University of Salford
A Greater Manchester University

ILIA
Innovative Learning in Action

Issue Four: New Academics engaging with Action Research

September 2005

Education Development Unit

Introduction

Dear Colleagues,

This edition of ILIA showcases four papers which were originally submitted as action research projects on the Postgraduate Certificate in Higher Education Practice and Research programme. Within the programme we offer an environment where participants can explore their unique teaching situations – not to produce all-encompassing approaches to Higher Education (HE) practice but to develop an ongoing dialogue about the act of teaching.

In effect, there are no generalisable 'best' methods of teaching because they never work as well as 'locally produced practice in action' (Kincheloe, 2003:15). Thus rather than providing short term 'survival kits' the programme offers new HE teachers a 'frame' for examining their own and their colleagues' teaching alongside questioning educational purpose and values
in the pursuit of pedagogical improvement.

This 'frame' is action research which Ebbutt (1985:156) describes as:

…The systematic study of attempts to change and improve educational practice by groups of participants by means of their own practical actions and by means of their own reflections upon the effects of their actions…

We promote 'practitioner-research' or 'teacher-research' as a way of facilitating professional development for new HE teachers, promoting change and giving a voice to their developing personal and professional knowledge. Teachers as researchers embark upon an action orientated, iterative and collaborative process to interrogate their own practices, question their own assumptions, attitudes, values and beliefs in order to better understand, influence and enrich the context of their own situations.

The action researcher assumes that practitioners are knowledgeable about their own teaching situations and the fact that they are 'in-situ' and not at 'arms length' as the value-neutral, 'scientific' researcher is often claimed to be, does not invalidate their knowledge. Thus, practitioners are capable of analysing their own actions within a 'reflective practitioner' modus operandi. Action research is on-going in conception and well suited to examining the ever-changing and increasingly complex HE practice environment. Findings from action research are always subject to revision since it intrinsically acknowledges the need to constantly revisit widely diverse teaching situations and scenarios across everyday HE practice. Teaching is not predictable and constant, it always occurs in a contemporary microcosm of uncertainty. Action research provides an analytical framework for new HE teachers to begin to engage with this

unpredictability on a continuing basis, that is its purpose and also its perennial challenge.

The papers presented here describe how four relatively new HE teachers have begun to address the challenge of improving their practice within their locally based settings utilising the action research 'paradigm'.

Ebbutt, D. (1985) *'Educational Action Research: some general concerns on specific responsibilities'* in Burgess, R.G. (ed.) Issues in Qualitative Research Lewes :Falmer Press

Kincheloe, J.L. (2003) *Teachers as Researchers: Qualitative Inquiry as a Path to Empowerment* London :Routledge Falmer

Bernard Lisewski

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Postgraduate Certificate in Higher Education Practice
and Research

Contents

Notes for contributors

Submission details (for papers and 'snapshots')

We will be pleased to receive papers, case studies and 'snapshots' which demonstrate innovation in learning and teaching at the University of Salford. Potential contributors new to writing might find the following article 'Writing Academic Papers: the *Clinical Effectiveness in Nursing* experience' useful:

http://www.harcourt-international.com/ journals/suppfile/flat/cein-writing.pdf

Length
Papers and case studies should be a maximum of 3,500-4,000 words without references.

'Snapshots' should be a maximum of 600 words without references.

For both papers and 'Snapshots' authors should include a full word count, (preferably with and without references) with submission.

Page size
All submissions should be left-right justified on an A4 page with 3.5cm margin on the left and 2.54 margins at the top, bottom and on the right

Text formatting
Normal text: 11 point Arial font

Title and Authors:

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Subsections: headings in Arial 11 point bold (Note: determiners such as 'the' 'or' 'a' are not capitalised unless they are the first word of the heading).

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Page numbers, headers and footers, footnotes

DO NOT include page numbers and headers/footers in your submission. These will be added when the publication is assembled. Footnotes should be in Arial 8 point.

Abstract
Papers and case studies: an abstract of a maximum of 200 words summarising the context should be included.

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Figures or tables should be inserted at the appropriate point in your text and have a figure caption in normal Arial 11 point font, at the bottom and left justified.

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Use single quotation marks throughout unless quoting within a quotation. Substantive quotes should be indented with no quotation marks.

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Include three or four key words to increase the likelihood of potential readers searching the literature accessing your article.

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Acknowledgements
Acknowledgements should be included under a separate heading before the references at the end of the paper. For example,

We thank Dr. Joe Bloggs and Prof. Joanne Bloggs of the University of Salford for their comments on earlier versions of this paper. This project was made possible by funding from the University of Salford TLQIS.

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K. (2000) Assessment: a critical perspective, *Studies in Higher Education,* 25, pp.267-278

For Chapters: Walker, R. (1987) Techniques for Research, in: R.Murphy & H.Torrance (Eds) *Evaluating Education: Issues and Methods*

For Websites: http://www.shef.ac.uk/alt/call/research .htm ALT-C 2003 *Research Paper Format Template*

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Students' Perceptions of the Discontinuity between Tutorial and Examination Questions in an Engineering Programme

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Abstract

This paper reports the findings of an action research project examining ways to improve the connection for students between tutorial work and exam technique in a Level 2 Aerodynamics module of a degree programme in Engineering. An intervention involving formative peer assessment, based on mock exam questions was supplemented by 'pre-game' and 'post-game' questionnaires in order to gauge students' perceptions of the assessment. Findings reveal several potential problem areas not least the students' apparent shortcomings in problem-solving skills, and their dependence on past exam papers, with solutions, for revision. Conclusions suggest the need for a fundamental curriculum 'shift' in engineering to make the teaching and learning of problem solving skills more explicit. Curriculum alignment within engineering disciplines should be geared more towards 'process' rather than 'product' if learning is to be appropriate to the 'real world' of engineering. This 'process' orientation may be supported by the use of formative peer assessment to encourage deep student learning and lure students away from a dependence on past papers, thereby providing effective feedback to students to promote engagement with the subject material.

Introduction

The recent expansion and restructuring pervading the HE sector presages a paradigm shift in the concepts of teaching and learning. University classes now tend to be larger and have a much greater diversity in ability and skills as a result of widening participation initiatives (Rust, 2002). Nonetheless, in some disciplines (including engineering) the traditional teaching and assessment scenario of lectures, tutorials and examinations prevails. During my brief experience of teaching on an engineering degree programme at the University of Salford I have come to feel that there is a fundamental gap between the material that students are taught in lectures, and how they use that material to solve questions in tutorials. As lecturer, I have tried to bridge that gap through the use of 'worked examples' – devising problems the solution to which I work through with the class. Instinctively I have felt this to be a viable teaching method but wanted to engage students in action research to validate my hunch. The first step in the process was to convene a group of collaborators and discuss my proposed line of inquiry with them. These initial discussions suggested that my learner collaborators perceived a significant misalignment between tutorial questions and examination questions. I had not anticipated such a response which was suggestive of Thomas and Nixon's argument that the way in which students react to assessment is very much based on their perceptions of that assessment. Whilst most students might appreciate that assessment is an important part of the learning process, a lack of understanding of how their work is assessed will adversely influence their approach to study (Thomas and Nixon, 2004). The potential dissonance between students', exam writers' and exam markers' perceptions and expectations of what constitutes different degree classifications etc. will also affect interaction with the assessment. Therefore, the students' observations changed the direction of this action research the focus of which became students' perceptions - both of the module assessment (the exam) and the 'bridge' between tutorials and assessment.

Research methodology

Action research is a practice that involves data gathering, reflection on the action, generating data from the evidence and making claims to knowledge based on the evidence (McNiff, 2003). It is an iterative process, with the observations drawn from one cycle informing the research of the next; a process of praxis – the action altering the 'knowledge base' which informs it. Norton (2001) observes that this ongoing nature means action research is particularly appropriate in a pedagogical context. Importantly, the researcher is sited within the research; 'a form of practitioner research characterised by improving practice through constructing new knowledge' (Staniforth and Harland, 2003).

The focus of this action research suggests a potential shift in teaching and learning strategy thus it is crucial to identify the stakeholders who might be affected by any intervention. I have identified the students as the primary stakeholders in the project, and recognise that their perceptions will influence my research and that they are the potential beneficiaries. However, whilst the initial focus of and potential benefits lie with the students and myself it is possible to anticipate future cycles that could ultimately involve and benefit a wider range of stakeholders both within and beyond the discipline.

In order to explore students' perceptions of exams and the bridge between tutorials and assessment I designed an intervention based on students engaging in mock examinations during tutorials.

The tutorials form part of the learning and teaching strategy for a level 2 module in Aerodynamics. Formative peer assessment was introduced with the examination solution being distributed to enable students to assess each other's scripts. I felt that the most effective way of gauging students' perceptions of the exam was to ask them about it, through a series of questionnaires. At least two mock exam question sessions with corresponding questionnaires were devised to provide a means of comparison, I felt that 'pre-game' and 'post-game' questionnaires were appropriate being distributed to the collaborators before and after the mock exam question. My purpose was to try to ascertain: their perceptions prior to the test; whether those perceptions were met after the test; their views of the assessment process; their preparation, or revision, process; and, their thoughts on using the mock exam questions to 'plug the gap.' Thus a significant proportion of both questionnaires required the honest, personal qualitative answers characteristic of small scale research (Cohen, Manion and Morrison, 2000).

The students were required to undertake the mock exam question (I stipulated 30 minutes for this), mark another's exam script, and complete two (moderately lengthy) questionnaires. In order to give the student group sufficient opportunity to engage in this process effectively, I scheduled a two-hour slot to complete a mock exam question session. I intended to undertake two such cycles; two separate sets of data would give me a means of comparison.

Insights from the literature

The concept of mock exam questions assessed by fellow students could be termed 'formative peer assessment'. Formative assessment is an excellent means for students to gauge how they are doing, and where there is room for improvement. Biggs (2003) observes that students are prone to misconceptions regarding summative assessment. Furthermore, many summative examinations do not provide any feedback on performance to students thus there is no mechanism by which the lecturer can inform students of their progress (Heywood, 2000). Boud (2000) goes so far as to suggest that the focus on summative assessment has overshadowed the need for formative assessment in higher education to the extent that the need to provide feedback is ignored and under-conceptualised.

In contrast formative assessment allows students and teachers alike to gauge progress and anticipate potential problem areas. Ramsden (2003) remarks that the prudent use of model answers, such as those specifically written by the lecturer, is an excellent form of feedback. However, Rust (2002) states that giving feedback to students without requiring them to actively engage with it will only have limited effect. Formative peer assessment goes further in allowing students to achieve this engagement thereby acquiring a clearer understanding of assessment processes and encouraging more effective preparation for examinations by promoting 'deep' learning approaches.

Cottrell (2003) identifies ten common pitfalls in revision which include: leaving revision to the last minute; reading the notes over and over again; motivation; panic; boredom and Meyer (1995) cites the inability to connect with material as eroding confidence and undermining deep learning. Although last minute revision may be active, it promotes surface learning, which does not serve the student's long-term learning needs. Thus effective preparation for examinations and effective learning depends on students not only adopting an active method, but also engaging their mind in a creative method, as opposed to passive revision whereby knowledge is absorbed without engagement (Tracy, 2002). Formative peer assessment may assist in these processes.

