appropriate part in ensuring that the student, the supervisor, supervisory team and research topic are suitably matched.
- Guiding the student in developing a research proposal.
- Agreeing an appropriate research supervisory team and process.
- Using an appropriate range of teaching and supervisory skills.
- Providing appropriate support on academic and pastoral issues.
- Using an appropriate range of methods to monitor and assess.

- Reflecting on their own practice, assessing and planning for their future needs.

The node of values includes commitment to/concern for:

- Student development and achievement.
- Student progress towards independence.
- Ethical issues.
- Equal opportunities.
- One's own scholarship, academic excellence and integrity.
- Working with and learning from colleagues.
- Continuing reflection on one's own professional practice.

There is valuable research to be done in the best ways of initiating supervisors into these nodes as each of the three can be taught and assessed through different pedagogic strategies.

Collecting data

This Postgraduate Certificate is assessed primarily by portfolio which can include:

- Reports from shadowing of and interviews with experienced staff (and possibly students).
- Appropriate reading, plus other items as appropriate.
- Evidence of grasp of regulations.
- Evidence of postgraduate supervision e.g. *an account of a session shadowing a supervision with critical analysis.*

This evidence can be:

- Registration form, showing division of duties among supervisory team such as the relationship of all individuals, indicating respective responsibilities and how the team will interrelate.
- Annual report forms through to upgrade and examination.
- Supervision Record Sheets (showing attendance at supervisions, etc).
- Short CV showing expertise in relation to disciplines and transferable skills.
- Email correspondence with students where this relates to knowledge, skills or values.
- Slides from PowerPoints, etc, demonstrating input to presentations.
- Records of supervisory sessions.
- Email correspondence with tutors.
- Paperwork relating to committee participation.
- Solicited references – to be used sparingly.
- Documented observations from shadowing experienced staff.
- Quotations from interviews with staff and students.
- One minute video or audio clips.
- Extracts from literature.

This assessment by portfolio will naturally generate material not only to assess the potential supervisor but also to provide data for research into the processes of supervision. In the area of training supervisors there is further work to be done on pedagogical strategies which in Winchester has included:

- Tradition.
- Mentoring.
- Intensive course.
- Introduction to regulations.
- Creating regulations.
- Role playing.
- Online tests.

Further areas of research are continuing training, research leadership and the place of formal qualification within it.

Practice-based doctoral programmes

These programmes have an extra area of expertise – insight and understanding of the developing area of practice-as-research. In a Palatine and University teaching and learning funded project we are investigating supervisory practices in this area. Here we are examining the three areas – knowledge of the regulatory procedures and practices which are developing in this area, investigation into the theorising in this field and case studies on audio and videotape of particular projects in a variety of institutions. Grounded Theory is being used on this

data to produce the key themes. These at present include:

- How far can other ways of knowing from the purely rational be validated at doctoral level?
- How far can the traditional shape of a thesis be challenged and expanded?
- How far does a whole thesis have to be in a permanent form?
- How much text should accompany the artefacts?
- What methodologies are most appropriate for practice-as-research?
- What is the relationship between a PhD and Prof Doc in this area?
- How are set criteria applied for practice projects?

It is hoped that this work will provide a useful research-informed guide to this area of practice.

Conclusion

Here I have put the case for supervision being a particular form of teaching/initiation based on medieval models of apprenticeship. It identifies a need for research into the area which has been largely dominated by tradition passed from generation to generation by processes of mentoring and observation. It identifies a need for deconstructing the process and constructing a training programme for supervisors based on research into the evolved doctoral experience and what it can offer to supervisee, supervisor and the wider knowledge society. The use of portfolio as a means of assessment on such a programme will enable an on-going process

of data collection in this area. Formal programmes such as the one at Winchester University into practice-led doctorates initiate programmes of data collection that can be analysed by means of grounded theory. If such work is collected and collated (by the CREST community) we shall come closer to a climate of doctoral supervision which is informed by research. Work in this area will enable such data to be brought together from a variety of institutions and analysed for the collective benefit of participants and the HE sector. Modes of supervision for Professional Doctorates may also be distinctively different. This is a rich area of research that will ensure that we enable doctoral candidates to move from a position of apprentices to one of authority in the smoothest possible way.

Critical Commentary, publishing and research-led teaching

Yahya Al-Nakeeb and John Howard, Newman University College

The process of publishing a piece of work can be a long, arduous, and ultimately – despite the self-satisfying moment when your name appears in print – humbling experience. It is also, in its way, a special skill, operating adjacent to, but not directly within, a traditional undergraduate or graduate degree. While in an increasingly competitive academic market, many PhD students enter the workplace with at least one publication imminent, or preferably already ‘in print’, yet many students are not often exposed to the formal peer review process. Tutors will, of course, review projects and read submitted essays and exams and provide feedback throughout a degree; however, the expectations of these pieces of work – their mastery of the chosen subject, engagement with primary and secondary sources, the quality of the written piece – is different to what is expected of a published contribution to the collective body of academic thought.

Critical Commentary

The peer reviewed, interdisciplinary journal, *Critical Commentary*, has been published by Newman University College since 2007. Created to present research-based articles of exceptional quality written by its undergraduate and postgraduate research students, the development opportunities provided by the journal for students at all levels have been identified by the QAA as an example of particularly good practice in the Higher Education sector. *Critical Commentary* is currently published in both hard copy and electronic formats. All issues can be read online or downloaded as open source material. *Critical*

Commentary is also deposited in the British Library and the five Legal Deposit Libraries of the United Kingdom and the Republic of Ireland. In 2011 the Consortium for Research Excellence, Support and Training (CREST) and a number of its partner institutions chose to give their support to the journal, expanding the Editorial Board and body of specialist research showcased within the journal as well as ensuring wider student access to the journal as a forum for research publication and experiential learning.

Aspiring researchers at all levels of study submitting material for the journal are now exposed to a national network of critics; they run the full gamut of peer review. Submitted articles are scrutinized by at least two reviewers possessing suitable expertise. If reviewers are not in agreement over their recommendations, further reviewers are employed. The authors are advised of the outcome, and receive a copy of the reviewers’ comments. Many articles are rejected or returned for extensive reworking, and those that are accepted only appear in print after a series of discussions and revisions with colleagues within Newman University College and, from 2011, across the CREST network of researchers.

The published output

The iterative, collaborative nature of peer review provides a valuable opportunity for the aspiring writer to engage with the wider academic community at an advanced level. The end product, whatever the format, passes back and forth numerous times between editors, reviewers and authors. Just when the end is near, another set of corrections or questions may require the author to rethink

their original premise, or to critique and incorporate a new body of theory or thought into what seems like a ‘final’ output.

This is particularly the case with an interdisciplinary journal; one does not know how another researcher approaching a complementary problem from a completely different angle might be inspired by a colleague’s work. That said, the art of articulating complex and innovative research, not just to one’s immediate colleagues within a faculty or discipline, but to a wider audience of researchers, is a vital skill. It requires careful consideration and development as contexts shift to accommodate the ever-expanding breadth of collective knowledge.

Ultimately the publishing process itself almost becomes paramount, laying the scene for the next undertaking: the self-knowledge and confidence to reconsider and reconstitute hard-fought, difficult arguments becomes an acquired skill applicable beyond the academy. And once published, somewhere in a library or, more likely, at a computer, a reader may take up an idea, or some fragment of an idea, and the argument extends. There is no such thing as static or safe knowledge, and once a student realises this, it is bound to change how they approach any number of problems in study, work and life.

Assessment feedback and learning skills: A research project to improve development and policy practice

Nicky Hunter, Jane Hill and Sarah Gabbitas, Harper Adams University College

Assessment and feedback are recognised as critical drivers of the student learning experience (Nichols et al, 2007). Recent surveys by the National Union of Students and studies by many Higher Education Institutions have identified that there are widespread difficulties experienced by students with both the quality and quantity of feedback offered by student assessments. In order to investigate and identify the issues and recommend suitable solutions at Harper Adams University College (HAUC), Aspire (a HEFCE-funded Centre for Excellence in Teaching and Learning) Fellowship supported-research was instigated in September 2009. The study examined the range of formative assessment feedback from 258 assignments across College, and has shown a wide variety of feedback styles and methods of assessment feedback delivery.

The students' response to the feedback given by staff has been varied throughout the range of assessments observed, but the majority of students were positive about the feedback they received and most responded to constructive comments to give evidence that they feedforward with their educational skills. The key issues identified relating to feedback were timeliness, legibility and the lack of constructive, personal comments in some cases. Recommendations for a College policy on guidance on effective feedback for staff and students were proposed and, in large part, adopted in the institution's operational assessment policy. As a result of the research findings, some staff have addressed the need to revise the mode of assessment for their assignments in order to give more effective feedback and as a result, the quality of delivery

has been improved and the student learning experience enhanced.

Rationale for the research

The variability in the quality, quantity and timeliness of feedback in supporting a student's learning and learning skills has been identified both nationally through the National Students Survey and also through annual course monitoring for all courses at HAUC. By assessing the range and quality of feedback across this institution, the value of the feedback in enabling students to feedforward was evaluated. The information collected provided an essential insight for the Learner Support Team on how staff can better support students with a Specific Learning Difficulty, particularly the high proportion of dyslexic students (c 16%) which HAUC enrolls. With increased awareness and improved assessment of students entering Higher Education with Specific Learning Difficulties, it is becoming more important that any feedback given by teaching staff addresses the specific learning needs of individual students. For example, a student may need to use a text reader and therefore the feedback needs to be in a digital format for accessibility.

The proposed research programme aims were to:

- Assess the quantity of feedback (too much/too little?).
- Assess the quality of feedback (does this help the students progress and is it supportive?).
- Explore the range of support processes that students experience following the launch of assignment work

and if this enhances the work they submit.

- Assess the timeliness of feedback in allowing the students to improve other work submitted for formative assessment.

What is feedback?

Academic feedback may be defined simply as the process of staff providing written and/or verbal constructive, encouraging comments to students on the quality and quantity of their submitted work. The comments should include any corrections and detail on how the work could have been improved, so the students can act positively and develop future work. Feedback should also clarify the mark or grade awarded for the work. Research studies of feedback fall into two main areas: those projects and surveys undertaken by HE institutions, either individually or as part of collaborative work with others, and the research completed by the National Union of Students (NUS), which is clearly more user-focused.

Within HE research a wide range of investigations have taken place, some of which have been more focused on the methods of giving feedback, rather than the *effectiveness* of feedback to the students. Some research has been more subject or cohort specific and therefore evaluation of the quantity and quality of feedback may be less appropriate and generic to the HE student population as a whole. Interesting and valuable research on feedback has been commissioned by the National Union of Students, which has included a large number and range of students in the surveys across several Universities in the UK. National Students Surveys highlight general

dissatisfaction with 'complaints of ambiguity, lateness and negativity' (NUS 2008), with 57% of students in most University departments expressing dissatisfaction with the standard of feedback they are receiving. In response the NUS produced a briefing paper which outlines the ten principles of good feedback practice which suggested that feedback should:

- Be *for* learning, not just *of* learning
- Be a continuous process
- Be timely
- Relate to clear criteria
- Be constructive
- Be legible and clear
- Be provided on exams
- Include self-assessment and peer-to-peer feedback
- Be accessible to all students
- Be flexible and suited to students' needs

Methodology

A sample of students from all courses and levels were selected at random and invited to attend a briefing session to explain the nature of the research and the benefits to students, staff and the institution. All students who attended the meeting were asked to complete a questionnaire on their prior experience of feedback, what they preferred in feedback and whether they did anything about the comments made (i.e. how they responded to feedback). This was used as a baseline to ascertain the prior use of feedback in the sample set of students.

Students were assured that all student names, their courses, module details and teaching staff would be anonymous and all contact with the students complied with the Ethical Guidelines for Educational Research (2004). Lecturing staff were not informed that the project on feedback was taking place, in order to avoid any bias over the research period.

The feedback sheet for formative assignments

Students involved in the research were asked to submit their individual marked formative assignments and to complete a feedback questionnaire to give a considered response and to reflect on the staff feedback on each of their module assignments. Assignments submitted were then recorded on a spreadsheet and copies taken of staff comments, after which the work was returned to the students.

Feedback from the focus groups

Students were invited to attend one of two lunchtime focus group sessions. This was to evaluate the students' use of the feedback sheet and any issues regarding feedback they wanted to discuss or appeared to be coming from their responses from the questionnaires they had already completed and submitted. The discussions were open and forthright and all students were actively involved in the dialogue and issues raised. There was general agreement on most of the points considered.

One to one interviews

A total of ten students who had not attended the focus group session were selected at random for one to one interviews of 15 minutes with one of the research team staff. Nine students attended and gave in depth responses to questions about their individual feedback on their assignments. Students were also asked more open questions regarding their own ideas for improving the feedback experience feedback generally within HAUC.

Impact of feedback on the students

It is evident from some of the research in this project that the majority of students have developed competence through supportive, effective feedback. The smaller size and more focused education at HAUC could explain the research results for the students showing a greater response to feedforward and improve their skills compared to those in other research studies.

The research showed that two thirds of the 248 students questioned have found feedback helpful in improving future work (Figure 1).

Major issues for the students were related to the illegibility of the feedback, timeliness and the clarification in the allocation of marks. Students who responded to feedback and developed further their learning skills to feedforward have shown an educational progression and development of intellectual maturity throughout the year. However, it was noted that clearly performance on some modules reflected the students' confidence, competence and preference for certain topic areas.

Students' approach to staff for clarification of feedback and support was variable and depended on the staff-student relationships, as well as the availability of staff.

Some students were more focused on their grades when work was returned, and if high enough would disregard feedback accordingly, especially if it was very subject related and cannot be used for other work. However, there was concern that some first year students who were repeatedly getting staff feedback about their 'report writing skills', 'insufficient detail/poor research material' and/or 'incorrect referencing' were not responding by seeking the solution to improve, or get the support or guidance to do so.

Impact of feedback for teaching staff

Discussion with teaching colleagues has highlighted the pressure staff are under to mark and provide effective feedback, particularly to large groups of students in a relatively short period of time. The HAUC return time policy for marked work is 4 weeks, unless staff specify that it will be longer for the larger groups of students. A minority of staff consider that spending time writing feedback is often wasted as it is not read, absorbed or acted on by the students. There was excellent evidence of several staff using proformas to complete feedback for the students but there was little evidence that this was given before work was submitted to help direct students' work. There was also variable evidence to how the mark/grade was achieved and not all feedback sheets showed the marking criteria.

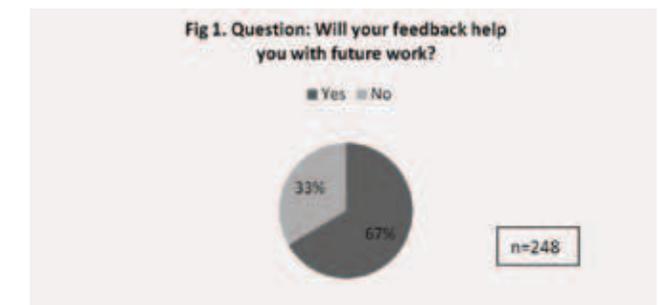
Some staff, although aware of poor handwriting, explained to students that they could come and get the

Fig 1: Shows that more than two thirds of students questioned have found feedback helpful in improving future work.

feedback translated if necessary, but they may have been unaware that the less motivated or unsure students find this approach difficult and it was very much dependent on personal relationships. Students may also find it difficult to approach staff to get information on how they could improve their work if it is not given in the feedback. If students only submit one assessment for a tutor, then that tutor does not see any evidence of the effect of their feedback. It is clear however, that where there are several assignments (e.g. lab reports/practicals) that the effective feedback from staff has motivated and improved the learning skills of students.

How has this research contributed to the development and policy practice at Harper Adams University College?

This institutional research has been used to encourage debate and inform policy development. As a result of the research findings, information was disseminated at a series of internal Learning and Teaching forums. Examples of innovative assessment feedback methods



have been showcased and as a consequence, some staff have developed the use of formative e-assessments with automated feedback and have applied on-line marking using the Grademark tool. It has been proposed that in the future, guidelines on the application and use of formative feedback for both staff and students are developed at HAUC.

Research recommendations

It is imperative that all HEIs develop a clear policy on formative feedback for both staff and students. The expectations for students and staff need to be clearly outlined. It is also important to realise that the students are not passive recipients of assessment activities and feedback. If students are provided with useful, high-quality feedback that supports effective student learning, they can be motivated and feedforward and improve both the depth of their knowledge, understanding and advance their learning skills.

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Capacity building for research-led teaching and teaching-led research: The impact of confidence, career stage and other factors

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The identities of lecturers working in higher education institutions are complex, contextualised and highly dynamic. There is now a substantial body of literature revealing how lecturers experience and understand research and teaching in particular, with an emphasis in some quarters on mastering and integrating each of these successfully into various forms of research-led teaching and teaching-led research. Within today's changing higher education landscape, however, pressures brought about by increasing student numbers, widening access and participation, and institutional, departmental and personal expectations attached to research productivity and teaching effectiveness can prove taxing, perhaps more so for the Early Career Academic (ECA).

One factor that has been shown to mediate the amount of time and attention devoted to the 'core' functions of role is self-efficacy. Being in a position to 'benchmark' self-efficacy in relation to research, teaching and other academic or service-related activities (e.g. reading and writing for academic purposes, preparing, delivering and assessing coursework, networking within and beyond the institution) could prove advantageous to leaders, managers and administrators for exploring and evaluating institutional culture and initiating professional dialogue with colleagues, ultimately assisting with the identification of those areas in which professional development and capacity building are required. In this article, the self-efficacy characteristics of 200 colleagues working across four UK higher education institutions, with a focus on ECAs relative to their more experienced counterparts, are presented and discussed. This work was achieved using

a revised 70-item lecturer self-efficacy questionnaire originally developed for use in the Australian higher education sector by Hemmings and Kay (2009, 2010).

The revised 70-item lecturer self-efficacy questionnaire developed by Hemmings and Kay (2009, 2010), like the original, has a theoretical framework located in Bandura's social cognitive learning theory. Social cognitive learning theory highlights the reciprocal interaction involved between personal factors, environmental conditions and behaviour when learning new skills. Within this framework, the self-efficacy construct emerged to explain the ways in which this could have a profound effect on the activities that individuals choose to undertake, the amount of time spent on or returning to them, and their capability awareness in terms of how to organise, manage and implement actions to reach a certain level of performance. Perceptions of self-efficacy are also subject to continual change in accordance with experiences. Mastery experiences in particular provide a fundamental platform for future development. Self-efficacy is therefore an important construct in relation to 'core' function and the wider development of academic identity, particularly at the early stages of an academic career. As might be expected, the self-efficacy construct is also closely related to motivation and is influenced by both internal and external drivers including confidence which provides a useful proxy for its measurement.

The research instrument

The revised lecturer self-efficacy questionnaire used in this study secured contextual data, including essential

background information from participants themselves, as well as information about staff confidence in relation to performing identified work-related tasks in the three 'core' functions of research, teaching and other academic or service-related activities using a 10-point scale ranging from 0 (low) to 9 (high). The final section considered the amount of time spent on research, teaching and other academic or service-related activities and the importance of and satisfaction derived from each. Developed for use in a different cultural context, necessary changes made to the language and structure employed prompted a re-assessment and re-evaluation of the instrument's validity and reliability as a whole. This work was undertaken by distributing revised questionnaires to colleagues across four purposively sampled UK higher education institutions, each best described as teaching-focused but with a strong commitment to promoting excellence in research and scholarship. Together, these institutions offered undergraduate and postgraduate courses mainly in education, social sciences and the arts.

Participants

Of the 200 participants involved, 77 were male (38.5%) and 123 were female (61.5%). Employment ranged from 0 to over 20 years with a mean of 8.9. While the sample included 5 newly appointed staff (2.5%), all could either be described as ECAs with up to 5 years' service (72, 36.0%) or experienced, having worked for longer (128, 64.0%). While the majority of staff had been formally educated to Master's level (126, 63.0%), 51 (25.5%) were in possession of doctorates. 35 (17.5%) of those with Master's, Bachelor's

or other qualifications were registered on doctoral programmes (PhD or EdD). A little under half (96, 48.0%) of all participants were members of the Higher Education Academy (HEA) and 87 (43.5%) considered themselves to be research-active and regularly publishing at the highest level.

Of the 72 ECAs involved, 27 (37.5%) were male and 45 (62.5%) were female (in proportion with the main sample). Compared alongside their more experienced colleagues, only 7 (9.7%) held doctoral level qualifications and only 22 (30.6%) considered themselves to be research-active and regularly publishing. 12 (16.7%) were registered for doctorates (in proportion with the main sample) but only 18 (25.0%) were members of the HEA.

Time, importance and satisfaction

All participants were asked to indicate how much time they felt they spent on each of the three 'core' functions. Across the sample as a whole, this averaged out with mean values of 12.1%, 57.1% and 30.8% for research, teaching and other academic or service-related activities respectively. The difference in time devoted to research for ECAs compared with more experienced colleagues was negligible. However, ECAs spent more time teaching (mean 61.4%) and less on other academic or service-related activities (mean 27.2%).

When asked to consider which aspect of their work was most important to them, the overwhelming majority of participants indicated teaching (148, 74.0%). Research and other academic or service-related activities lagged some way behind in almost equal measure. Other academic or service-related activities was considered least important

(114, 57.0%). Interestingly, however, while broadly similar numbers of participants indicated that teaching was also the aspect of their work that they felt most satisfied with (142, 71.0%), research was highlighted as the area perhaps requiring most attention (120, 60.0%). A complete profile is presented as shown (Table 1). Only 6 (8.3%) ECAs considered research of most importance to them while 58 (80.6%) favoured teaching.

Confidence and resources

In many respects, the findings presented here, from a sample of 200 participants working across four UK higher education institutions offering courses mainly in education, social sciences and the arts, were to be expected, with teaching leading over other 'core' functions in every respect (including confidence). Despite being overwhelmingly voted of least importance, however, the ascendancy of other academic or service-related activities

over research was something of a surprise given the importance attached to research across the sector and each institution's strong commitment to building upon its own research profile. As was indicated in the written comments collected during a staff development event at one institution following completion of this study, the impact of 'administration' was certainly implicated and felt strongly:

'Issues relating to teaching and admin. are always given institutional priority over any research strategy.'

The apparent tension between 'core' function and 'administration' was perhaps further reflected among those participants who indicated that research was the one aspect of work they were least satisfied with, given the amount of time it required. However, it might also be true to say that there has always existed a tension between research

Table 1 Frequencies and percentages of work aspect (n=200)

Aspect of work	All	Research	Teaching	Other	None	Not sure
Most important	13 (6.5)	22 (11.0)	148 (74.0)	17 (8.5)	0 (0.0)	0 (0.0)
Least important	2 (1.0)	57 (28.5)	10 (5.0)	114 (57.0)	14 (7.0)	3 (1.5)
Most satisfied	5 (2.5)	27 (13.5)	142 (71.0)	23 (11.5)	0 (0.0)	3 (1.5)
Least satisfied	2 (1.0)	120 (60.0)	9 (4.5)	58 (29.0)	7 (3.5)	4 (2.0)

and other 'core' functions and the extent to which these compete for increasingly limited resources. Of course, individual academic priorities are determined by a range of factors including the values, attitudes and aspirations of those already in post and the communities of practice and cultures they seek to establish as much as by employer. As indicated by one participant:

'Time here is not normally an obstacle it's all about priorities and perceptions of what matters with regard to your job.'

Returning to ECAs, this study revealed some important features worthy of particular note. Relative to others, and in proportion to their more experienced colleagues, participating ECAs:

- presented fewer doctoral level qualifications.
- were not as research-active and engaged in publishing.
- were less likely to be members of the HEA.
- devoted more time to teaching than any other 'core' function (marginally in the case of research).
- exhibited lower levels of confidence across all scales and subscales of the lecturer self-efficacy questionnaire (though almost exactly similar in profile).

It was also found that a larger proportion of ECAs were attached to some courses in preference to others and courses of initial teacher training in particular. Whether this finding can be attributed to sampling or some inherent characteristic of one course over another

is not known at this time. The implications of where ECAs are located could, however, be of institutional importance. It is worth remembering here too that while ECAs undoubtedly contribute towards the culture of the courses and departments in which they work, they are also strongly influenced by them and respond accordingly. Interestingly, while a clear relationship was found between doctoral level qualifications, research activity and publishing, and research confidence, these associations were by no means perfect or exclusive (e.g. 74.5% of all colleagues with doctorates considered themselves to be research active and publishing compared with 32.9% of all colleagues without). Nevertheless, focusing attention on ECAs and their early induction and professional development might provide a productive means of challenging and changing prevailing culture.

Planning for the future

Moving from a discussion centred on 'deficit' to one of development, there is an argument to be made for those institutions with particular strengths in teaching but who wish to continue to improve both their research capacity and capability to concentrate their efforts on research-led teaching and teaching-led research. As has been demonstrated here, however, this may not prove as easy to do as it is to say. Leaving aside national initiatives emerging from the HEA and other organisations, including Vitae, important though they be, such efforts clearly require 'local' solutions as a matter of priority, particularly in the first instance. In the words of one colleague who offered comment, the real benefit of this

approach to induction and professional development was clear:

'You need to be smart at aligning your research to other activities. I started off with someone holding my hand, taking an interest, seeing some potential and actually encouraging me to go forward. This was a pivotal moment for me in terms of confidence building. I got a bit of money, wrote a report, added the citation to my CV and moved forward.'

To this end, and like those institutions participating here which have already begun moving in such directions, strategies might include:

- Establishing an agreed institutional understanding and definition of research and what it means to be a research-er and research-active as well as considering the full role of the lecturer in higher education.
- Developing a common understanding of the widespread pedagogical, curricular and other benefits of research-led teaching and teaching-led research.
- Undertaking a comprehensive audit of research aspiration, perceived barriers to research, research opportunities, research training requirements and available research expertise.
- Identifying and developing an internal network of mentors, role models, common interest groups and critical friends particularly, though not exclusively, for ECAs.

- Helping individuals and groups take ownership of research to develop their own research identities in the fields of interest to them.
- Supporting colleagues on the doctoral trail or looking to recruit and retain, where appropriate, suitably qualified research-active staff who understand the demands of working in high teaching institutions (as was the case here).
- Increasing expectation associated with research so that initial steps follow a pathway from seminar presentations to conference contributions to publications or validation and dissemination by other appropriate means for exhibitions and performances.
- Increasing awareness of the potential benefits undertaking and disseminating research can bring in terms of research environment, reputation, significance and esteem internally and externally.
- Supporting academic writing to improve upon the quality, quantity and level of measurable research outputs, particularly those of national and international significance and which demonstrate impact.
- Finding and supporting an appropriate balance of workload in relation to research, teaching and other academic or service-related activities.
- Integrating and embedding all of the above into learning, teaching and research strategies and disseminating 'good practice' across departments and institutions.

Returning to the theoretical framework of social cognitive learning theory outlined earlier, any workplace-based intervention aligning itself with self-efficacy arguably needs to highlight low threat experiences which lead to task mastery, provide appropriate modelling of work-related tasks, and give timely and constructive feedback to those involved (while avoiding the promotion of over-confidence which can lead to complacency and poor performance). While it would be foolish, of course, to consider generalising beyond the limitations of this single study, institutions and departments of similar composition which offer similar provision and which might 'see' something of themselves here might wish to take note; those with other concerns (for instance, institutions where researchers may be very strong in terms of their international profile, but who lack confidence in teaching) could also use the survey to assess levels of self-efficacy, and improve training and other opportunities for staff and students accordingly. What has been achieved here is a 'benchmarking initiative', open to constructive comment and criticism, against which comparative work can be undertaken in the true spirit of institutional collaboration and co-operation.

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This chapter details how my research into self-efficacy – personal beliefs about the capability that an individual has to carry out a specific task (Bandura, 1977; 1986) – in professional musical education has shaped my teaching, becoming central to the student experience through integration into current coursework. Findings have shaped the adopted methods and become the backbone for taught content.

My doctoral research on self-efficacy took forward ideas presented by Schunk (1996), differentiating self-efficacy beliefs within a domain for learning and performing, developing and validating specific research tools in order to separately assess self-efficacy for performing and learning in the field of music. Self-efficacy beliefs are founded on a mixture of achieved experiences, observing other people in a similar situation, verbal influences from others about achieving the task, and personal physical signals such as a racing heartbeat or cold hands.

For my research project, self-efficacy beliefs were identified and explored by involving a range of musicians from complementary disciplines, and wider relationships with factors such as self-regulated learning, musical skills and attributes. Other aspects of student's lives were also considered. (see Ritchie, 2011). Implicit in this approach was an awareness of the existence and malleability of these beliefs for different tasks applied to different stages of learning. For example, results from a study carried out with school children at the beginning stages of learning showed that prior to a musical experience, self-efficacy was associated with other tasks that students perceived to be similar. At university level, there was a surprising lack of

correlation between students' use of self-regulated learning and their self-efficacy for learning beliefs. The changeable nature of self-efficacy was demonstrated when students undertook an audition experience, as detailed below.

An ideal setting for exploring, and for developing self-efficacy beliefs, is one where tasks are routinely repeated and examined. Concentrated, disciplined and measured understanding of a subject occurs within university education, where students choose to specialise in a particular subject. Students pursue and 'master' tasks in both assessed and un-assessed settings. They regularly watch peers and receive feedback and advice about their own capabilities, and (ideally) apply this criticism and self-reflection to future tasks and experiences – in work and/or in future academic assessments. My role as both lecturer and course author thus allowed me to involve students and to adapt the content of the taught provision in the light of their feedback and my own research.

Case study

The complexity underlying the formation of self-efficacy beliefs depends on a mixture of skills, experience and other influences. This study used experienced musicians to further examine how self-efficacy scores were affected by incorporating a familiar task in a novel physical situation. MA students, who were all skilled performers, with a first degree involving instrumental or vocal performance, met weekly for a performance class as part of their studies. For one of the sessions the class of eight students agreed to prepare extracts of up to five minutes from two contrasting pieces that demonstrated their technical and musical





Top: Workshop in a primary school: Laura Ritchie and a year 1 child at Jessie Young Husband Primary School, Chichester

Bottom: Dave Whitehead demonstrating a vocal lesson to Hailey Pearce and fellow students.



ability for a mock audition that would be videoed. Before the class began each person was asked to complete the 'Self-efficacy for musical performing questionnaire' and to record any comments describing how they felt prior to the audition experience. This study replicated an earlier experiment with professional performers who were in a novel high-pressure performing situation (See Ritchie, 2011); in this instance there had been notable contrasts between the students' and professionals' scores.

The student sample comprised three men and five women who specialised in, respectively: guitar, viola, French horn, piano, trumpet, oboe, and voice (2). The self-efficacy for performing scores, collected just prior to the audition, ranged from 27 to 55, out of a maximum score of 63. These were notably lower than the average scores from the 250 conservatory and university students examined in other studies throughout my doctoral research using the same questionnaire, and also from the professional musicians examined in a comparable case study to these MA students. The standard deviation is also much larger than with professional musicians in a similar situation, implying a diversity of self-efficacy beliefs among the student participants. In other words, the difference between the students and the professionals sampled was not the performers' musical level, but their ability to cope with the unfamiliar performance context.

The lower scores in this case study demonstrate that self-efficacy measurements cannot be represented on a simple linear scale that might equate to skill level, but rather that each measurement of self-efficacy is task-specific, and that if an element of the task presents a

significant challenge for the musician, then this will affect self-efficacy beliefs. Theoretically, the influence of familiarity with the setting for the task also impacts the outcome achieved and the predictive nature of self-efficacy for that situation. In this instance the perceived challenge of the situation was demonstrated by the MA students' comments that they were nervous specifically 'because of the pressure of an audition' situation and 'judgements made by auditioners,' as opposed to the technical musical challenges. At professional levels, musicians have recognised the influence of extra-musical factors and reported adopting various coping strategies to deal with the associated pressures of performing (Hallam, 2001; MacNamara et al, 2006).