Discussion of findings

When conducting research, the validity of quantitative data is partially dependent on the breadth of sampling group, i.e. the number of participants. When I conducted my mock exam I was somewhat perturbed that I only had seven participants at each session. Almost inevitably I was drawn towards speculating why this should have been the case. The sessions took place on Friday mornings, and were the only lectures scheduled for the students all day. However, the sessions merely replaced an Aerodynamics lecture and tutorial, which usually had slightly better attendance (an average of around 10 students per session for the semester). I conjectured whether or not students were generally apathetic either towards aerodynamics, or towards their university career in general. Did the missing students have no real desire to collaborate in the action research, and it was easier simply to stay away rather than risk giving offence? I had stipulated, when explaining the research process, that participation was voluntary and non-participants could still take the mock tests, but was skipping the session the least stressful choice? Was my explanation of the process unclear contributing towards a lack of understanding on their part that discouraged them from collaborating in the research? Did a lack of understanding of the subject material

discourage them from taking the test? Perhaps they felt unable to do justice to the test having failed to do any revision, and did not want to 'show themselves up'…but some of those who attended freely admitted to not revising (and it showed in their mock test marks). Does it all simply come down to student characters, and students' learning strategies?

In processing the data, one frequently recurring theme throughout the students' responses was revision, particularly the idea of revising the subject throughout the semester. All participants admitted that they do not follow this kind of learning strategy, and many regarded this as a failing in their academic practice. Whilst summative testing throughout the semester, subjecting the students to a number of phase tests distributed throughout the semester might be useful it is likely that formative, peer-marked assessment would be more effective and less burdensome.

Remaining on the subject of revision the data suggested that student engagement with the formative assessment process was poor in that many students did little or no revision for the mock exam question. Overall there was more evidence of preparation for the second test than the first and this might have been a contributory factor in improved overall student performance. The overall group marks improved from a class average of around 7 out of 25 for the first test to 14 out of 25 for the second. Extrapolating this improvement in student performance it might be reasoned that: if the students were continually exposed to formative assessment across numerous modules, they could adapt to an ongoing learning strategy which would be more conducive to a deep learning process.

However, to simply assume that improved performance is due to better student learning may be anomalous. There are potentially a number of reasons why the marks would show improvement. For example, the relative ease or difficulty of my mock exam questions may have been inconsistent. I had formulated the questions at what I consider to be level 2 exam standard, but it may have been that the first test was more difficult for the students (or the second test easier). Equally, students' perceptions of the different subjects involved in the questions may account for apparent improvement - that is, if the students perceived the subject matter of the first question to be relatively difficult, they may not have felt confident about undertaking the question. Another possible reason for caution in interpreting the improved results is that rather than showing better engagement with the material they may simply spring from better engagement with the method of assessment. Students had been given ample notice of when the test sessions would be held (three weeks notice for the first test, and two for the second), and so, having adapted to the first mock exam questions might have undertaken some last minute revision to improve marks. Whilst aware of all these possible permutations it is nonetheless possible that the students' performance looked improved for the simple reason that it had improved. Individuals may have taken the opportunity offered to them and used it to their advantage. Perhaps positive engagement with formative peer assessment had served to engender deep learning. Certainly, when I talked informally with the students after both test sessions they seemed much more satisfied with their achievements following the second test. The students and I would now need to work together to build on that feeling of achievement, to further enhance their learning.

Whilst enthusiastically anticipating future collaborations with my students to enrich their learning experience I became more preoccupied with the validity of results I had derived from this formative assessment strategy - am I improving student learning, or am I simply improving how well they take exams? Am I making assessment, and not learning, the end product? Although in this first action research cycle I referred to the tests as 'mock exam questions', and wrote the tests as such, there is no reason why it could not be called, 'problem-solving using engineering principles,' and still be an effective formative assessment In its current format, an unseen question worth 25 marks attempted by the student over 30 minutes under exam conditions which is then evaluated by a peer, certainly does bring the assessment to the fore. However, I need to know that the formative peer assessment is encouraging students to engage with the module material and use it to effectively solve engineering problems.

The broader educational issue here is that students, prior to university, are not being engaged with the process of problem-solving. Problem solving has generic as well as discipline-based significance being highlighted in the Dearing Report (NCIHE, 1997) as one of the six key skills that higher education should develop within all programmes to promote student employability, and representing the keystone applied skill within the engineering discipline. However, a change in approach to teaching and assessment methods for 'A'- levels has diverted emphasis away from learning the process of problem-solving; the 'problems' set tend to be largely single step tests of knowledge of individual principles, and are not constructed as multi-step problems (Houghton, 2004). As the

prior learning regime of the 'traditional entry route' student has changed the need to radically reassess practice in HE has been reinforced by the impact of widening participation. As more non-traditional groups of students; students from social groups who do not normally participate in HE learning enter university the increasing diversity in academic ability and grasp of key skills could well fuel a need for more formative assessment strategies to encourage a continuous learning approach to the subject (Thomas, 2000). I am left wondering whether there is any correlation between a decline in problem-solving skills and students' revision techniques. It may be the case that, when revising, students do not devote time to practicing solving problems, but to reading past papers to 'spot' and predict questions and contrive almost 'model' answers. Had the student developed a commanding grasp of problem-solving, the particular style and format of question would be less consequential.

For the teacher, promoting student learning through formative peer assessment represents the transference of power from lecturer to students. In my limited experience many lecturers have difficulty in ceding territory, viewing knowledge as power. Certainly many of the topics engineers deal with are very complex yet interesting and if there is to be a community of practice based around these topics, the engineering knowledge needs to be there. Perhaps in seeing the subject through my eyes students can gain an appreciation of the holistic nature of engineering. If it is my responsibility to train the next generation of engineers who may eventually design the civil aircraft I travel on, I would be reassured if the designer had access to as much information as possible! Nonetheless, from a personal standpoint, I am quite willing to yield this 'power' to students since I feel it important that we give them as many chances as possible to succeed.

Evaluation of action research processes

When first presented with the concept of action research, I was less than enthused. The notion of conducting research within infinitely redefinable boundaries did not initially appeal. Prandergast suggests that one's first action research project consists of seven stages, and that during this first stage one is 'in the fog!' I would concur with this; however, in finally committing to the process I also found that there are benefits to conducting research within infinitely redefinable boundaries!

One of the problems was that I did not clearly understand the iterative nature of action research in the early stages of the project, particularly when the cyclical nature of the research can be represented like this:

Figure 1. The cyclical iterative nature of Action Research.

Figure 1 is, I feel, a fair representation of the cyclical, yet not quite iterative, nature of action research, and is referred to by McNiff, Lomax and Whitehead (2003) as 'a generative transformational evolutionary process.' I quite enjoy the irony that, explanative as the diagram is, it also resembles a cyclone, which has been my perception of action research at times!

It wasn't until I undertook the 'doing' stage, where 'doing' is the whole point of action research, that I began to feel more comfortable with the process, and find it much more rewarding. The interaction between theorising and practical experience from which the general principles of action research derive is intended to orientate and guide the practitioner, who has an active role in praxiology (Johnston, 2003).

Designing the questionnaires, both for 'pre-game' and 'post-game' was an important and difficult step in this project. The field of questionnaire design is vast, encompassing a number of key elements, including: ethical issues; planning and operationalising; the concepts of structured, semi-structured and unstructured questionnaires; dichotomous, multiple-choice, rank-ordering and open-ended questions; piloting the questionnaire; processing the data (Cohen, Manion and Morrison, 2000). In writing the pre-game questionnaire first, I found the process of trying to consolidate my various ideas and themes into a cohesive structure extremely difficult. I then wrote the post-game questionnaire by using my first questionnaire as a template, with the slant of the questions now altered to establish feelings after the event.

Having designed some rough drafts, I worked with my research supervisor to polish up the questions. This process of 'polishing' could loosely come under the definition of piloting. Piloting of a questionnaire, prior to carrying out a full survey, is well advised; it allows you to modify your questions in light of the responses you receive (Blaxter, Hughes and Tight, 1996; 163). In terms of my own process, someone else reading through my work helped bring any glaring errors to light, and modifications were made accordingly.

After agonising over the writing of the questionnaires, the next worry was whether the students would connect with them. My particular concern was how they would engage with the open-ended questions: if I should have a poor turn-out for the test (not an unlikely proposition), and the students don't connect well with the questionnaires, I would be left with a measly sampling of ineffective quantitative data. Fortunately, the students engaged well with the qualitative parts of both questionnaires. I was extremely pleased by this; despite the low turn-outs for both tests, I did at least collect data which might give me some insights.

Once I had run the mock exam question sessions and collected all my raw data, I found the process of sifting through all of this data, collating it and looking for patterns was a daunting experience! This could have been due to my badly organized data management system but it was, at least partially, attributable to the sheer volume of data collected. One thing that is abundantly clear is that my questionnaires were far too long. Despite the lack of attendance at the mock exam sessions, I had collected far too much information, and not all of it has proved useful. Several of my

questions were redundant (the six or seven 'yes or no' questions on revision techniques could have been reduced to, 'what techniques do you use to revise?') and a few questions were leading. It proved difficult at times to find patterns amongst the data. There was definitely a lesson for me to learn in this incident – the need for more management of the process prior to undertaking the research. Reflecting upon the process of designing the questionnaires I would now recommend: rigorous question formulation and construction - - changing 'tell me how you feel about...' to 'give me your opinion on...' changes the whole tone of the question; the use of qualitative as well as quantitative questions - even if the respondents don't answer the 'why' questions, you still have the statistics; make sure that questions do not implicitly support a particular agenda or line of reasoning.

In terms of research methodology in general I am conscious of not having triangulated data sources. Triangulation can serve as a means of monitoring actions, when the data is scrutinised from multiple perspectives in order to reach a reasonable conclusion (McNiff, 2003). One means of triangulation I could have employed within this first cycle of action research had I considered it in time, was to ask the participants, once all of the tests had been completed, to complete a 'follow-up' questionnaire, the students themselves reflecting on the experience and giving me the opportunity to reflect on their reflections. In the long run triangulation could be achieved by for example, comparison of students' exam marks (with previous cohorts, with different modules, etc) and conducting follow-up interviews or focus groups. It might also be useful to ask students to compare expected and obtained grades, with the

discussion linked to the mock exam questions. As far as this first cycle of action research is concerned the action research process seemed that much more rewarding once I began to see some patterns amongst the 'maelstrom', and could begin to draw together some suppositions and deductions. Ultimately, taking on the role of the 'insider researcher', tackling an issue pertinent to my teaching using action research and endeavoring to achieve knowledge through action, has indicated clearly to me that action research can be a chaotic process. However, as with all research, investigation undertaken at the cutting-edge is likely to be complex, should drive the researcher forward to break new boundaries, and will be messy.

Conclusions and further research

It is difficult to draw decisive conclusions from the first cycle of an action research project; the iterative nature precludes forming firm opinions after the first iteration. However, there are a number of interesting observations revealed by the research: how engineering students are contending with problem-solving; the need for strict alignment within engineering disciplines to keep the assessment from becoming the end product; the use of formative peer assessment to encourage deep student learning and lure students away from a dependence on past papers; the need for effective feedback to students to promote engagement with the material. However, that all of these observations feed back into the action research, and inform the second cycle, is the crucial issue here.

This research suggests the need for a curriculum shift in engineering - we must make the teaching of problem-solving more explicit.

Houghton (2004) identifies a procedure for teaching problem-solving, both generic and subject-specific skills. It may require a module, or part-module, for the Level 1 students; it may just require that each module explicitly highlights situations requiring problem-solving skills and acclimatizes the students locally, such that the skills are then learnt progressively.