This exercise in measurement served to illustrate that self-efficacy could be influenced by a task that incorporated a new challenge, but that the aspect of 'challenge' does not need to be directly associated with carrying out the task (e.g. playing the instrument) to affect the scores. The 'challenge' in these examples was not musical, but contextual. Comparing the MA students' scores with those of the professionals illustrates that, with appropriate self-awareness and training, it is possible to have a new, high-pressure situation while retaining high self-efficacy scores.

Informing the performance curriculum

This case study illustrated that self-efficacy is not a simply defined measurement, but that it depends on a number of factors. It is therefore essential for musicians to accumulate experience in appropriately diverse settings, otherwise there is a risk that self-efficacy will be low and performance

and attainment will suffer. The implication for those still in training is to make sure that they are prepared with the musical skills and experience with the wider factors that could be involved in the tasks they are likely to encounter in a professional setting. This interaction of self-efficacy and the context presented by performing situations, and the established link with performing, demonstrates the importance of fostering these beliefs as part of skilled musical development.

The pedagogic provision – Instrumental or Vocal Teaching (IVT) – that grew out of this research at the University of Chichester, was informed and designed around my research into the self-efficacy beliefs of music students (see Ritchie and Williamon, 2011a, 2011b). In the final-year, students on the course undertake a module on one-to-one teaching, which is designed to explore the role self-efficacy plays and to build a series of positive and successful teaching (mastery) experiences. Students are presented with a theoretical framework that they then experiment with and explore within the safe setting of the classroom. In conjunction with a thorough awareness and understanding of self-efficacy beliefs, and practical implementation of self-regulated learning strategies, they develop and leave with a transferable set of skills born of practical achievements and experiences, and, ultimately the confidence to continue into a successful future.

Students begin to explore the relationship of the personal, behavioural, and environmental components of everyday life (as introduced by Bandura [1986]) to the class situation within that specific lecture, and

then to teaching situations in order to understand their role within the teaching dynamic. For example, using the classroom setting, students experiment with each element, considering whether or not they can alter or influence it. This often leads to a discussion of the understanding of what is known and unknown – where the physically observable ends and personal attitudes and self-belief begins. Students become aware of the importance and independence of the individual, and of the personal elements that both student and teacher bring to any situation.

The concept of the ‘self’ is explored, through a theoretical introduction and grounding in self-efficacy and its influences, but also with a strong focus on the self-reflection. Students are strongly encouraged to draw upon cumulative personal experiences in order to understand the application of the psychological concepts; if they are able to address the relevant issues in their own learning then they will be better equipped to recognise similar approaches holding back their own students, and hence to become more successful in a teaching situation. It is stressed that as a teacher, it is important to empathise with a student in order to work with him or her. Explanations and instructions from a teacher are important, but ultimately it is in the ‘doing’ that students master their situation and create the self-efficacy belief that will carry them forward.

The processes involved in learning (for instance, as expressed by Zimmerman 2000) form a cycle of forethought, action, and reflection. These are dissected and students begin to understand how the traditional

Assembly to hear a concert presented by the second year University of Chichester IVT students after an afternoon of

workshops at Jessie Young Husband Primary School, Chichester.



role of a teacher as a verbal instruction book has limited impact, and that the success of the student is dependant on a gently teacher-guided, but student-implemented, course of successive actions. It would be short-sighted for a teacher simply to order a succession of tasks for students to complete, as this does not recognise the context of the individual's self-efficacy, or of any other self-belief. Students are asked to reflect on their own learning and to observe their own involvement with processes of preparation and reflection that usually happen outside the controlled context. Through this self-analysis, students begin to identify and understand the resulting by-products of good practice.

Verbal inferences can influence self-efficacy, and students are aware that they may be teaching someone for whom stronger self-efficacy influences, born of experience, do not yet exist. In this case the strength of the teacher's word could be the source inspiring fear and/or confidence, until a mastery experience either confirms or negates it. This places a certain gravitas on the element of communication. In order to ensure students have a solid foundation for analysing situations in order to provide advice and guidance, they study learning strategies, and monitor how they self-regulate their learning. The usefulness of modelling using a mastery or coping situation to explain concepts and show musical passages to students is introduced. These methods are explored through role-play where both the student and teacher act out, with stipulated challenges such as a student's aversion to having mistakes highlighted, illustrating the need to be adaptive and receptive in

approach. Several situations are presented and discussed in order to understand the processes of student and teacher interaction and the influence of various actions and words on the learning process.

Both the theoretical grounding and the opportunity for exploration and reflection on the concepts that occurs in the first half of the module is supported by my empirical research into the self-efficacy beliefs and learning habits of both child beginners and advanced musicians studying at university or conservatory. The processes of planning and reflection are further developed through watching videos of student-taught lessons, experiencing peer teaching in the lecture sessions, and by observing professionally taught lessons in class. This is intended to act as another form of modelling (see Schunk, 1998), and of vicarious learning for the students – intended to refine their self-efficacy beliefs for their own teaching. Students then undertake the teaching component of the module, where they apply the learned concepts in teaching their own private lessons.

The student becomes the teacher

By the time the students are put into a private teaching situation, they have already analysed the mechanics of their instrument, studied the published repertoire, developed their own repertoire, and studied musical development and assessment. Successful teaching relies on a secure knowledge of the instrument and the music being taught, and on clear feedback and encouragement in order to create a genuine dialogue between the student and the teacher. Students plan and teach their own

curriculum and skills, and produce a reflective analysis covering the interaction with the student, the success of teaching methods, and comparing the pre-written lesson plan to the actual lesson content. Students teach peers from other departments, or staff members from other faculties who have volunteered for free music lessons. The IVT students are encouraged to help their new students articulate goals and to guide the learning toward incremental, and tangible, achievement, and so the process of understanding and improving self-efficacy is passed on.

Knowing the importance of opportunities presented by a teacher, the role of feedback helps to reinforce the need for carefully considered planning. The practical experience developed here builds confidence and demonstrates the application of self-efficacy. In the end the module is as much about the process of teaching as it is about the university student's own learning.

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Integrating research and teaching in Crop Physiology

Edward Dickin, Harper Adams University College

I was appointed as a lecturer at Harper Adams in 2010 and I am module leader on Crop Growth and Management, a second year module covering crop physiology, whereby students are expected to apply knowledge of plant physiology. The module learning outcomes for Crop Growth and Management are to:

'Relate variation in crop development, crop growth, yield and quality to soil, weather and management.'

'Predict effects of soil, weather and management on potential growth, yield and quality.'

Previously, I worked as a post-doctoral researcher at Bangor University, where my remit was research rather than teaching, so in all honesty, one driver behind integrating research into my teaching was perhaps to keep a foothold in more familiar territory. However, there are a number of very good educational reasons for integrating research and teaching in this module. Some of the scientific concepts of crop physiology are too abstract if not placed in the context of a familiar crop situation, but become clear when applied to explain observed effects in the crop. My expertise on learning theory is not great enough to make a definitive judgement on Kolb's learning cycle (Kolb, 1984) versus learning styles (Honey & Mumford, 1982) versus Race's 'ripples on a pond' (Race, 2005) models of learning, but what is agreed by all three of these explanations on 'effective learning' is that 'learning by doing' plays a vital part in effective teaching and learning (Race,

2007). Biggs and Tang (2011) outline the concept of constructive alignment, whereby teaching and learning activities and assessment are aligned with the intended learning outcomes. Hence an assignment based on a field experiment where students observe and measure the effects of different agronomic treatments, and explain their effects in terms of crop physiology, forms a key part of the module.

Expanding a research-led module

In my first year of teaching I played safe when designing the field experiment, using a commonly-grown winter wheat variety in a 2x2 factorial design with two seed rates and two sowing dates. The experiment fulfilled its purpose, yielding data analysable using the techniques learnt in the Research Methods module, but some students quickly picked up that this was a contrived experiment, rather than 'real' research. There was much greater interest in the research plots of barley alongside the teaching plots. The barley experiment was a range of 'exotic' genotypes with naked grain and high beta-glucan soluble fibre content from Japan and Syria, grown as a continuation of my research into food barley started at Bangor (Dickin et al, 2011; Dickin et al, 2012).

Due to the constraints of scheduling assignment submission dates around a realistic student workload, any potential experiment needed to give usable data early in the crop growing season (crop sown in October, harvested July, student measurements complete by late February). My previous research had shown that the naked barley varieties showed differences in seed vigour,

seedling establishment, growth habit and speed of development. All these can be assessed between autumn and early spring.

Lectures are scheduled so that each topic is covered according to its place in the crop development cycle - approximately the order that the students will encounter each process in the field plots. For example, germination, seedling vigour and the technique of seed priming are covered in weeks 2 and 3, as in parallel these are examined in experiments in growth cabinets and emergence counts in the field. The differences in growth habit and speed of development observed through the season are excellent illustrations of how the plants respond to thermal time, photoperiod and vernalisation, all of which are abstract concepts if not put in context.

The assignment takes the form of a short paper, which some students have little experience of producing, and therefore should be good preparation for the research project that forms a requirement of the final year. This year I have introduced a tutorial session on scientific writing and critical reading of scientific papers, as experience last year showed that many students were more comfortable with using textbooks, many of which are unfortunately over thirty years old. I post papers of interest onto the 'Learning Hub' Moodle page for the module, also as part of the effort to engage students with current research.

In addition, I also use my programme of crossing high beta-glucan Himalayan barley with high-yielding disease-resistant UK barley as a case study for teaching on the final year Crop Improvement module. The

students are introduced to plant breeding theory earlier in the module and this is reinforced by a 'hand-on' session in the glasshouse where students make their own plant crosses, and then see some of the other techniques such as single-seed-descent and screening for disease resistance.

Practice-based agricultural research

On a national level, there is growing concern at the disconnect between fundamental plant science research and practice on farm, manifested in the widening gulf between genetic potential and yield achieved on farm of major crops such as wheat and oilseed rape. A cause could be the reduced levels of applied research in agriculture over the last thirty years. Unfortunately there is potential for the situation to deteriorate still further: concentration of research funding on fundamental plant science at research-intensive universities and research institutes, the latter of which do not teach undergraduates, combined with a push towards teaching undergraduates at local FE colleges rather than the more-costly universities, could mean that many students will go into the industry without being taught by active researchers.

Finally, I feel that teaching has had a positive effect on my research. In formulating the best ways of explaining crop physiology I have been forced to reappraise some of the fundamental concepts that I had taken for granted. For example, I am developing a research interest in perennial cereals; a concept that had been smouldering for some time was reignited

when I was looking for material to explain the annual life cycle of all cereal crops currently grown. As a result I have established a contact with the Land Institute in Kansas, initiated a programme to breed perennial barley at Harper Adams and started to collaborate with colleagues with research interests in ecology and soil science.

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Making and thinking: Art, contextual practice and sustainability

Mary Loveday-Edwards, Plymouth College of Art

There has been much discussion recently about the value and weighting given to vocational options in secondary school subjects. This weighting, stating academic standards of equivalence, was an interesting attempt to redress the perceived lack of respect or value given to more hands-on, less academically-focused subjects or courses. But recently, following the Wolf Report, the Government has re-examined its approach, leading to widespread media coverage. There was much howling, for example, about a BTEC in nail technology having been afforded equivalence to two GCSEs. But alongside this disdain for non-academic subjects there was also a murmur of unease about the one-sidedness of the criticism. Perhaps some non-academic subjects needed to be re-examined for equivalences – but why were they so ‘valued’ on an academic scale in the first place? Why is the default measure of value a purely academic one, when surely the measure of vocational studies must be essentially different?

‘Making’ and the academy

This has highlighted an interesting dichotomy – some might even say a contradictory attitude – in the teaching of art as a subject in tertiary institutions. It is taught as an academic degree – but in what is essentially a vocational manner. After all, students are expected to be able to ‘do’ photography, illustration, jewellery or film when they graduate. At its worst, this dichotomy can lead to a severing of the link between the academic and studio practices. It can lead to an us-and-them approach; to either the academic or the practical side being undervalued, and to an inability to appreciate the respective merits of each.

In practice this can lead to either an entirely academic approach to making, or a move towards design rather than actual making in subjects like contemporary craft; or to an approach where the academic side of things is actively undervalued – even undermined – by students and some staff, and to the academic team having a really hard time in getting students (and some staff) to see the relevance of its place in the curriculum. This despite the fact that academic work and studio work can exist in harmony and indeed complement each other.

To return to the GCSE analogy, sometimes studio work is seen as the vocational option – as the thing students do when they can’t write or think. Sometimes students are seen as being academic by default or artistic inability – an attitude of, oh well, they can do schoolwork, but they are ‘not a maker’. These attitudes are disempowering and divisive. How much better it is to find the common ground, which is what the Contextual Practices team at Plymouth College of Art have been attempting to do for the past few years.

Contextual Practices

In the third year of their degree course, students are required to complete a written research paper of 6000 words (shorter than the normal dissertation). Students can either produce Option 1 or Option 2. Option 1 is a traditional dissertation-style paper, a research enquiry located within an appropriate and credible discursive context, drawing on other texts and research to support and develop their argument. The learning objectives are to: undertake an individual research project which

investigates appropriate historical and theoretical contexts, and demonstrates critical and conceptual thinking; evidence the ability to research, analyse and synthesise a range of appropriate contextual information, including contemporary and historical processes and practices that might inform the student's own work; and to develop communication skills in the articulation of ideas in both oral and written forms, applying appropriate academic conventions in relevant contexts. The module is designed to run alongside students' studio work in terms of both timing and as a means of reflection; in other words, the written research should reflect, extend, and contextualise their studio concerns, and vice versa.

For example, a ceramics and glass student with a basic and fairly unquestioning 'nature is good and we should use its forms as inspiration' attitude found herself on a confronting and challenging journey, first of all examining the social construction of ideas about nature, and then examining art/science collaborations to find what the real value of art in these partnerships might be. Her view of both nature and her discipline was radically challenged, refined, and strengthened by this process, with her final studio project shaped by the academic research journey she had taken.

But in addition to this option, the Contextual Practices team, who initiate, instruct, and oversee the paper, have introduced and encouraged Option 2 – an artefact with corroborating contextualising writing. This option requires students to develop a practice-led research project leading towards the production of a body of work, an artefact, which must be supported by a critical summary

of the research process and conclusions. This written element consists of between 3,000–4,000 words and, as in Option 1, is fully referenced and obeys all other academic conventions.

Given some of the attitudes outlined above, concerning the view of making as an alternative to thinking, it is sometimes important to make clear that despite the reduced word count, this is not an easier or 'softer' option, and it is important that any student considering this route fully understands the relationship between the written and practical aspects of the project and submission. The emphasis in this option is on using practice, (the process of *making*) as a viable research method, alongside (not instead of) more standard desk/library based research strategies. Students need to consider how they might deploy practice as a way to test out an idea, explore a possibility or demonstrate a critical position. In all cases, the written paper should articulate the use of practice as part of the research, as well as offering a supported critical framework and analytical approach that draws on appropriate reading (just as in Option 1). The golden rule for students deciding which option to choose is: *what would you find out from the primary research of producing your artefact that you could not find out by any other means?*

So, for example, a student of jewellery, interested in the role of small scale digital inputs into the hand-made process, built his own rapid prototyping (RepRap) machine from shareware that he sourced during his research process. Though he produced a great artefact, and his practice-based research was extensive and innovative, his critical support research was not of such a high standard,

and he did not achieve what he might have. A ceramics student interested in relational aesthetics held a number of tea parties for which the ceramics that were shared and altered during the tea party were submitted as the trace of the art work – the social interaction. This was further contextualised by her research on Bourriaud and Freire, resulting in a strong project marrying innovative practice and theory. A photography student mused on the place of craftsmanship in his discipline where everything seems controlled by the digital process. He built a large traditional camera (based on the 20x24 Hunter Penrose), working within the glass studios to make the plate, mixing his own chemicals, and producing photographs in the darkrooms. Theoretically his corroboration comes from the resurgence of interest in the benefits to the individual of making things by hand, as outlined by Matthew Crawford and others. The project will continue well past his final year and the theoretical and critical framework has been of immense importance to him in positioning his practice within his own sense of self and his life as an artist.

The making process and sustainability

A stringent definition of, and reflection on, practice-led or practice-based research (as of equal status to desk-based research) is relatively new and still rather debated within art and design circles. But the desire to find a way to truly integrate academic and studio practice has led to this introduction of Option 2 at Plymouth College of Art, and continues the drive to refine the option. Past issues, challenges and opportunities centre on the need to define what a dissertation (or extended written research project)

needs to provide for the student, the institution, and the wider society. For example, although art students choose a course based on personal interest and aptitude, which often does not encompass research or scholarly writing, they do understand that their written research project is part of their study that 'proves' they have earned an academic degree, and have a right to represent themselves as degree level students to society at large.

The importance of the link between practice and research is made even more explicit by the specific research concerns of a number of staff at PCA. For example, Ian Hankey's research into small scale kilns could be classified as developmental or applied research except that it is clearly grounded in a more scholarly concern about, and interrogation of, the role of tacit understanding of material. His questioning of the largely unchallenged position of dominant academic and economic paradigms is based on sound historical, cultural and theoretical research. The relationship with material is paramount to a maker, whether one is making photographs, illustrations, video games, or pots. Moreover, this relationship with material is seen as being of primary importance not only with regard to the object finally produced, but to the process of making itself. So Hankey's research into tacit skills emphasises not just the objects that are created in the kiln, beautiful though these are. It arises from an understanding that, for glass to have a sustainable existence into the future, the dominant paradigm of Fordist efficiency, separating out the component parts of a making process in order to allow for faster production of a commodity, must be roundly challenged by a deeper understanding of the importance of

tacit knowledge in a making process. Both making, and thinking about the context of the making, must work in synergy.

Likewise, the view that making needs to be underpinned by a deep understanding of the culture and conditions under which it is produced is supported by my own research. I was a research associate in craft and sustainability at PCA between 2007 and 2009, and the findings led to the similar conviction that not just unsustainable behaviours, but the thinking that leads to unsustainable behaviours, must be addressed. For example, in most institutions the focus of the sustainability officer is on *stuff* – how much stuff we are using and how can we use less stuff, or how can we use better stuff that is not so polluting or has a smaller carbon footprint, or how can we use just as much or more stuff and look like we are using less. This could be seen as a rather uncritical acceptance of the same dominant paradigms critiqued in Hankey's work. But if we take a more critical and analytical approach to the ideas of sustainability we might begin to, for example, apply the ideas of Marx and the fetishisation of the commodity to sustainability, perhaps finding that when we focus on the end commodity, even if that commodity is something as nebulous as energy use or carbon credits, we still think we have no intimate relationship with these units or with their producers, and we still think we can buy ourselves out of trouble. This can then be explored as a way to really question the institution's sustainability credentials and (crucially) actions, and can become (if nurtured) a systemic approach. It could lead to a more robust and resilient approach to the idea of sustainability.

At a recent *Making Futures* conference there was an expression of desire for (primarily craft) students to be allowed to make things and be graded as if this was an academic process; so although for some arts-based institutions or departments the idea of practice-led, or practice-based, or practice-as research will seem normal, it is clear that for many it is still not. At PCA we are committed to its inclusion and development as a form of research and we continue to interrogate it in terms of inclusion, of equivalence, of rigour and of cultural relevance. There is cross-institution interest in alternatives to the formal or traditional dissertation option and members of the Contextual Practices team are committed to sharing in this groundswell of interest.

Working together: Cross-Sector practice development in Art and Design as research-led teaching

Samantha Broadhead, Leeds College of Art

The aim of this research project was to evaluate how well Access tutors, those who help prepare mature students to undertake a degree, could work together with Higher Education (HE) staff to improve pedagogy with a specialist Art and Design College. This case study illustrated the benefits and challenges of working with other sectors in Art and Design education. Access tutors observed HE sessions where students presented work and received feedback in the studio (studio critiques). Through discussion and critical reflection, strategies for improving Access delivery were identified based on a Joint Practice Development (JPD) approach.

Introduction

In 2011 *The Learning and Skills Improvement Service (LSIS)*, a sector-owned body which aims to develop excellent and sustainable Further Education (FE) provision, awarded Leeds College of Art a grant that enabled a range of cross-sector activities to occur. These activities included Access staff observing a variety of studio critiques that occurred in Art and Design HE programmes. In February 2011 the QAA identified the use of structured group critiques for studio work as a feature of good practice within the College's HE provision (QAA, Institutional Reports, 2011). Access students were also able to talk to HE students about their work. This was very valuable to the 'Access to HE' course, both for staff and students, because a previous research project had recommended a dialogue with HE tutors to ensure the course kept up to date with changes in HE (Broadhead and Garland, 2011). This would help the course best prepare Access students for HE study as well as

ensure they applied to the course best suited to their needs and future aspirations.

Context

The College has two main campuses. It runs a range of specialist and general Art and Design FE Courses at one site that is mostly self-contained and separate from the other site where a range of specialist degree and foundation degrees are taught. The majority of tutors work mainly on one site, perhaps meeting all together twice yearly during staff development weeks or briefing days.

The College delivers the Access to HE Diploma (Art and Design) as a full-time day course and in a part-time mode on an evening. It is aimed at mature students who have not been in conventional education for at least a year. What constitutes a mature student has become increasingly vague. Students can be as young as nineteen, but may find the pace of an Access course more suitable to their needs than a Pre-BA Foundation course or A levels, which are seen as the more traditional route to degrees in art and design (Hudson, 2009). However, there is usually a wide range of students from ages ranging from twenty to over seventy. Often these students have had a diverse set of experiences and come from a variety of backgrounds. The aim of the Access to HE Diploma is to prepare students for a degree or foundation degree in art and design. Not only is this done by accreditation but also by the preparation of a portfolio of work which is used at interviews as part of the application process.

The students are taught the knowledge and skills necessary to succeed on their higher level course; these

skills include visual studies, drawing, responding to set and self-directed briefs, technical skills in specialist workshops like photography, ceramics or printmaking, contextual studies, academic skills of researching, presenting and essay writing.

The full-time and part-time Access provision is successful in getting people onto the Higher Education course of their choice. Progression is not just restricted to local Higher Education Institutions and universities, but includes many types of art and design courses all over the country (*Further education: Student Achievements and Career Routes*, 2009–2010). About ten to eighteen students a year progress internally. Students who are successful in achieving a place generally take up that place in the following September.

The underpinning theoretical context

The main theoretical framework for this study was based on Joint Practice Development, a concept that critiques the cascade model of staff development. It argues that good practice cannot be easily passed on from one group of practitioners to another for two main reasons. Firstly, cascading good practice can be seen to be divisive because it promotes the idea that one group of people has good practice and another does not, thus creating an unequal and perhaps resentful working relationship. Secondly, the context in which practice is performed is not deeply considered; what is good practice in one area may not be suitable in another. It could be argued that all practices need to be modified to fit a new context. Rather than passing or cascading practices to colleagues, a more

sustainable process would be to develop relationships and trust between groups of professionals where ideas can be explored together over time (Fielding et al, 2005). Other aspects that need consideration are teacher and institutional identity in practice transfer, learner engagement and an understanding of the time needed to successfully engage with JPD (Fielding et al, 2005).

The values and identities of different groups of practitioners are also important concepts to consider when reflecting on cross-sector partnerships. An insight into other professionals' positions within an institution brings to light differences in what is seen as important within the education process. This exposure to other points of view through observation and discussion will influence teacher identities through the stories and communications professionals tell each other. Expressions of cultural values, norms, and structures are also passed on through narratives in discussion (Beijaard et al, 2004) The exchange of ideas with other art and design educators will lead to a deeper understanding of the issues students face when they progress from FE to HE.

The Case Studies

The Access course leaders made an appeal for HE tutors who wanted to take part in cross-sector activities during a staff development presentation addressed to the whole college. From this call for partners, three HE courses expressed an interest: BA Interdisciplinary Art and Design, BA Visual Communications and BA Printed Textiles and Surface Pattern. A timetable of shadowing was then drawn up. The two Access tutors who were

selected to shadow and observe HE activities were part-time and usually would have had less opportunity to take advantage of existing networks with colleagues in HE than would course leaders and full time tutors. This project enabled them to work together with HE staff to develop their own practice and feedback observations to the Access team. The Access tutors were responsible for arranging a time when they could shadow a HE studio critique session. They then made notes about what they had seen and discussed their findings with both their HE and FE colleagues.

Two examples were a cross-year studio critique and another which focused on one piece of work. They were delivered by the BA (Hons) Art & Design Interdisciplinary Course and are designed to promote a 'sense of ownership'. This was managed by three HE tutors and observed by two Access tutors who made reflective notes that were then shared with the rest of the Access team.

The first studio critique was part of an 'Open Studio' week where all students from the three year groups arranged current work within their individual work spaces. Students were split into four groups. Each group had a mix of 1st, 2nd and 3rd years. All students prepared to present work, but tutors (unknown to the students) had selected in advance one person per year per group to actually present to the rest of the group. The Access tutor observed staff discussions before studio critiques. There was a strong focus on what questions to ask. There were similar questions for each student, but differentiation through the expectation of different qualities of answers depending on year group.

The style of studio critique varied throughout the academic year. This particular approach was designed to build on an 'Open Studio' event and encourage communication between year groups. There was no formal feedback given, but students were encouraged to reflect on experience over the Christmas break. The staff looked for evaluative comments on student's own practice that were not initiated by staff. The presentations were not linked to a particular brief but were concerned with process, rules of practice, tools of practice and links to other practitioners. It was noted that there were very strong links to critical studies

During the studio critiques students were reminded about a weekly 'discussion forum' that would start in the new term. Students were encouraged to put questions/themes onto the notice board, which would be the basis of a vote on the most popular topic to start off the next term's work. The Access tutor described how the group moved around the studio to different workspaces. All students were engaged with standing and looking at work; maybe this was less intimidating for the student leading the studio critique? Most students were very quiet during the process and interestingly, most questions and comments came from past Access students.

During the studio critiques students presented and talked about just a few key pieces. Several times the HE tutors encouraged students to stop and reflect on work so far. Staff were keen for students to develop one idea more deeply rather than explore multiple ideas more superficially.

The second structured studio critique was introduced by an HE tutor who presented a group of first year students with a mystery object. The group was asked to identify what it was and who made it. Two students were able to deduce that the object was a coat hanger designer by Antony Gormley: this initiated a discussion about the relationship between art and design. The Access tutor noted that this was a way for the HE tutor to contribute to the session and engage the interest of the group. Students were then asked to select one piece of work and to think carefully how to present it. Within groups of about 6 students the work was discussed by everyone, excepting the creator of the work. Only at the end of the process did the student say what intentions drove the work. The Access tutor thought that the process led to focused discussions that were not bogged down in superficial detail. The HE course leader and the Access tutor had the opportunity to share observations after the session.

Future pedagogies

After this process the Access team discussed how some of the ideas learned from the shadowing exercise could be applied to the curriculum. These ideas needed to be considered within the context of Access provision, as not everything successfully done on an HE course would be appropriate for Access students. These included the following suggestions:

- Non brief-specific studio critique – Access tutors had previously linked studio critiques and formative assessment to briefs. However by making a studio

critique more about a student's own working methods than the physical outcomes could encourage students to reflect on their own practice? This would help them in preparing UCAS applications, interviews, and writing their own briefs. Students would become more aware of who they are as artists/designers/craftspeople.

- Consideration of the timing of studio critiques by timetabling them before breaks, when students could be given reflective questions raised from the studio discussions to work on in sketchbooks during the holidays.
- Student-owned studio critique space: -previously, students had brought work to a separate space. But by letting students present in their own spaces the process could be more balanced and equal. This could maximise students' time to consider and reflect on at one other's work.
- Developing a discussion forum: - it would be difficult to allocate an hour a week for an in-depth discussion, but it would be a positive use of Moodle (the college's virtual learning environment) and maybe a way of uniting 1st and 2nd year Access students. If this engaged students it could become almost self-running.
- Introduce more cross-year studio critiques to boost the confidence of second year students who would be talking about their work in interviews.

The danger of focusing on one student at a time was identified in the staff guide of *Critiquing the Crit*, (Orr et al, 2008). Access tutors could, therefore, structure studio critiques so that the student's peers comment on the work

Access students at Leeds College of Art managing their own critique process.



before the student talks about it. This would mean that everyone has to be engaged with the process, rather than just the student who is presenting the work.

Conclusions

The Access process worked best when there was already a good relationship between the two courses, through previous contact and good communication about student transition from FE to HE. The amount of time required for developing such a relationship cannot be underestimated. Both parties should be committed to the project and value the outcomes. Although the outcomes of the JPD process are owned by the course teams

because of the time and personal investment made by the participants, it would not normally have occurred without external funding; thus it may be more difficult to sustain this level of cross-sector collaboration.

The Access tutors appreciated the shift of focus in the studio critique from the object/image/work to the creative process. The use of different years in the studio critique was also interesting as a way of boosting confidence when talking in front of people different from the students' usual peers. The ideas gleaned from the shadowing experiences were useful because Access staff could imagine how they could be used within their own particular practice. This is an important point to make



The Access studio at Leeds College of Art where full and part-time students discuss their visual research.

as it is what differentiates the JPD process from the cascade model of improvement and pedagogical development.

Within this research project the course partnership that emerged as most successful was with the Art and Design Interdisciplinary course. This was because the FE and HE staff had some common ground. For example the Art and Design degree had more open briefs and was wide ranging, as opposed to courses like Photography or Interior design, for example, which are more focused and specialist.

The shift in focus away from the products the students produced to the processes demonstrated a difference of values between FE and HE staff. Access staff valued the production of a portfolio of artefacts that would allow entry to a degree course. However, the HE staff are more interested in helping students become confident reflective practitioners who can work professionally after their course. This difference is not a bad thing, but is useful to consider more broadly across the sector to support Access students progressing onto their HE course.

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A joined up framework for identifying dissertation topics in a technical environment (Computer Networking)

John Davies and Vic Grout, Glyndŵr University

Most taught undergraduate and graduate courses include either a final year project or a dissertation. The purpose of this type of module is to enable the student to carry out a detailed investigation on a specific topic that is related to the subject area being studied. Usually this subject area has been addressed in the taught part of the course but not covered in any depth. This enables students to develop their research skills and possibly provides them with a topic on which to base their future careers.

When carrying out academic activities in technical subjects it is often possible, desirable really, to link the subject into areas of research in which the supervisor is a specialist. Although not always practical, clearly this approach has a number of advantages from both the student's and supervisor's point of view. The student has the opportunity to work in an area that is up-to-date and relevant, has access to a technical expert in the field and, presumably, appropriate (but possibly limited) equipment with which to undertake the work. From the supervisor's point of view, it is often possible to encourage the student to undertake practical work to test out questions or hypotheses, posed as part of the dissertation topic, that can be then be used to support arguments in subsequent published conference or journal papers. This can be extremely attractive for the supervisor, who frequently has little or no time available to spend in a laboratory environment setting up experiments; it also affords the student the opportunity to become a sort of research partner, invested in the process of experimentation and feedback.

From a different perspective, one of the major problems with dissertation modules is being able to find unique topics that a number of students can work on independently. Clearly the topic should be something that the student has some knowledge of; additionally it should be an area that the student is interested in working in and feels confident will help them in their career. This chapter discusses the issues associated with creating a framework – specifically in computer sciences – that can be applied to a number of topic areas.

The Problem

Supervisors often find themselves in a position where they have to handle large numbers of full-time and part-time undergraduate and postgraduate students undertaking dissertations, which creates the situation that, at any one time, students are in different phases of their work and so have different requirements of the supervisor. Having some kind of structure in place helps the supervisor provide appropriate guidance to the student, enhancing their ability to switch between detailed subject areas. This can be invaluable when, for example, a supervisor has to see a stream of students following on at half an hour intervals. Having a framework for dissertations in technical areas also allows supervisors to give a helpful presentation to students in a coherent way in what can be, to a student, a very daunting module. This approach should aid the student in selecting a topic area. Clearly the topic area that a student selects should be appropriate to the level of the award that they are studying for and it is the responsibility of the supervisor to ensure that there is enough scope in the

selection to enable a high-flying student to undertake more advanced work and the less able student to at least gain from the experience.

There are some parameters that need to be addressed when creating the framework, some of which are common to most technical dissertations. A simple example is making sure that there is a realistic and considered requirement for equipment, particularly when expensive equipment needs to be shared. Ideally the framework should allow students to show their initiative in the way that the framework is applied, which can often be catered for during the analysis of results stage.

An Approach

In most technical areas, courses have to be, in a very real sense, completely responsive to changes in technology and practice which, depending on the finer subject, can come thick-and-fast. Clearly, these are the areas in which students should be encouraged to undertake dissertations since they are beneficial for their future careers and, in some cases, for the advancement of the discipline.

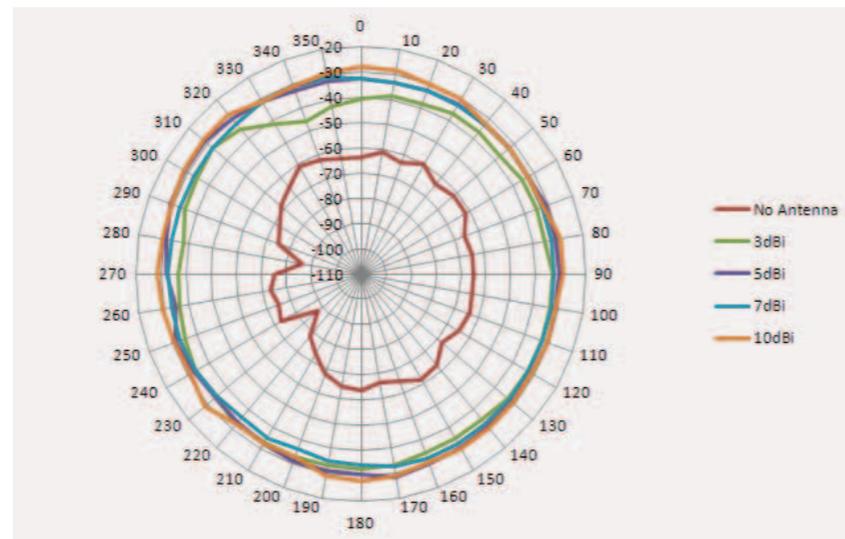
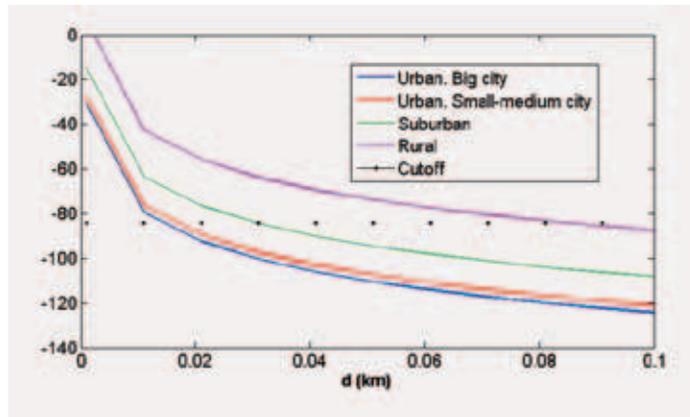
Computing is one such area and in particular *Computer Networking*. The following example illustrates this point.

One of the major practical problems associated with carrying out research on the infrastructure of Computer Networks today is that it is heavily based around Internet technology. A key, but easy to overlook, point with regard to work of this nature is that it is essential to keep laboratory research and testing away from the real Internet and company/university infrastructure since this could cause serious problems with other users. (Unsurprisingly,

advertising unreal/experimental networks to the rest of the Internet really upsets Internet Service Providers [ISPs]!) The use of artificial network simulators (usually in software) is a common way of solving this problem but this approach suffers from several drawbacks; often the latest technology is not supported, the results obtained from the models can be misleading. A more important aspect is that the students rarely get real, hands-on experience of working with network components (routers, switches, cables, connectors, etc.). To this end it is highly advantageous to propose a topic area where the student can work with network equipment that is isolated from the main network.

A simple but useful approach is to suggest that the student produces a research question to consider or research hypothesis to test which, on the surface, might be simple and straightforward but to which the answer is not so obvious. Such seemingly innocent topics abound in Computer Networking and rich research avenues open up when such ideas are either challenged or novel experiments proposed to support them. It often becomes the originality

Ipv6 delay > ipv4 by	IPv6-tunnel delay > ipv4 by	Tunnel-ipv6 delay > ipv4 by
1.24%	4.80%	3.5%



of the analysis and experimentation that brings the work to the correct level rather than the novelty of the area of investigation itself. On this level, it barely matters if the initial research question/hypothesis is perfectly formed, nor does any predicted or likely outcome figure particularly highly in assessing an idea for suitability. Marks for dissertations are usually based around undertaking the process in a scientific and logical fashion and therefore the actual true or false result is irrelevant as far as marking goes. All that really matters is that the testing/evaluation framework is clear and the method of interpreting results understood.

An Example

A typical example of such a hypothesis based around Computer Networks might be framed thus:

Hypothesis: By converting a network from IPv4 to IPv6, there would be an improvement in network performance.

The answer to this hypothesis is not as straightforward as it might seem. On the surface, IPv6 is a simplified version of the IPv4 protocol and therefore should be quicker to handle. However, the addressing field is 96 bytes longer, which will take longer to handle. There are conflicting factors. Students are likely to expect the hypothesis to be true since they would assume that the newer version is better in all respects; a large amount of the published research might support this. However, this will not *always* be the case and an innovative approach to experimentation might highlight some important

anomalies. To examine, support or challenge this hypothesis the student would be expected to design and build a network that could be configured to operate with either protocol, pass the same data and measure the delays encountered. Devising such test processes, subject to the constraints of the hardware and software available, requires a degree of ingenuity and inventiveness. Experience shows that project students are often very good at finding these original experiments even if they need further guidance on how to perform the tests accurately or interpret the results correctly.

A typically interesting way of approaching this might be to assume that the network is a 'black box' (i.e. for the time being the contents are of no concern) and to produce a methodology for measuring delays through it. Adopting this approach means that the technique can be applied to most networks irrespective of the technology of the network being investigated. Additionally, if standard components of hardware and software can be used for the measurement (e.g. 'open source' software such as *Wireshark*) on a standard computer then availability of equipment is less of a problem. A range of dissertations can then be undertaken and the student can concentrate on the design of the particular network to be investigated and the analysis of the particular results they obtain. An answer to the proposed hypothesis might typically (and realistically) be contained in a 25,000 word dissertation report that concentrates on a particular instance, manifestation or 'flavour' of the question. For example,

the figure below shows that, under certain circumstances, IPv4 has less delay, which is a very simple, and surprising, answer to a quite complex procedure.

The end result of this approach, implemented over time and involving a number of students, is that supervisors have a ready source of results from a common structure, which means that it should be possible to aggregate results obtained from different tests by different students with a certain level of consistency. These can then be combined to form the basis for academic and journal papers and also new or more in-depth topics that can be introduced into the next year's curriculum. The process is cyclical: smaller experiments such as these combine to produce useful research results to publish; in turn, analysis of these results points to the next round of theory and practice.

A Framework

In a technical environment, adopting a standard framework, which is suitable for the particular subject area (the above is just one example for Computer Networking), can make the implementation of projects/dissertations more efficient and effective both from the students' and the supervisor's point of view. This approach is applicable to most technical areas, although the actual implementation details will vary.

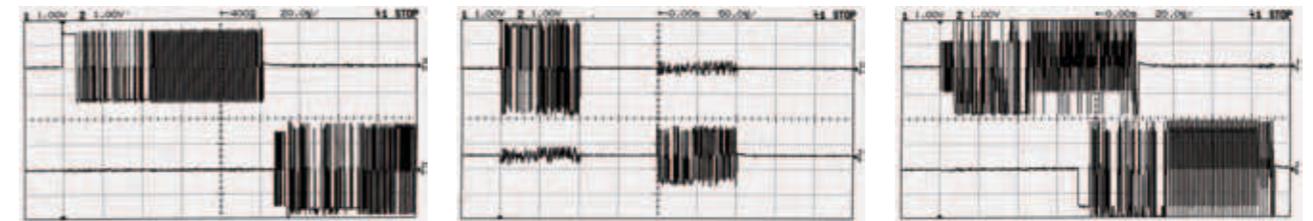
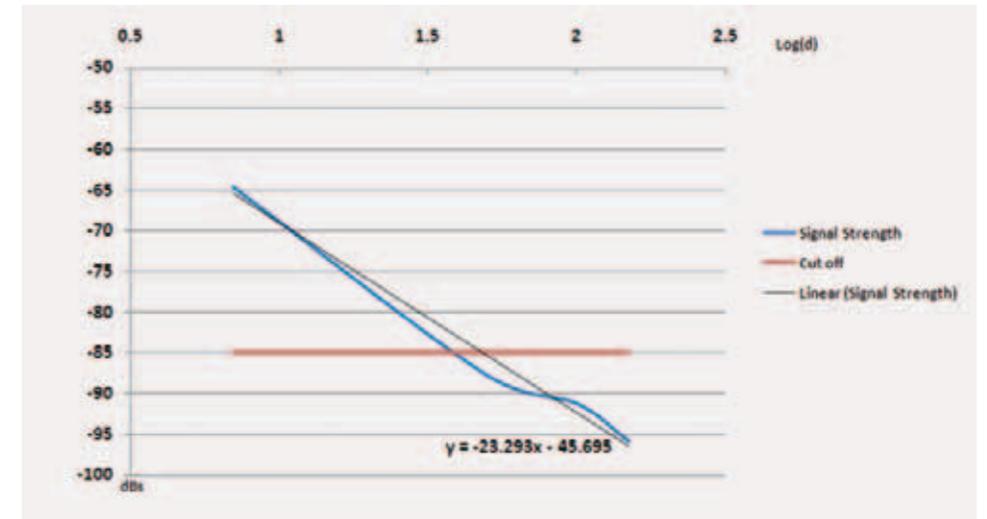
Students benefit from being able to concentrate on the subject matter of the dissertation without having to be distracted by side issues. Simple lectures, guided by past experience, can be given to groups of students to prepare them to use the framework, which normally has to be continued on a one-to-one basis during the dissertation

proposal approval phase, allowing greater numbers of students to engage in advanced research. Once the framework has been explained, then students can work at their own rate and at the level of detail that they require. Students can be easily assisted since the supervisors will have gained some feel for the expected results due to past experience; simple errors can be picked up, encouraging more focused and innovative work.

This approach also helps the supervisor to stay up to date with student progress, since similar techniques may be used for all the dissertations within the framework, which is extremely useful when a large range of students are being supervised, all at different phases.

Finally, the usefulness of the results obtained from different dissertations/projects should not be underestimated, especially in technical areas, where it is often difficult for supervisors who are engaged in research to undertake the detailed tests themselves.

In conclusion this seems to be a 'win-win' allowing both students and staff to engage more fruitfully with technological research.



Research that matters: Expanding definitions of ‘research-led teaching’ in history

Di Drummond, Leeds Trinity University College

‘Research-led teaching’ is vital for both the undergraduate and post-graduate experience and for those of us who teach and research in universities. Indeed, many would argue that it defines ‘a good university education’, making research matter for students and academics alike. However, this term ‘research-led teaching’ does conjure up a vision of halcyon days, when the academic discussed their research with a small group of students and in response, students developed their own understanding of the topic. Such days are long gone, if they ever existed. As an undergraduate at the University of Birmingham during the early 1980s I experienced some excellent research-led teaching as Peter Cain and Tony Hopkins explained their ‘gentlemanly capitalism’ theory of British Imperialism in workshop-based seminars. It was ongoing research, ‘hot off the press’ and very exciting – I still remember it thirty years later – but even then the number of undergraduates on the course were rather more than a few!

How can teaching be led by our research when we all have so many demands on our time, increasingly limited opportunity for research, student groups that are expanding in size and often a widening portfolio of modules to teach? How can we make opportunities for our own research *and* create a conducive learning and research environment for our students? In my own subject area of History in the Department of Humanities at Leeds Trinity University College we have struggled with such problems for a long time. While we are probably a long way off ‘getting it right’, by widening and even redefining the concept of ‘research-led teaching’, and strategising so that our research and teaching directly coincide we

have managed to increase opportunities for research-led engagement with our students at both the undergraduate and postgraduate level. The following chapter will explore definitions of ‘research-led teaching’ that we have adopted in History at Leeds Trinity, presenting a wider-range of models of this process than are usually explicitly forwarded. It will also consider some of the strategies that we have developed, often very haltingly, to bring research and teaching together. This has involved some lateral thinking!

History at Leeds Trinity

History at Leeds Trinity has a very small and close knit teaching team (Prof Maureen Meikle, Prof Karen Sayer, Dr Rosemary Mitchell and myself, Dr Di Drummond, 3.5 in total, all ‘research active’), in a small university college. Our honours degree programmes have an intake of approximately 30–40 students each year. While having such a small number of academic staff, we hit all the targets on the History Benchmarking statement. We also support a thriving MA in Victorian Studies and a small number of PhD students.

We enjoy success in learning, teaching and research. History at Leeds Trinity not only scored a 100% satisfaction rate in the 2011 National Student Satisfaction Survey, but we also had 25% of our submissions graded as 4* or 3* in the 2008 RAE, a good result in the university sector we are in. A research-intensive environment has been created by the Leeds Centre for Victorian Studies (LCVS), established nearly twenty years ago, which enjoys an international reputation. The focus on research into the nineteenth

century amongst three of the History staff and a number of those in the English subject area together with our teaching on our MA in Victorian Studies further enhance this. The College also provides a research leave scheme where we may apply for periodic remittance on some of our teaching hours. Recently, members of staff in Humanities and History have been awarded professorships and readerships in recognition of their research activities.

Research-led teaching: Widening the definition, finding other models

So what is ‘research-led teaching’ (henceforth ‘RLT’) and how have we in History at Leeds Trinity widened the more usual definition of this term, developing further models of how RLT might operate together with strategies for creating more opportunities for students to experience RLT?

Definitions of ‘research-led teaching’ at university undergraduate and postgraduate level are seen by commentators to share some essential factors across all disciplines in universities. The University of Exeter provides a very useful definition on its website for prospective students. Research-led teaching is seen to occur when:

- Students are taught by experts in specific disciplines about their ongoing research. (This might be called ‘Academic Research-Led Teaching’ or ARLT.)
- Students become, through being taught by research-active academic staff, active learners and researchers in their own right.

Essentially these first two points need to be supported by a wider context, specifically a research-intensive culture in the university, department and subject area.

Clearly we do use this more established model of ARLT in History at Leeds Trinity, seeking to extend its implementation whenever we can. However, with further examination of this established model, it is possible to define further forms of RLT that are implicit in the definition provided by the University of Exeter.

In summary the further models of RLT I will use here are:

- Research-led teaching that demonstrates research methodologies, theoretical approaches or conceptualisations that emerge from our specific historical research (‘Research methodology Research-led Teaching’ – RmRLT), rather than teaching that is led directly by academics’ historical research.
- Student-led Research-based Learning (SLRL) is also an essential element for us. This is clearly implicit in the University of Exeter definition of research-led teaching provided above. Being taught by research-active staff is good, but students engaging in their own research, either in groups, or as individuals, including preparation for formative or summative assessed work, is also very valuable.
- Teaching that is led by our own research into learning and teaching History in the University environment. I will dub this ‘Pedagogic Research-led Teaching’ or PRLT.

that: '[In teaching from our research]...the research methodology is as important as the "content".'

Academic staff teaching in this way are key to generic historical research modules. These include the dissertation and research report (for final year undergraduate students and in the MA), along with modules where students produce smaller individual research reports (for undergraduates). Our dissertation and research report modules for undergraduates and MA students include a taught element where student groups meet with a member of staff to discuss such essential elements to historical research as compiling a bibliography, writing historiography, identifying and using evidence and research approaches. The MA core module, 'Approaches and Methods for Victorian Studies', not only includes such elements in considering historical methodology, but also engages students in approaches to literary theory, objects and material culture and Victorian paintings. One element of assessment for this module has students producing a comprehensive plan for a future dissertation or research report while the other requires them to make an in-depth study of a piece of literature, object or painting using the research methodologies explored on the module.

Other of our History modules, while not drawing directly from our historical research, use the skills that we routinely employ in our investigations. One of my undergraduate modules, 'Figuring the Past', examines migration to and settlement in the USA between 1800 and 1950 (which I have studied but have never researched). However this is used as the basis for students learning and using statistical methods (which I do employ in my

historical research). Rosemary also has an undergraduate student research module exploring 'Medieval Religion' that uses methodological approaches to art and architecture that she has developed in her own ongoing research and publications on the Victorian period.

Concepts and theories used in staff members' specific historical research can also be applied to other learning and teaching contexts and topic areas. One example of this is our new MA option module on 'British Imperialism as Material Culture'. While this clearly draws on my own and Karen's academic research on colonialism, the approaches to material culture are the result of Karen's long-term research and publications on women and rurality.

Student-led Research-based Learning (SLRL)

While the University of Exeter's definition of 'research-led teaching' clearly implies a student-centred approach to learning via research, it is good to explore this idea more fully, acknowledging the importance of student engagement in their own research. From the simplest and most straightforward weekly set-tasks to the complexity of a dissertation-level research project, this gives opportunity for students to learn by their own research experience.

Practically all of our teaching at undergraduate and postgraduate level is carried out as workshops, with students being encouraged to engage with a range of primary sources or prepare secondary and theoretical reading. (I use the word 'encourage' here because, as we all know, sadly students do not always do this). A range of means are employed for this, including student-led short papers, group report backs and discussion and by using role play. Such approaches aim to

develop investigative approaches, theorizing and 'deep learning' amongst our students.

Students are also expected to become self-activated learners and researchers in their own right, engaging in planning and carrying out research in various modules throughout their degree course. Initially these research projects consist of very prescribed group work. Students nearing the completion of their degree carry out research in specific topic areas that they plan and produce themselves. In the 'Making History' module at level 5 students carry out self-selected mini-research planning projects on one of my research and teaching specialities, the campaign for women's votes in Britain. The culmination of this is, as is quite usual in History honours programmes, a longer, supervised research project on a topic chosen by each individual student. Students who have found difficulties in the research methodology-based modules earlier on in their programmes take a shorter 'Research Report' rather than the dissertation.

One of the key elements that we have in a number of our student-led research modules are unassessed and assessed group and individual presentations. These are introduced as group presentations at level 4, giving students opportunities to develop their confidence and presentational skills, progressing to an assessed twenty minute presentation which forms a vital part of the dissertation module assessment. In engaging students, both as groups and individuals, in research and articulating their research findings, these presentations, reports and dissertations can be seen as very high level examples of both SLRL and Research-led teaching.

Pedagogic Research-led Teaching (PRLT)

Research-led teaching need not just stem from our own, or our students' academic research. Investigations into teaching methods at university level can also provide an extremely valuable form of learning for students. Perhaps the best way to sum this up is to quote my colleague Karen again: 'Teaching itself, through reflective, critical pedagogy, should be treated as a valuable research base' and I would like to add, a very useful resource for research-led teaching.

Over many years, Karen, Rosemary and myself have engaged in learning and teaching research, including three grant-supported projects for the former History Subject Centre of the Higher Education Association. Our pedagogic research, including research into how university-level students learn and conceptualise key factors, has informed our teaching and student learning. My own research into reflective logs and diaries for students engaged in research projects includes student discussion on how they, as individuals, think and research.

Similarly, Karen's research project focusing on her own scholarship and later research of conceptualisations of race and national identity has provided a means for her to engage her students in this pedagogic research project and in realising something of their own intellectual and ideological development. Karen says: 'I conducted a (so far unpublished) piece of critical pedagogical work on raced identity within the student body on the Level 6 module Presenting the Past....students were asked to reflect on [their own] conceptualisations of "whiteness" and relate this to media re-presentations of the past.'

Teaching leading to Academic Research and Research-led teaching!

Finally, teaching, when supported by scholarship, enquiry and pedagogic reflection on our part, can also lead to new areas of academic research for us, in time turning this teaching into research-led teaching. We have also developed new areas of research and teaching in tandem. This has proved a very worthwhile strategy, bringing together teaching and research and making the range of teaching we conduct a positive virtue for our own academic research and for student learning.

In History at Leeds Trinity we have all done this in some way. Rosemary's teaching of medieval topics has allowed her to develop her Special Subject, 'Representations of the Medieval, 1750–1850', while Karen's 'History of Childhood' module, delivered to students on the College's Childhood and Youth and the History BA Honours programmes, led to her researching rural children and co-organising a LCVS conference on Victorian Childhoods. For me, teaching 'The History of Media' to Journalism students, together with my own personal interest in the crisis in Kosovo in 1999 and Bloody Sunday in Northern Ireland in 1972, led me to investigate methods for using newspaper and television reportage in teaching Contemporary History modules. Supported by a further History Subject Centre grant, such pedagogic research-led teaching has important implications.

Teaching has also led to our developing completely new areas of academic research. Again Karen's experience provides an excellent example of this: 'My decision to organise a three-day international conference for the LCVS

next summer (2012) on the Victorian conceptualisation of disability was in large part stimulated by my teaching the history of disability and Deaf history'. Currently one of Karen's dissertation students is investigating the History of disability, and intends to go into some form of work in this area after graduating. Karen is also breaking new, vital ground in the relatively new disciplines of 'Deaf and Disability Studies'.

Conclusion

In summary, our experience in History at Leeds Trinity demonstrates that while academic research-focused teaching is extremely useful for our students and ourselves as academics, with some widening of definitions and lateral thinking academics' methodological, conceptual and pedagogic research can just as equally enrich students' research-led teaching experiences. Research-centred learning, where research is conducted by the students themselves, can also produce research and learning that matter in the university, and enrich students' ability to understand, develop and apply encountered knowledge in all contexts in their lives outside of the academy. Finally, and very productively for us, with scholarship and reflection, teaching topics that are outside our academic research areas can inspire us to take up new areas of research bridging disciplines, sharing these experience with our students and again, producing research that really does matter.

Leeds Trinity University College has a student body of about 3,000 and received Taught Degree awarding powers in 2009.

Within the History subject area of the College's Humanities Department professorships were awarded to Dr Maureen Meikle, Professor of Early Modern History, Head of Humanities and Director of Academic Enhancement (Research) for the College and Dr Karen Sayer, Professor of Social and Cultural History in March 2011. Readerships were given to myself (Reader in Modern History) and Dr Rosemary Mitchell, Reader in Victorian Studies and Director of the Leeds Centre for Victorian Studies.

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Integrating service provision, research, and student learning in sport and health science: A replicable model?

Saul Bloxham, Ben Jane and Paul Salisbury
University College Plymouth St Mark & St John

This chapter examines a model of service delivery in operation at University College Plymouth St Mark and St John (Marjon). The service is a public-facing exercise referral (ER) programme delivered by students and staff at the HEI for NHS patients suffering with non-specific chronic low back pain. The report focuses on two outcomes of the model: the effectiveness of the ER programme to enhance the health of patients referred, and the perspectives of students who volunteered to help deliver the programme. The report also reviews the model's potential benefits to Marjon, particularly in light of the Browne report and the increasing pressures on HEIs to generate additional income streams.

Background

The model was developed in response to a local hospital's need for exercise referral for patients suffering from chronic low back pain. The relationship between Marjon and the NHS was initially forged through the recruitment of a professional advisory group (PAG) to steer a new degree programme, namely BSc (Hons) Health Exercise and Physical Activity (HEPA). It was apparent in discussions from an early stage that Marjon had the resources necessary to meet the needs of the NHS. These included: low cost delivery, appropriately trained staff, exercise facilities, effective management processes, monitoring of patients and the potential for periodic programme evaluations (action research). Low cost delivery could be achieved through the recruitment of students to help deliver the programme (under supervision). In turn this experience would

provide a rich vein of situational learning for the new undergraduate students. This student contribution was central to the model's design, yet the potential to integrate service delivery, research and enrich student learning became intuitively attractive for all involved.

The service

Each year nearly 5 million working days are lost through back pain and the condition is said to cost a total of £1.6 billion in health care costs (Maniadakis, 2000). It has been suggested that exercise has a positive impact on those suffering from Chronic Low-Back Pain (LBP) and does not increase the risk of further back injury or work-absence (Rainville, 2004). However, the majority of research into exercise therapy as a treatment for LBP has centred on delivering mono-disciplinary interventions that have focused on improving specific outcomes such as strength of the lumbar stabilising muscles (Rackwitz et al, 2006), functional range of motion of the lumbar spine (Nachemson, 1992, cited in McGill, 2007) or aerobic fitness (Chatzitheodorou et al, 2007). Considering that approximately 85% of cases are non-specific (European Guidelines for Prevention in Low Back Pain, 2004) it is unlikely that one particular approach can facilitate significant improvements in LBP. At present, there is a paucity of research that explores the effectiveness of holistic, multidisciplinary exercise programmes for the treatment of LBP.

The student learners

Matveev and Milter (2010) highlight a growing trend in higher education that encourages lecturing staff to shift the emphasis of their delivery from 'instructing' students to 'facilitating' or 'empowering' learning. Dewey's approach to learning advocated a learning style that equipped scholars with future, as well as present skills (Wojcikiewicz and Mural 2010). His seminal works (1889; 1916) also maintained that students should learn in a context not separate from the society in which they would reside, and that the environment in which education takes place is equally as important as the skill of the educators. Moreover, some of the students that helped deliver the programme were integral in shaping the delivery mode of the ER programme to its current form. The undergraduate dissertation project proved to be a suitable vehicle for this research, findings of which are summarised in this chapter.

Exercise Programme

Fifty nine patients were referred to the ER programme by the NHS hospital. They all undertook a six week group physical activity programme that included elements of movement awareness, core stability training, sports massage, activities of daily living, cardiovascular and resistance training (including aqua). Each week gave the participants the chance to participate in a safe, supervised environment but also included educational content, goal setting and behavioural modification support. Patients were encouraged to increase their weekly activity levels and all were issued with a pedometer, recording sheet and diary. Patients were also given information sheets and

exercises appropriate for their ability. The programme was specifically designed to adopt a holistic approach embedding a strong social-psychological theme.

Exercise Programme outcomes

The salient findings of the students' dissertation research on ER programme included significant improvements in patients' functionality, pain management, muscular endurance and cardiorespiratory fitness. It is noteworthy that the majority of patients were classified as having non-specific LBP, but had a raft of different causes that often remained undiagnosed. The findings of one particular student dissertation on the 'The effects of a multi-disciplinary physical activity programme on low back pain' revealed that the ER programme's success was perhaps its holistic and multi-aspect nature. It demonstrated the ER programmes potential to provide broad and relevant physical activity experiences that enabled each patient to derive benefits suited to their condition and ability. In particular, features that patients anecdotally enjoyed included the programme's educational themes, the group interaction, our student contribution, posture improvement, aqua fitness, walking programme, sport massage and diverse physical activities for the patients. Moreover each session had embedded activities of daily living that bore relevance to patients' daily challenges (McGill, 2007).

A student research project entitled 'The effectiveness of a 6 week lower back pain programme and the adherence to physical activity following the

programme' highlighted the need for a comprehensive exit programme to be developed. Further student research to develop and evaluate an exit programme was instigated the following year. Research to verify patient perceptions of the ER programme remains on-going.

Student perspectives

A focus group was selected to sample the perspectives of and to provoke discussion with students who volunteered to help deliver the programme. The focus group was administered in light of guidance by Long (2007). Six Diploma and Honours students volunteered for the focus group. Anonymity of respondents was assured and the use of names was not permitted during the focus group. The focus group was recorded, selectively transcribed and a process of open coding was used in order to analyse and disseminate the data. It is important to note that student dissertation projects were not prescribed by staff. Supervisors were sought outside the delivery team wherever possible.

When questioned on their reasons for taking part in the programme, all respondents intimated that their primary motivation was to boost their CVs. The absence of answers which related to supporting academic studies is noteworthy, although not especially surprising or negative given Dewey's theoretical position, the economic context and the pressure on students to secure employment. Since Dewey's 'rules' for experiences insist on students volunteering for such programmes, this very functional view of the respondents is indeed welcome and reassuring in terms of recruitment of future student volunteers.

Students are making conscious connections between volunteering and their future career plans. They appear to view the ER programme as a conduit by which to improve their prospects. This supports the assertion that such experience provides a meaningful context, not separate from the society in which they intend to work (Wojcikiewicz and Mural, 2010).

Conclusion

Since the ER programme's inception in 2008, over 30 students have helped in delivery and gained practical experience. This has resulted in 8 dissertation projects and 7 modular projects, all of which have achieved 1st or 2:1 classifications. The majority of these student-led projects have made some contribution to shaping the delivery and format of the ER programme. This rolling evaluative component of the ER model has been a distinct advantage, both ensuring the commissioning organization (NHS) maximizes its investment and the patients get the best quality of experience.

The ER programme has provided a small but significant additional income stream for the HEI. Findings from the annually-collated action research have been disseminated, including through a local 'Business Health Network', a regional 'South West Exercise Research Group' and through the HEI's Annual Learning and Teaching Conference. To date, six staff have either helped in delivery or furthered their research profile through publications and conference presentations related to the ER programme. Moreover, promotional material including a short video capturing patient

testimonials, has been used by the HEI to demonstrate the vocational relevance of its degree programmes. Most recently, Macmillan Cancer Support, based in a local South West Hospital, has commissioned the HEI to pilot a similar exercise programme as a feature of their cancer survivorship programme. They have requested a model of delivery identical to that of the LBP ER programme documented in this paper. Finally, staff have used the experience to publish action research, inform formal teaching content, engage in CPD and enhance their personal networks with local business and institutions.

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3

Between production and display: On teaching curating to Fine Art students

James A. Brown, Plymouth College of Art

This chapter will argue for the need to consider ‘situation’ as central to a contemporary fine art education. The recent increase in interest in the ‘sitedness’ of artwork, and the recent introduction of a number of new undergraduate and postgraduate programmes in related subjects – such as museum studies, curatorial studies, and similar – provide the context for the validation of the new BA(Hons) Fine art degree at Plymouth College of Art, which includes at its heart a Critical and Curatorial Practices pathway, unique to the UK.

The question for this project, then, was: how might we best deliver an education in critical and curatorial practices to fine art students, who are naturally oriented toward, and used to, a studio – and practice-based approach to their practice? This is considered in the context of a renewed interest in Nicolas Bourriaud’s ‘relational aesthetics’ as communicated through projects such as the Arnolfini/UWE ‘Situations’ project in Bristol, led by Claire Doherty, and the continued questioning of the role of the studio as the sole originating framework for the interpretation of contemporary art. It should be noted at this stage, however, that the significance of this research stretches beyond the delivery of a specific subject into the art school studio and classroom and creative disciplines more broadly, as some of its outcomes (concerning the learning styles of art students and how these may guide teaching) can also be applied in such contexts. These questions will be addressed through a case study detailing the initial cohort’s response to the 1st Year Critical and Curatorial Practices module, after first considering the centrality of site and situation to

contemporary art practices, and then addressing the particular nature of arts students’ learning styles.