Aerodynamics is a Level 2 module and this infers that the students have progressed from Level 1 (or equivalent), and so are engaged in a process of development. This should be reflected in an increasing complexity of the problems with which they interact, and infers a further degree of intricacy will be expected at Level 3. Students' understanding of the mechanism of problem-solving should mirror this increasing complexity.

Findings suggest the need to explore in greater depth the development of students' problem-solving skills. Fundamentally, the acquisition of problem-solving as a 'must-have' skill should be made more explicit, and should be linked more directly to the tutorials. The students can develop and apply their problem-solving skills through use of the tutorial questions, and this skill will carry them through the assessment and their eventual career. The next cycle of action research will examine the issues I have encountered surrounding problem-solving in engineering. 'Pre-game' and 'post-game' questionnaires will be designed with a much narrower focus to facilitate the collection of data which has validity in terms of the overall research question.

There is a clear indication that students are willing to engage with formative peer assessment based on mock exam questions and, despite my reservations about the prominent position given to assessment, I think this is an idea that has merit. At this stage of development the feedback involved no more than deciding a mark out of 25. Whilst I do not yet have a firm idea about how to develop more constructive and diagnostic feedback processes between students I am aware that students react more positively to this kind of feedback rather than simply being told a number. Future action research cycles need to explore this issue.

Since action research has focused on the need to 'bridge' the gap between tutorials and exams, as perceived by students it may be helpful to undertake a review of the alignment between the module learning outcomes and the assessment method (i.e., the exam), and then ensuring constructive alignment between the exam and teaching and learning strategies (which will encompass the tutorials).

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Interdisciplinary engagements at the margin: Child & Adolescent Mental Health provision within Pre-Registration Child Health Nursing Programmes

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Abstract

The field of child and adolescent mental health (CAMHS) can be considered a 'marginal' discipline juxtaposed between two dominant disciplines – child health and mental health. The teaching of CAMHS within pre-registration Children's Nursing programmes lies at the intersection of three fields of enquiry: workforce strategy, policy and practice requirements and drivers; educational theory pertaining to effective curriculum design for learning and multi / inter-disciplinary teaching.

As a CAMHS practitioner in the mental health team of the School of Nursing my predominant experience of teaching CAMHS in Children's Nursing programmes has been in providing 'bolt on' sessions to child health modules of which I have little wider knowledge or understanding. This has had negative consequences for my personal perception of my practice and of the student learning experience.

This paper reports the findings of an action research project designed to validate or challenge my own assumptions, to identify actions for improvement in current practice and to begin to explore the idea of developing an inter-professional 'community of practice'. Findings from this small scale study based on questionnaire, interview, documentary and student evaluation data and analysis, indicate the principles of effective curriculum design and delivery are an essential underpinning for a learning experience that informs professional practice and client care in the workplace. Furthermore whilst current practice may best be described as multidisciplinary, a systematic

interdisciplinary approach may be encouraged by linking the principles of curriculum alignment and interdisciplinarity together by means of an adapted version of Biggs (1999)' SOLO taxonomy.

Introduction and rationale

The mental health of children and young people is now a nationally prioritised area of public health with Government guidelines and frameworks clearly outlining responsibilities of all health & social care professionals who have contact with children, regardless of their specialism (DoH, 2004). Nurses are the largest single professional group working with child and adolescent mental health (CAMHS) difficulties, making up 25% of the workforce (Audit commission, 1999). Moreover, children with physical health problems are up to four times more likely to develop a mental health disorder (Meltzer, 2000), meaning that Child Health Nurses have a significant role to play in the effective service provision for this client group. Yet a recent research report by the Royal College of Nursing (RCN), found that nurses working with children and young people considered their pre-registration training in mental health needs of this group inadequate in terms of both practice and theory (Jones, 2004).

As a CAMHS practitioner recently employed as a lecturer in the mental health team of the School of Nursing I was very keen to teach my area of practice within the disciplines of mental and child health, but especially in the child health programme. Instinctively I feel the field of CAMHS to be important in its own right - as my area of specialism in which my professional identity is framed – but I am also conscious of the potential contribution CAMHS can make to the discipline of children's nursing to

improve holistic care and early identification of needs in young people in distress.

My predominant experience of teaching CAMHS in Children's Nursing programmes has been in providing 'bolt on' sessions to child health modules of which I have little wider knowledge or understanding. Consequently, I generally feel unclear about the remit I have been given, dissatisfied with my personal evaluation of the sessions' relevance and effectiveness and concerned regarding the students' learning experience.

The field of child and adolescent mental health can be considered a 'marginal' discipline that falls between two dominant disciplines – mental health & child health where 'discipline' refers to the notion of a 'legitimate' or 'valid' body of knowledge - in both academic and clinical practice arenas (Caruana & Oakey, 2004; Thomas, 2000; Jones 2004). Furthermore, the teaching of CAMHS within pre-registration Children's Nursing programmes lies at the intersection of three fields of enquiry:

- Workforce strategy, policy and practice requirements and drivers
- Educational theory pertaining to effective curriculum design for learning
- Multi and Inter-disciplinary teaching

As a programme that awards both an academic qualification and a professional registration the curriculum of the Pre-registration Nursing programme is significantly driven by workforce/employer requirements and national guidelines which include the explicit requirement for Paediatric Nurses to be able to identify and provide care for young people experiencing mental health difficulties

(DoH, 2004). In my experience this requirement is not adequately reflected in the wider curriculum, or embedded within the programme or module learning outcomes and assessment strategies. Similarly, the Child Health Team themselves may have limited notions of what teaching CAMHS entails since it is not their area of expertise. Thus I feel I am being asked to provide input to student learning that is devoid of strategic thought and clarity, a feeling that is evidenced by the breadth and ambiguity of the learning outcomes I have designed for these sessions.

According to Biggs, (1999) teaching is conducive to deep learning when it is 'constructively aligned' to curriculum objectives and assessment. The issues surrounding my design of learning become more apparent when the teaching activity is mapped against Biggs' 3P model of teaching and learning. Key issues of 'presage' emerge from sessions not being sequenced according to students' required prior knowledge and academic ability - neither I nor the Module Organiser has extensive knowledge of students' prior learning in CAMHS. There is no implicit motivational context as it appears that the subject is neither addressed in the overall aims nor formally assessed. Wider organisational and political tensions exert their influence as there is discrepancy between what is required of students to achieve the academic component of the course and what is required under government legislation as registered professionals. All of this serves to influence the 'process' through ambiguous and over-ambitious intended learning outcomes and a need to heavily front load the session with engaging the students in its relevance to prompt motivation. My own appraisal is that the 'product' is therefore more likely to be surface learning with little context or

transferability to students' existing and developing knowledge.

The problems and tensions identified within my situated practice exist within a wider University and NHS institutional context and conceptualisation of multi and inter-disciplinarity. The University of Salford's Strategic Framework (2004/5) and Learning and Teaching Strategy (2002) both highlight the institution's commitment to providing multi and interdisciplinary learning and teaching environments, a strategy increasingly espoused in educational theory and research as best practice (Committee on Facilitating Inter-disciplinary Research, 2004). The National Service Framework for Children and Maternity Services in the NHS (DoH, 2004) sets multi-disciplinary and interdisciplinary collaboration and partnership as the cornerstone of its strategy to improve the delivery of healthcare services to children & young people. This is mirrored at a practitioner level with research into the training needs of Children's Nurses in the field of CAMHS recommending that training at all levels should be multi-disciplinary in nature (Jones, 2004).

Within an action research framework, utilising Biggs' 3P model and the concept of 'constructive alignment' as a frame of reference, but setting this within the wider context of interdisciplinary education, I have undertaken a small scale study to examine the wider issues of 'presage' in regard to the identified problem of teaching the subject of CAMHS within another academic discipline's programme. Through collaborative enquiry engaging both members of the Mental Health & Child Health academic teams and representation of, and integration with, other stakeholder voices (clinical practice and students) I hope to identify actions for improvement in current practice and begin to explore the idea of

developing an inter-professional 'community of practice' (Wenger, 1998) in relation to this specific issue, whereby the notion of 'discipline' moves from a fixed body of dominant or legitimate knowledge to a more relational construct negotiated through interpersonal activity across the institution imposed boundaries (Caruana & Oakey, 2004).

Methodology

The enquiry utilises an action research paradigm whereby research methodology is practitioner generated starting with an identified problem, seeking to improve practice through practical direction and action, involving all stakeholders and examining the validity of key assumptions held by the researcher (McNiff, 2002; Marton & Cooper, 2000; Thomas, 2000; De Koning & Martin, 1996). Whilst the initial focus of action research was my own teaching practice a series of much broader and fundamental problems emerged when I engaged in critical reflection on structured peer observation and considered the wider extrinsic influencing factors and good practice models of curriculum design.

Reflection on the initial problem elicited several core assumptions on my part which may be summarised as follows:

- children's mental health is a marginal subject within the Children's Nursing programmes

- it is not overtly expressed in the learning outcomes or assessment strategies of constituent modules

- the academic team have limited knowledge of the subject matter

- the students experience of learning this subject is dislocated, without context and lacking integration with the rest of the programme

- my experience as a teacher parallels that of the student

These assumptions emerge from the interaction of my professional identity and associated beliefs with my experience of teaching in the described context, but they are based on a narrow window of experience and thus may not stand up to scrutiny. Action research methodologies allow for transparency of such beliefs, attitudes and values and action in awareness of them, thereby providing the opportunity to overtly assess their foundations, impact and relative validity.

There are four main stakeholders in the delivery of CAMHS teaching in pre-registration Children's Nursing programmes:

• Child Health & Mental Health Academic practitioners

• Students

• CAMHS Nursing Workplace

It is argued that by engaging stakeholders rather than making them the subject of the research, their experience is legitimised and can be used to challenge traditional or dominant knowledge (Thomas 2000). Furthermore, collaborative models of enquiry like action research are effective in improving practice because they not only acknowledge but also engages stakeholders in enquiry and subsequent action (Norton, 2001; Meyer, 2000).

Finally, the subject of enquiry sits across the theory and practice divide and across several areas of research and theory and action research acknowledges the interaction between theory and practice by enabling the use of multiple theories to illuminate practical events (Johnston, 2003).

Data Collection and Analysis Strategy

Data collection and analysis was based on the triangulation of four different types of data from four different sources to facilitate consideration of the problem from alternative stakeholder perspectives and to develop a more complex 'real world' view.

Triangulation has been described as:
"Viewing a statue from different angles through different lenses"
 (Wilding, 2003:119)

One of the criticisms of triangulation is that its underlying assumption is that there is an empirical 'truth' out there somewhere waiting to be triangulated, which is in stark opposition to the underlying philosophies and methodology of action research. Nonetheless, within the context of this study I feel this tension can be reconciled if the following definition is applied:

"The use of multiple perceptions to clarify meaning, showing different truths about the phenomenon"
(Wilding, 2003:121)

The primary method of data collection used was a questionnaire examining academic practitioners' knowledge & perceptions of current practice and views on strategies for change. 5 point Likert scales were the main method used to record responses to closed questions/statements. The pivotal factor affecting reliability of questionnaires is whether all participants understand the statements and questions as they were intended. This is particularly pertinent in this instance given that the enquiry crosses discipline boundaries. Endeavours were therefore made to avoid culturally or discipline biased language or

compound questions (Hutchinson, 2004; Crano & Brewer, 2002). I was conscious that whilst the use of open questions may theoretically elicit more rich qualitative data, quality may be reduced when respondents are being asked to engage with a discipline other than their own. Furthermore, I hoped the predominant use of Likert scales would increase the chance of practitioners responding to the questionnaire since they are relatively quick and easy to complete (Crano & Brewer, 2002). The obvious limitation of using quantitative responses to statements constructed by the researcher is the opportunity for statements to be influenced by the researcher's beliefs and biases thus a number of open ended questions were also included to try to reduce the chances of respondents omitting information and ideas restricted by the limits of particular statements, particularly in relation to ideas for change or improvement (Hutchinson, 2004).

The questionnaire was divided into four sections:

• Practitioner views of the legitimacy of CAMHS subject knowledge within the pre-registration programmes and their view of current practice.

• The relationship between students' academic experience and the requirements of clinical practice.

• Subject teaching - Content

• Subject teaching – Delivery

The practitioner's view of the legitimacy of the subject knowledge within the programme and views on the current practice predominate primarily because learning "with, from and about each other" has been cited as the starting place for effective interdisciplinary practice. Secondly, these items were sequenced first in order to try and reduce the influence of other questionnaire items on the practitioners' responses (PIPE Project,

2003; Hutchinson, 2004). Essentially I hoped that information elicited in this section would either validate or challenge my assumptions about the current delivery of CAMHS within the programme and improve my understanding of it.

The formulation of questions regarding current academic practice was based on the literature informing design for quality teaching & learning, including the concept of constructive alignment of learning objectives, teaching and learning strategies and assessment, and the 3P model (Biggs, 1999). The Department of Health's National Service Framework for Child & Adolescent Mental Health (2004) provided essential information regarding nurses' responsibilities in practice. For example:

"…those in contact with children need to be able to have sufficient knowledge of children's mental health to be able to: identify those who need help; offer advice & support to those with mild or minor problems; & have sufficient knowledge of specialist services to be able to refer on appropriately when necessary" (DoH, 2004)

The RCN's research into the training needs of nurses working with children (Jones, 2004) which highlights seven key subject areas that Children's Nurses identified as missing from their pre-registration training was used to frame the subject teaching content items. Finally, a review of the literature in the field of inter-disciplinary teaching helped to develop the statements assessing views on how the subject should be delivered. The questionnaire was distributed by email to all module and programme leaders within the child branch and to the lecturers within the mental health team who have expertise in the field of CAMHS to try to gain a

cross-section of experience and views across the whole programme whilst engaging those practitioners who had influence to change current practice.

The use of the questionnaire potentially biases findings towards the views of University employees rather than clinical practitioners therefore documentary analysis of good practice guidelines and practice based research was deployed as a counterweight. Documents analysed include the Children's Nursing programme curriculum, the DOH National Service Framework Standard 9 (Child Mental Health, 2004) and the Royal College of Nursing research recommendations regarding training needs of nurses working with children.

A summary (rather than raw data) of anonymous student feedback on their experience of teaching sessions provided the third method of data collection representing the students' voice. The use of summary data is not ideal as students provided this feedback in a rather different context, i.e. being asked to comment on the positive and negative aspects of a discrete teaching session rather than the wider issues being explored; there is no opportunity for live or dynamic input from them and there is no opportunity to corroborate the accuracy of my interpretation of their viewpoint (Hopkins, 1985).

Finally, an interview was conducted with the professional lead for Children's Nursing. This had the primary purpose of seeking support for the research, negotiating ways to progress the study and to identify potential ways in which any findings or recommendations could be taken forward in collaboration with the Children's Nursing team. In some sense this action goes against models of action research in which the researcher seeks emancipation from the

organisational structures in which they are bound. However, in terms of working for achievable improvements or change I have found the version of action research in which the researcher works within existing social structures and power relations for change, more useful and realistic (Johnston, 2003).

Results

Questionnaires

Given the small numbers of participants and the fact that the emphasis of this study is on identifying action for change a descriptive, rather than statistical, approach to data analysis has been taken. 14 questionnaires were distributed and a total of eight responses (57%) were received. Two responses were received from practitioners in the mental health team. The response from the children's nursing team included representation from all the diploma programme children's branch modules and five out of the six degree modules.

Practitioner views regarding legitimacy and practice

All respondents felt that the subject of CAMHS should be addressed within the pre-registration children's nursing curriculum. However, one respondent also felt that it would be more appropriate to address the subject in post-registration training. No respondents agreed that CAMHS is currently adequately addressed within the programme, with five disagreeing with this statement and the remaining three being undecided.

Four respondents said that CAMHS was taught in the modules 'Essentials of Children's Nursing Practice' in the diploma course and 'Context of Care' in the degree programme. I currently provide 'one-off' teaching input to these modules as part of a one day workshop in the former case and a CAMHS dedicated teaching session in

the latter. One respondent noted that within the 'Context of Care' module, over and above the specific CAMHS teaching session broader issues such as the impact of physical illness and hostile environments on psychological health are included. Additional qualitative information tends to confirm that issues of children's mental health are explicitly taught within particular modules and missing entirely from others. Indeed, seven respondents disagreed that the teaching of CAMHS is co-ordinated across the programme, with just one participant being undecided.

Of the four respondents identifying that CAMHS is taught within their modules only two agreed that it is explicitly addressed within the module learning outcomes – this related specifically to the 'Essentials of Children's Nursing Practice' module – and no-one felt that the subject area is explicitly addressed within the assessment strategies of the modules that they lead or teach.

Relationship to Clinical Practice

Participants' views of students' competency in practice with regard to working with young people experiencing mental health difficulties represented the broadest range of responses with no clear themes emerging. There appears to be a very mixed view about student's knowledge in this area on completion of their studies. Responses indicate that participants were more confident about students' capacity to promote the well being of children and to refer to specialist agencies as appropriate, than their ability to identify early indicators of mental health difficulty or to provide intervention in mild cases. Since appropriate referral suggests prior identification of early warning signs in young people, these responses may indicate a lack of clarity in the questionnaire itself. However, they may equally reflect the structure of the pre-registration programme, whereby 50% of the programme is practice placement based with students encountering a heterogeneous and wide range of experiences whilst actively seeking exposure to other branches. Respondents may feel that such exposure provides a significant supplement to the rather limited theoretical component of learning in relation to CAMHS.

Subject Teaching – Content

There was a consensus of agreement that all seven RCN identified areas of knowledge & skill should be included in the Children's Nursing curriculum. The areas of knowledge most strongly and consistently highlighted were:

• Theories of psychological development

• Communicating with Children & Young People

• Promoting mental wellbeing

Interestingly the first two areas are already explicitly identified in module learning outcomes.

The two areas that showed least concordance were knowledge of particular mental health disorders and assessment & diagnosis of mental health disorders. These responses may well relate back to the issue of whether or not CAMHS is regarded as a legitimate subject area in a pre-registration Children's Nursing programme, which on reflection may not be an 'all or nothing' proposition. The more accurate question to have asked might be 'Which areas of the discipline of child and adolescent mental health should be included in pre-registration Children's Nursing programmes?' Participants were also invited to list any other areas of knowledge or skill they felt students needed in this subject and what prior knowledge they thought students needed to enable their understanding of the subject. Responses are summarised below in Figures 1 & 2.

By far the most commonly listed additional area of knowledge and skill that needs to be included was skills in assessment. Five participants listed knowledge of child development as a required area of prior knowledge. One participant felt that no prior knowledge aside from student's life experiences was needed to enable their understanding of the subject.

Figure 1.

Other Areas of Knowledge & Skill re: CAMHS that should be included in the Pre-reg. Children's Nursing Programmes

• Practical skills of assessment & communication

• Roles & responsibilities of Children's Nurses

• CAMHS service availability, structure & how to refer

• Role of community support services & mechanisms

• Address psychological development and the signs & symptoms of mental health difficulties more overtly

• Involving young people in the care of their psychological health

• Promoting independence in children & young people

• Managing the challenges of working with adolescents

Figure 2.

Prior knowledge needed to facilitate students' understanding of the subject of CAMHS

• 'Normal' child development

• Attachment theory

• Family structures/Parenting styles

• Therapeutic Relationships

• Principles of health promotion & holistic care

• Incidence, prevalence & patterns of child & adolescent mental health

• Self awareness/ examination of own attitudes & beliefs relating to issues of mental health, stigma & labelling

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Subject Teaching – Delivery

Participants were asked to decide which of four modes of teaching would be most effective in CAMHS. There was a 100% positive response to three out of four strategies proposed - teaching by staff with CAMHS expertise, interdisciplinary team teaching and skills workshops – making it difficult to identify if any one method would be preferred. The fourth strategy deploying Problem Based Learning (PBL) produced the most mixed response with one respondent disagreeing that it would be an effective strategy and only three of the rest strongly agreeing (compared with five strongly agreeing with use of the other methods). Qualitative responses help to illuminate the fundamental issue surrounding the use of PBL. Some respondents reflected on concerns they had over the level of expertise and knowledge in the subject area that existed in the Children's Nursing Team and the impact this would have on students' learning experience within a PBL model. Possible strategies were suggested to overcome this deficiency including co-teaching and facilitating (child lecturer & a CAMHS lecturer), inclusion of a practitioner with CAMHS expertise within the Children's Nursing Team and the use of fixed resource sessions delivered by CAMHS practitioners to support the use of PBL. One participant suggested the delivery of workshops for the Children's Nursing lecturers to help raise their awareness and knowledge of the subject of CAMHS thereby promoting its inclusion and integration across all teaching and learning activities. Other suggestions fell into two categories, structural or organisational strategies and classroom teaching methods as summarised in Figure 3

Documentary Analysis

The documentary analysis of programme and module learning outcomes revealed that no learning outcomes were identified in either the Degree or Diploma programmes that could be readily associated with the subject of CAMHS although there were aspects of the indicative syllabus that related to this subject area. Within the diploma programme there is no explicit syllabus content related to child and adolescent mental health, although there are broad learning outcomes pertaining to issues such as child development, communication and children's rights which cross the boundaries of all disciplines and learning outcomes relating to the care of the whole child, which could be said to implicitly include mental health.

Figure 3.
Suggested Teaching & Learning Strategies for Improving the Delivery of the subject of CAMHS

Structural/Organisational:
- A formal & structured process across the programme making the required content in each module explicit
- Shared learning across children's and mental health branch
- Co-teaching (Child & Mental health Lecturer's)
- Use of a short assignment or reflection to strengthen the link with 'Exposure to other Branches' practice documentation
- A Team of experts to deliver the content across the programmes
- Inclusion of a CAMHS practitioner in the Children's Nursing team
- CAMHS workshops for Children's Nursing Lecturers

Classroom Strategies:
- Experiential Learning/Role Play
- Use of video's to assist recognition of cues, signs & symptoms, for enhancing assessment & communication skills
- Use of PBL if accompanied by fixed resources taught by experts
- Young Minds or Service User groups to deliver teaching

Student Feedback

Students were asked to provide written anonymous feedback on a CAMHS workshop I had delivered within the diploma programme, immediately after the session ended, identifying three positive and three negative aspects of the session. A total of 22 students provided feedback. Both the positive and negative feedback fell into two main themes – teaching and learning strategies and content.

17 (77%) of the 22 students commented on their positive experience of the small & large group work used within the workshop and a further five statements particularly highlighted the case study activity as helpful to their learning. Statements identifying negative aspects of the teaching & learning strategies all related to logistical problems experienced within that particular session.