Theoretical contexts

Miwon Kwon states that ‘our understanding of site has shifted from a fixed, physical location to somewhere or something constituted through social, economic, cultural and political processes.’ In ‘*Contemporary Art: From Studio to Situation*’, Claire Doherty links the terms ‘situation’ and ‘context’, using the latter to explain the former, describing ‘context’ as ‘an impetus, hindrance, inspiration and research subject for the process of making art’. However, I would go beyond simply suggesting context as a possible starting point for making art, and see it as the central content of all contemporary art. ‘By situated’, Doherty says, ‘we refer to those artistic practices for which “situation” or “context” is often the starting point.’ As a writer on art, I would argue that situation and context should be the necessary starting point of our interpretation (and therefore understanding) of all art works, contemporary or historical, because all works are both physically, but also ideologically, situated. This is why it is crucial that fine art students learn to be aware of context from a much broader perspective than the traditional confines of the art department studio.

Applications: Curatorial strategies and the marketplace

Doherty refers to the development of ‘a diverse range of curatorial strategies to support the visiting artist, particularly in relation to the creation of new work’ toward the ‘re-imagining of place as a situation, a set

of circumstances, geographical location, historical narrative, group of people or social agenda.’ This locates the creator of the work some distance from the notion of the artist as individualist creator of the singular artwork, again casting doubt upon the studio as the singular originating space from whence artworks emerge. Michel Maffesoli asserts that ‘[the image] no longer has anything to do with the individualism of modernity... The image is a bonding agent; it creates community, it welds together’. The work must now be considered as just one aspect of a Barthesian discourse that takes place between artist, institution, work, audience, space and place. Each ‘participant’ in this discourse takes no greater role than any other, the work existing as indicative of (and part of) a ‘network-based society’.

And thus the artist is again characterized as one who works with and within a broad range of contexts and situations.

The fine art student, then, must become more than the informed studio practitioner who courses have, up until recently, produced in numbers. Indeed, fine art graduates (as all arts graduates) are finding more than ever that they are leaving the academy only to enter an ultra-competitive market, where competition for representation by galleries or at art fairs means that only the most well-equipped for the market will find an outlet for their work. It is telling that *Saatchi Online* has become the last bastion of the artist searching for a setting within which their work may be viewed by some semblance of an audience. Indeed it appears that the more successful work on the site (both aesthetically

and financially) is that which works best in (digital) reproduction.

The role of the art department, then, must be to send forth artists who not only understand the demands of the marketplace as a site (and the growing range of media and forms in which their work will be sited), but are capable of siting their own work in a context that allows their work to thrive.

New pathways: The Critical and Curatorial Practices Module

A number of institutions in the UK (and elsewhere) have recognised the need for programmes which address this developing interest in the institutions and media which frame cultural production. However, in the majority of cases, these programmes seem to see the responsibility of the siting and framing of work as closer to the remit of the art historian (or museum curator in her traditional form) than of the artist, when the more relevant contemporary work, as Doherty suggests, seems to be that which critically engages in its context, as a discourse between artist, work, site and audience.

The Critical and Curatorial Practices pathway at Plymouth College of Art explores its subject from both an historical and contemporary perspective, providing students with a broad understanding of modes of production, display and consumption of art:

‘A particular emphasis is placed upon the analytical skills of criticism to underpin the students’ responses to their own work and the work of others, and the

practical and theoretical aspects of curation; both as increasingly diverse modes of operation’ (Plymouth College of Art, from rationale, Fine Art: Critical & Curatorial Practices pathway).

These ambitious aims do, of course, present potential difficulties, particularly when presenting first year students with ideas and perspectives which will challenge the typical fine art student. However, through a varied and, hopefully, exciting programme, the first cohort of students have developed their critical faculties, as well as their understanding of curatorship as a central part of art practice to a level beyond what we could have hoped for when planning the module.

In order to deliver a subject that bestrides practice and theory, it is first necessary to understand something of the learning styles of the students one will be addressing. In a study from 2005 Alice and David Kolb place students at Cleveland Institute of Art in polar opposition to, for example, MBA students. The arts students learn very much through the ‘feeling, acting, reflecting’ and ‘reflecting, feeling, thinking’ models (where the MBA students learn best through the ‘thinking, acting, reflecting’ or ‘thinking, reflecting’ models). This shows us, then, that the art student learns best through experimentation and experience (feeling, then acting, then reflecting), suggesting that a more experiential learning experience in the Kolb model would be better suited. Indeed, Kolb and Kolb characterise the differences between an art and management education thus:

‘The experimental learning process of demonstration – practice – production – critique that is used in most art classes[...] is repeated recursively in art education while management education is primarily discursive, with each topic covered in a linear sequence with little recursive repetition. Management education tends to emphasise theory while art education emphasizes integration of theory and practice.’

So, in order to deliver our subject effectively this integration of theory and practice is crucial, and is evident from the very first classroom activity that we do with our students.

‘The Curator’s Egg’

This task was presented to the students before we had spoken to them about the module documents, its content, or even explained the title of the module to them. They had not yet read any texts relating to this module (unless of their own volition). For two of the three staff in the classroom, this was the first time the students had met us. Their programme leader brought into the room a cardboard box containing a small wrapped package for each student (a quail’s egg wrapped in white tissue paper). We gave them few details as to the origin of the objects and, surprisingly, not one of the students were able or willing to make a confident guess as to even what animal had laid them (one thought they might have been from a crocodile!). The task was simple. They were to display the egg, and consider the implications for meaning and interpretation that their presentation may have. We call the task ‘the curator’s egg’.

A group of 1st Year Critical and Curatorial Practices students present their final project to their peers, lecturer and staff from Plymouth City Museum and Art Gallery.



Adam Milford (Plymouth City Museum and Art Gallery)

Each student approached the task from very different perspectives, often using previous experience as a starting point. For example, the draftsman painstakingly peeled the outer shell from the egg, using its fragments to draw a composition with the delicate inner shell (and its contents) as its central focus; the painter used the fluid innards of the egg to trace a stroke across a surface (in this case a mirror) and the film-maker made a semi-abstract film set to an experimental soundtrack (all produced within the session).

According to the Kolb model of the experiential learning process, one of the six propositions upon which it is built is that:

'...learning occurs through equilibration of the dialectic process of assimilating new experiences into existing concepts and accommodating existing concepts into new experience.'

What each of these responses to the task shows us is that students will bring to bear prior knowledge and experience to new experiences and problems, assimilating both into a holistic and productive learning experience. After completing this task during the first session, in subsequent sessions theoretical and contextual texts are then introduced. Although, each session is subsequently split in two parts, what we might call a 'showing' part, and an 'experiencing' part. However, even in the 'showing' part of the session, which involves the delivery of theoretical positions and conceptual ideas relating to various areas of curatorial practices, these abstract

concepts are communicated through concrete examples drawn from a range of curatorial/art practices.

Having already curated their egg during the previous session, the theoretical reading and learning is contextualised by the practical, experiential tasks, rather than the other way around.

Kolb and Kolb observe that art school students demonstrated a significant shift from the reflective to active modes of learning, 'perhaps indicating student growth and development toward a more active role in their learning as a result of the empowering, active structure of the [art school] learning environment'. Our students also demonstrated this tendency, becoming more and more active learners as the module developed.

Plymouth City Museum and Art Gallery

This active learning is no more evident than in their response to the final project they were given. This semi-live project was delivered in collaboration with Plymouth City Museum and Art Gallery. The students were asked to respond to the work that was currently hanging in the main stairwell of the museum. The brief is, again, very open, simply asking for a curated response to the site and the work, including: a curatorial statement, a project proposal, a written critical response, and any other documentation the group members feel necessary.

The students were asked to respond as much to the space as to the work, and one of the groups decided early on that the space of the stairwell could not be seen as independent from the rest of the museum (and of the institution's ideologies), and so came to the conclusion that

whatever was to occupy the stairwell space must extend into other areas of the museum.

This particular group considered the implications of making work for a museum such as this one beyond the physical nature of the space. One of the key aims of this module is to encourage students to question the social and ethical implications of the roles of the curator, artist and institution, and during assessments, this is one of the key aspects of learning that students brought up when asked what they felt they had gained from the module. That is, that they now considered the setting of the work as important to its meaning as its subject matter or form.

Learning through experience

What is important here, is that this learning has been achieved through *experiencing* the role of the curator, artist and/or writer in each task with which the students are presented. For this final task, and particularly for the group I have briefly discussed here, this meant interviewing the artist of the current work, speaking to the keeper of art at the museum as well as researching into funding bodies and their application processes. By this stage in the module, these students had taken complete ownership of the project, and tutor input was minimal.

As one member of the group put it:

'I particularly found the experiential aspects of my learning useful – learning through doing has such an impact. Also, the andragogical principles which underpin the module – collaboration, action and reflection, critical thinking and self-direction – motivated our group to

really get to grips with real projects: theoretically initially[...] then in practice through the curation of the British Art Show 7 newspaper.'

Moreover, the project that was submitted by this group of students demonstrated that the notion of sitedness (and how site must be considered an ideological space as much as a physical one) had been fully integrated into their consideration about the placing of their own work as fine artists (and, as is evident in work for subsequent modules, continues to be so). This cohort of first year fine art students is showing an increasing concern with the 'politics' of sitedness, and beginning to view themselves as more than studio artists, indeed, they are more aware (as has been evident through tutorials) than previous cohorts of the meanings inherent in the studio itself.

As a direct result of this module, a group of students from the cohort became involved in the publication of a three-issue newspaper, *Nebula*, published to coincide with the *British Art Show 7: In the Days of the Comet* during the Plymouth leg of its four-city tour. This required the students (as art writers) to produce publications which addressed the broad public at which the show was aimed, taking into consideration the relationships between curator, artist, institution and place (the show took place in a university gallery, a municipal museum, an arts centre and a non-artspace), writer and audience. This allowed the students to take the skills learned through the academic module directly into the context of a large-scale public-facing

The Critical and Curatorial Practices modules at Plymouth College of Art encourage students to consider context and site as

central to their understanding of the relationships between artist, institution and audience.



Adam Milford (Plymouth City Museum and Art Gallery)

arts project. The high quality of the published outcome of this project is further testament to the learning achieved through the Critical and Curatorial Practices module at PCA. If we are to produce students who are able to make work in critical discourse with the contemporary art world (museum, market, biennials, critics, Saatchi and all), then we must encourage them, in the words of Guy Debord, to ‘drop their usual motives for movement and action... and let themselves be drawn by the attractions of the terrain and the encounters that they find there.’

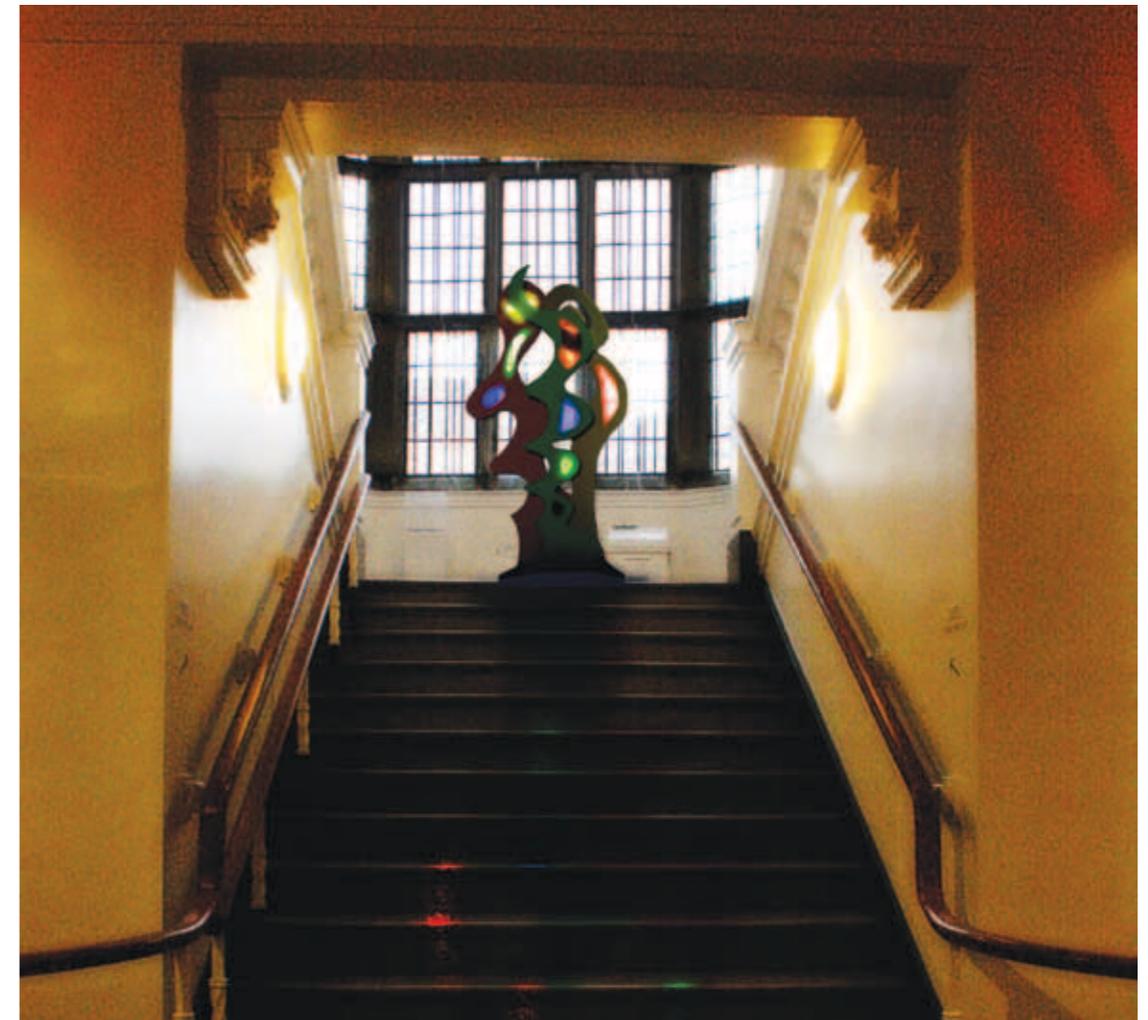
I would like in particular to acknowledge Marianne Torrance and Joan Dawson as collaborators in the design of this module/pathway.

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Photoshop image showing one student group’s final project outcome. The sculpture was designed to inhabit the specific space in the museum stairwell,

utilising the light that shines through the window behind at particular times of day.



Adam Milford (Plymouth City Museum and Art Gallery)

Creative Challenge: Entrepreneurship education and research

Kerstin Mey and Uwe Derksen, University for the Creative Arts

The Creative Challenge is an exciting and inspiring industry-led and research-directed programme for undergraduate and postgraduate students developed by Uwe Derksen, Assistant Director of Research and Enterprise at the University for the Creative Arts together with input by colleagues and industry. Now in its seventh year, it invites and tests the applicability of students' creative ideas and inquiry against real world demands. Set in the context of the triple bottom line agenda (profit, people, planet), it focuses not only on profit margins and human self-interest but on societal challenges.

The premise for this pioneering, extra-curricular scheme is formed by the insight that over 40% of art and design students enter self-employment, according to a recent Creative Graduates Creative Futures Forum (2010). Yet most do not recognise entrepreneurial skills as intimately connected to their career prospects or to critical inquiry and its impact. Neither are students satisfied with the ways this expertise is acquired within the academic curriculum. Through extra-curricular interventions such as the Creative Challenge students develop some of the important skills associated with entrepreneurship, which includes the translation of research and development into innovative applications and viable business propositions.

The Creative Challenge has evolved over the years and is underpinned by enterprise and pedagogic research supported by UCA and the Higher Education Entrepreneurship Group. It takes into consideration the experience of student entrepreneurship support in the Higher Education sector. The initiative invites students to come up with a creative idea for a new product, service,

business model or process that demonstrates sustainability, originality and innovation – the lifeblood of the creative industries. Ideas should have the potential of becoming a commercial success in the broadest sense of 'exchange of that which has value'.

The competition process launches with a series of initial ideas workshops, followed by mentoring and face-to-face coaching in order to enable students to research, articulate and situate their ideas within real life contexts. These elements are delivered with industry and business input and underpinned through student peer learning. They are designed to complement course programmes at both Undergraduate and Postgraduate levels. The knowledge, skills and experience gained through this extended induction programme will be invaluable in helping students achieve excellence in their chosen academic programme of study; and the latter also informs their germination and nourishment of creative ideas, as previous or current course work can be used as a basis for the articulation and advancement of Creative Challenge ideas.

The Creative Challenge culminates in an assessment of the submitted and refined ideas by senior academic and industry representatives. The competition winners are awarded industry and business placements and a range of other prizes that support their creative work in the future. These have been made possible by sustained sponsorship from the business and academic communities including UCA Governors and alumni.

The Creative Challenge brings entrepreneurship and the research and development embedded in it closer to academic provision and offers students the opportunity

for credible business exposure, i.e. it highlights the real world impact of research and development. Likewise, this initiative provides the creative industries and business communities with a platform to engage with the University and its creative students and to inform the academic curriculum.

Creative Challenge finalists 2010/11 with CC organising team and guest speaker. From left: Natasha Jasper-Cruse, Andrew Tilling and far right: Parminder Vir OBE; and Uwe Derksen, Head of Creative Challenge.



Creative Challenge
setting the pace for the future

‘Blackpool Vistas’: Rethinking theoretical studies in Art and Design as research-led teaching

Jill Fernie-Clarke, Leeds College of Art

Introduction

Much of the information and observations presented here are drawn from primary sources, direct personal experience, action, and from first-hand involvement in the delivery of Critical and Contextual Studies in Art and Design in Higher Education. This is a reflection upon specific collaborations and on the aspects of creativity that result from juxtapositions and contact with others.

The importance of the relationships of creative individuals with things outside themselves is occasionally acknowledged in biographies, monographs and exhibitions where concessions may be made to ‘influences’. Design histories and the social history of art have their respective niches, but generally, the notion of the creative, talented *individual* still dominates art education; the vast majority of documentaries, books and exhibitions about the visual arts support this view. Our Higher Education system in Art and Design mirrors this approach, with the normal culmination of three years of undergraduate study being the student’s ‘final show’ and the Final Major Project (FMP) which demonstrates the creativity and skills acquired by the individual. Whilst undergraduates are usually required to contextualise their work, and are usually encouraged to relate it to ‘real’ scenarios, the main emphasis of contemporary degree courses is upon the individual and the product(s) of their creativity.

The Blackpool Vistas project demonstrates that ‘contextual practice’ – wherein individual creativity is actively applied to contextual ends – is an area of activity where it is possible for theory, creativity and practice to meet. It is clear that outside academic frameworks

‘creatives’ are working within a complex network of intersecting social, political and commercial contexts. The project was an attempt to use contextual practice to connect the educational context with the immediate external social and artistic context and to create opportunities for staff and students to contextualise their work. What follows is a description of how ‘contextual practice’ was used in the Blackpool Vistas project (BV), offering potential models of creative, collaborative and contextual practice.

Context

Blackpool Vistas was initiated in 2006 in order to provide an umbrella for focused ‘research activity’ for the staff and students who were involved in a new MA programme. The curriculum design of the resulting interdisciplinary MA was based on the principle of research, analysis, synthesis with the research and analysis for practice and theory outcomes being one and the same. All activity was linked to the student’s initial proposal for their own research and practice, and Critical Studies modules were the focus for group activity and the teaching of generic skills and knowledge which could then be applied to individual studio-based research projects.

In terms of the development of the overall context for the MA, inspiration came from the Cumbria Institute of the Arts (CIA) *Landscape & Environment Symposium* held at the Lanternhouse in Ulverston in March 2005. At that time CIA was an institution with aspirations to university status and the desire to develop a research culture. Indeed, throughout the North West, art and design departments in HEIs had banded together to form a NW Universities

‘research group’ which organised the ‘Creative Dates’ event at Liverpool John Moores University in 2004. ‘Creative Dates’ provided a forum for research active staff from a range of HE institutions to present their work. At both events representatives from the University of Salford presented the results of their work in the community. ‘Salford Reds’ (Haywood, 2007) was an example of contextual practice that used local resources, theory and practice. The focus of the majority of activity at the CIA symposium was the immediate Cumbrian and North West context, the local *Landscape and Environment*. Inspired by the title of the symposium, a proposal for a panel of three papers looking at the immediate Blackpool context was offered and accepted.

The reception of the Blackpool papers at the *Landscape and Environment* symposium was positive, indicating to the panel that the Blackpool context was worthy of study. Simultaneous with the realisation that Blackpool might offer potential in terms of arts-based research, there were other developments in town. The curator at The Grundy Art Gallery was keen to utilise and celebrate the Blackpool identity in his exhibition programme. A new creative director had been appointed at the illuminations department of the Borough Council, and the North West Development Agency’s ‘Creative Lancashire’ had appointed a Blackpool-based representative charged with supporting the creative industries and organising networking events in the town. In addition to these developments, the MA programme was also charged with the task of improving graduate retention and, against a backdrop of discussions about the role of education and of the arts and creative

industries in regeneration, there was an increasing requirement that the new programme be outward-facing.

A summary of the context for the initiation of the Blackpool Vistas Project would therefore include the following:

- A non-university town with unique identity and untapped potential in terms of it being the subject for arts-based research.
- The ‘Creative Industries’ appeared to be high on the local government agenda.
- A number of local contacts were willing to collaborate, these include The Grundy Gallery; Blackpool Illuminations; local artists’ and Creative Lancashire.
- Art and Design departments in the North were mobilising to collaboratively support research in Art and Design.

Thinking ahead to the dissemination of arts-based research in Blackpool there was also a need to develop an infrastructure for showing student work in the town so that more local first-hand encounters with exhibited work could take place and students’ work could be made visible and to facilitate relevant connections with the immediate context. Inspired by the CIA’s *Landscape and Environment* symposium held at the Lanternhouse, Ulverston and by that town’s annual arts festival, there was also the idea of organising an ‘event’ that would provide a focus for the production and exhibition of work.

This thinking led to an initial meeting between academic staff, Creative Lancashire and arts staff from

local government including the Blackpool Illuminations Department. The idea of an arts event matched the thinking of local government and out of this emerged plans for an ‘arts festival’ to involve local artists, students and College staff.

The underpinning theoretical context

A cohesive set of concepts were needed in order to set the context for visual enquiry and to present a direction for the visual work. These came from the theorist Louis Althusser (Hall, 1985) and authors Peter Stallybrass and Allon White (1986) who discuss the ways in which images can present an ideological transformation of a social formation. In particular Stallybrass and White were interested in representations of transgression. This had been discussed in one of the Blackpool papers presented at the *Landscape and Environment* symposium which looked at televised representations of Blackpool, their relationship to long established narrative traditions, and the figuration of the urban environment as dangerous to morals. Rather than showing the ‘realities’ of contemporary Blackpool TV drama series such as *Funland* (2005) and *Blackpool* (2004) represented the town according to an established set of conventions that showed it as having a corrupting influence. This could be interpreted as an ideological transformation, an idea explored in a paper (which grew out of the initial Blackpool Vistas paper presented in 2005) and which was developed and published as *Contemporary Carnival: Blackpool and the symbolic suspension of real-life* (Fernie-Clarke 2007). Underpinning the Blackpool Vistas project was the impetus to produce positive images of

the town, images that challenged the established mode of showing it to be dissolute, corrupting and negative. The visual work was to offer a direct effort to improve perceptions of the town through the production of imagery that purposely defied existing stereotypical representations of Blackpool.

The Blackpool Vistas Arts Festivals 2007/2008

Planning began in 2006 and the first symposium titled *Blackpool Vistas: Representation, transformation, regeneration* took place at Blackpool and the Fylde College on the 14th February 2007. Exhibitions were held in the College and at several venues externally, including a nightclub, a coffee bar and the studios of a local artists’ collective. In addition to students’ exhibits there were also associated exhibitions of work by local artists. In order to further contextualise the festival information was published on the associated Blackpool Vistas website, which was active from 2006–2011 and which included active links to other arts organisations and participating artists’ personal websites. Contributors to the first event included:

- Nick Kowalski and Orb Artists’ Studios who presented Post-ed an exhibition of contemporary work based on Blackpool held at The Comrades Club, Adelaide Street.
- 1000 Degrees North III, an exhibition of photographic work by Blackpool students and alumni at nightclub *Beat*.
- MA student Garth Bucknill’s *Areas of the Sublime* on show in The Lecture Theatre, The School of Art & Design, Palatine Road.

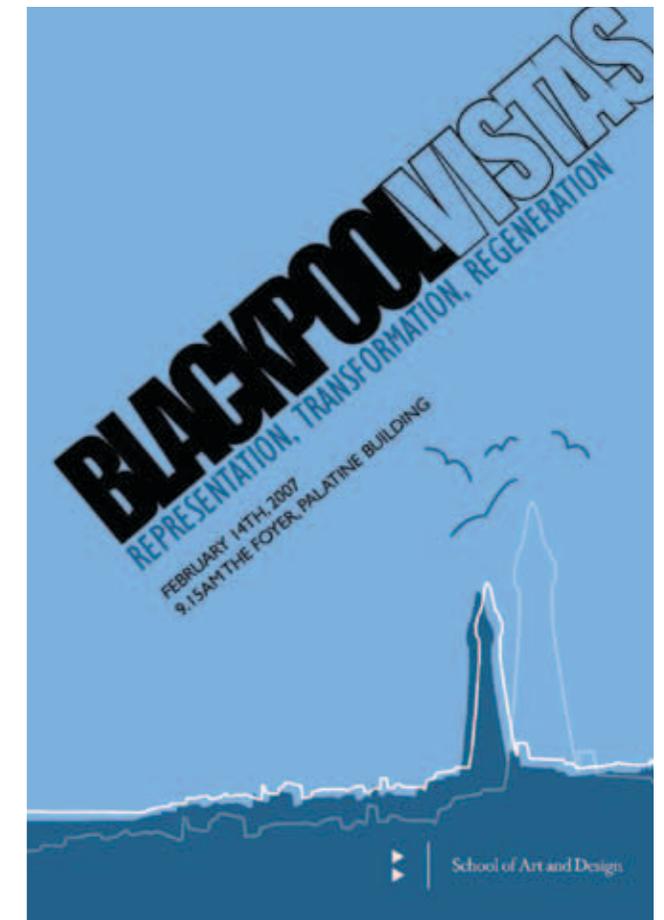
- Yannick Dixon’s *Blackpool: An Unimagined Space?* on show in The Foyer, The School of Art & Design, Palatine Road.
- Gwen Jones – ‘The Comrades Club’- a site of difference? showing on the staircase, Orb Artists’ Studios.
- Paul Rogers – *Touching the Horizon II at the coffee bar Barista*.

To coincide with this, and advertised on the *Blackpool Vistas* promotional material, The Grundy Art Gallery showed the work of local emergent artist Stuart Edmondson and the illuminations ran a ‘Festival of Light’.

Undergraduates also contributed with a graphics project titled ‘Conversations’ which involved Level 4 students working on Blackpool-inspired typographic work that was published as a book of postcards on sale at the events. The speakers at the symposium included colleagues from the Manchester Metropolitan and Salford Universities as well as local artists, members of staff, students and an interested publisher. Papers were grouped according to the conference theme which was ‘Representation, transformation, regeneration’, acknowledging the agendas of agencies promoting the ‘Creative Industries’ in the region. A fee was charged in order to offset the cost of catering and it was attended by academics, members of the public and practitioners, as well as HE students at all levels of study.

Following the positive reception of the 2007 events a similar festival took place in 2008 which involved students at all levels of undergraduate and postgraduate study as exhibitors, presenters or delegates.

The Blackpool Vistas Arts Festival 2007, booklet cover



Blackpool Vistas 09

In 2009 the theoretical context of the project remained the same, i.e. the transformation of thinking about Blackpool through work that attempted to change perceptions and challenge stereotypical representations of Blackpool. The continued enquiry into the Blackpool context (described in the abstract above) was funded by Arts Council England and was focused specifically upon the ‘Comrades Club’, which had been included in the previous events as an exhibition space. In 2009 it was the subject of research and related art work which took the form of an installation. The Club also hosted the symposium and associated exhibitions of work.

Conclusion

From 2006–2009 the Blackpool Vistas project offered HE staff, students and local artists a focal point and a context in which to exhibit, talk about and promote their work and the project became an integral part of an MA programme. It harnessed the desire of local agencies and artists to act together in order to create a context for work produced in the town, and as demonstrated above, relied on the collaborations between students and the wider academic, artistic and local communities. It facilitated interdisciplinary contact between staff, students and local practitioners as well as contact between undergraduate and postgraduate students. It was organised and facilitated by ‘contextual practitioners’ who were simultaneously the staff delivering Critical and Contextual Studies across the School and who, because of their continued working across disciplines, and levels, and their involvement in the

development of an interdisciplinary MA, were able to act with relative impartiality to involve multiple partners, to collaborate in order to do ‘research’, and to provide a generic theoretical context for the visual work of staff and students. The author of this chapter continued to work on the Blackpool context beyond the end of the Blackpool Vistas project with the publication ‘Visitors, Leisure, Pleasure and Ideological Practice: Blackpool Coronation Street and the Low-Other’ in 2010, further investigating the relationships between representations of the town and visitor behaviour.

This demonstrates that those working successfully to deliver Critical and Contextual Studies across art & design disciplines are perhaps uniquely, and ideally, placed to initiate the creation of a context for the practice-based research produced by students, to bring together practitioners and theorists from different disciplines and to interface with external partners. This also points towards the possibility that the Contextual Skills curriculum could move away from the emphasis on history, theory and the individualism of the practitioner, to incorporate the study of and participation in projects such as this, involving collaborative work, relevant theoretical perspectives, practice and awareness of the interplay and complexity of contemporary art and design contexts.

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Glassblowing: A sustainably viable creative practice

Ian Hankey, Plymouth College of Art

I never really thought of myself as a researcher, perhaps because I left school without any formal qualifications. School on the outskirts of Merseyside was more a question of crowd control rather than education. It was a surprise to me that I began to excel at the theoretical aspects of the engineering craft apprenticeship onto which I was lucky enough to be accepted. It seems that where there is a practical problem that needs to be resolved, it suits my learning style.

The confidence I began to develop during my apprenticeship eventually led to a degree in 3 dimensional design followed by a Master's Degree in glassmaking at The Royal College of Art. My experience of seven years as technical instructor in hot glass, a PGCE and four years managing a creative business both in the UK and the USA placed me in a position to teach, and my PGCE allowed me to develop ideas which form the basis of my research.

I am incredibly lucky to have had the opportunity to take time out of my Masters Degree to work for Simon Moore in the mid 1990's as a glassmaking assistant. I now consider this the most important learning experience of my life. In his early career Simon was glassmaking assistant to Ronnie Wilkinson, a master glassmaker at Whitefriars Glass, a factory that can trace its origins back to 1720, and closed in 1980. As Ronnie passed on a great deal of skill to Simon, Simon passed on some of that skill to me; I think it is absolutely essential to pass the skill that I possess on to as many people as possible.

Technique, manufacturing and the Art School

Because of my practical engineering background, I have always considered the acquisition and application of practical skill as at least as important as the development of creative ideas. The way glassmaking has been taught in Art Colleges since the late 1960s has been heavily influenced by a quotation from one of the early pioneers of art glass, Harvey Littleton. His phrase, 'Technique is cheap' (Stankard, 2001) became a central theme of this new and exciting art glass movement. The ramifications of this approach can still be felt today where skill, and by this I mean the traditional skill found in factories, can be seen as restrictive to the creative process. Littleton never intended to devalue technique in the hands of a creative maker, only intending to point out that 'technique in and of itself is nothing' (Byrd, 2001). This fresh and liberating approach, advanced by Littleton and Sam Herman who came to the UK from the USA to establish the first art glass studio at the Royal College of Art (RCA), also heavily influenced the Ceramics department, particularly when the two disciplines were combined. Craftspeople such as Alison Britain chose to 'by-pass' their skills to produce fabulous work, using what many would consider rough workmanship, that somehow continued to display a masterful tacit understanding of materials and processes.