With regard to content of the workshop 19 (86%) statements were received identifying the content as relevant, interesting or as having provoked thought or enhanced understanding. Feedback regarding negative aspects of the content all (n=8) referred to feeling that they required more sessions or information on this subject or that

they needed more time to cover the issues addressed. Three responses narrowed this down further stating that they felt they particularly needed more skills based sessions on communicating with children & their families regarding their emotional health. Four students stated that they felt there were no negative aspects to the workshop.

Discussion

There is a clear consensus within data collected from all stakeholders that the subject of child and adolescent mental health is an essential aspect of Children's Nursing training and that it should be addressed within the pre-registration programmes. Furthermore, current practice within the School of Nursing does not adequately address this subject, leading to uncertainty about whether students at the end of the programme have acquired the competencies described within national practice frameworks.

The outcomes of this research suggest a fundamental issue regarding the extent to which the subject of CAMHS should be taught at pre-registration as opposed to post-registration levels of study. The comment of one participant quoted below mirrors research recommendations that students should be exposed to cross disciplinary experience at all academic levels (CFIDR, 2004):

…coverage in pre-registration training is important to stop this subject being taught in isolation and to help students develop a career path once qualified…

However, other aspects of the survey results point to some content areas potentially being more suitable for post-registration training.

Current practice can best be described as multi-disciplinary rather than inter-disciplinary which reflects wider practice within the University of Salford (Caruana & Oakey, 2004). Nonetheless, rather than validating my original assumption that the subject of CAMHS is only taught as a few 'bolt on' sessions within particular modules, the results suggest that, extraneous to these modules, aspects of child & adolescent mental health are addressed implicitly in a number of ways. Finding ways to link up these aspects across modules and overtly signpost them for students could be one achievable strategy for building on current practice as there is evidence to suggest that a series of small changes is more successful in moving towards interdisciplinary practice than one 'big bang' (PIPE Project, 2003).

Whilst participant responses indicate a strong willingness and openness to adopt teaching and learning strategies that promote interdisciplinarity, implementing the strategies proposed by the participants may be potentially impeded by organisational structures, such as the boundaries of discipline teams and practitioner roles and responsibilities within these and systems for recording workload. For example, all teaching activity that I currently engage in with the Children's Team is not recorded within my workload balance and so is effectively 'extra' work.

"In attempting to balance the strength of disciplines and the pursuit of inter-disciplinary research, education and training, many institutions are impeded by traditions and policies that govern hiring and resource allocation." (CFIDR, 2004)

However at an interpersonal level it has been my experience that even the process of engaging in this study has significantly increased the level of

dialogue and discussion that I have had with the Children's Team regarding this issue.

One assumption I identified at the outset of this project that has been supported was that any teaching activities to do with CAMHS currently taking place are not constructively aligned with the wider programme or module learning outcomes or assessment strategies. In fact they cannot be aligned to address the learning objectives nor evidenced in assessment because existing objectives and assessment strategies do not reflect the subject area. Questionnaire results confirm this with an extremely high level of consensus and this was mirrored also in my meeting with the Team's professional lead. Future action strategies will reflect this focusing on attempts to develop a more co-ordinated and integrated view.

One of the criticisms of inter-disciplinary teaching is that it can lead to newer students feeling confused and frustrated due to apparently competing perspectives being taught together and a perceived lack of cohesiveness (Caviglia-Harris & Hatley, 2004). If this is the case then a progressive move towards teaching from an interdisciplinary perspective over the duration of the programme may be more palatable for students. One taxonomy and model for building curriculum objectives, which may assist in linking the concepts of constructive alignment and interdisciplinarity together is Biggs' (1999) SOLO Taxonomy. The SOLO taxonomy is underpinned by a cumulative model of learning that has within it a numbers of milestones or transitions. The first three transitions are described as 'unistructural', 'multistructural' and 'relational' (Biggs, 1999). The nature of these stages can be paralleled with a progression from uni-disciplinary to multi-disciplinary to interdisciplinary modes of teaching & learning. A very

putative model for implementing this within the pre-registration programme, developed from a reflective conversation with a collaborator from the Children's Team, might then be:

Figure 4 – Potential Adaptation/Application of SOLO Taxonomy to Design for Delivering Subject of CAMHS within Pre-registration Children's Nursing Programme

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Year 1- Unidisciplinary

Common Foundation/core skills within own discipline

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Year 2 – Multidisciplinary

Fundamental building blocks of CAMHS taught by CAMHS practitioners. Content and T and L srategy constructively aligned to module outcomes in partnership with Children's team

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Year 3 – Interdisciplinary

Co-teaching based on relating 2 disciplines to a central issue/problem
E.g. care of the chronically ill child

Reflection, evaluation and future action

The literature suggests that multidisciplinarity is reasonably easy to achieve as most practitioners are good at advocating for their own area of expertise (Rogers, 2004), whereas the hall mark of interdisciplinarity is the practitioner's capacity to facilitate critical appraisal of the underpinnings of their own discipline and to

challenge its theoretical basis (Caviglia-Harris & Hatley, 2004). This has been a critical point of reflection for me as this project has progressed. Retrospectively, clearly the starting point of this study was my desire to advocate for the greater understanding of my subject area, and my strongly held belief in its importance. The rigidity of this position I feel has been challenged through the course of the study and may be beginning to shift slightly. However on reflection I think that it will always be a difficult tension for practitioners in more 'marginal' disciplines to reconcile and manage effectively in isolation.

At the end of this first cycle of action research validity and reliability have been compromised to a degree by time constraints and ethical considerations regarding direct human enquiry. These two factors have limited the size of the sample and it has not been possible to engage students as key stakeholders in a live collaborative process.

One of the core underlying principles of an action research methodology is the active seeking of validation of any claims made through rigorous justification (Merton & Cooper, 2000). Having anticipated that this would be a difficulty within the given timeframe I planned to try to 'check' the conclusions against existing literature in the field (Wilding, 2003). This strategy has been significantly less successful than hoped. A systematic electronic and hand search of all University of Salford held nursing and nursing related journals, regarding this area of enquiry did not yield any results, other than literature citing the importance of CAMHS training for all healthcare professionals working with children without discussion or thought as to how this might be achieved (Macdonald & Bower, 2000).

Constraining factors mean that at the current time results of the study have only been analysed and interpreted by the researcher who identified, at the starting point, that they were immersed in the subject and would bring a very biased viewpoint to bear on all outcomes. In view of these limitations future action has been identified as follows:

- To disseminate this report to all participants for consultation/amendment

- Once final draft has been agreed, in consultation with participants, to disseminate report to wider Children's and Mental Health team for comment/feedback

- Following meeting with Children's Nursing professional lead, to map out a potential scheme of work for including CAMHS content across the programme, based on study findings, particularly in relation to implementing the new nursing curriculum.

- To identify with the Child Nursing team ways of reviewing the module learning outcomes and assessment strategies

- To explore strategies for collaborating with students to gain their feedback insight into this issue.

General conclusions

Child and adolescent mental health, like most 'real world' patient defined subjects in health and social care, does not lie along a single discipline line. As such it requires a systematic interdisciplinary approach that runs from pre-registration undergraduate training right through to clinical practice. Despite the mental health of children becoming a prioritised issue within healthcare practice arenas, it would appear that there is a paucity of literature and research regarding the best way to integrate this subject knowledge into the teaching of the more traditional or dominant disciplines of Child and Mental Health.

Preliminary outcomes from this small scale study indicate that for this to be a successful and meaningful learning experience for students which informs their professional practice and client care in the workplace, strategies for implementation of teaching and learning activity need to be grounded in principles of effective curriculum design and delivery. That is, those 'marginal' subjects such as CAMHS need to be embedded in the wider module and programme learning objectives and assessment strategies and delivered through teaching & learning strategies that are constructively aligned.

Whilst it may be difficult for academic practitioners teaching their own specialised field to truly 'give up something' of their discipline and professional identity inter-disciplinarity may evolve from continuing processes of overt dialogue and reflection coupled with increased opportunities for co-teaching across disciplines (Caviglia-Harris & Hartley, 2004; Jones, 2003).

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Assessment in the Diploma in Nursing Programme with Advanced Standing: Patchwork Text Possibilities

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Abstract
This paper is based on an action research project completed for the Postgraduate Certificate in Higher Education Practice and Research and forms part of an ongoing project. The study sets out to examine lecturers' opinions of the suitability of Patchwork Text (PT) as a form of assessment. This area was chosen because of the interest of the researcher in this area and because of opinions expressed regarding the present poster assessment for student nurses in the first year of study towards their Diploma in Nursing. Action research was the most appropriate methodology to obtain maximum, in depth information in the relatively short time available. Two strategies were used to obtain the data: a focus group using a deliberate sample of lecturers and, at the suggestion of my academic supervisor, the results of an email survey of lecturers in the Teaching and Learning Research Network. The email survey was analysed using quantitative techniques and the data from the focus group was analysed using thematic networks. The results revealed an interest in PT locally and internationally and indicated that PT as a form of assessment was feasible, but that more groundwork was needed. It was concluded that Post-graduate students would be the most appropriate target for a pilot group in the future.

Introduction
Patchwork Text (PT) is a form of assessment that is divided into a series of small discrete sections which are linked, but only finalised when they are "stitched" together. The patchwork is composed of pieces of writing linked to aims and outcomes of a module which are then discussed in small groups. A reflexive commentary on the Patchwork Texts is then completed by the student, handed in and marked, (Winter, Buck, Sobiechowska 1999:64-66). The Base Group of approximately fifteen student nurses would be an appropriate size for this type of assessment. The Texts could be used to develop different types of knowledge necessary to underpin Nursing Practice e.g. theories of nursing, nursing models, health promotion and ethical practice, with a reflexive commentary regarding how these areas affected practice. It is proposed that PT leads to deeper rather than surface learning, enhancing writing, communication skills and critical thinking, along with transferable, key skills, (Akister, Illes, Maisch, Ovens, Parker, Rees, Smith & Winter 2003 University of Salford 2004). Others have noted that this form of assessment helped weaker students develop their own ideas while in turn learning from others in the group during the discussion sessions, (Smith & Winter 2003, Winter 2003).

Background
In the Diploma and BSc programme for Pre-Registration Student Nurses, students are asked to consider target areas from the material in the Department of Health's White Paper "Saving Lives - Our Healthier Nation" (SLOHN) published and presented to Parliament in 1999, (DoH 1999). This set out how the government proposed to save lives of those people under 75 at risk of developing chronic health problems. The paper indicated that this should be achieved in two ways, by promoting healthier lifestyles and by the reduction of inequalities in health.

The government proposed that individuals start to take greater responsibility for their own health and that campaigns should concentrate on the least healthy, linking maintenance of the individual's own health and prevention of chronic disease with personal responsibility. The main targets were to reduce deaths caused by Cancer, Coronary Heart Disease & Cerebro-Vascular Accident (Stroke), Accidents and Mental Illness. The government also proposed to tackle health inequalities by the introduction of social reforms. There is to be a review of how near the population is to the targets proposed in 1999 in 2005 (DoH 1999).

Historically Nurses have been involved in promoting Public Health, although this was largely paternalistic and followed the medical model. There were massive Public Health Campaigns to eradicate infectious diseases such as Polio, Diphtheria and TB, with the Measles Mumps and Rubella vaccination scheme being one of the most recent. As the major infectious diseases declined Government began to realise the high cost of treating diseases that were viewed as being preventable by lifestyle changes. A paradigm shift occurred from trying to treat and maintain the health of those people with these conditions to the prevention of the problems. There was also a shift in responsibility for health from the state to the individual, transferring the responsibility for the prevention of disease to the individual, culminating in SLOHN, (DoH 1999). This shift altered how some areas of Student Nurse Education were viewed. Rather than Nurse Education following a medical model, which described the development and treatment of disease, they were taught about the health – ill health continuum, the promotion of health and prevention of some avoidable and chronic diseases, (NMC 2005). Government initiatives have since expanded on

SLOHN, which have involved nurses in further changes in practice, (DoH 2003, DoH 2004).

To emphasise the integral role of health promotion in Nursing, students are asked to produce a poster and presentation depicting an aspect of a healthy lifestyle, linked to one of the conditions in SLOHN (DoH 1999) – a formative assessment in the first semester in the first year of a three year programme. Health promotion is advocated by the Nursing and Midwifery Council (NMC 2005) and therefore sits within the design of the curriculum for the Student Nurse Pre-Registration programme. The material needed to produce the poster is easily retrieved, readily accessible and aids the early development of Key Skills, (University of Salford 2004). With the advent of widening participation in University education this type of project is achievable by those who have not taken "A" Levels or been involved in Higher Education before. These facts appear to advocate the use of this type of formative assessment; however, anecdotally several lecturers have explained that there are problems with this approach. Because this assessment is formative, a small number of students do not take this assignment seriously and do not contribute to the work involved. There is little sanction available because the assessment is formative.

Ramsden (2000) has variously described assessment as:
Getting to know our students and the quality of their learning.

A way of teaching more effectively through understanding exactly what students know and do not know.

Showing respect for students as partners on a road to understanding (Ramsden 2000: 82, 181-3)
Ramsdens' (2000)

'14 Rules for better assessment' include linking assessment with learning, setting tasks that are intrinsic to real problems wherever possible and grading those assessments to encourage effort. This Ramsden (2000) proposes, fosters a deeper approach to learning, while allowing personal development – facilitating learners to take responsibility for their own learning. The present assessment while addressing some of these issues ignores the remainder. In an attempt to address the problems discussed above the researcher set out to explore the suitability of PT as a method of assessment in the Diploma in Nursing programme using an action research approach. This was based on ongoing work carried out for the Post Graduate Certificate in Higher Education Practice and Research at the University of Salford.

The motives for this research project were considered and examined using the principles outlined for action research by Robson, (Robson 1993). The code of ethics is explained by Robson (1993) who defines ethics as "rules of conduct for research" – what ought to be done. There is a consensus that the participant should not be harmed, that they should be fully informed and consent to the research and that both the participant and researcher may withdraw, (RCN 2004, Robson 1993). These principles gave a logical framework to formulate thoughts and ideas both prior to commencing and during the study. There was no monetary benefit to participants by them taking part in this study, but it was anticipated that it would contribute to pedagogy by raising awareness of an innovative form of assessment which will also develop students, (Illes, 2003, Winter, Buck & Sobiechowska, 1999). Collaborators' informed consent was obtained and documented before participation. All recorded audiotapes and transcripts

were kept in secure storage. No participant identifiable material was used. The researcher worked under the rules of data protection.

Methodology

This study used an action research approach, the data rich "swampy ground" described by Schön (1987). The intention of action research was originally designed to study social situations and this methodology has been widely adopted in the health care sciences. It is described as being …

…undertaken by participants in social situations to improve their practices and their understanding of them… Bowling (2002::410)

The choice of action research as a tool for 'new lecturers' is supported by Staniforth and Harland (2003)

Action research provides a genuine opportunity for newly appointed academics to validate and contest their tacit knowledge, challenge ideas and values, and gain support for their immediate needs. Staniforth & Harland (2003)

In education, theorists have increasingly pointed to reflection in and on practice as a meaningful way of improving teaching and learning (Biggs1999:6, 2000, Schön 1987:26). Four steps are indicated, reflection, defining a problem, implementing a change and then monitoring the effects of that change. This cycle is then repeated – similar to an action research approach. Action research and change management differ; change management may involve opinions of stakeholders, however, in action research, collaborators play an integral part in the design of the research project and their continuing input is essential. In Higher Education, the stakeholders and potential collaborators are not just students,

but fellow lecturers, support staff and schools and the University as a whole. Indeed some changes in education have had global effects, Problem Based Learning for example, (Ousey 2003).

Action research requires a strong personal conviction that something could be done in a better way, (Cohen, Manion & Morrison, 2000:21). The stimulus that triggers research can also come from listening to others' views and opinions, including those of the student, (Bowling 2002). Concerns expressed by others regarding the Poster Assessment and curiosity about the suitability of Patchwork Text as a form of assessment was the trigger for this study. The process of action research was the most appropriate method to examine this topic in this context where opinions, attitudes and input from participants were being sought and where it was essential that discussion, and therefore data, are generated in a non-threatening environment, (Bowling 2000). This would have been impossible with standard, pre-coded questions used in a questionnaire. Capturing collaborators opinions, knowledge and attitudes was vital because of their wealth of knowledge and experience in differing roles both within and outside higher education, enabling them to address the research from different perspectives. Often, observing participants body language when interacting in a focus group for example, can reveal feelings such as interest or frustration at the topic under discussion (Bowling 2000).

Time scales did not allow for a large study involving staff and students therefore this cycle of research should be regarded as a pilot study. It was imperative that participants were involved in the design of this study, (Bowling 2002). Views were sought from the researchers' academic

mentor and study supervisor to establish the course of the study. Following these discussions it was decided to use a focus group. Focus groups are described as producing:

...organised discussion with a selected group of individuals to gain information about their views and experience of a topic.
(Gibbs 1999)

What is referred to as a mini focus group comprising of four lecturers, was used to explore opinions and thoughts on PT, (Gibbs2003). The main features of a focus group are interaction of the collaborators and the ability they give the moderator to elicit the 'why' and the 'what' of a discussion. Lecturers were recruited because, like people tend to disclose more to people who resemble them, (CHED 2003). They were also the best people to look at a relatively new form of assessment. Their insight and knowledge produced rich data. The researcher acted as moderator for the focus group. The role of moderator differs from that of a facilitator; a facilitator fosters progress to a specific goal and is a mediator or co-ordinator, whereas a moderator is a person who assists in the conduct of scholastic debate, (OED 2005). The role of moderator in the focus group was to promote debate and probe for detail. Issues of confidentiality and data protection were raised with collaborators at the start of the focus group and ground rules established.

A question guide for the focus group was devised using points raised as concerns with the present assessment in relation to the suitability of PT. The majority of collaborators, when first approached, had not heard or read about PT before and therefore "understanding" was included as question. Other questions were included at the suggestion of the various collaborators. The list of questions was altered to a topic

check list at the suggestion of a collaborator and academic supervisor, in order that topics could be explored from different aspects without the restriction of one question. Further discussion resulted in a checklist of topics decided upon by the researcher and collaborator, (Table 1). The check-list enabled the researcher to ensure all areas of interest were covered without imposing a preconceived agenda on the discussion while allowing interesting but unpredicted lines of enquiry to be pursued. Similarly, the order that the topics were dealt with was not specified, (Gomm et al 2000, Bowling, 2000 Parahoo, 1997). Focus groups do have limitations in this instance, because the findings do not allow generalisability because of the small numbers of participants involved and also because of the differing level of experience represented in the group. Other limitations may include difficulty in assembling a group or representative sample, and may discourage the less confident and articulate from expressing their views. The role of moderator in encouraging those less articulate to express their views is especially important in this latter point, (Gibbs 2003, Bowling 2000, Gomm et al 2000).

Table 1: Topic List for the Focus Group on
Patchwork Text

Understanding

Understanding of Patchwork Text

Relevance

Contribution of Patchwork Text to the development of:
Key Skills

Deeper learning

Reflective practice

Barriers

Are there any barriers to the introduction of Patchwork Text as a form of assessment?
In the Diploma in Nursing Programme

From Lecturers
From students

The Future

Do collaborators have any suggestions regarding:
The use of Patchwork Text as a form
of assessment

The drafting of an alternative assessment based on Patchwork Text

How Patchwork Text might be incorporated into the Diploma in Nursing Programme

How this project can be taken forward
If Patchwork Text is unsuitable what are collaborators suggestions for an alternative
What next?

If this pilot study indicated that PT would be an appropriate form of assessment for the student nurse programmes, further cycles of the action research process would need to be carried out in line with the participants ideas and suggestions so that the impact on the programme as a whole and any implications for the School of Nursing and the University could be examined. Time limits for this study and time constraints in obtaining the appropriate ethical approval if student nurses and Health Care Trust premises were used have limited the enquiry to the opinions of four lecturers in the School of Nursing. At the general suggestion of lecturers in the Education Development Unit (EDU), when discussing action research, information and opinions were also sought from the Learning & Teaching Research Network (LTRN) via their discussion board.

The email survey broadened the collection of data by requesting any information regarding knowledge and/or experience of the LRTN members' use of PT, the response was included in the results of this project at the suggestion of the researchers academic supervisor (Table 2). It was proposed that this information might give an indication of interest and understanding of this form of assessment and has been used as triangulation of background knowledge of Patchwork Text; in order to enhance the validity of findings, (Bowling 2002). An email survey was used because it could target individuals, was unobtrusive and respondents could elect to reply or not, (Bowling 2002:195). The target population were people who had an interest in educational research and because of this it was presumed that they were the most likely people to have read about or used this type of assessment.

A small purposive sample of four lecturers was identified for the focus group. Purposive sampling was used to obtain a variety of views, the participants were readily approachable and had previously been interested in the researcher's thoughts regarding Patchwork Text, (Bowling, 2002). Following conversations regarding assessment, deeper learning and transferable skills with colleagues, ten lecturers were approached and four were able to take part in the focus group. Three experienced lecturers had varying experiences within the school delivering the pre, post-graduate and specialist nursing programmes; one of the lecturers also had an interest in examination, the fourth member had approximately 12 months experience as a lecturer in the School of Nursing with wide, high level experience in Nursing Practice. This 'mix' was at the suggestion of one of the lecturers who was approached and consented to take part. It was proposed that this would stimulate debate within the group whilst drawing in the considerable experience of lecturers who had worked with the present assessment for some time. The inclusion of the 'new' lecturer should give opinions less influenced by tradition in the school. The size of this sample is non-representative of the School of Nursing, but because of the range of experience of the collaborators, it was thought that enough data would be generated for this study and to initiate other cycles in the action research process identified by the collaborators.

Results

Learning & Teaching Research Network e-mail

Sixteen people were indicated as having opened the researchers email distributed to the LTRN mailing list regarding Patchwork Text, eleven people replied. The results of this preliminary email survey are displayed in Table 2. The majority of people who replied (62.5%) did not know about this form of assessment.   An email to a lecturer in Australia also expressed interest, but stated that they did not have experience of PT

Number	Comment on reply to researchers' email	n=	%
5	Did not reply	n=5	31.25
1	Aware of Patchwork Text	n=1	6.25
1	Had heard of Patchwork Text but described something different	n=1	6.25
9	Replied they did not know about Patchwork Text	n=9	56.25

Table 2. Replies received from researchers email asking members of the LTRN if they were aware of, or had used Patchwork Text.