Unfortunately, there is a world of difference between a maker like Alison Britain and someone emulating that approach, producing rough workmanship to the best of their practical ability, and this is where I can see a real problem that needs to be dealt with by researchers and teachers. Over the years, we have lost the practical

knowledge of the factories as we have searched for new ways of pushing back the boundaries of contemporary craft, with the craftspeople increasingly searching for new meaning to their art. While this has gone on, we have all but lost our manufacturing industries in ceramics and glass in the UK. The problem is, technique is no longer cheap. It is becoming increasingly rare, and in the case of some tacit skills, already lost.

There is a necessity for the re-evaluation of tacit knowledge within our administrative and political structures. In modern society, where technical rationality is dominant mode of thinking, the working practitioner has very little credibility or voice. All my work is an attempt to square the circle: joining learning and making a living; history with the future; valuing the whole person; learning as much as writing. My current research is an aspect of this determination to look to the past for what could be used in the future, just as I use a historical lens to view how tacit skills were valued in the past and how they could and should be valued again.

The Research Context

It occurred to me that the Venetian glassmakers used clay pots which would have to have been 'glazed' using a small amount of pre-melted 'cullet' which would then be ladled around the walls of the crucible, thereby protecting the pot from damage. With this knowledge, I developed a way of melting the Venetian glass and worked with it. The results astonished me. This 17th century glass has tremendous working characteristics compared to our modern glass recipes. When I experienced working with this formula,

I knew instinctively that this glass was developed by a glassmaker. In that period many craftspeople had the same credibility as scientists or technologists; if we go further back in history we see Leonardo Da Vinci painting the Mona Lisa, producing analytical drawings of the workings of the human body and designing helicopters, weapons and fortifications. The ancient Greek root word 'tech' in technology, is in fact 'art', or more precisely artisan. So in fact, technology could be described as 'artology'. There equality of credibility of between the artist, scientist or craftspeople existed because they could well be disciplines practiced by the same person. In terms of conceptual understanding, *reflective rationality* was the only mode of thinking available. This results in a 'try it and see' kind of research. Since then, for the most part art and science have separated and become two very different disciplines, which in turn require equally different kinds of rationality.

Modern glass is not made to recipes developed by glassmakers but rather developed by technicians looking at chemical compositions. What is important in these recipes is the clarity required in batch production under rapid conditions. In other words glass recipes are designed to support industrial conditions, but they are not set up to be sympathetic to the maker. The problems of industrialisation are systemic: as industry became more dominant, society required an increasingly complex structure. Administrative and political systems became more and more specialised, with a corresponding negative effect on the craftspeople. Once the link between the recipe and the process was broken in glassmaking the craftspeople could only specialise more. This way of

conceptualising administrative intervention in educational and administrative systems is known as *technical rationality* and follows three main assumptions:

There are general solutions to practical problems. These solutions can be developed outside practical situations (in research or administrative centres).

The solutions can be translated into teachers' actions by means of publications, training administrative orders etc. (Altrichter, Posch & Somekh, 1993)

The most crucial aspect of modern technical rationality is that administrative and political change is decided outside the working environment and handed down the chain of management to the practitioner in the form of instruction or training.

Before the industrial revolution and the complex explicit administrative systems that accompanied it, the preferred mode of thinking was that of *reflective rationality* which, in contrast, follows three very different assumptions:

Complex practical problems demand specific solutions.

These solutions can be developed only inside the context in which the problem arises and in which the practitioner is a crucial and determining element. The solutions cannot be successfully applied to other contexts but they can be made accessible to other practitioners as hypotheses to be tested (Altrichter, Posch & Somekh, 1993).

The most significant aspect of reflective rationality was that any change was made within the practitioners' working environment. Solutions to problems were found in the glassmakers' working environment, inside the context in which the problem arises.

These days every person who works in a large organisation has to have their role defined, and as a society we have become accustomed to having our roles defined on paper in a contract of employment. But as we know, tacit skills such as those belonging to the glassmaker cannot be articulated into words. As such, it is impossible to define the glassmakers' role (or that of any practitioner) adequately. The problem is that once we attempt to make a system transparent, we must try to define it in order for it to be understood. As it is impossible to articulate the tacit elements, what is left is only what can be adequately described. The tacit elements, those vital ingredients that are needed to achieve quality in anything that we do, are lost.

The Research Project

Ten years ago, I began working in my spare time on a design for a new type of glass furnace that uses reflective rationality at its heart. Researching the development of pre-17th century kiln technology has led to the design of a new sustainable studio glass furnace with modern technology and materials. Over the last three years, with support from the Research Subcommittee at Plymouth College of Art, I have been able to put the design into practice. The aim of this research is to provide a breakthrough for sustainable studio glass technology. This way of working is far more labour-intensive, but this is not a negative. With the glassmaker more in control of the materials and the process, the skills that previously were thought beyond modern knowledge are retrievable again. In collaboration with Plymouth College of Art, Safelame

Ltd, Dartington Crystal and the Shops at Dartington, I have placed a prototype furnace in a professional environment in order to demonstrate that a sustainable and viable business model for graduates is possible.

The project increases the capacity of PCA's glass facility and provides practical experiences for our students via work-based learning, internship opportunities and graduate start-up schemes. During the next year, a larger furnace will be constructed for this site which will incorporate crucibles, a gloryhole and annealing oven. As with the current prototype, this new equipment will then be tested and evaluated in a professional and business context. The prototype furnace has consistently produced good quality products, with a reduction in running costs of well over 50% when compared with conventional furnaces. When we consider that the furnace can be turned on only when needed, and simply turned off when not in use, we see the tremendous potential for the setting up of micro businesses in a sector that is rapidly declining due to spiralling energy costs and competition from high quality, low cost imports.

The RGH 1 prototype glass furnace, based on 17th century ideas of sustainable design, with the gloryhole used to reheat the products as an integral part of the furnace rather than a stand-alone unit which is expensive to run. This furnace was built without measured drawings, but uses the dimensions of standard refractory bricks and the size of the crucible and an oil drum as concise units of measurement. This ensures an extremely simple design with no bricks to cut, and is an example of the effective use of reflective rationality as a preferred mode of

The RGH 1 prototype glass furnace, based on 17th century ideas of sustainable design, with the gloryhole used to reheat the

products as an integral part of the furnace rather than a stand-alone unit which is expensive to run.



thinking when designing and building new or innovative equipment. It costs £40 per day to run on bottled propane and can run on natural gas at an estimate of £25 per day, and can reach working temperature in only 4 hours from cold. Similarly it can be turned off at the end of the day without damage to crucible or combustion chamber. In comparison, standard furnaces take days to heat up, many costing over £100 a day to run and need to be on day and night, sometimes over the lifetime of the furnace.

At a theoretical level, the whole project is actually about tacit skill: the fact that we know more than we can say. Many years ago I worked for a few months as a plumber in a large housing estate. We worked in teams of five and specialised in one day central heating installations. I worked in a team that generally finished the job by 2pm each day (we were paid by the job, not by the hour). As the junior member it was my job to hang the radiators on the walls. On my 1st day, the foreman found me measuring up with a tape and a level, as I was taught during my apprenticeship. He took them off me and told me that he would sack me if he saw me with them again. I thought this was unprofessional and shoddy until he demonstrated how he wanted the job done. He placed each radiator on the floor at the points where they would be fitted. He drew a pencil line across the top of the radiators and then pulled the top away from the wall, noting where the brackets would be, and drew two vertical lines at those points. Where the two lines crossed would be the place where two holes would be drilled. Once this was done, the bracket would be placed in position and the lower screw hole could be marked and drilled. This meant that instead of the job

taking four hours, I could have all the radiators on the wall in less than an hour.

It also eliminated the risk of holes being slightly out, causing instability problems and making the radiator uneven. As the radiator was related to the floor in each case, they always looked level to the eye and were always the same distance from the ground which corresponded to the distance between the top of the bracket to the top of the radiator.

Far from being unprofessional and shoddy, this method was far more efficient and always looked good because it was installed using the components and the immediate environment as integral units of measurement. It formed a local system, utilising tacit skill and knowledge, developed by craftsmen in their working environment, and is a great example of reflective rationality. The way I was taught during my apprenticeship, developed outside of the local environment and handed down in the form of instruction and training, is an example of technical rationality; societies preferred mode of thinking since the industrial revolution.

The first vital component within the furnace is the crucible, and each part of the furnace is designed around that. Once we have the crucible, we can estimate the size of the combustion chamber allowing for 6 or 7 inches of ceramic fiber in the walls. Luckily, an oil drum is pretty much perfect and saves a great deal in fabrication costs. There are no dimensions on drawings here because none are needed. The size of the bricks are used as units of measurement which means that no bricks need to be cut at the base of the furnace. Once we put the bricks on the

floor, we simply measure them and add 3mm to each edge to find the size of the metal base plate. So from the size of the crucible, we get the size of the combustion chamber. From this we find the size of the brick base, which in turn gives us the size of the metal base plate.

Using reflective rationality as the preferred mode of thinking, the result is a furnace that is incredibly simple to construct, allowing graduates to build their own equipment and providing an alternative, viable and sustainable business model. In terms of access to this research, the aim is to put all the information about the construction of the prototype furnace on line, in the public domain through



Jodie Burns, part time Plymouth College of Art BA student making glass vases at the Dartington Worksop. Jodie is experiencing the development of tacit skill working in a professional environment, dealing

directly with the public and maintaining and building furnace equipment. These experiences complement the existing glass programme at Plymouth College of Art.

open access, as it is only through the free distribution of information that we can stop and reverse the devastating decline in the glassblowing sector.

The workshop was built and furnace installed in one month and opened in August 2011 in time for the 'Making Futures' conference held at Dartington Hall and organised by Plymouth College of Art (PCA) in September 2011. The aim of the workshop is to prove the financial validity of a small scale business that could be built in a small workshop or even a garden shed, and to provide a professional working environment for PCA students to train and eventually run as an incubator unit after they graduate.



Nikki Crabb, Part time Plymouth College of Art BA student working with Ian Hankey to produce work to be sold in the gallery at The Shops At Dartington.



We have also had Foundation Degree students visiting the workshop as part of their work-based learning module, and place great emphasis on interacting with the public, offering the opportunity to experience a craft which is now regarded as an endangered subject.

Conclusion

Underpinning this practical research is a deeper enquiry into the place and position of tacit knowledge. Comparing the technical rationality of today with pre-Industrial Revolution reflective rationality, I suggest that our actual mode of thinking, the way we think as a society, actively undermines the importance and recognition of tacit skill. The furnace that I have developed uses a historical impetus for design. The design uses new materials to replicate pre-17th century modes of thinking, techniques and glass recipes. Working with these techniques and recipes means that students find the glass is easier to work – it teaches more about blowing glass, about the properties of glass itself, than ‘normal’ furnace glass does. So students learn more, and more quickly.

Finally, it is vital that we teach glass technology either within our glass degree courses, or as an option that complements the program. Graduate makers have in the past left College as consumers when it comes to setting up a business. Buying glass furnace equipment off the shelf is extremely expensive and it is the main reason students chose not to work in blown glass, considering it to be too expensive and complex when viewed alongside the technology and safety ramifications. Glassmaking graduates of Plymouth College of Art will leave with the

technical knowledge and tacit understanding that allows their creativity to thrive and continue to develop. For technique is no longer cheap: it is increasingly rare, and very precious indeed.

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Theatre for Development

Lesley Haig, Matthew Hahn and Mark Griffin
St Mary's University College

The undergraduate programme in Drama and Applied Theatre at St Mary's University College provides opportunities for students to explore ways in which theatre-based research and practice might actively contribute to social and political change. The programme works in partnership with a number of groups to deliver health education and advocacy to local communities. This allows students to understand and experience ways in which drama techniques can be used to promote social and political change. As part of the programme, students take the Theatre for Development module, which requires them to research the socio-political situation in a particular country, research and pursue funding opportunities, administrate fundraising events, galvanise support for their work and create a range of performance pieces.

Field research

As part of the Theatre for Development module currently, students travel to Africa and work with others in local schools and with community groups. As well as exposing them to a specific cultural context, students have an opportunity to reflect on how their learning within a British University can be further influenced and, if necessary, challenged by the active practice of teachers working in Africa. The visit to Africa in the students' third year is the culmination of their training in Applied Theatre. The trip introduces the students to the key challenges in using drama to support national and international development programmes. The Applied Theatre programme works in partnership with Theatre for a Change (TfaC) in Malawi. TfaC is a charity based

across countries in sub-Saharan Africa which uses innovative strategies to stimulate dialogue, interaction and behaviour change. TfaC aims to change attitudes towards gender equality and HIV in the teaching communities of these countries. TfaC's long-term goal is to reduce the risk of HIV infection amongst vulnerable groups. St Mary's staff played an active part in developing and delivering this curriculum. Since May 2011, students from St Mary's have visited Lilongwe in Malawi and worked alongside TfaC facilitators.

The main tool used by the students to develop the performance piece is verbatim theatre. Verbatim theatre is a form of theatre where the words of the people represented on stage are faithfully recorded and structured into a narrative which is presented to an audience in the form of a play.

During the programme the students are trained in interview techniques and in 2011 the cohort conducted semi-structured interviews with male and female volunteers who participate in support groups at Positiveeast. Positiveeast is an East London HIV charity that offers support for individuals and communities affected by HIV and other UK charities that deal with HIV. Participants were asked for their opinions on issues relating to gender equality and safer sex. Interviews were conducted either one to one or on a group basis, and were recorded and transcribed. The interviews were edited into a 60 minute play.

Distribution, impact and the future

The feedback from Positiveeast was extremely positive following last year's performance of the play, *Turning Poison into Medicine* (original title, *Living with HIV* in the UK). Several of those interviewed were in the audience in February 2011 at St Mary's and participated in the post-show feedback session. The play was performed outside a school in Lilongwe to a captivated audience, and was very well received by both Theatre for a Change and their learners. The play was later filmed at Nickelodeon Studios in central London to be distributed by MTV as a part of the HIV awareness programme. There are also plans to distribute it in student film festivals.

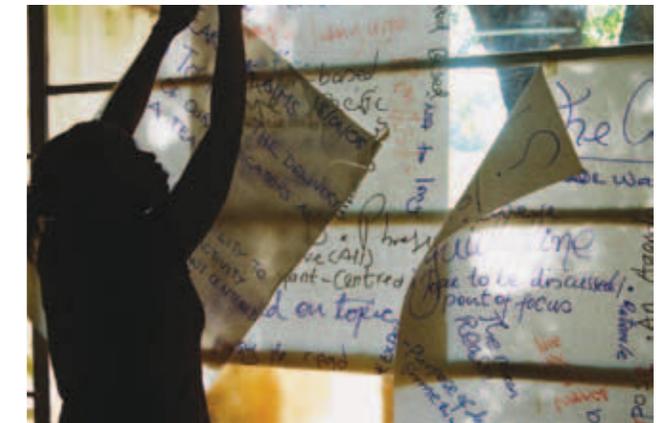
In 2012 the students have been creating a verbatim piece of theatre entitled 'Gender Balance & Safer Sex' to be researched in London and performed in Malawi. St Mary's Drama and Applied Theatre programme is currently looking for new partners to expand its work throughout southern Africa to offer a variety of experiences to the St Mary's students as well as to provide a sustainable basis for knowledge exchange amongst participant groups.

Further reading

www.dramastmarys.blogspot.co.uk
www.positiveeast.org.uk
www.tfacfrica.com
www.theatreoftheoppressed.org

Top: Early planning in the creation of an interactive forum piece. Lilongwe, Malawi.

Bottom: A local man comes from the audience to make an intervention.



The importance of the unfamiliar and unexpected in creative teaching, interpretation, and learning

Kimberley Foster and Karl Foster, Norwich University College of the Arts

This chapter outlines a creative research practice where the distinctions between elements are deliberately blurred. It reveals an artistic collaboration that anchors itself in object making whilst at the same time incorporating inquiry-based learning processes within the work. The intention is to show how the unexpected and unfamiliar can be embedded as an active principle within an artwork and how this 'surreal' manifestation can be used to facilitate positive changes in learning. There will be a consideration of how hedsor objects come into being and how they become gateways to specific collections and related knowledge. The latter stages of the article will indicate how theories and ideas find practical application in inquiries, in both the artists' studio, and in the museum or gallery setting. It discusses how experiential learning plays an important part in improving engagement for the learner, and gives an indication of how learners respond. As an extension of this it also considers the implications of cultivating the voice through generous facilitation and modelling of process, rather than teaching in a traditional sense.

hedsor

hedsor is an artistic partnership between Kimberley Foster and Karl Foster, who teach in Higher Education at Norwich University College of the Arts (NUCA). Their research practice as hedsor is supported by NUCA and enhances their strategies of teaching and learning within the institution. They have created nine 'Object Dialogue Boxes'; specifically made collections of unusual and unfamiliar objects that are used to inspire creative

learning and inquiry. They have been commissioned for major institutions that include Turner Contemporary, Imperial War Museum, London, Museum of London and Manchester Art Gallery. They have also have staged a large-scale interactive exhibition of objects at the Sainsbury Centre for Visual Arts.

hedsor's practice straddles the worlds of learning and art practice, rationality and intuition, art interpretation and art history. The Object Dialogue Boxes are artworks that can be handled and used. The intention for creating them is that they generate as much dialogue, creative thinking and inquiry as possible. The Boxes usually consist of approximately twenty unusual or unfamiliar art objects created around a theme or subject. The objects are made to work as interpretative devices with specific art collections and exhibitions, but are versatile and ambiguous enough in form to be used as teaching devices without their contexts. The objects have dual functions – they meet aesthetic conventions as art objects, whilst offering use as catalysts to facilitate, or stimulate, learning and interpretation in a plethora of settings.

The Boxes and processes have developed organically over a period of ten years out of a need to imaginatively engage learners in social and participatory inquiries in museums and galleries. They are also utilised in arts education to stimulate the dialogue and creative inquiry that is essential to contemporary creative practices. This organic expansion and development of hedsor's practice runs parallel to a general gallery/museum culture-shift towards collaborative, co-constructive, dialogic, inter-disciplinary, inquiry-based learning. Each strand of these

current educational terms finds embodiment in hedsor's expectations of how the objects will be used and thought about. These learning strands are not additions to a sculptural practice – they are the practice as much as the physical form of the object is.

The objects are formed from unexpected combinations of everyday items – certain unexpected combinations 'fit' or 'resonate' with each other. This usually happens when two or more everyday items that have some kind of link are merged. The Sainsbury Centre for Visual Arts exhibition image (opposite) with the decoy pigeons, antlers and fake apples gives a good example of this. We are familiar with pigeons in trees and apples in trees, and with a little close inspection could name the structure that they are placed on as a pair of antlers. In combination, the antlers are read as 'tree' and the deadness of all three seems heightened giving the work an 'uncanny' feel (Freud, 1919). They form something that is not easily knowable or nameable. To use a metaphor coined by Richard Wentworth the three objects become 'emulsified' 'the elements bind but do not lose their distinct character' (Warner, 1993). There is a familiar recognition of elements and at the same time enough unfamiliarity to resist habitual responses.

The 'bird and apple tree' (none of the objects are titled) was part of an exhibition of twenty objects created for the Sainsbury Centre for Visual Arts exhibition 'Object Dialogues' in 2010. This was an exhibition where handling of the artworks was actively encouraged. The twenty objects emerged from hedsor's inquiry into the permanent collection. Regular visits to the collection enabled the authors to establish a list of themes in the form of single



All images © hedsor 2009, 2010

words that would set limits within which attention might be focused. Usually this process is a collaborative inquiry with museum or gallery staff. The second image shows these words exhibited as a constellation on the gallery wall (only half of the words are shown here). In the making stage of these hedsor objects, everyday items were found that had lateral rather than literal connections to the words. This is a way of ensuring that any inquiries stimulated by the hedsor objects would have a high probability of being focused on issues within the collection. The 'bird and apple tree' was inspired by recurring themes – death, ritual, ritual costume, fate – and by the Roman process of reading of the auspices. Material matches were also considered - the presence of recurring materials such as animal bone and hair.

The intention here, as it always is with hedsor objects, was that the gallery learner would pick up the object – the antlers can be detached from the inverted wooden fruit bowl - and use it as a 'compass' to navigate their way through the collection. The 'unfamiliar' hedsor objects provide stimulus that have enough valency or 'emotional punch' to force a halt, or reversal, to normal and routine thought processes. The space that opens up in its wake enables new thoughts or new questions to emerge. hedsor's expectation is always that links and dialogue will be made without any prescription. Governing the selection of the everyday objects by thematic strands encourages inquiry within broadly set parameters.



Learning as creative exchange

The following text was written anonymously by a gallery visitor in response to the hedsor objects in the 'Object Dialogues' exhibition and put in a postbox set up within the gallery. It eloquently describes what the objects do for the learner:

'I see (hear, feel, smell, touch) these objects as openings – sometimes you can't see beyond that but you know somehow there's a gap that you want to squeeze through because what's on the other side is unknown and exciting.'

You can turn certain parts of your brain off – and start with a feeling not a concept – the connections bubble inside, popping on the surface of an internal dialogue – is it pain? Is it pleasure? Is it play? Then a thought or idea emerges which you almost dismiss because it was unexpected and is perhaps unwelcome.'

'Now, where will we go with that idea? Now the door is open.....now we have used these objects as 'pokey sticks' messing up the 'normal' order of things – we will hold it until, like a pair of magnets we are pulled towards something with a 'clang' of clarity, as if it was meant to be.'

Idolatry Religion Verdant Grand tour
 Serious boss Life drawing Reflective industrialist Smog
 Construction Smog Waterways Grey Rain Brown parcels Brave new world
 Slate Cobble Bowlers Nose-bag Toil Struggle Work Co-operate Rest Sacks Reflections
 Dappled sunlight Cargo Trade Where there is muck there is work Fancy a brew Retail Gathering
 Risk Haircut Cold Fur Tweed Clouds Change Life & Death Dark Harsh Clean/ Dirty Storm Wind-turbulence
 Wreck Basic Struggle The very best Horses Inheritance Promise Catch Skin-it Oppressive weather Biblical Death
 Sleep Freedom from urban life Stuck Beasts Cold Fragility of life Finest Learned Learning Culture Lion Ice Wigs
 The Gods Firewood Sparsity Symbolism Expansion Morality Import Exploitation Pale skin Family Catch Irony
 Different cultures Fractures Obsolescence Excess Colour No weather Restaurant Disruption of the plane Purge
 Electric storm Change Inhuman Self-conscious Sleek Smooth Absence Technological advancements Danger
 Duty Co-operation Reward Sameness of human concerns Free from depiction Teaching how to look Honest work
 Bold Crude Twist Convention Smear Abstract Blurred Speed Collapse Wrongness Same old stories Damp
 Aggression More inhuman Warped Left-behind Sexuality References to the mind Interior space Uncertainty
 Same Naive Self-conscious Breakdown of orthodoxy Availability of materials Difference No smog Names
 More time for cake Control over nature Other people get your cake for you More organisation Geometry
 Not as grim Women's politics More visible Branding Dancing Craft More photographic influences
 Disturbance of depiction Celebration of honest work Lack of ugliness Self-conscious
 Superstition Power of myths Stormy Boats Symbolism Biblical Juggling

For creative learning it is very important that the ‘pokey sticks’ mess up the normal order of things, it is desirable that students and gallery visitors alike have ‘bubbly’ minds. The author of the comment also recognises the creative need to allow the imagination to flourish for a while, the conscious mind turned off momentarily, the ‘clang’ of clarity as it returns in reflection.

As teachers, lecturers or gallery facilitators we need this kind of creative energy from learners so that they can contribute on a dialogic basis. As well as being catalysts, the objects are perhaps symbols of the unknown in learning and act as emblems of change. To use Coleridge’s term, the objects bring about a ‘willing suspension of disbelief’ (Coleridge, 1817), a temporary transition to an imaginative footing, a space of ‘not knowing’. This can be a frightening change for developing learners. All new experiences test the tolerance for change and reconfiguration, the psychoanalyst Donald Meltzer stated, ‘It is the new idea that impinges on the mind as a catastrophe, for in order to be assimilated, this sets in flux the entire cognitive structure’. (Meltzer & Williams 1988) The introduction of the unfamiliar in the form of hedsor objects provokes a small ‘catastrophe’, falling apart at a low level. Initially the ‘pokey sticks’ messing up the order of things provoke a reversal of the usual way of approaching learning. Gaps appear in the mind of the learner to allow new ideas in. The ‘naming’ and ‘knowing process’ gradually closes these gaps, but some kind of positive growth is allowed to take place. This process is universal in learning and development, it is what is referred to in staff development as the ‘implementation

dip’: Michael Fullen (2001), who coined the term, describes it as ‘literally a dip in performance and confidence as one encounters an innovation that requires new skills and new understandings. All innovations worth their salt call upon people to question and in some respects to change their behavior and their beliefs – even in cases where innovations are pursued voluntarily.’

Institutions, learners and new bodies of knowledge

By commissioning an Object Dialogue Box an institution implicitly begins a commitment to change. Those institutions that already have a non-traditional approach to learning usually have continuous development and change at the core of their philosophy. Having an object dialogue box and using it regularly is emblematic of dynamic, fluid and creative learning. It represents a wider commitment to continually seek out and develop new ways of working. Changes in learning start with the gallery staff – they are asked to use their experience of their galleries to produce a list of thematic words that echo, or evoke, issues within the collection. As a result, material fact and specific knowledge reduce in importance and a small degree of defamiliarisation occurs. According to Victor Shklovsky the change in perception brought about by defamiliarisation is how art begins. He states:

‘After we see an object several times, we begin to recognize it. The object is in front of us and we know about it, but we do not see it – hence, we cannot say anything significant about it. Art removes objects from the automatism of perception...’ (1917:5)

The intervention of hedsor pushes the familiar towards the unfamiliar. Some institutions have more collective tolerance for the unfamiliar than others. As mentioned in the example given about words accumulated for the Sainsbury Centre for Visual Arts it also sets the parameters for a learning inquiry. Through artistic inquiry hedsor constellate or cluster together these words, with associated images, objects, texts, opinions and anecdotes. The aim of this constellating process is to find and establish non-literal nodal points, or gateways into the issues and subjects within the collection. hedsor objects provide, or stand as markers of these gateways, promising a meandering pathway that starts with the learner and progresses towards a body of knowledge.

In order to produce the physical form of Object Dialogue Boxes the artistic inquiry transfers from the gallery to the studio. The second phase of learning an inquiry begins with the acquisition of everyday objects. The ‘language’ of these objects might have an evocative or ambiguous relationship with these nodal points. hedsor acquire many such objects and add them to the mass of inquiry materials already assembled. When laid out in the physical space of the studio the process of their transformation begins. As the assembled images, objects, words etc are all within a given theme or constellation the chances of unexpected conceptual and material links between disparate elements are quite high. To use a cooking metaphor, appropriate ingredients are put in a big pan of water and left to ‘simmer’. The ‘simmering’ is in the collective mind of hedsor, thought happens through materials with unexpected combinations

expected. Objects are played with, put next to, broken, combined with words, combined with images, stacked, sliced, photographed, used. It is process of deliberately ‘making strange’ (Sklovsky, 1917), a courting of the unexpected and unfamiliar with an aim of making objects that are a mental asset to inquiry processes in general.

Creativity, research and artistic practice

The relevance to students of the Arts in particular is the part the unfamiliar or unknown plays in studio practice. Faced with a brief, or self-negotiated studio practice, artists must be able to defamiliarise themselves from the everyday in order to see with fresh eyes. They must be able to tolerate ‘not knowing’ where an inquiry might be going in order to see something new. This is not a mindless process; it is an immersion in a different way of thinking. There is a change of state in the mind of the artist, which precipitates less consciously prescribed action. A description of how this condition comes about is difficult, but the use of an ocular metaphor perhaps comes closest. It is as though one’s aperture on life has suddenly dilated and things that were hitherto invisible in the world suddenly take on a vivid prominence. It can feel like, after a lot of trying, one has finally learnt to plate spin, and for a short time, all twenty plates are atop their sticks needing only the slightest attention to sustain their motion. Ideas, imagination technical skill and a degree of self – understanding all galvanise in material form. For a while the work seems to autosuggest; it feels like the work wants to be made and you are merely executing its bidding. This re-visioning of reality enables



new understanding to emerge, and helps the overlooked to be reconsidered. Ideally an artist needs to be able to do this at will; repeated defamiliarisation does not guarantee that this will happen, but the propensity of it happening increases.

Communicating this, or teaching this to another is best done through an authentic learning experience: it cannot simply be explained. Hedsor's objects present the learner with an experience. The intuition required has to be cultivated by repetition rather than accepted as transmitted information from a teacher. The psychoanalyst Wilfred Bion criticised didactic approaches discriminating between 'a form of "learning from experience", that changes the learner, and "learning something" that might increase information, but does not change the individual' (Lopez-Corvo, p. 163). Teaching more traditional art skills such as certain methods of representational drawing, painting, composition, perspective etc. can be taught didactically and in many ways are better taught this way. However, the act of making something meaningful or culturally significant can only happen through experiential learning and reflection.

Facilitation

In an art gallery setting the Hedsor objects signpost openings and unexpected ways into artworks. The following two paragraphs give examples of the range of creative inquiry that can be opened up in facilitated sessions. For Manchester Art Gallery Hedsor made an object that consisted of an umbrella that had had its protective cover removed. On the end of each prong was

a ping-pong ball with a rain-related word hand written with marker pen. The Ping-pong words read 'drip', 'drop', 'drench', 'deluge'. The umbrella allows people to connect with something familiar, and yet unfamiliar. It has no cover, no skin, and no protection: it is functionally obsolete. To open it inside the gallery has elements of an absurd performance, superstition also tells us that it is unlucky to open an umbrella indoors. But, this 'was' an umbrella. Opening it up might protect us from something different, something like rain, un-rain perhaps. Conversely, it might be an encouragement to get drenched. With prosaic thinking thwarted questions surface – learners want to know more. Knowing smiles reveal awareness that something is 'at play'. Why, what about, when, does it, how? The un-brella is humorous, a metaphor for rainy Manchester as well. The drip, drop, drench nature of the north, the sound of the ping-pong balls rattling against the metal frame as it is opened or moved. Singing in the rain; open minds are flooded with new ideas. Semi-closed and inverted the umbrella shrugs off any certain or fixed thinking, the changing thing changes. New thoughts emerge: spider, insect, something mechanical. The object appropriates different space through activation – the space of the sky between 'brolly' and clouds and the space underneath a spider – neither – neither 'correct', both possible. 'Getting it wrong' does not present itself as an issue in this kind of learning.

On one occasion this object was used by trainee teachers to interpret the contemporary art collection. After an initial modeling of how to inquire with the objects by a freelance artist employed by the gallery, the

umbrella was presented to the group. As the group moved around, a myriad of connections and links began to emerge. At one moment it was part of a literal connection to a Dorothy Brett painting of women holding umbrellas or parasols. The teacher's umbrella 'suspended the disbelief' in the image, it became easier to enter into the painted space. Simultaneously the materiality of the 'real' umbrella became heightened – more rattle, harsher, more absurd. In front Francis Bacon's 'Portrait of Henrietta Moraes on a Blue Couch' the structure of the umbrella became bones flayed of their skin. In front of a surreal painting where an anthropomorphic object appeared as if in a desert, the umbrella offered no protection from the sun. The 'drip', 'drop', 'drench' words referred to moisture that appeared to be permanently absent. In front of 'Vacuum' by Steven Pippin – a big transparent rabbit with an un-tuned television set within its head – the umbrella became a much-needed antenna. Animated discussion turned to the Jodrell Bank Observatory and eventually to DNA sequencing through which the ping-pong balls became some kind strange of genetic model.

The point of including this anecdote is that the open inquiry of the teachers followed the issues of interest of that specific group, strange and fleeting links were given time alongside more serious and in depth questions. In the absence of 'right' or 'prescribed' answers that needed to be sought, participants were able to give voice to unexpected and imaginative questions. In all cases the facilitation of this kind of learning is key, hedsor conducted and modelled a

method of inquiry both in the studio and in front of the artworks. This approach imitated and is implemented by proxy by artists employed by the gallery. Modelling the use of the umbrella as a creative catalyst that works eases people into using the object dialogue box. It demonstrates there are no right or wrong answers, just thoughts, ideas, expressions, consideration, triggers and approaches to allow one to move from looking to seeing.

Conclusion

Learning and change are interchangeable as central conditions of hedsor practice, learning and research as exploration and change course through every process. Invitations to demonstrate methods of working transform into commissions for new boxes. Bridges are made to new ways of thinking; tools are developed as ways of navigating gallery spaces. Links are looked for; uncovered, and collated, questions are posed. The surplus is hived off. Thoughts are grounded, other artists researched, architecture is echoed, curatorial concerns are considered, and audience groups are held in mind. The objects are made as distillations and manifestations of all this – thoughts and concepts transformed into concrete moments that can be held, questioned and uncovered. The museum or gallery ultimately takes these objects as their own, they claim them, and digest them. They find their own ways of using them. Finally, but most importantly the dialogue begins with the people who use the objects, for the time they hold the objects they take ownership

over them. Inroads to new thoughts develop and new connections are made. New forms of learning, inquiry and creative dialogue happen that we have no control over. They form new and independent pathways to creative research.

Further reading

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The Vacation Research Assistantship Scheme

John-Paul Wilson, University of Worcester

This chapter presents an overview of a scheme run by the University of Worcester, which aims to provide undergraduate students with the hands-on experience of working on a research project over the summer vacation while at the same time enabling its staff to progress a project and to gain valuable experience in supporting and developing a researcher. While this scheme is not unique – for example, the British Psychological Society has run a similar Undergraduate Research Assistantship Scheme for some time – it is a model of engaging undergraduate students with research, and of embedding research in their learning experience that is not commonly utilised.

Details of the scheme

The Vacation Research Assistantship Scheme ran for the first time in 2011, with up to six research assistantships initially made available. As noted, the scheme's stated aim was to offer students – current Worcester undergraduates and in addition students who have completed an undergraduate degree at Worcester or at another university (with a First or 2:1 predicted/achieved) and who are about to commence postgraduate studies at the University of Worcester – with the opportunity to work on a research project, thus gaining invaluable insight into a research career as well as developing a range of core research skills. The scheme identified a wide range of appropriate activities for the Research Assistant (RA) to engage in, such as: photocopying and filing; copy-editing and proof-reading; recruitment of participants; data entry and transcription; undertaking literature searches; conducting experiments; and analysing data. The scheme provided a stipend of

£1000 to the research assistant. It was required that the RA be employed on the project over the summer vacation, that is between June and September, but allowed for flexibility in working patterns - for example, the RA could be employed for 4 weeks full-time or for 8 weeks at 0.5 FTE – subject to the requirements of the project.

Staff were invited to submit applications to the scheme in early Spring to include:

- A brief project proposal outlining the context for the project, the aims and objectives, the proposed methods, and intended outcomes/outputs, as well as separate statements on any ethical or health & safety issues relating to the project.
- A role descriptor setting out the activities expected of the RA and the intended working pattern.
- A person specification describing any necessary or desired skills/knowledge that would be required for the project, e.g. knowledge of specific techniques or software packages.
- An account of the benefits to the RA, such as the skills to be developed, as well as details of supervision, support and training to be provided.

The scheme attracted sixteen applications representing six academic Institutes and twelve subject areas. The selection panel appointed to assess the applications and to make recommendations for funding focused on the quality of the proposal as submitted and particularly on the description of the RA's role and the support to be offered. The panel favoured those applications which clearly

articulated the duties of the RA, whether within a small, short-term project or as part of a larger project team. It also favoured those that sought to develop a range of skills through activities appropriate to undergraduate applicants. To expand on this, some projects not recommended for funding proposed activities that were beyond the likely skill set of an undergraduate and which could not be reasonably developed over the period of the project. In contrast some projects demanded too little of the RA, asking them to undertake only administrative tasks. While it was deemed reasonable to include such tasks in the duties of the RA, it was felt that these should be supplemented by other more developmental tasks. The panel also wished to see projects that had very clear outputs at the end of the Vacation Research Assistantship and not just at some indeterminate point in the future, whether these were journal articles on which the RA would be a named author or some other form of output such as a report, a web resource or a database.

Funded Projects

The quality of applications was high and as a consequence the selection panel identified nine projects as suitable for funding through the scheme and then ranked these projects. It was subsequently decided to fund all nine recommended projects which were as follows:

The funded projects were extremely varied in scale and scope. Some were ongoing projects where the RA was appointed to undertake a specific stage or task within the project (Fabricatore; Lewis; Wakeham). So, for example, Dr Lewis requested an RA to analyse a specific category of

material excavated from a number of archaeological sites which would contribute to the excavation reports and to two journal articles. Others were discrete projects to be completed over the summer (Arielli; Cinpoes; Mason). A good example is Dr Arielli's project which required the RA to undertake the transcription and indexing of ten audio recordings of interviews with veterans of the Arab-Israeli War of 1948. The work would contribute to a journal article but it was also intended to add the transcriptions to the oral history collection in the Hive, Worcester's Library and History Centre. Others were evaluation projects (Jones; Upton). In the case of Dr Upton's project, the RA was employed on a large project commissioned by Wolverhampton Primary Care Trust (and primarily funded by Department of Health West Midlands) to evaluate the 'Food Dudes' healthy eating programme. The researcher would be involved with the data entry and analysis stage of the evaluation. Yet another was a pilot project (Popova) the focus of which was on developing a 'code of practice' to pilot with UG students undertaking independent studies with their supervisors. A number of projects involved external partners: for example, Dr Cinpoes' project was a collaboration with the Worcester Cathedral Library in which the RA would develop a multimedia resource for manuscripts in the Library collection.

The research assistantships were advertised to students in May and attracted 163 applications. The largest percentage of applications (40%) came from students in their penultimate year, with a little more than half that number coming from final year students and from students waiting to commence postgraduate study in the following

Principal Investigator	Institute/Research Centre	Subject Area	Project title
Dr Nir Arielli	Humanities & Creative Arts	History	British volunteers in the Israeli armed forces, 1948–1949
Dr Nicoleta Cinpoes	Humanities & Creative Arts	English Literature	Manuscripts for the Web 2.0 Age
Dr Carlo Fabricatore	Business School	Computing	A study of violence in videogames from a design perspective
Ruth Jones	Health & Society	Social Care	An Evaluation of Worcestershire Safeguarding Board's Pilot on Return Interviews with children and young people who go missing from home or care
Dr Jodie Lewis	Science & Environment	Archaeology	Analysis of a Molluscan assemblage from Langley's Lane, Midsomer Norton, Bath and North-East Somerset
Dr Victoria Mason	Health & Society	Psychology	All trials are not created equal: a quantitative analysis of trial quality and effect size in randomised control trials of cognitive behaviour therapy for chronic low back pain
Dr Anna Popova	Education	Education	A 'code of practice' for supervisors and students working on level 6 independent study projects
Dr Penney Upton	Health & Society	Psychology	Evaluation of the 'Food Dudes' Programme
Dr Alison Wakeham	National Pollen & Aerobiology Research Unit	Aerobiology	Investigation of the extraction, immunoquantification and optimal storage of target allergen as isolated from household dust

academic year. 14% came from students in their first year. It is perhaps to be expected that students coming to the end (in most cases) of their second year of study and looking forward to their final year – and the prospect of undertaking their own dissertation – might be most likely to apply to this scheme. 66% of applicants were female; while the highest proportion (44%) fell into the age group 19–24. These demographics closely match those of the University's undergraduate population as a whole. Students were appointed to the research assistantships through a standard interview process, which in most cases included a work-based task specific to the project. Unsurprisingly, eight of the students appointed were undertaking or had recently completed a degree in a directly allied subject area (although this was a pre-requisite for just one of the projects). Only the student appointed as Dr Popova's RA was undertaking her degree in a different academic Institute.

Feedback on the scheme

The scheme was received very positively by staff and students and by parties in instances where a project had external engagement. This is reflected in feedback sought by the Personnel department on the recruitment, selection and induction process and by informal feedback but primarily in the End of Project reports. A requirement of the scheme was that the Principal Investigator, in association with the RA, should complete such a report: identifying if the aims and objectives as established in the initial application had been met; describing the activities undertaken by the student; setting out the output(s) from

the project (both completed and in train); and reflecting on the benefits to the student. The end of project reports demonstrate that most projects achieved the objectives as set out in the initial applications. Most projects also produced at least one output (such as a report or website) or will produce at least one output (such as a peer reviewed journal article) in light of the work done during the research assistantship.

The reports are most interesting when the voice of the student is particularly prominent. Here, the real benefits of the scheme become apparent. For example, one student commented:

'The project has given me a far greater appreciation for [research]...the level of commitment required to perform research of this nature is not something to be underestimated; although the subject matter itself is fascinating, the actual physical act of organising this and, presumably, comparable bodies of work into useable information is quite a formidable...undertaking. My participation in the project and its successful completion should prove a valuable asset to me in the future when applying either for research positions or employment; it shall confirm to potential research supervisors or employers that I have the ability to perform a respectable level of sustained, conscientious, and accurate work.'

Another student provided a similar perspective:

‘Working as a research assistant has been a brilliant educational experience. From day one I was thrown into the workings of the...project, being involved in data collection, entry and analysis. It has really opened my eyes to how research in the real world is carried out and the extent of hard work that is put in by research assistants, not all of which is glamorous! I was specifically involved in writing a paper on the attitudes and knowledge of children towards healthy eating, for which I had to conduct a complex statistical test which I was unfamiliar with. The support system in place for me as I was working in this post was exceptional however, and there was never a time when I was turned away without help and advice being offered when needed. This role has given me invaluable experience of working in a research setting... I enjoyed working in an environment where I was academically challenged and felt that my knowledge and abilities were appreciated. I think this experience will greatly benefit my future career as it provided a platform for me to utilise the skills I possess within the psychological field, and has given me the opportunity to gain so many more. This assistantship shows future employers of my interest and ambition in this area which was not possible from my previous employment history or experience to date.’

Future of the scheme

The uniformly positive feedback on the scheme in 2011 ensured that it would run again in 2012 and, at the time of writing, seven vacation research assistantships were being advertised to students. The scheme, however, is deserving of a more thorough analysis of its impact beyond that offered by the end of project reports. It is therefore intended to undertake follow up interviews with the 2011 cohort of vacation research assistants to explore how being involved with the scheme may have impacted on their subsequent learning experience – for example, whether the knowledge and skills developed during the research assistantship has benefitted them in their subsequent study - and on their career trajectory.



A new relationship between research and the teaching of wildlife rehabilitation

Moira Harris, Harper Adams University College

I have been leading a module on Wildlife Care for second year Animals and Vet Nursing students for about five years. The module focuses on wildlife rehabilitation, from the rescue of sick or injured wild animals through to their handling and transport to wildlife hospitals or rescue centres, their nursing care, rehabilitation and release back into the wild. We examine the animal welfare, ethical, legal, ecological and conservation contexts of the process as well as its practicalities and constraints, and the organisations and charities that provide care. Unlike many areas of animals teaching, the science of wildlife rehabilitation is quite new and very few peer-reviewed scientific articles report the outcome of studies in this subject. Thus, my teaching materials for the module have relied heavily on a small handful of relevant textbooks, supplemented by non peer-reviewed information, mostly online (e.g. websites of individual wildlife hospitals).

Collaboration and student-led research

As part of his FdSc degree in Animal Management and Welfare, in 2008 a Harper Adams student, Chris Halstead, spent 10 weeks working for the RSPCA at Stapeley Grange Wildlife Centre in Cheshire. While he was there he became interested in the rehabilitation process of a commonly admitted species, the woodpigeon (*Columba palumbus*), and the factors that might affect the likelihood of casualty birds admitted to the centre eventually being suitable for release back into the wild. A maximum of 30% of admitted woodpigeons are released, the rest being euthanased or dying in captivity, which means that large amounts of time and resources are devoted to the care of birds that

subsequently do not survive. It is essential therefore for wildlife carers to identify those individuals with a poor prognosis as soon as possible and take action to prevent further suffering, in order to maximise their welfare.

The following year Chris analysed some of the wildlife centre's data for his professional research project, jointly supervised by Dr Andrew Kelly (then manager of Stapeley Grange and now Head of Wildlife at the RSPCA) and I. Chris's project, 'Patterns in admissions, diagnosis and outcomes for wood pigeons admitted to an RSPCA wildlife rehabilitation centre in the North-West of England' examined reasons for admission and other characteristics (including age, sex, body mass and severity of injury) for woodpigeons and related these data to the likelihood of these casualties being released back into the wild post-treatment. At the same time as he was carrying out his study Chris was taking the Wildlife Care module, and he subsequently graduated with an overall Merit in his foundation degree.

Chris retained an interest in the subject of his final year project and wanted to extend his research and analysis, Dr Kelly viewed contributing to research on rehabilitation as an important part of his role as wildlife centre manager (the RSPCA prioritises the welfare of all animals and promotes research into ways of maximising animal welfare); and I was becoming increasingly aware of the relative lack of published scientific information on the subject and wanted to contribute to the field, both to help the rehabilitation community and assist Harper Adams students taking the module. Thus, we decided to extend the scope of the study, and reviewed the reasons for admission

A woodpigeon
(*Columba palumbus*)



and outcomes for 2,653 woodpigeons taken to Stapeley Grange over a five-year period (2005–2009). Our article, ‘Factors affecting the likelihood of release of injured and orphaned woodpigeons (*Columba palumbus*)’, with Dr Kelly as first author and Chris and I as co-authors appears in the October 2011 issue of the scientific journal *Animal Welfare*.

Findings

Our main findings were that reasons for admission varied, with the most common reason for adults and juveniles being ‘injury (cause uncertain)’ and ‘orphan’, respectively. Twenty-one percent of adults and 16% of juveniles had been attacked by cats. Sixty-five percent of adults and 37% of juveniles were euthanased on admission or within the first 48 hours to prevent further suffering. Only 14% of adults and 31% of juveniles were released back into the wild. The remainder were either euthanased or died despite treatment more than 48 hours after admission. Body condition on admission was not a good predictor of the likelihood of release, but age, weight on admission and severity of symptoms were significant factors. A reduction in the median number of days in care for those birds euthanased more than 48 hours after being admitted was recorded for 2007 to 2009, possibly due to the introduction of radiography for all birds on admission, as part of triage. Additionally, leg-band recovery data for 15 birds revealed post-release survival ranging from 21–2,545 days (median = 231 days) compared to 1–2,898 days (median = 295) for non-rehabilitated birds.

This work should aid rehabilitators in making informed decisions about the animals they care for; we have

demonstrated that age, weight on admission and severity of symptoms can be used to identify individual woodpigeons that are unlikely to survive to the release stage, and we recommend that all wildlife rehabilitators utilise the factors tested here to better advise their admissions policy and to allow them to improve the welfare of wildlife casualties presented to them. Euthanasia at the earliest possible opportunity is the preferred outcome for those birds that are not likely to survive.

Conclusion

The science of wildlife rehabilitation is relatively new and there are presently few peer-reviewed articles available to inform teaching and learning. Thus, we have made an important contribution to the amount of high quality scientific information available as well as demonstrating a successful collaboration between Harper Adams University College and the RSPCA, based on the work of one of our undergraduate students. Harper Adams students are continuing to undertake successful work placements at RSPCA wildlife centres, including Stapeley Grange and West Hatch (in Somerset), and carry out research projects involving wild animals; thus we expect in future to further our collaboration with the RSPCA by publishing more journal articles based on student research.

Processing: Analogue/Digital Material Surfaces (imprecise with precise tools): A collaborative student-staff workshop with international guests

Dan Robinson, Leeds College of Art

Processing: Analogue/Digital Material Surfaces (imprecise with precise tools) was a student-staff collaborative workshop and exhibition with guest designers Prof. Steffi Hußlein (Magdeburg) and Rob Laux (Berlin) held on 14–16 November 2011 at Leeds College of Art (LCA). The workshop explored digital and analogue methods of generating images and manipulating materials for art and design. Participants learned to create code using ‘Processing’ (open source generative design software) to drive machinery such as computer numerical control (CNC) routers and laser machines. Student-staff collaboration and practical experimentation were encouraged. Highlights included the glee that filled the room when a computer began drawing with sand and an unexpected dance by a video camera strapped to a machine toolhead. Outcomes were displayed in an exhibition and publication in the BA (Hons.) Art & Design Interdisciplinary studios as part of Leeds Digital Festival. This chapter offers an account from the author’s perspective as organiser and participant, reflecting on the creative potential of collaborations, bridging art, design and technology, drawing on the combined work of international students, staff and practitioners

International collaboration, creativity and inter-discipline informed practice

The initial idea for the event came from an experience I had co-teaching a workshop in Magdeburg Stendhal, Germany with Prof. Steffi Hußlein and designer Rob Laux, as part of the Group for International Design

Education (GIDE). GIDE is a network of seven European design institutions (Milan, Mechelen, Dundee, Leeds, Ljubljana, Lugano and Magdeburg) who, since 2003, rotate annual hosting of face-to-face meetings and collaborative student workshops. Research-led themes are explored through presentations, site visits and 3D construction. The theme then continues for a year underpinning final year student briefs in all seven countries. Magdeburg’s workshop title was ‘Creativity for local enterprise’. The 2011–12 theme, ‘Design in Action’, was set by Duncan of Jordanstone College of Art and Design (DJCAD) as part of University of Dundee’s participation in AHRC Knowledge Exchange Hub ‘Design in Action’ with V&A at Dundee.

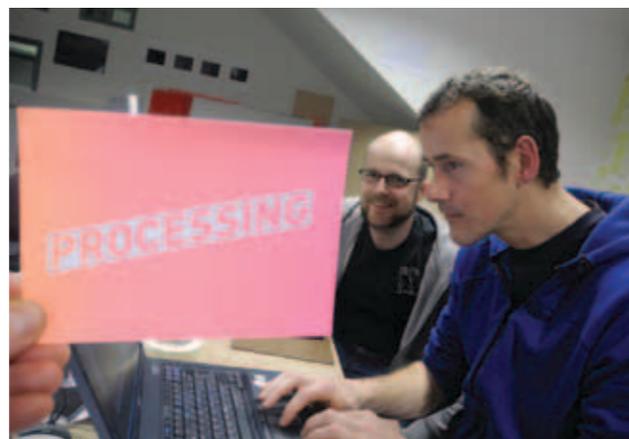
At GIDE Magdeburg 2011, over three frenetic days in a vast hall with 200 hundred international students, our small ‘Physical Computing’ group used ‘Processing’ and simple Arduino circuits to create an interactive installation. Our group felt something like Heath Robinson at NASA, as we grappled to attach computers to a tangle of wires, switches, blue-tac and an array of random objects (hammer, bottle, teabags). The outcome was a tabletop set up, where objects were handled to trigger sounds and animations projected from above. It was an exciting place to meet Steffi and Rob. Their passion about ‘opening up’ computers (literally and metaphorically) and sharing their knowledge of how to do this was inspiring. Rob showed me images of his personal experiments (mis)using portable CNC routers to scratch, grind and draw into the surface of sheet metal and acrylic off-cuts. His imagery combined portraits,



Top: Workshop day one.
Photo: Dan Robinson

Bottom left: Dusting plaster on sand poured by CNC router.
Photo: Katie Broadley

Bottom right: Rob Laux (right) and Matthew Parks. Photo: Dan Robinson



technical drawings and complex abstract linear waveforms. I was struck by the potential impact of these processes for work at LCA. I also saw a connection between Rob's use of code and machines to draw on the surface of materials, and with my colleague Cheryl Huntbach's drawing with simple hand tools to prick paper. Erasmus funds are available for staff exchanges so we started discussing workshop ideas for Leeds, at first during a student visit to Berlin and following up via email and Skype.

Background and context

The aim of the 'Processing' workshop was to create a dynamic collaborative learning event where students, lecturers, tutor-technicians and international guests could experiment and share knowledge. We wanted to develop participants' understanding of experimentation, collaboration and new technology as vehicles for innovation in art and design. The idea was to facilitate greater understanding of the potential of working together across different disciplines through digital and analogue, 3D machine technologies and generative design with a range of materials. We wanted to question the qualities of analogue and digital techniques by marrying the precision of computer-control with the imprecision of hands-on making, mess and mistakes. By inviting participants with a range of expertise and institutional roles the workshop aimed to be inclusive and self-sufficient, with all participants supporting each other's learning.

The 16 workshop participants were eight final year students and four tutors from the BA (Hons.) Art & Design Interdisciplinary programme, and four tutor-technicians

from the 3D workshop and digital resource areas. The students responded to an open 'call for participants'. The workshop was facilitated by Steffi Hußlein, Rob Laux, Cheryl Huntbach and me and was funded by the programme area, staff development and Erasmus Staff Mobility funds.

When setting up the workshop as a collaboration between different individuals and institutions I was helped by my previous experiences as an artist, teacher and doctoral student. I've worked with site-specificity, interdisciplinarity, dialogue and the art institution (Esche, 2009; Rogoff, 2007; Kwon, 2004). A previous collaborative project, 'Interview – between the art academy and society' for Situation Leeds (Robinson, 2005), gave me a lot of confidence because we had such a positive impact helping facilitate working relationships that were sustained after the event.

The BA (Hons.) Art & Design Interdisciplinary programme at LCA aims to develop students as flexible practitioners able to respond creatively within a range of situations. Our studio-based course has a strong emphasis on collaborative projects and use of the excellent workshop resources at Leeds. This allows the development of hands-on making skills, object-making and materials innovation.

The 3-day workshop took place 8 weeks into the final year of the degree, in the 'Professional Practice' module which enables students to research, develop and present their individual practice direction. We wanted to be a catalyst for studio and workshop activity with the theme 'Creativity for local enterprise'.

Viewing etched acrylic drawing samples produced on the CNC by Rob Laux.
Photo: Dan Robinson



Prior student learning relevant to the 'Processing' workshop includes a level four brief, 'Digital surfaces'. During this brief students are taught 'Photoshop' and 'Illustrator' software in conjunction with 3D material processes such as photo-etching, routing or transfer printing on metals, plastics, wood and ceramics.

The result was a student-staff, international, practice-research, hands on, interdisciplinary, material-surface, precise and imprecise workshop during which we learned to write computer code from scratch using 'Processing' in order to create drawings with a range of material surfaces. Cheryl Huntbach said, 'It was an intense, challenging and rewarding three days' (Huntbach, 2011).

The workshop and exhibition

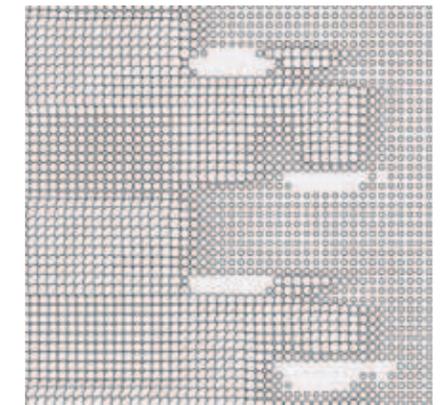
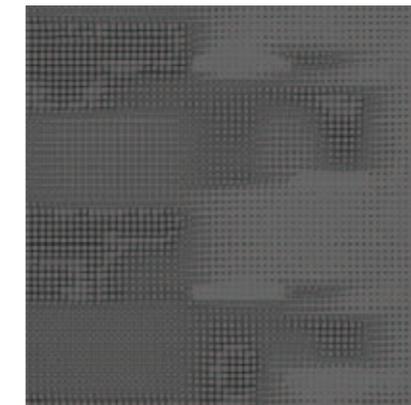
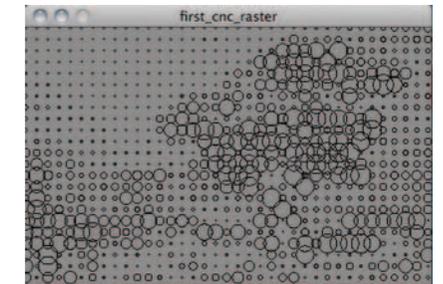
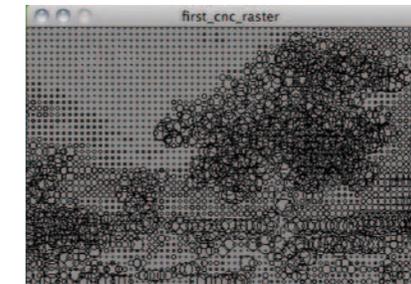
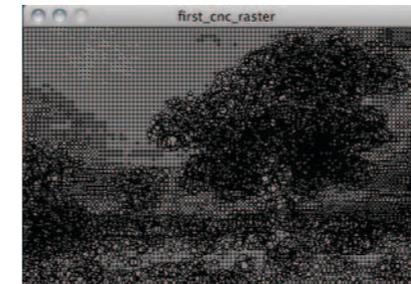
'Processing is an open source programming environment for people who want to create images, animations, and interactions. With the coding based system data in many formats can be imported, manipulated, and exported. The potential of the software environment of Processing combined with the CNC or photo-etched process of "tooling" (milling, drilling, shaping and sketching) opens new challenges for designers. The Processing based sketches becomes tactile with material properties' (Hußlein, 2011).

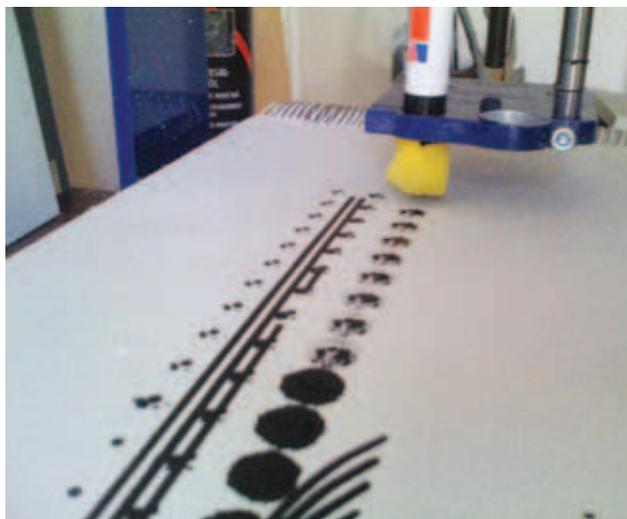
Before the workshop participants shared research and imagery with a project blog. This meant ideas were already bubbling before we met. Day one began with introductions and presentations of recent interaction design, imagery

Top: These three images show how the sketch we looked at today changes a source image via input from a mouse. The sketch creates circles based on the tonality of the

image and the mouse position, and then these circles can be machined into a surface using a drill bit in a CNC router. Images and blog post: James Smart

Bottom: Using Processing to interpret photographic source images to produce machine readable code. Images: Thomas Knapp

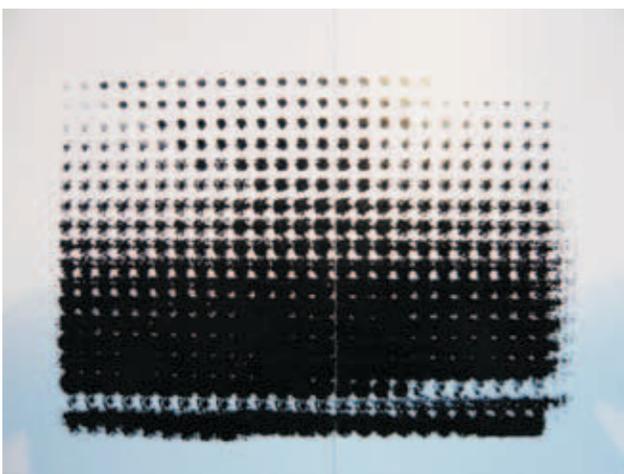




generated with Processing, early computer art (Darrel Viner) and a range of drawing practices (DJ Simpson, Sol Lewit, Sian Bowen, Tara Donovan, Anne Wilson). After lunch we got down to learning Processing and G-code, the programming language to control a CNC router. A router is a tool used to engrave lines or hollow out areas in the face of sheet materials, and is commonly used in CNC machines. When tasks required small group work, we made sure the groups included academic staff, technical staff and students.

Day two involved learning more code and experimenting with increasingly complex shapes and commands. At various moments a great sense of achievement was felt by individuals who managed to make a dot, draw a line or create a circle. For most of us, the use of a new coding language to make a machine draw was entirely new and the sense of achievement was palpable. It was also inspiring to witness students who perceived themselves as 'non-technical' assisting staff to understand computer code:

'Why should artists use CNC machinery, code and programming? Coding is new to virtually all the participants who have no experience in developing complex scripts to feed the computer. So in programming terms the results are very basic and the challenge is to develop an artistic standpoint. Manual control of a tool is much more direct. So for everybody it felt like drawing a picture without using their hands, guiding the brush only by giving spoken commands. After getting over this frustration the workshop showed what could be achieved even with limited abilities' (Laux, 2011).



The intense concentration required also led to some unpredicted responses. Contextual studies lecturer Joanna Geldard reconfigured snippets of Processing code into a poem. This is an extract:

When traversing at a rapid notion of F600
leaves a rendered circle ellipse
In the left brained clockwise motion
Mo2 end programme
A smooth ramp 0.3 mm
See my ramp at 0.1 mm
At an inch, my data is out of joint

This sidestep, coupled with an earlier proposition by student Patrick Kirk-Smith to design a code to reconfigure the lyrics to Barry Manilow's 'I Write The Songs' set a new course, for a small group of us, who decided on day three to focus on manipulating text. Experiment and play were encouraged and generated great results.

Day three began with establishing four groups, each made up of students, academic and technical staff. Groups were formed around different interests of individuals in response to the workshop so far, with the following working titles:

- The process of image making
- Text, code, language & boundaries
- Interference & light
- Abstraction, pattern & interruption

Now participants could focus on putting their new coding knowledge into practice. Day three was very experimental and fast-paced. Student Adam Cluley attached his video camera to the CNC tool-head. The outcome was an unexpected three minute video capturing a kind of dance – we see a tool-eye-view of the machine, milling and spitting sawdust as it skates and pirouettes across the surface of a piece of shuttering plywood:

'...a Kinect videogame input device might be directly connected to a numerically controlled drill. Why would anyone 'mash' a videogame controller onto an industrial construction tool? Because it's cheap and easy to do – that's why. Because that feat attracts admiration. Because this ungainly hybrid might become a 'platform' for creating something else...' (Sterling, 2011).

The two days following the workshop were also significant. The students involved worked with tutors to curate and install outcomes from the workshop within our exhibition space. We used pages of our publication to tell the workshop narrative as a wall display. The blog was printed on a 15-metre long piece of paper and hung through a gap in the ceiling tiles, appearing to fall and flow across the floor.