Focus Group

This section will consider the analysis of the data from the focus group and what implications these may suggest.
Any analysis has two useful functions, one is description, summarising the results from the data generated, the other is inference, suggesting what may be concluded from the data, (Bowling 2002). Loosely structured interviews produce large quantities of data on which some structure needs to be placed, (Glomm 2000:253). The data for this study was analysed using the techniques advocated by Attride-Sterling (2001). Attride-Sterling (2001), proposes the use of thematic networks as a systematic way of data analysis that is easily followed by others, enabling them to repeat the study and analysis if necessary. This model was used because it provides an easily illustrated diagram of 'Global' or main themes that emerge (Figure 1). Themes attempt to find a limited set of ideas which are pertinent to the research and constitute a foundation for the data which collaborators have supplied, (Gomm, Needham & Bullman (2000:253). Thematic networks aim to find themes in text at varying levels which can then be illustrated in simple web-like diagrams, similar to the diagrams used in concept mapping, taking the reader from text to interpretation in a systematic way, (Attride-Sterling 2001, Williams 2004). The central or global theme is supported by organising themes which are in turn supported by basic themes.
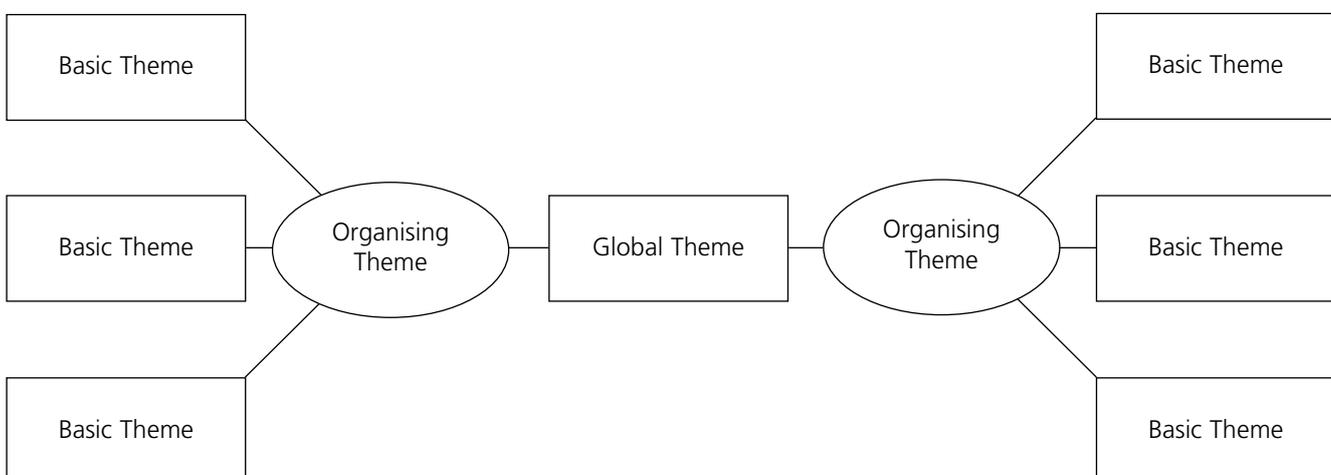
Figure 1. Structure of a Thematic Network, (from Attride–Sterling 2001)

Basic themes are organised with those of a similar nature which support an organising theme. Global themes summarise and make sense of the clusters of organising themes. Once a thematic network has been constructed it serves as an illustrative tool in the interpretation of the text which allows others to follow the researcher's analysis.

The text of the transcripts of the focus group was examined for repeated codes. Themes were identified and recorded, (Table 3). The text was revisited three days later to ensure no themes were disregarded (Bowling 2000). Inter-reliability can be enhanced by using a panel of judges to code a sample of transcripts. This was not possible because of time constraints, but a summary of the transcript was sent to collaborators and their views sought and comments included before final organising of the themes, (Gomm et al 2000).
Following further analysis the themes derived from the text were arranged in groups and were used as basic themes. The basic themes were to support the organising themes of the thematic network. The central or global theme encompassed the concepts of the organising themes and represents the "core" of the concept for this particular set of data. Using this analytical tool, five thematic networks were developed (Figures 2-6)

Global Themes
1. Understanding
2. Timing of the introduction of PT to the nursing curriculum
3. Assessment
4. Critical thinking & Critical reflection
5. Proposals for the Introduction of Patchwork Text

Table 3. Global Themes

Global Theme 1- Understanding (Figure 2)

The themes indicated that there was a general understanding of Patchwork Text. However discussion indicated that PT would not be any better at identifying weak students or encouraging brighter students than the present system. This was in contrast to work done previously that had found that PT did identify weaker students and encourage the more able, (Akister, Illes, Maisch, Ovens, Parker, Rees, Smith & Winter 2003 University of Salford 2004). One person mentioned that it was becoming harder to identify weak students with the present curriculum because: "there are so many different lecturers involved with them (students)". Discussion followed about group dynamics between weaker and stronger students regarding the possibility that weaker students were strategic learners; how conflict between weaker and stronger students could alienate the two types of student within a group.

The group felt that PT would generate student interest because lectures, workshops and seminars would be linked with a separate discussion regarding the Patch assigned to that section of the module and because there would be a link to the final assignment. Two focus group members felt that familiar techniques such as quizzes, journals, newspaper articles and questionnaires (6:20) could be used within the discussion sessions and would help with the 'stitching' (of the patches), (4:14, 5:13). Group discussion in PT was felt by one member of the focus group to be an incentive to students to go away and find ways to cover deficits in knowledge, and would give students ongoing feedback on their learning.

Global Theme 2 – Timing of the Introduction of PT into the nursing curriculum (Figure 3)

The group gave considerable time to discussing the most appropriate time for PT to be introduced into the curriculum, deciding that a pilot group for post-graduate students would be the optimum arena. Discussion on the use of PT as a form of assessment revolved around the exams process and if impending changes in the way scripts were marked would accommodate PT. It was decided that PT would have minimal effect on the exams process. PT it was proposed would give a systematic feedback to students on their progress, but there was concern about the perceived amount of work that PT would produce for lecturers. One collaborator felt passionately about the need to develop the teaching and learning of critical thinking and reflection and felt that PT would be a useful vehicle for this. The rest of the group were much less interested and this silenced the collaborator on this subject. In order to facilitate the introduction of PT into a curriculum the group indicated that it was essential that sound preparation and training was available to all personnel involved including students. None of the collaborators stated that they thought that PT was not an appropriate strategy, but were concerned that 'we get it right'.

Global Theme 3 – Assessment (Figure 4)

The use of PT as a form of assessment was viewed positively by the group. This was supported by two contributing themes, the Exam Process within the school and Supporting Factors for PT. The supporting factors included the fact that PT assessment could be designed to reflect progression in skills and knowledge, (8: 3-8, 9:29 -30). Control of a PT assessment was thought to be important, (9: 9-11) by three collaborators.

It was pointed out that new forms of marking assignments would probably be used in the future, including machine reading (12:15-18). This poses the question: Can a machine identify and assign a level to critical thinking and reflection? However it was felt by collaborators that the summative assessment of PT, which would include the 'stitching' of the various patches, would lend itself to this. It was proposed that if the groundwork was done thoroughly PT would not disrupt the exam system or the work of the Exams Office in the school, (10:31-32).

Global Theme 4 - Critical thinking & reflection (Figure 5)

Two contributing themes developed this global theme, Reflective Practice and Teaching Critical Thinking and Reflection. Guidelines for Nurse Education specify the need for Nurses to develop the skills of critical thinking and reflection, (NMC 2005). This was echoed in the discussion, (3:5-13), along with comparisons with the 'old' Nursing curriculum. There was discussion about the level of student ability to involve themselves in reflection and critical thinking in the different levels of students - Diploma, BSc and Post-registration, (6:8-32). It was thought that in some areas there might be a lack of emphasis in teaching reflection and critical thinking, (7:31-32, 9:31-2, 10:1-2). Two collaborators implied that the more able students can emerge as critical thinkers despite the curriculum, (10:4-6). Another collaborator explained that we want students to look at evidence and that we, as lecturers also need to do this in order to promote reflective practice and critical thinking, (8: 22-23). Present methods of teaching and learning such as Problem Based Learning (PBL) would readily lend themselves to teaching, learning and assessment using PT, (9:22-23) although the group was cautioned

regarding the difference between PBL and PT, with PBL being a teaching and learning strategy and, in this context, PT being used for assessment, (9:29 -30).

Global Theme 5 – Proposals for the preparation for the Introduction of Patchwork Text (Figure 6)

This theme had two main factors, the preparation of the lecturers who wanted to introduce PT and the preparation of all the lecturers involved in the delivery and support of PT.

All collaborators supported the proposal that it would be necessary to pilot PT if it were to be introduced,(7:7-8, 15-16), and that a lot of fundamental work would have to be done, especially regarding the teaching of critical thinking, (7:28-29, 8:1) both with those who introduce PT and the lecturers involved in delivering PT. The need to provide sound evidence and to invest strongly in staff development and training was seen as crucial in the successful introduction of PT, (8:11-19).

At this stage the hour allocated and agreed as part of the ground rules for the focus group was complete and the discussion regarding PT ended.

Conclusion and recommendations

There was agreement that the current Poster assessment had faults; two collaborators had discussed these in the last few days. The majority of the collaborators thought that the introduction of PT was feasible, but there was considerable debate about when and with which students it should be introduced. One collaborator felt strongly that PT should be intrinsic to the whole Nursing curriculum because of its use in developing critical thinking, but did not pursue this. This was an interesting insight into group dynamics and participants' perceived

hierarchies. The remaining collaborators decided post-graduate courses would be better, mainly because of the smaller numbers of students involved. The researcher was unprepared for the fact that the majority of the collaborators did not think that PT would enhance deeper learning and critical thinking or identify and help weaker students, contrary to evidence found in the literature search.

Pedagogic theory regarding how assessment should be linked with learning, where possible, using real problems, would be met by PT. PT would also give students freedom to link with practice situations, making learning more productive for them. The researcher acknowledges her bias in making this statement. However, saturation was not reached with one focus group, (CHED 2003, Bowling 2002). These together with the fact that more questions were raised than answered indicate the need for further cycles of this research.

It is recommended that two further cycles of action research are started, enquiring:
1. What training and information would be needed to implement PT in the School of Nursing in a pilot group of postgraduate students
2. How can PT be developed for use in a pilot group of postgraduate students.

It is proposed to discuss plans for these cycles with collaborators and lecturers who have led other innovations in the School of Nursing.