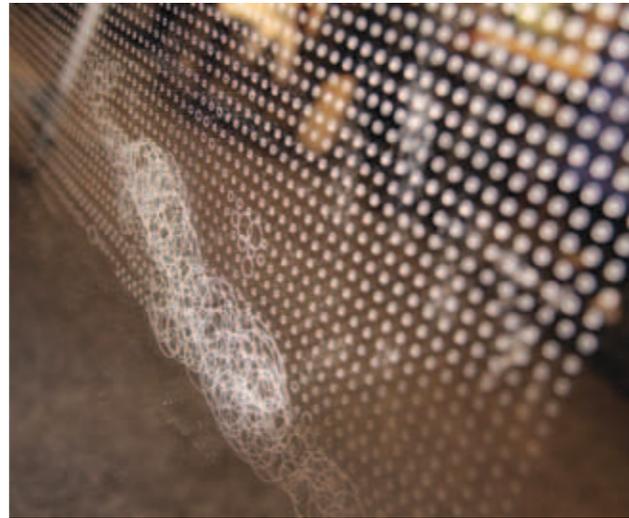
Our workshop table was reconstructed as a plinth to display tools, material tests, animations and two particularly inventive CNC experiments: a drawing relief made by Roger Berry strapping an improvised sand dispenser to the CNC machine head and a table-top video projection retracing the path danced by the CNC machine.

Top left: Portrait of Matthew using Processing code to vary the pressure of a 3 mm drill bit in MDF. Photo: Steffi Hußlein

Bottom left: Comparing individual aims for day three. Photo: Patrick Kirk-Smith

Top right: Drilling mirrored acrylic. Photo: Elisa Heikkila

Bottom right: Using the CNC machine at LCA. Photo: Patrick Kirk-Smith



Imprecise with precise tools

This theme was integral to the workshop ethos. The subtitle, 'imprecise with precise tools', was suggested by Steffi and Rob. It hints at a useful tension between digital and analogue, machine and human, computer-controlled plot versus the hand-made mark. There is a wider implication that chance, mistakes, mess and hands-on making are essential in the post-digital age. In the weeks before the workshop in a seminar on that year's GIDE theme 'creativity for local enterprise' we considered Thomas Heatherwick's *Extrusions* (2009). Heatherwick's seats are made from a single misshapen piece of extruded aluminium and seem to rely on the possibility of accident, failure and a necessary level of trust between mechanised industry and the creative practitioner. Digital-analogue debates were also played out in the recent show, *Power of Making* at the V&A, guest-curated by Daniel Charny and subtitled, 'the importance of being skilled'. In his essay for the accompanying publication, Professor Sir Christopher Frayling writes 'some educationalists have argued about schoolwork that the 3Rs should really be 'reading, wroughting, rithmatic' (Frayling, 2011). Perhaps our workshop suggests wroughting may better be replaced with routing.

Reflection: Managing student-staff collaborations

As an approach to teaching and learning, I believe our workshop shows that student-staff collaboration in learning new skills and producing and exhibiting work can enable more complex learning to take place, than the sometimes more hierarchical tutorial, lecture and

crit scenarios. Benefits included a more meaningful possibility of research-led teaching and teaching through example. Students witness the tutor-practitioner solving problems, making mistakes. Student Elisa Heikkila described working alongside tutors as 'an important experience, being able to work alongside and witness the decision making processes of professional artists and designers' (Heikkila, 2011). This is not to propose 'non-hierarchical' as a straightforward concept. Far from it, lack of structure and formality may reinforce latent hierarchies; individuals may dominate or coerce each other through 'collaboration'. I use the term non-hierarchical with caution as a means to investigate collaborative approaches to student-staff learning.

Reflecting on the workshop a week later, student Adam Cluley commented, 'They [Steffi and Rob] were excited about how this new technology meant we could work without technicians, instructors, and machine operators, but I kept thinking, does that mean they're all out of a job?' Writing later in our course journal, *Inter Xy* – the quarterly journal, edited and produced by students on the BA (Hons.) Art & Design Interdisciplinary programme at Leeds College of Art, which emerged from practice-writing workshops delivered jointly by critical studies and studio staff – Adam references Charlie Chaplin's film 'Modern Times' as a critique of technology-worship, 'The monotonous and relentless task of tightening bolts, and an undignified encounter with a feeding machine, leads to Chaplin going rogue and upsetting the careful balance of the factory' (Cluley, 2011).



Top: Exhibition view – shows blog-print falling from the ceiling.

Bottom: Exhibition view – monitor shows interactive animation created in Processing to mimic ant movement. Photos: Adam Cluley

The week prior to the workshop I had attended a one-day drawing symposium hosted by the LCA Foundation Diploma in Art & Design. In his presentation, Professor Juan Cruz (Liverpool John Moores University) discussed teaching art ‘in-the-present’. His talk proposed that most art teaching is either about work that was made earlier, as in a crit scenario, or work that is yet-to-be-made, the proposed idea. He reflected on rare moments when teaching occurs during the actual process of making art and presented the life-drawing class as an example of this. He described the usefulness of the final drawing being disposable and the focus being on the process of drawing itself. ‘The tutor can discuss the work while it is being made, they may physically intervene with a mark here, something rubbed out there’ (Cruz, 2011).

Cruz’s idea returned to me during our workshop. In our shifting roles as learners and teachers we were all making work and discussing it in the present. Each of us took in information, responded and made decisions alongside each other. Although our workshop may seem very distant from the life-room we were co-producing drawing and learning, in the present tense.

Most participants were less concerned with the whole agenda (internationalism, collaboration, digital-analogue, generative design, drawing, precise-imprecise qualities, interdisciplinarity, research-led teaching) but focused on individual interests and directions. All participants struggled at different points. It was therefore important to manage expectations, for example by reiterating the experimental nature of the workshop, the possibility that individual work could continue beyond the workshop and

the shared student-staff dynamic. As students and tutors, the shared task of representing our workshop in a public exhibition within two days gave focus, supported critical decision-making and facilitated learning about curatorial and installation strategies. Lecturer Joanna Geldard commented:

‘Timing the event at the beginning of year and exhibiting the results within the studio space gave a real boost and has allowed time for responses to unfold over the academic year. It also helped shape peer-group clusters which have enabled students to develop deeper awareness of individual themes and ideas’ (Geldard, 2011).

The project blog was projected and discussed on a daily basis within the workshop and this helped us to discuss and reflect on work in progress. This helped facilitate the design of a publication produced at LCA using digital and screen printing.

The blog was also useful when it came to negotiating small interest groups at the start of day three, enabling a participant-led day of experiment to produce such surprising results. The way these groups collaborated around shared themes to produce work has been emulated in our staff practice-research development. Tutor-technician Thomas Knapp said ‘it really inspired me and got me thinking about my own practice again’ (Knapp, 2011).

Co-leading a workshop with staff from a different country and discipline was a fantastic experience. The opportunity to meet, in an atmosphere conducive to indentifying a potential collaboration, was entirely

made possible by LCA and Magdeburg's membership of the Group for International Design Education (GIDE). Steffi and Rob, both from industrial design backgrounds, both commented that they would take the open experimentation and collaborative dynamic back to Magdeburg:

'Within the art world today, the discursive formats of the extended library-cum-seminar-cum-workshop-cum-symposium-cum-exhibition have become pre-eminent modes of address and forms of knowledge production' (Holert, 2009).

The format 'workshop', as learning-event, has rich potential. Multiple agendas unfold in a contained time and space whilst participants can encounter the whole as a singular experience. The reality of an event is complex. Agendas overlap and shift across the multiple viewpoints of participants. Moreover, the nature of 'participation' itself (Bishop, 2004; Doherty, 2009) has been widely debated in art education this last decade. On reflection, there was perhaps more scope for our workshop to involve students in the planning stages. There is also further potential to develop collaboration with industry in order to innovate with new technologies. The GIDE group and other external partners at LCA offer good opportunities to develop these areas.

The 16 participants have continued to meet to share individual practice-research and to discuss ideas for developing 3D workshop methods, hardware, software

and plans for future events. A subsequent workshop was organised by my colleague Cheryl Huntbach with GIDE guests from Belgium helping students to flock their possessions. ('Flock' is small fiber particles, as in flocked wallpaper.) Four months after the 'Processing' workshop, students and staff are continuing to experiment with computer controlled machinery. There has been a series of student-led initiatives including lively discussions, external exhibitions and a course journal devoted to 'digital-analogue'. These outcomes are together being captured in a year book, jointly edited by students and staff. I learnt a great deal through the experience of this workshop and felt proud when it was used in a recent LCA research strategy discussion as an example of how practice-research, internationalism and student-staff collaboration can help students on their journeys through art and design.

Workshop blog:
www.imprecise-precise.blogspot.com

This chapter is based on an article originally written for Networks.

Processing, publication with screen-printed cover designed by third year BA (Hons.) Graphics student Arthur Carey. Photo: Arthur Carey



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The High Wycombe electronic Furniture Archive

Jake Kaner and Sharon Grover, Buckinghamshire New University

In 2005 we organised a project to unify, catalogue and digitise in order to disseminate as an online research resource, a range of disparate material representing major furniture manufacturing firms in High Wycombe (a major furniture manufacturing centre throughout the 20th century). Guidance was taken from both national university collections and the international archive sector. This resulted in a robust research provision, which has been exploited as an informative repository for those seeking reference and guidance into twentieth century furniture.

Digitisation and research

The first stage, 'the creation of the High Wycombe electronic Furniture Archive' was completed in November 2009 (funded by the AHRC, £301k), having digitised some 16,000 analogue assets. The launch witnessed the opening of the portal to the electronic database through the interactive website, supported by a three month exhibition of the analogue collection held in the High Wycombe public library. By January 2012 it had received three million hits validating its position as an important national research resource.

This study has employed qualitative research being conducted through interviews and focus groups coming from the manufacturing industry and related agencies (trade unions), including research centres such as the Furniture Industry Research Association. A large amount of unique findings have been applied to the electronic database through enhanced metadata.

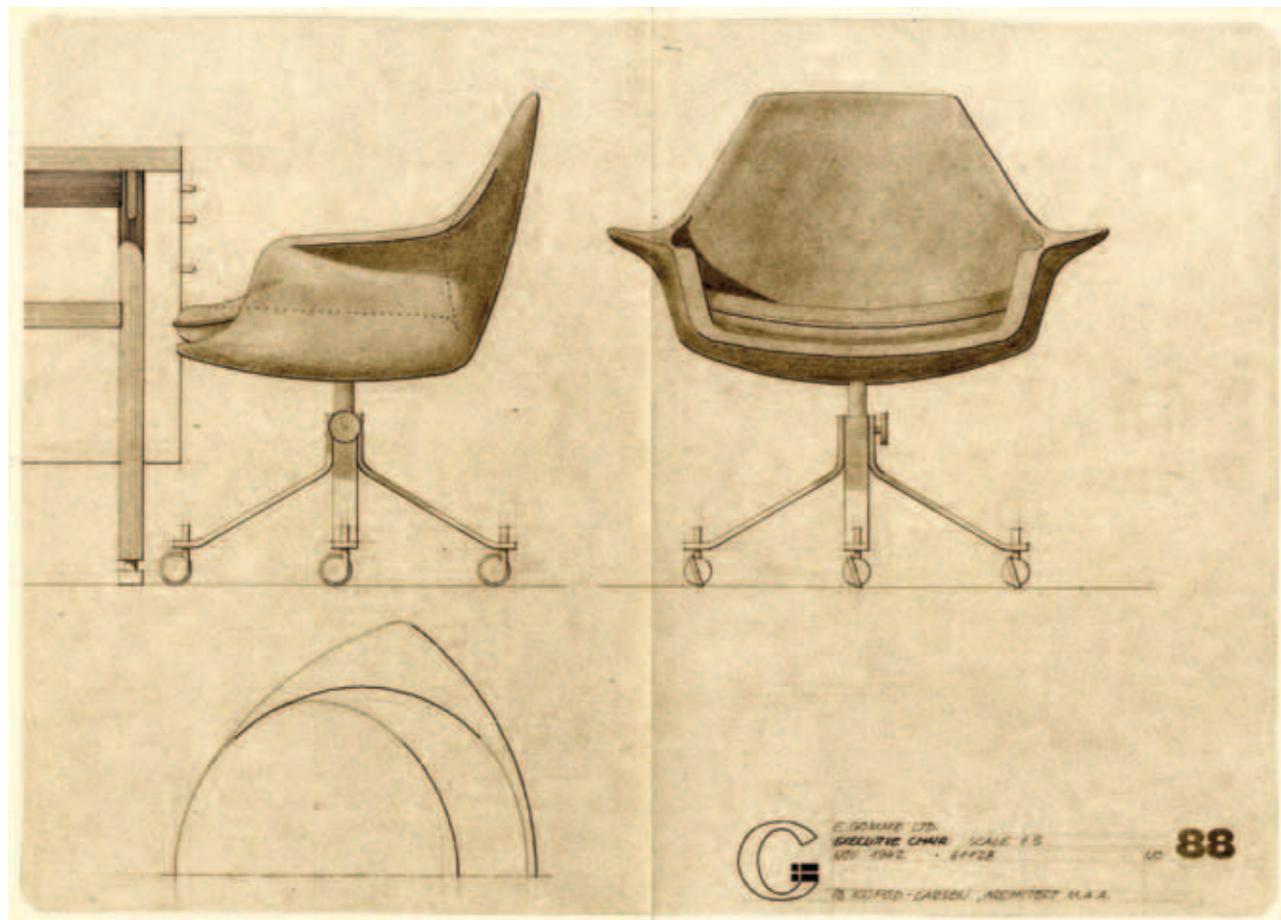
The considerable amount of 'research material' collated throughout the course of the project has been used in data sets supporting the images on the database and website. Research findings are being prepared for article submissions categorised into three themes: furniture manufacturing forecasting, World War II activities (modifications to factories for aircraft, munitions and the utility scheme) and women at work – there are many images relating to women at work in the Ercol collection and numerous references through the Union Records, such as 'women dilutees' alluding to those who were retrained and employed during the Second World War.

Engagement: Building up the collection

Throughout the project engagement with the industry and other collections of twentieth century furniture archival material evoked a move from being a regional to becoming a national resource. Hence a proposal was developed to enhance the existing electronic database and website by increasing its content to national status as offers of donations increased from furniture collections, such as Stag furniture (Nottingham), Frederick Parker collection (London Metropolitan University), Furniture Industry Research Association (FIRA-Stevenage) amongst others. National collections have formally expressed interest in participating with the longer term project, representing public and private archives: the Geffrye Museum; Birmingham Furniture Archives (Birmingham City University); Salford Trade Union Archives (University of Salford); and Hille Furniture Ltd, with others informally showing enthusiasm for inclusion in the project.

Fig 1: Print of Ib Kofod-Larsen drawing no. 15 dated June 1961, showing occasional chair (6245) with loose cushions for GPlan. Vic Wilkins (VBW) appears to have initially written Arm of chair being made in Denmark, then

subsequently crossed this out and added, Have asked for whole chair to be made in Denmark & similar design for High Back to be made by us when drawing received.



The audience for this project is constantly expanding with further dissemination and search optimisation. The core of users has already gone beyond the normal academic segmentation of formal learners, independent learners and leisure users as the content rich archive offers valuable primary material to the furniture industry, the design sector and artefact collectors/valuers.

A special furniture archive conference was convened at the V&A museum in 2006 hosted by the twentieth century furniture research group where papers discussed

issues around terminology for search terms and archiving processes and preservation. A rigorous discussion took place at the plenary session illustrating the need for a sector standard for the use of furniture nomenclature for special furniture collections. The HWeFA project took this as a key initiative, and devised a set of standard terms for use in its electronic database, which has proven to be universally accepted.

In 2007 the project team were able to share research experiences and recommend best practice following sector

Fig 2: Ercol: Arden suite dated c. 1974 showing Easy Chair (697), 3 Seater Settee (697/3).



Fig 3: G-Plan 1962 catalogue. Colour picture showing G-Plan bedroom furniture – headboard (1592), wardrobe (1090), cupboard chest (1706), dressing table (1920), chair (6031), dressing stool (6040).



standards for digital outputs that follow ‘open source’ (JISC) policies including ‘creative commons’.

In 2008 the Furniture Trades Benevolent Association entrusted its fragile minute books to the HWeFA for safekeeping and digitisation of this informative material. A short publication was completed outlining the purpose of digitisation and how this would disseminate this valuable social and economic history collection.

Currently the unique cost books of William Birch are being digitised capturing highly informative and visual accounts of twentieth century furniture design and making practices. Birch produced significant arts and crafts ranges for Liberty’s, Heals and Harrods.

Design heritage and embedded learning

The HWeFA has been embedded into the University curriculum with a dedicated module being validated as part of an undergraduate furniture programme within the National School of Furniture. The resource is further used by both undergraduate and postgraduate students for a variety of purposes, including reference, primary resource and as inspiration for design innovation. Lecturers and researchers use the resource for historic reference as well as inspiration for new designs.

This informative database has provided collectors, dealers and auctioneers with a reliable source for historical evidence of twentieth century furniture as has been demonstrated through engagement with this sector.

The resource’s provision to the industry is already established through its links with the Bucks Furniture Industry Board and furniture Companies such as

Ercol who frequently reference the reliable content particularly with the recent re-issue of furniture models such as the 1950s butterfly chair and the Windsor range. With the increase in activities through the stakeholders this is growing.

The project outputs provide new material for the teaching of design and design history for use within the university’s art and design programmes along with other HE/FE institutions’ teaching activities. A further module has been recently validated on a foundation degree programme at the NSF based upon the HWeFA. The material is also of high value to researchers engaging with this type of material within art and design contexts. Many researchers have visited the physical archive and citations are increasing.

Sustainability issues acknowledged by JISC identified five areas that ensure long-term success of digitisation projects in Universities. This project has managed to address all of these areas as the facility is now embedded into the University resource and culture, is dynamic, has a strong value contribution, creatively manages costs with diverse sources of revenue and has clear targets with measurable metrics. Since its creation the HWeFA has enjoyed an average of over 100,000 hits per month and continues to evolve its expanding audience.

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Research and teaching: An investigation of student teachers' ability to reflect

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As Coultas (2008) states: '*An effective teacher is a learner*' and in order to formalise learning an individual should reflect upon their experience. The concept of becoming a reflective practitioner in teaching is not new but the pressures of a condensed Post Graduate Certificate of Education training (PGCE) year often make it difficult to include sufficient periods of reflection to formalise learning within the programme (Donald, 2002). This chapter focuses on research which evaluated the impact and perceived effectiveness of reflective learning activities on PGCE Physical Education (PE) students.

This action research project took place within an Initial Teacher Training (ITT) programme at the University of Chichester and served two purposes. Firstly, data gained from a previous study provided a starting point for the investigation, which subsequently stimulated the introduction of a range of reflective learning activities in the PGCE training year. Secondly this current project has created 'theories of understanding' which could be used to influence the thoughts of others. In other words both the 'action' and the 'research' have created a transformation in the mechanics of the PGCE course within one institution, brought about as a result of the increased confidence and belief in the data, supporting the introduction of alternative activities to encourage reflective learning (McNiff & Whitehead, 2010).

Action research is a powerful tool for change (Cohen et al, 2009) and was used to improve the learning opportunities for the PGCE students. Carr and Kemmis (1986) regard action research as a self-reflective enquiry and emphasise the importance of the two aims of action

research: to improve and to involve. Atwo themed approach. Rossi and Tan (2012) however provide a more progressive theory to action research when they write of 'a reflective process involving progressive problem solving'. This research is on-going and in truth will never be complete because each conclusion drawn will assist in the design of the next PGCE training year. The study followed an interpretative paradigm but adopted the theory presented by Pawson and Tilley (1997) to provide the project with a 'bounded system' (Gomm et al, 1993). The Pawson and Tilley model had three elements to the research process:

'Context ----- Mechanism ----- Outcome'
(Pawson and Tilley, 1997)

The project is based on the three elements as follows:

- The context was be variable. There were a variety of reflective learning activities and a research tool to investigate student reflection.
- The mechanism on the whole remained constant because the contexts were designed to provoke the students' thought processes. Hence the mechanism was the students' thoughts.
- The outcome was the student reflection. The assumptions were that the participants take part in several contexts, the mechanism remains constant but might be through various media and eventually the desired outcome of reflection was achieved.

Reflection as a learning strategy

The most important concern for ITT and school-based staff is not necessarily how we formalise the learning from our reflection, but to make sure there is opportunity to 'learn' to reflect. The evaluation of a lesson with a mentor is only one step towards a critical review of the developing teacher or person (Moon, 2005).

Donald (2002) compared the novice to expert teacher and questioned whether the one year PGCE course could prepare a student to adapt quickly to classroom feedback and reflect on their teaching experience. Many PGCE students will rapidly learn to respond to the demands of their mentor or other external source primarily because little time is given to internal analysis or thoughts. The PGCE student will experience an intense learning curve and a process of 'trial and error' (Lovell, 1982), and in some cases students may withdraw because there is too much emphasis on reflection, which could result in a fear of failure (Ghaye and Ghaye, 1998).

Reflection is regarded as a form of experiential learning and a way to formalise learning rather than cognitive acquisition. Evaluation of lessons taught and a reflection on personal learning is an essential quality in any effective teacher. Dewey (1955), Kolb (1984), Schön (1991) and Honey and Mumford (2006) have identified forms of learning relating to a step or phase system to a cyclical process of development. Dewey lists five stages of development: suggestion, problem solving, hypothesis, reasoning and testing, which have been used as a base line assessment of student development in this research.

All theories of reflection appear to suggest reflection is stimulated by a need or desire to solve a problem (Parson & Stephenson, 2005; Loughran, 1996) with the process being more important than the impact of any change. It is essential that the student moves from evaluating an event to reflecting on the reason 'why' (Parsons & Stephenson, 2005). Dewey defined reflection to be a person's ability to integrate new knowledge, feelings or attitudes with previous knowledge and to be a prerequisite for professional growth (Peters, 1977). If a student cannot reflect on the lesson, the evaluation is reduced to mere impulse (Redmond, 2004). Student teachers however, have little teaching experience on which to reflect and can be totally overwhelmed by the requirements of the profession, especially during the early stages.

Initial reflection from students is often descriptive, but more detailed reflection that considers 'other' factors has been labelled in this project as 'enhanced' reflection. Reflection is an internal thought process but Bradbury et al (2010) stipulate that there is a need to recognise the context, power dynamics or ideological challenges from this process. These factors were labelled 'enhanced' reflection. According to Moon (2008) enhanced reflection provides a 3-D effect with the individual viewing the situation from the outside whereas descriptive reflection merely outlines the events.

The Research Study

This research embraced the theories of Dewey (five stages of development) and the suggestion made by Moon (2005) and Ghaye and Ghaye (1998) to introduce individual and

communal forms of reflection in both the written and oral form. The research was carried out over a twelve month training period which equated to the PGCE year.

The research questions which were the focus of this study were as follows:

- Do student teachers demonstrate reflection through Dewey's stages of learning?
- Do students use narrative to reflect?
- How do reflective learning activities impact on student teachers' ability to reflect?

Thirteen student teachers were asked to take part in the research at the beginning of the project. Towards the end of the project, once the content of the data were analysed, six participants, demonstrating a range of approaches to reflection, were chosen to take part in a formal interview.

The six participants (3 male; 3 female students) were all studying secondary Physical Education on a PGCE course at the same institution. The participants were aged between 22–24 and all of them eventually graduated with Qualified Teacher Status.

All were given the opportunity to withdraw from the project at any time. All data were confidential with student names being removed and a coding system adopted.

Three complementary reflective learning activities were chosen to investigate the development of the students' ability to reflect. These were: discussion groups, action learning sets (ALS) and reflective journals. The activities included individual, communal, oral and written forms of reflection (Ghaye & Ghaye, 1998; Russell & Munby, 1992;

Morrison, 1996; Parsons & Stephenson, 2005; Moon, 2005). The data collection concluded with a formal interview.

The aim of the oral reflective learning activities was not to discover 'what' the students were thinking, but more importantly how and why they came to that opinion (Morgan, 1997). The groups were established during University-based sessions and the topic was always related to relevant issues of becoming a teacher and to helping the students achieve the 2007 'Q' standards. The oral activities were informal, provided a relaxed atmosphere and allowed 'emic' or natural information to be presented (Stewart & Shamdasani, 1990). The aim of the oral activities was to provide time and space for the student to reflect (Brockbank & McGill, 2004) and for the student to move away from being a 'passive receiver of knowledge' to a reflective practitioner (Greenwood & Levin, 2007). In addition to the oral activities a written journal was provided to assist with any written reflection that may occur during the year. At the conclusion of the year six students were interviewed formally with questions designed to probe the comments already ascertained.

Results and discussion

The data showed that five of the six students demonstrated reflection through Dewey's stages of learning and two of the five did show the early signs of enhanced reflection, but this was limited; these two students started to make independent decisions (Fook, 2010). It could therefore be concluded that opportunity alone does not ensure learning from reflection. Reflection could be a learning tool that has to be taught. The participants were tracked through their

ability to 'layer' their reflection by relating more recent learning to previous learning. This involved moving from one experience to the next and being aware of how they were learning from experience. Dewey's stages of learning were being 'layered' on top of each other rather forming a distinct linear progression. This meant the learner did not always return to a starting point but went through the stages in a different order or had juxtaposed certain steps or progressions.

The two students who showed signs of enhanced reflection by demonstrating the ability to place their learning within an historical continuum of learning considered their relationship with others and how this affected their own perceived status and had a positive emotional attitude to their training.

The data produced an interesting consideration in that each participant used a story to relive an experience from their life. Although the use of narrative was not essential to reflection, the opportunity to tell a story certainly helped the participants to start the reflection process. All participants told a story during the ALS and some used the journal to provide a written narrative. Interestingly, Elbaz (1990) argues the use of storytelling particularly suits the profession of teaching, so it was no surprise to find each reflective learning activity produced a series of narratives from the students' experience. The stories were told in different ways. Some were straightforward descriptions, other stories provided background detail.

Clandini (1988) stressed the 'power' of the narrative. This was demonstrated in this research as each recorded episode had relevance to the participant. This relevance

usually came from either a positive emotional experience or occasionally a negative experience, which is interesting to note because it may explain why an individual would tell a story. In other words the participant selected the story for a reason. However the content of the story differed between the reflective learning activities. The discussion groups produced accounts concerning whole school issues, while ALS were more personal and introduced topics relating to the individual and their personal experience. The oral reflective activities were expressed in 'real time'. There was no transformation or time delay and the detail appeared to be very 'fresh' in the students' minds. The journal provided a brief sequence of events that were based on a historical overview of events.

Conclusions

This research project provided several opportunities for student teachers to reflect on their teaching and learning experience. The reflective learning activities did not always produce reflection. Although five of the six students did show the early signs of reflecting through Dewey's stages of learning only two demonstrated reflection that considered the context of their learning, ownership of the situation, a reference to power and emotion. The conclusion would therefore summarise that opportunity does not always equal enhanced reflection. Some students will have to be guided to consider and re-consider their experience in order to formalise their own learning; to be encouraged or perhaps 'taught' how to reflect and ultimately formalise their learning utilising various narrative tools. This project also has implications for pedagogical approaches

within Initial Teacher Training and should be used to identify suitable teaching strategies to ensure student teachers formalise their learning. This could raise the question, supported by Donald (2002), that the PGCE training year is too intense to allow space for considered, enhanced reflection, and that the reflection process should be initiated in the training year and continued overtly in career professional development programmes and, implicitly and explicitly, accessed throughout the students' teaching careers.

Finally, beyond the wider considerations for the sector, the project has contributed to my own knowledge and teaching practices. As a researcher and a lecturer in ITT I have moved closer to understanding how student teachers formalise their learning and how I can facilitate this process.

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Embracing indeterminacy: English Literature and research-led teaching

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Langagis, whos reulis ben not writen, as ben Eng-
lisch, Freensch, and manye othere, ben chaunged
withynne yeeris and cuntrees, that oon man of
the oon cuntre, and of the oon tyme, mygte not,
or schulde not kunne undirstonde a man of the
othere kuntre, and of the othere tyme; and al for
this, that the seid langagis ben not stabili and
fundamentali writen.

I first came across these musings from the 15th-century Bishop Reginald Pecock's *Book of Faith* whilst undertaking doctoral research on late medieval English vernacular anticlericalism at the University of York. Pecock's point – essentially that the English language's mutability renders meaning unstable across time and place – is, of course, self-evident in the initial difficulty a non-specialist 21st-century reader may have in reading the passage. Furthermore, it may be seen to prefigure any number of theoretical discussions of language of the past century. As such – and for a number of other reasons, not least of which is simple interest in Pecock's life and career – these words have become something of a personal touchstone in both my teaching (on modules as diverse as medieval literature and experimental writing) and my research (likewise varied), as well as in my reflection upon the interplay of these two strands of my professional life.

Elsewhere in this publication, researchers explore the usefulness of 'vagueness' within schematic conceptions of the 'research-teaching nexus'. Whilst doing so, in a way that once more brings Pecock to mind, they are also implicitly interrogating the vagueness of the terms

themselves: 'research', for example, is a lot more slippery than it may at first appear, meaning different things to different people within different institutions. My home institution defines itself not as 'research-led' but as a 'teaching-focused, research-informed institution' – a subtle distinction, but one that perhaps articulates the symbiotic nature of the relationship rather more clearly, whilst signalling the institutional ethos regarding the key purpose for which these activities are undertaken. As for 'research', it is considered rather broadly to be:

The creation and dissemination of new knowledge, insights, or interpretative frameworks through activities which might include but are not confined to books, parts of books, articles, websites and other forms of published output (including artefacts and performances), and conference papers, public lectures and other forms of public output, and the activities required to produce such materials.

Such a description is comfortingly nebulous, providing an umbrella which covers primary research, along with applied and creative research and, indeed, a tantalising fringe bristling with the promise of as-yet unnamed possibilities.

It may be argued that such imprecision renders the definitions all but useless yet, as Pecock reminds us, any attempt at linguistic exactitude is ultimately doomed to failure almost before the ink has dried. Nonetheless, for all the apparent defeatism inherent in this observation, there is an equal and opposite benefit. As the Structuralists

long ago noted, language does not merely describe our world, it actively constitutes it; consequently, this vague – arguably even unsatisfactory/unsatisfying – definition creates a liberating sense of what ‘research’ may entail. By way of example, in terms of my own personal ‘output’ in recent months, I am not required to make restrictive – and to a great extent arbitrary – distinctions between a book on medieval misericords, contributions to an anthology of experimental writing, and a collaborative performance with a Taiko drumming group. The result is that these apparently diverse activities are freed from artificial compartmentalization.

The concomitant benefit is that this fluid intermingling of topics, disciplines and approaches is ideally constituted to seep through, around and into all aspects of teaching. This, naturally, leads to the question of what ‘teaching’ actually is. It is perhaps easier to pin down this term as an educative activity whereby one informs and enables one’s students through instruction, training and/or example. Yet there is no reason to believe that this term should be any more rigid than ‘research’. The often implied unidirectional nature of teaching is rightly modified in diagrammatic representations of scholarly and research activities elsewhere in this publication, yet I would suggest that a more dynamic picture would, rather than tracking the ebb and flow between research activity and learning and teaching, simply dispense with the dividing boundary altogether, going beyond the suggestion that both are of equal status and instead acknowledging that they are inseparably merged.

At the heart of English studies (itself a further indefinable designation) is the on-going interrogation and manipulation of mutable language that is ‘chaunged withynne yeeris and cuntrees’ and, for all that reading and writing may be largely solitary pursuits, this cannot take place in a vacuum. And within an institution’s English subject area, however it may be configured, the multidirectional dynamic of research, teaching and learning needs to remain indeterminate and ‘not stabili ... written’ for the subject to remain responsive to the needs of a scholarly community that embraces both academic staff and students in all their multifarious, interdependent roles in a perplexingly – yet excitingly – shifting world.

Drawing as a collective activity

Michael Szpakowski and Ruth Catlow, Writtle College

Someone said to me: ‘To you football is a matter of life or death!’ and I said ‘Listen, it’s more important than that.’
Bill Shankly

Drawing is one of the two oldest purely cultural – in the sense of playful, not directly concerned with keeping body and soul together like cooking or hunting or shelter – activities that comes down to us today directly in the form of artefacts from between 25–35 thousand years ago (the other is music).

There is no known human culture that has not made representational and other marks with something, on something, for both fun and survival. Furthermore, as Patrick Maynard demonstrates in his steely eyed and magisterial *Drawing Distinctions*, it can be shown to be the practice which more than any other underpins not only all of present day visual culture (including photography, which, following Maynard, we read as a species of drawing) but also the technical developments of our advanced industrial age. With satisfying circularity, drawing, a fundamental tool for engineers and architects, scaffolds the level of production which (by guaranteeing surplus product) is the prerequisite for the very existence of our substantial caste of artists and designers, those useless and indispensable dreamers.

Arguably, then, in a perfect world its study might be counted, with literacy and numeracy, as a genuinely key skill to be studied by all. Certainly, perhaps a more realistic demand, it should be a practice both underpinning and overarching any systematic education in art and design. What concrete shape might this take

within the Babel of practices which current art education encompasses?

Experimental teaching and peer-learning

A couple of years ago the two of us, both from a background in digital art/moving image, started teaching on two consecutive courses – a Foundation degree in Digital Art and Design and its top-up, a BA (Hons) degree in Art and Design Practice. Much of the formal documentation of the courses specified the use of particular kinds of software and allegedly real-world reasons for deploying them (many involving the demands of ‘industry’). From the start we were antagonistic to this approach. We wanted to ‘artify’ the course – introduce as much experimental, speculative, exploratory, pleasurable and downright pointless (in the way that the best art is both pointless and hugely important) activity as possible. We didn’t abandon the idea of teaching design, but we did decide that the core course programme would henceforth be art/design agnostic – it would deal with ways of making and thinking about images (as well as sound, performance, interactions or concepts) that could be used with profit by students moving in either or both or other directions. It would not be training; work would be driven by the imagination and shaped by the ambitions of students. Teachers would introduce new technical processes, but these would be embedded in thematically organised investigations of historic and contemporary precedents. Help with technique or software might be part of what teachers did, but this would be part of an organic investigation/development by student and teacher together. If a teacher knew something

they would help; if they didn't, they might know where to look; if neither knew, they might search together; if the student knew, they could teach other students and the teacher too. In short we identified a peer-learning process as the only sensible approach sufficient for developing the necessary skills, knowledge and flair in a rapidly-developing field.

Moreover we wanted a course that integrated the digital with every other sort of visual (and conceptual, performative and sonic) practice. We were both impatient with the idea that work made using digital tools, or work created within and distributed across a network, was somehow qualitatively different from all that had preceded it (a not uncommon view often allied to a species of digital mysticism). Indeed we realised we both sensed, and gradually came to articulate clearly, that there was a continuum – a chain – from the cave painter to the contemporary artist. Not to say that social and historical concreteness plays no explicatory role, but that there is some still human centre to mark making (and to allied practices – singing, the telling of tales, etc.) which has persisted and will persist and is part of the territory of being human. 'A chain' is no loose metaphor, but a precise account of the reality. Inspiration and technique pass continuously from generation to generation. And this is cumulative – making much of the past of art available to its future. In a sense the terrain of art accretes, expands, as time passes. Even what is lost to famine or war, proscript-ion, taste and changes in technology leaves traces, the possibility of reconstruction and re-use (and, often most creatively, misuse). This is what we wanted to instil in our students.

Teachers as learners: drawing and the digital

Our drawing sessions link to and are inspired by earlier instances of art powered pedagogy that place cross-form conversation at the heart of learning together. Joseph Beuys made drawings throughout his artistic life – often enigmatic constellations of media, concepts, entities, political figurations and material properties. However of particular relevance here are his extended works, *Office of the Organization for Direct Democracy by Popular Vote for 100 days* at documenta 5, 1972 and *Honey Pump in the Workplace* for documenta 6 in 1977, in which he demonstrates his expanded notion of art that is exactly congruous with his philosophy of teaching – 'to reactivate the "life values" through a creative interchange on the basis of equality between teachers and learners.' Both pieces required the involvement of many people in processes outside of the realms of ordinary action (such as the maintenance of the plastic pipes of the honey pump as it circulated two tonnes of honey through the building) in order that they might connect with unfamiliar concepts and experiences. The artworks integrated many different categories of work (some, but not all, associated with art making) including performance and the practice of various disciplines (of dialogue, rhetoric, democratic processes of exchange and decision making). And yet, in an interview with Achille Bonito Oliva, Beuys makes it clear that he has no interest in leading audiences towards an 'activism devoid of content'. The liberation of humankind through art (Beuys proposes that everyone is an artist and society is to be sculpted by everyone) depends on a more deliberate engagement of individual energies.

Drawing was particularly important to both of us. It was something Ruth had always done from an early age. Collections of drawings made by her between the ages of six and thirteen depict public street scenes of everyday social groupings and activities (a group of kids running with a dog, two mothers with two prams, businessmen waiting for a bus). The figures are too small to carry facial expressions. Nevertheless their interactions, mood, social status and relationships are expressed by their outfits, gait, their gestures and their proximity to each other and other elements of the scene. Ruth now looks back on these as evidence of an early growing fascination with sociality. Through school she learned that 'drawing well' meant producing an image as much like a photograph as one might render. Praise and grades were awarded accordingly. Later, at art school, drawing became a liberating process of discovery. She generated abstract marks, as traces of energies within the body, rather than to create a deliberate composition within a pictorial plane. In this way she produced surfaces such as might be produced by soot covered animals (think monkey, gazelle, seal, tiger, crow) thrown together into a white room. This surface would then serve as a mirror (or crystal ball) from which entities, gestures and forms of light and shadow emerged to be drawn out in further explorations of aspects of her unconscious.

Drawing was something that Michael aspired to. Because he had come to moving image work - to 'being an artist' – by a strange route through theatre, maths and music, he had both a fascination with and a terror of drawing. He had been the kid in the class who couldn't

draw, and yet had loved the feeling, the deep engagement with both the act and with what it awoke inside him – his mind's eye – that it brought. In his moving image work he had attempted to confront this. The inverted commas that came with a certain species of conceptualism were a great help because he could frame himself performatively, comically almost, as an uncertain but oh-so-willing draftsman, one with no eye or dexterity, a technical schlemiel.

In his secret heart, though, he knew he wanted to do this thing without (or at least largely without) irony.

Arising out of this obsession, in the early years of the new millennium, Michael had launched a little provocation where he challenged digital artists, as they were then still called, to create self-portraits, on the sole condition that this be done using non-digital means, and subsequently to photograph them for display in an online archive. Those who didn't balk at the task produced a touching and intriguing panorama, of pen and paint and pencil but also of bathroom tile, egg tempera and iron filings...

As part of a discussion about this Michael had opined on some listserv or other that the barriers between artistic practices were porous and that the true measure of anyone aspiring to be an artist (musician, film maker, poet) was that, if lost in a deep forest or desert isle, with only a rock to make some marks on and another rock to make those marks with, the putative artist would eventually produce something of interest, depth and value.

Early on we introduced chunks of drawing as an occasional workshop – Ruth introduces, and then builds on familiar art school, Bauhaus type exercises that attempt

to separate process from outcome-anxiety, allowing students to engage with an inner dialogue about their looking and representation un-disrupted by fears of inadequacy. These include: drawing without looking at the paper, from memory, without removing pencil from paper; drawing with the 'wrong' hand; drawing in five minutes or five seconds; drawing only negative space; having the pencil trace the movement of the eyeball as the drawer observes an object, etc. Michael felt the centrality of drawing calling him but these sessions still felt like a slightly naughty holiday, an activity that did not necessarily link to his background and formation as an artist. The teacher, like the student, was still exploring.

Students as teachers

The big epiphany came with the introduction of a weekly drawing session for all three years of the course. It happened and happens every Monday of term, without fail, and everyone in the room takes part, staff included. As many days as possible where more than one member of staff is present in the room, to make for debate, thus modelling civilised disagreement and forcing students, ultimately, to make up their own minds; there are usually two members of staff and occasionally more present. Each drawing session is led by a student who brings in an object, procedure or puzzle for the rest of us to address.

What happened is that we were rapidly out-Bauhaused by our students. Byzantine sets of instructions for tasks that we as teachers would have rejected out of hand as overly complex, impractical or confusing were carefully

explained by students and then carried out by all of us in utter silence.

Half an hour elapses, we place our sets of images on the floor and we process around them all, discussing them. The important thing is that everyone has drawn. Everyone is both vulnerable and admirable. Teachers are not privileged. For students, it is understood that although the process carries course credit, what is being marked eventually is a series of drawings – some 'good', some 'bad', most neither – and that technique – whatever that is - is not the focus. There must be room for play in creative education; hence, for this part of the course, taking part in all of the sessions is enough to secure a pass.

With respect to collective feedback, our experience has been that perceptive kindness predominates. We search for the wonderful things, speculating on why they are wonderful, maybe asking questions of the person who has made this thing, trying to elicit that week's secret or lesson. The drawings are a pleasure to behold. We have no intention of reproducing any of them here, though many would bear reproduction – we do not want to betray the egalitarian, labouring-together ethos of the thing by selecting outside the sessions and group. We are not sentimentalists – it is precisely because we understand the necessary element of brutality involved in the fair administration of an assessed course that we want to create oases, visions of how things could be other. It is the collective production of shared work that matters – it is not, let us emphasise though, a privileging of 'process over production'. The production matters – desperately so.

Over the weeks, our drawings are diverse in category, style, media and technique including: illustrations of the set task, abstractions, naïve figurations, diagrams, signs; some are performances of processes made in pencil, pen, paper, wood, charcoal, paint, collage, arrangements of plastic objects, paper-constructions; they reveal our choices and learning. Some students advance arguments in their drawings either with each other or with their own earlier work. As new tasks are set we each decide in the moment whether we understand the activity we are to involve ourselves with is mundane, ritualistic (perhaps even sacred), mad or wise, pointless or significant – our conclusions shape our drawings. In this way collective drawing has become central to the ethos of our courses as an integrative practice for negotiating a shared studio culture and shaping our learning together, our movement towards collegiality.

Doing the drawing means the week has a start to it – we affirm ourselves as folk with a common interest, different but equal. The sessions have helped to provide a social glue, too, across the three years of the course.

Conclusion

There are areas where we as teachers know more than the students; both of us have track records of work in the art world, but the drawing sessions level us all – they enable a mutually supportive but acute look at progress on a common task.

Since the drawing started we have also incorporated its lessons to other disciplines; staff and students share their photography work in a more horizontal way than

the demands of the course would normally allow. We use new forms of social media, and have Flickr accounts in which all participants are contacts. We comment on and 'favourite' each other's works as equals and collaborators.

Both drawing and photography in these contexts devolve to something similar – filling a blank space by mark making, with valuable, experiential knowledge accrued: repeating processes many times over to find out what constitutes skill and when (often, it turns out, much more often than is often acknowledged) to accept the gifts brought by chance; discovering that the art happens in a social space between the maker, the wider world and the viewer; understanding the work of others because we do it side by side; and, finally, coming to grips with the question of personal style and the diversity of ways of doing things well and meaningfully.

Each week reveals both artistic phylogeny and ontogeny – we solve the problem here and now, as if for the first time ever and this illuminates the historical chain, the intertwining of theory and practice, our mutual dependence, all of us artists and all of us nourished by art too.

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Research and engagement in the Performing Arts: The Stanislavski Centre

Paul Fryer, Rose Bruford College of Theatre and Performance

The Stanislavski Centre at Rose Bruford College of Theatre and Performance was founded in 2007 and is a unique initiative within the UK to create a home for both academic research and practice/performance events focused upon the work, teaching and legacy of Konstantin Stanislavski, the legendary Russian director whose influential career spanned both the Czarist and Soviet periods (he was born in 1863 and died in 1938). The Centre, which builds upon the work of the College's former Principal, the late Professor Jean Benedetti, is located within the Learning Resources Centre, and houses a core collection of books and other printed material (mostly in the Russian language), a photographic archive of more than 200 images and a small collection of video-based material, most of which relate to Stanislavski's own productions at the Moscow Art Theatre.

Collaborations around the collection

The Centre has developed close links with organisations such as The Moscow Art Theatre, the St Petersburg State Academy of Theatre Arts, the international publisher Routledge and, most recently, Shakespeare's Globe Education. The Routledge/Theatre Arts Archive, which includes core research material for Routledge's new Stanislavski edition, is also housed in the Centre as a permanent loan. Throughout the year, the Centre presents a series of events, all of which are open to the general public: recent lectures, master-classes and workshops have explored the work of Edward Gordon Craig, Sanford Meisner, Lee Strasberg, Michael Chekhov and Harley Granville Barker. Recent guest lecturers have included Anatoly Smeliansky, Sergei Tcherkasski, Jonathan Pitches,

Rosamund Bartlett, Jonah Salz and Richard St Peter. The Stanislavski Centre/Routledge Annual Lecture, sponsored by Routledge, has become a central event for the centre and for the College. The first lecture was given by Professor Anatoly Smeliansky, Dean of the Moscow Art Theatre School, and Associate Director of the Moscow Art Theatre. The second lecture, in April 2012, was given by Professor Bella Merlin from the University of California Davis.

The inaugural event, *Stanislavski on Stage*, an exhibition of the photographs from the archive collection, was staged at the National Theatre in Spring 2008. This also generated a book under the same title, which included essays written by the members of the Centre's advisory board. Early research projects hosted and supported by the Centre included *Teaching Stanislavski*, a Palatine-funded project which examined how Stanislavski is taught in post-16 and Level 4 tertiary education in the UK. This project is currently being expanded to adopt a European view of the topic, and has been the subject of a major Erasmus grant application. On-going projects have included *Chekhov's Theatres*, the first part of which, a short essay by Professor Christopher Baugh on the theatre in Yalta, is available on the Centre's website. The Centre has a long association with Copernicus Films, a Moscow-based production company run by the British filmmaker, Michael Craig. The Centre provided material for and consulted on his recent documentary film, *Stanislavski and The Russian Theatre*.

The Centre has a very active website which acts as a medium for news and events, but also as facility to

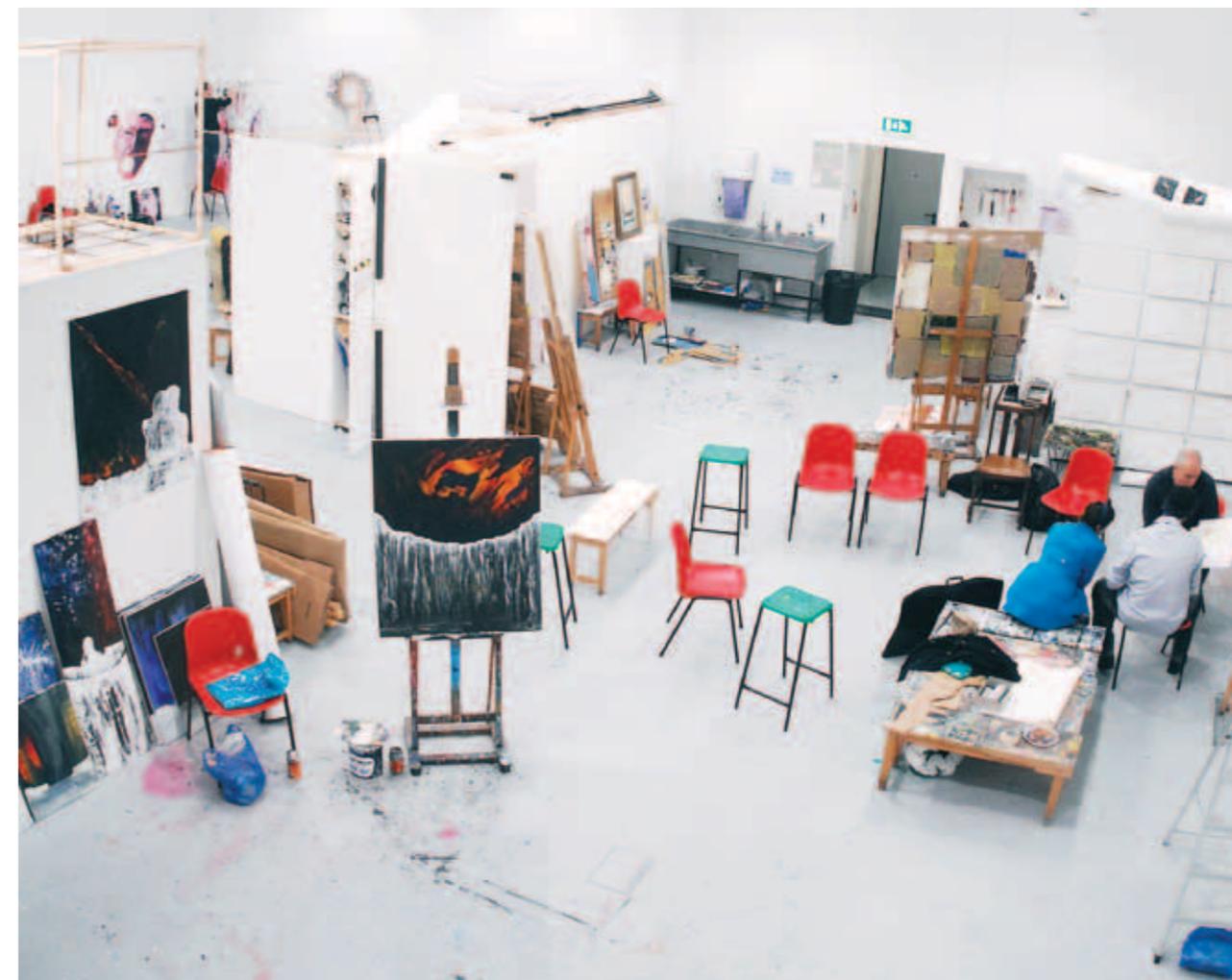
communicate research to students and the wider education community. In March 2012, the Centre published the first edition of a new ejournal, *Stanislavski Studies*, in partnership with The St Petersburg State Academy of Theatre Arts; the second edition of this journal is due to appear in November 2012.

Our newest research project, *Contemporary Directions*, which will explore the changing role of the director in 21st century theatre, is a partnership with Shakespeare's Globe Education. The project launches in June 2012 with an evening event at the College opening, which includes a keynote speech by the English director Sir Richard Eyre. The project will continue over the following eighteen months, with events taking place both at The Globe and at RBC, and will result in the creation of a new educational resource. All of the Centre's activities are recorded (audio/video) and copies are available in the College's special collections room. This material is building into a valuable research resource, available both to our own students and staff and to external users.

Conclusion

The Centre actively seeks to link events with the needs of the College's curriculum, and programmes frequently utilise our lectures and master-classes as part of their core teaching. The Centre also contributes activities and materials to the College's annual Symposium, a week during the Spring in which all teaching is suspended to allow for a busy programme of workshops, performances, talks, interviews, installations, and other events which offer a platform for staff and student work as well as an

opportunity to engage with leading practitioners from all parts of the industry. Direct exposure to immediate research, scholarship and practice associated with Stanislavski and the Centre, linked to local, national and international Performing Arts education initiatives that encompass the general as well as the scholarly public, enriches the creative research culture of the College for students, staff and audiences alike.



Up the creek without a communication aid: Speech and language therapy and outdoor adventure education

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Introduction

University College Plymouth St Mark and St John (UCP Marjon) has undergraduate students of Speech and Language Therapy and Outdoor Adventure Education. These subject areas are managed and administrated in different faculties within the institution, and before this research began there was no collaboration between the two subjects, despite the relatively small size of the University College. This interdisciplinary development realised the potential for overtly unrelated subjects to contribute novel approaches to improving peoples' quality of life. Speech and language therapy is concerned with the management of disorders of speech, language, and communication in children and adults. At UCP Marjon, the three and a half year professional training enables graduates to register with the Health Professions Council, UK and practice within the NHS and other organizations such as SCOPE, the UK disability charity for people with cerebral palsy.

Many people with cerebral palsy have complex speech and/or language difficulties, resulting in reduced or absent verbal output, or restricted understanding of language input, and compensatory augmentative communication systems (ACS) may be used (Beukelman & Mirenda 2005; RCSLT 2006). These systems include gestures, photos, symbols and spelling to communicate. People who need ACS to communicate more easily across a variety of contexts with different partners will need a speech and language therapist to help devise techniques and strategies to enable them interact with others: to tell jokes, ask a question or make a sarcastic remark.

People who use ACS vary greatly in the activities in which they participate and the types of interactions they undertake. The field of Outdoor Adventure Education (OAE) provides opportunities for people to experience novel situations with the ultimate aim of enhancing their confidence, enjoyment and development of values and attitudes useful for 'everyday' life.

OAE encompasses a range of activities facilitated within a variety of contexts – for example, 'outdoor activities', 'environmental education' and 'personal and social development' – and there is an underlying philosophy that the experience of OAE is unique, individual and founded on personal abilities and interests (Barnes and Sharp 2004). It can be taught in schools, but is more typically located in dedicated outdoor education centres. Within England, outdoor and adventurous activities are found within the National Curriculum for physical education. For the purposes of our research we concentrated on practitioners based in outdoor adventure education centres.

Collaboration

Cross faculty discussions were triggered by a final year Speech and Language Therapy dissertation project, 'Communication in the Outdoors; a training package for outdoor education instructors to improve their awareness of communication and augmentative and alternative communication (AAC)'. This ran as a pilot project for this innovative research. In order for this to be accomplished, the authors met to discuss and discover areas of mutual interest in terms of content and pedagogy as well as research methodology. It became evident that a wider

research investigation would benefit teaching and research in both faculties at UCP Marjon.

Using an internal University College award of £3000, the initial project saw a series of focus groups conducted with diploma and honours level Outdoor Adventure Education students. Their knowledge and experience of children with disabilities, particularly with speech, language and communication impairments, was explored. Subsequently, qualified and experienced OAE practitioners were interviewed to identify their knowledge, attitudes and practice experience of working with children with disabilities, communication needs and augmentative communication systems. It was evident that a difference in the quantity and quality of knowledge and experience necessitated both investigations.

Part One of the Research Process

The research process was initiated using focus groups of OAE students to explore their existing knowledge base, experiences and views of working with people with disabilities, in particular speech, language and communication needs.

Following this, OAE students participated in a workshop where they learnt about potential barriers to communication, why outdoor education centres need to be communication friendly and ways in which this can be achieved. They focussed on the importance of non-verbal communication, listening skills and ACS (unaided, aided, low and high technology). Students had opportunities to observe and experiment with objects of reference, signs, symbols and a variety of communication devices. Finally

a discussion was had concerning the implementation of changes to the student's practice and the importance of tailoring their approach to meet the needs of the individual.

Research Findings and Dissemination

Outdoor Adventure Education students reported on the nuances of developing new forms of communication to supplement traditional education methods. As students and staff worked, through focus groups and interviews with practitioners, to organise findings and reflect on approaches, a number of headline themes emerged, including:

- Acknowledging barriers.
- Role of peoples' carers/families/personal assistants.
- Impact of inclusion.
- Labelling.
- Fear of 'getting it wrong'.

Experienced OAE practitioners echoed similar statements to those from the students and emphasised the notion of needing a 'mindset for inclusion' that included a 'real can do' attitude. In a focus group, one third year student observed that 'when you are working with [disabled students]...you just need to be able to be quite creative and open minded'. Another noted that practitioners need to be particularly aware of the 'labels' associated with various disabilities, and to be particularly conscious of personal perceptions of the limitations and barriers associated with these. However, this can lead to a fear of 'getting it

wrong' and alienating potential beneficiaries of OAE and augmented communication; the perception that you were always working with the potential to 'offend' someone, 'whether it be the child, the parent...your co-workers' meant that you 'always had to be very careful' (Interview).

Both practitioners and students demonstrated an awareness of the different roles carers, families, and assistants can play in the child's participation. This awareness can lead to confusion and even fear associated with 'getting things wrong', and inhibiting as opposed to encouraging development; as one practitioner observed, carers might act as 'over-protective gatekeepers'. Another noted that one carer 'was like "no you can't go, no you can't go", but when they got back he [the carer] said the he absolutely loved it and that he was going up and over rocks and everything'. A learning curve thus emerged with respect to carers and children when they found themselves, through the outdoor adventure experience, confronting unfamiliar situations and problems in the presence of a third-party facilitator. In the end, another OAE leader observed that 'I wasn't pushing the child; the child was pushing her carers with my support. That's quite subtle.'

Some interesting comments were expressed by students concerning expectations and indicators of success. These seem to imply a naive uncertainty perhaps surrounding the students' perceptions of their roles within the activities. One student observed how that working with children with disabilities impacts on the group dynamic: 'when you [get] normal children they get used to you, get used to rules and as soon as you bring in someone with disabilities it upsets everything', this despite the fact that 'no one was being

held back able-bodied wise'; it was an issue of assumption that the practitioner needed to be prepared for (second year student).

Dissemination and impact of research

The findings from this qualitative research were presented at international conferences for outdoor education research (IOER 2011 in Denmark) as well as to speech and language therapists and associated practitioners (ISAAC 2010 in Barcelona). The inclusive nature of outdoor education and the benefits and barriers for children who use augmentative communication systems were the foci of both papers. Currently, papers for both professional communities are being completed for submission to peer-reviewed journals.

The significant research findings have been integrated into the teaching of both SLT and OAE students at UCP Marjon in order to effect real change in practice. For example, an innovation on the Outdoor Adventure Education degree has been to invite an adult who uses augmentative communication systems to teach on the Disability Awareness module. His session explored his participation in outdoor education and his experience of living with cerebral palsy, including use of 'labels'. The students had direct experience and communication with someone who uses communication aids (voice output device as well as a symbol board). This is accompanied by material about ACS taught by SLT lecturers. Particular emphasis was given to key issues relevant to facilitating communication, for example, the importance of direct communication with ACS users (not through the carer and

Fig 1: The Research-Led Teaching Cycle



thus minimising the 'gate keeper' effect), the selection and programming of specific vocabulary and useful practical strategies. Some key issues came directly from the research findings.

As a direct result of the research, OAE students are taught specifically about the need to prepare fully for including people with communication needs, in order to create opportunities for reflection and sharing. Specifically, Greenaway suggests that 'the benefits of outdoor education are gained from the interaction between self, others and the environment being combined with skilled facilitation to enable reflection' (2004). Without this planned and facilitated time for reflection, children with various disabilities can be unintentionally excluded from the full benefits of an outdoor education programme. The next step in the research process will be to evaluate the outcome of this session through student blogs, diaries and focus groups in order to understand how this research impacts on learners' practice.

Wider implications & conclusions

The importance of research informing teaching, particularly in this case with respect to developing Outdoor Adventure Education and augmentative communication systems for disabled children, is clear. The multi-stage process that describes this research project is shown in Figure 1 on the previous page.

The support of the institution allowed this project to be completed and facilitated the dissemination of this work through the presentation of findings at two separate international conferences. The research has directly

informed the teaching and professional practice of all involved. Additionally, the professional development of staff, the cross faculty collaboration and the associated benefits for students are evidence of the multi-faceted advantages of this type of applied research project. This could be expanded in the future to exploit the potential advantages of interdisciplinary research in the education sector. The quality of teaching and the direct rewards that this brings to the students' experience, as well as to participants in and beneficiaries of creative forms of education, are the obvious benefits to greater levels of research led teaching.

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Formative work to support student academic development in biological sciences

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Despite evidence that formative assessment can support student learning and understanding, pressures within the Higher Education sector are such that it is often under-used or ignored completely as a resource for assessing student and course development. However, formative approaches that support learning and understanding are especially important in the light of the widening participation agenda, particularly for a diverse profile of students without a traditional science background entering HE to study science-based courses.

We have recognised that the delivery of compulsory Stage 1 science modules has to be responsive to a changing entry profile and tailored to address transition issues facing students moving into tertiary education, without compromising academic standards. Our work focuses on the use of formative assessment in a level 4 science module, which is compulsory for students undertaking BSc (Honours) and Foundation Degree (FdSc) in both Horticulture and Conservation programmes. The aim of our study was to ascertain student views on the formative approaches utilised within the module, and whether they believed that formative work was of value to them in helping their understanding and learning. In addition, the study enabled us to investigate whether there was evidence of any potential link between student engagement with formative work, and subsequent performance in summative assessment. The work covered two academic years, and involved 68 students.

A range of formative approaches were utilised, as follows:

- Formative multiple choice examination, which preceded the summative end-of-module examination.
- The opportunity, in small groups, to scrutinise and grade student exemplar work, which was followed by tutor feedback.
- The coupling of two pieces of formative work with final summative assessment of practical coursework. This was based on two hour weekly practical classes (over 13 teaching weeks), and students were able to submit their work for formative assessment in weeks 3 and 6 of the semester. Their work was marked and returned within one week to enable the written and verbal tutor feedback to be used to feed-forward. Completed work from the final four weeks of practicals formed the summative element of assessment.

Findings

Views of the students were collected at the end of the module using an anonymous paper-based questionnaire, consisting of 14 statements and opportunity for free text comments; students ranked their perception of formative work on a scale ranging from 'strongly agree' to 'none'

Most (98%) students engaged with at least one element of formative work. More specifically, engagement with MCQ, FW1 and FW2 was 90%, 91% and 75%, respectively; 69% of students engaged with all three components. The response rate to the questionnaire was 96%, and revealed over 95% agreement (for all fourteen statements) that formative work had helped in their learning and understanding. Free text comments reaffirmed the high level of support for the process, for example:

‘This was the most useful part as we can learn from our mistakes and improve.’

‘...gave me clear individual guidance on progress, which is essential to monitor your own development and knowledge.’

‘I felt I improved each time due to very constructive feedback and suggestions.’

Overall, many students found that formative work was helpful in supporting their learning and understanding, and appeared to be of most value to them when coupled explicitly to summatively – assessed work, helping learners to identify and reflect on what they needed to do to improve, feeding forward to summative assessment. The student perception was that engaging with voluntary formative assessment accrued benefits, particularly with regard to academic expectations and their own learning behaviours. The use of small group work within a formative framework also encouraged discussion and interaction, and helped develop a network of peer-support for collaborative learning. In addition, the explicit coupling of formative work to summative assessment was found to result in an improvement in the marks achieved by the students, a pattern repeated in a later study undertaken by ourselves (involving 70 students).

Conclusion

Our study used formative feedback overtly as a mechanism to establish a dialogue between students and tutors, and provided a means for students to monitor and reflect on their own progress. The immediacy of formative feedback helped define both academic expectations and in supporting individual learner needs at a point early within the programme of study.

Our findings indicate that by engaging with formative assessment, students can develop their transferable and metacognitive skills to facilitate both transition and academic progression. Opportunities afforded by formative assessment to reinforce learning and understanding may also lead to an improvement in overall student performance, particularly for those from non-science backgrounds entering HE to study science-based courses. In essence, the approaches taken in our study encouraged and developed student empowerment, a key element in supporting a learning journey. Our findings have been presented at an international conference for Horticultural Practitioners, a paper published (*Acta Horticulturae* (ISHS) 920, 141–148) and a poster was presented at a Higher Education Academy (Biosciences) meeting in September 2010. We are currently investigating whether student entry profiles influence their academic development and achievement (as measured by their engagement and performance in formative work and linked summative assessment). Our preliminary findings were presented at the Higher Education Academy (Biosciences) Conference in June 2011. Our project is on-going, and we are planning to write papers for submission to peer-reviewed journals in order to further disseminate our findings to the HE sector.

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