Concept of Patchwork Text difficult to understand	Concern regarding 'new fashion' & feedback	Influence of 'old' Nursing Curriculum

Contributing theme

Wariness about introduction

Global Theme – 1

Understanding of Patchwork Text

Contributing theme

Possible exciting development

Exciting interest in lecturers	Post-registration Students most appropriate	Will excite interest in students

Figure 2 Global Theme 1 - Understanding

Broader Clinical experience in post-graduate students

Post-grad students should have developed some reflective skills

High numbers of pre-registration students Influence of 'old' Nursing Curriculum

Pilot group x 1 & re-examine

Contributing Theme
Introduce PT in Post-graduate studies

Global Theme
Timing of Introduction of PT

Introduce from 1st year pre-registration Nursing Education

Contributing Theme
Introduce PT in Pre-registration education

Introduce in 3rd year of pre-registration Nursing Education

Use PT throughout Nursing Education

Time students spend in University

Figure 3. Global Theme 2 – Timing of Introduction of Patchwork Text

Inclusion of Summative assessment is PT important	PT should not cause Exams Office extra work	PT should not be peer assessed
PT would lend itself to new methods of marking including machine reading		Contributing Theme Exam Process
Debate about level of student learning & best time to introduce PT		Global Theme Positive view of PT as an Assessment
PT should illustrate student progression		Contributing Theme Supporting factors for PT & Exam process
Importance of feedback to students regarding their progress	The need for good planning prior to introduction of PT	PT is a form of continuous assessment

Figure 4. Global Theme 3 – Positive View of Patchwork Text as an Assessment Global Theme 3 – Positive View of Patchwork Text as an Assessment

| Figure 4. Global Theme 3 – Positive View of Patchwork Text as an Assessment Global Theme 3 – Positive View of Patchwork Text as an Assessment | Need to develop critical thinking in students | Possible deficit in teaching critical practice |

Some students skilled at reflection & critical thinking

Contributing Theme
Need to develop reflective practitioners (NMC 2005)

Global Theme

Essential to prepare nurses fit for purpose and fit for practice
(NMC 2005)

Contributing theme
Teaching critical thinking
& reflection

| Need to teach reflective practice | Need to teach students critical thinking | Level of students' preparation for practice |

Figure 5. Global Theme 4 – Critical Thinking & Reflection

Training for lecturers who teach using PT

Training for the lecturers who introduce PT

Preparation of students who will use PT

Contributing Theme

Need for Training

Global Theme

Proposals for preparation for the introduction of PT

Theoretical underpinning

Contributing Theme
Work to be done by those who introduce PT

Thorough groundwork – with all who will be involved with introduction of PT

Figure 6. Global Theme 5 – Proposals for the Introduction of Patchwork Text

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Acknowledgements

Encouraging a Deep Approach to Learning among Students of Prosthetics and Orthotics

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Abstract

This paper reports findings of action research analysing current approaches to learning of students on the Biomechanics 1 module of the BSc (Hons) Prosthetics and Orthotics degree, with the aim of encouraging a deep approach to learning among them. Using Biggs' (1999) factors that encourage a deep approach to learning as the framework, I designed and implemented a questionnaire for the students to voluntarily complete. The results indicate that, although students are relatively motivated, they have concerns regarding gaps in their previous knowledge and exhibit a preference for working practically rather than at a conceptual level. This indicates that, in terms of my future teaching, I need to focus on aligning module aims, learning outcomes and assessment, and also to review the syllabus, the learning environment and the teaching/learning activities that I use in order to encourage the students to adopt a deep approach.

Rationale

My research relates to the Biomechanics 1 module that I teach as part of the BSc (Hons) Prosthetics and Orthotics (P&O) programme. I have taught this module for the first time this year. Whilst some aspects of the teaching have gone well, (evidenced by positive feedback from the students on course materials, presentation of information etc.), I still feel that students are not engaging with the subject as well as I had hoped. As a result they are having a less than optimal learning experience. My objective for the project is therefore to "encourage a deep approach to learning among

students on the Biomechanics 1 module of the BSc (Hons) P&O programme". This incorporates analysing my students' current approach to learning, which will provide a basis for ascertaining what I can do to enhance the teaching/learning experience for both them and me. Firstly, however, I would like to establish what is meant by a "deep approach" to learning.

The notion of both deep and surface approaches to learning arose following an investigation by Marton & Saljo (1976). Having asked students to read a text on which they would be asked questions, these authors discovered that students responded in two different ways. The first group focussed on the questions they might be asked and "skated along the surface of the text taking a surface approach". The second group set out to understand the meaning of the text taking a "deep approach". These notions of different approaches to learning were adopted and developed by others, including Entwistle (1997), who identified a further "strategic approach" to learning. Entwistle (1997) summarised these approaches as outlined in the following adapted section:

Deep approach – Transforming by
- Intention to understand ideas for yourself.
- Relating ideas to previous knowledge and experience.
- Looking for patterns and underlying principles.
- Checking evidence and relating it to conclusions.
- Examining logic and argument cautiously and critically.
- Becoming actively interested in the course content.

Surface approach – Reproducing by
- Intention to cope with course requirements.
- Studying without reflecting on either purpose or strategy.
- Treating the course as unrelated bits of knowledge.
- Memorising facts and procedures routinely.
- Finding difficulty in making sense of new ideas presented.
- Feeling undue pressure and worry about work.

Strategic approach – Organising by
- Intention to achieve the highest possible grades.
- Putting consistent effort into studying.
- Finding the right conditions and materials for studying.
- Managing time and effort effectively.
- Being alert to assessment requirements and criteria.
- Gearing work to the perceived preference of lecturers.

Building on the work of Marton & Saljo (1976), authors such as Entwistle (1997), Biggs (1999) and Ramsden (2003) examined factors that encouraged students to adopt one or other of the three approaches. Biggs (1999) identified that these factors are present in both students and the teaching environment. The factors that encouraged students to adopt a deep approach are detailed below:

From the students' side:
- An intention to engage the task meaningfully and appropriately; such an intention may arise from intrinsic curiosity or from a determination to do well.
- Appropriate background knowledge; the ability to focus at a high conceptual level, working from first principles, requires a well

structured knowledge base.
- A genuine preference and ability for working conceptually rather than with unrelated detail.

In the teaching environment:
- Teaching in such a way as to bring out the structure of the topic or subject explicitly.
- Teaching to elicit a positive response from students, e.g. by questioning or presenting problems, rather than teaching to expound information.
- Teaching by building on what students already know.
- Confronting and eradicating students' misconceptions.
- Assessing for structure rather than for independent facts.
- Teaching and assessing in such a way that encourages a positive working atmosphere so students can make mistakes and learn from them.
- Emphasising depth of learning rather than breadth of coverage.
- In general, and most importantly, using teaching and assessment methods that support the explicit aims and objectives of the course; this is known as practicing what you preach.

I have chosen a research topic that aims to establish which approach to learning the students in my class are taking, as generally I am keen to try to find the combination of teacher/student behaviour that produces an optimal environment for student learning. More specifically, I believe that, instead of a deep approach to learning, many of my Biomechanics students are displaying characteristics of a surface or strategic approach. This belief is based on informal student feedback and relates to three distinct issues:

1) My subject is mathematically based and a number of students have informally reported feeling some trepidation about approaching it, due to poor experiences with quantitative

subjects in the past. As a result, I believe they lack confidence in dealing with numbers and, at least partly, avoid doing so wherever possible. I therefore wish to establish whether this is the case generally and whether the majority of students see the course and its assessment as something they "have to get through" in order to continue with the programme.

2) Linked closely to the above point, my students do not appear to have the level of background knowledge in mathematics on which I was hoping to build, and this has caused difficulties in the class. I therefore wanted to find out whether the students on the programme had much opportunity to build up a sound knowledge base of basic maths and if my current teaching methods are exploiting that base of knowledge sufficiently.

3) The nature and balance of topics within the BSc (Hons) P&O programme means that it tends to attract students who are often more interested in the patient care and practical, manufacturing aspects of the subject than they are with the biomechanical theory behind gait patterns and the manufacture of artificial limbs. I believe they therefore struggle to understand the relevance of this largely theoretical subject (Biomechanics), in the context of what is, after all, a vocational degree. I therefore wanted to establish whether the students understand the relevance of Biomechanics within the overall BSc (Hons) P&O programme.

If my students do lack motivation, have gaps in their basic mathematics knowledge and struggle to deal with the theoretical aspects of the subject, this contrasts poorly with what Biggs (1999) identifies as student factors that encourage the adoption of a deep approach to learning. Although, as Ramsden (2003) points out that

one cannot instruct a student in the use of deep approaches, my final concern is that the way I am teaching the subject may exacerbate the students' shallow or strategic approaches. As "the first step in improving teaching is to avoid those factors that encourage a surface approach" (Biggs 1999), I am keen to establish whether my concerns based on this informal feedback are correct, and if so, to look at what I can do to rectify the situation.

The implications of a deep approach to learning go much further than just my classroom. According to Light & Cox (2001), although research has not made much of the relationship, "we would expect deep transforming categories of learning to be more closely associated with abilities to perform than the surface of reproducing categories." Ramsden (2003) notes that "what students learn is indeed closely associated with how they go about learning it", so if we wish to produce healthcare professionals who are highly competent from the start of their careers to the end, we must give some thought to the way in which they are taught.

The increased diversity and range of ability of students is also of relevance in terms of my personal practice. It is increasingly difficult to pitch teaching at a level where those students with the least background knowledge can keep up and the students with the most do not feel bored. Increased diversity also means that students may be less traditionally "academic" than in the past. As Biggs (1999) says, "Good teaching is getting most students to use the higher cognitive processes that the more academic students use spontaneously", which may only be achieved if students are encouraged to take a deep approach. This is set against the background of a national framework of teaching standards, which requires graduates

to have more general learning skills, such as "learning how to learn" and "critical analysis" (Dearing Report 1997).

Of course, the process of encouraging a deep approach to learning is made much easier if it is part of the departmental culture, and management decisions are made in line with what Ramsden (2003) calls "collegial commitment to teaching and improving student learning". This helps to provide an enabling teaching environment that encourages a student focussed approach to learning. I am fortunate, because the culture of my department is supportive, and should I identify reasonable resource needs from my study, then I am likely to be successful in achieving them.

Research design

"Action research can be described as a family of research methodologies that pursue action (or change) and research (or understanding) at the same time" (Southern Cross University). However, before I could start to make changes to my teaching, my first step was to clarify what the current situation vis-a-vis my students' learning approaches actually was. This formed the first step in the action research process and is described below.

Having reviewed a number of different research tools, I decided that an anonymous and voluntary questionnaire, which could be distributed to the students in my current Biomechanics class, would be the most appropriate method for the action research process. Inviting the students (in writing) to fill in a questionnaire required ethical approval, which was obtained from the Associate Dean of Research within the School of Health Care Professions, to ensure that the students were not exposed to a

situation that may be detrimental to their future studies.

Although the choice of questionnaire as a research tool had a number of disadvantages, such as a lack of qualitative depth and resulting superficiality, it meant that respondents could remain anonymous. This possibly gave me a more accurate response to my questions, and meant I could also sample the entire population rather than focussing in on a small sample group. In addition, it was a time efficient method of collecting information (unfortunately the timescales associated with the project left no opportunity to pre-test or pilot the questionnaire). Using a questionnaire gave me the opportunity to explain, in writing to each of the potential respondents, relevant information regarding the project, including what the project was about, the potential benefits of the research and what would happen to the results once they had been collected.

When designing the questionnaire itself, I attempted to adhere to the basic rules outlined in Moore (1987), which include using simple words and keeping sentences short. I began by asking students to respond to three classification categories relating to gender, age and geographical background before moving on to nine attitudinal statements where students were asked to respond using a numerical rating scale. This scale ranged from 1 to 5, where 1 indicates "strongly agree" and 5 indicates "strongly disagree". Students were then given the opportunity to add any additional comments.

The choice of attitudinal statements reflected the aims of the project as outlined above. Also incorporated into the nine attitudinal statements were three relating to current teaching practices and how useful

students found them. Whether it was appropriate to incorporate these three statements into the questionnaire will be reviewed in the next section.

Findings

The questionnaire was distributed and collected after a lecture to a total of 30 students, 22 (73%) responded. As the number of questionnaires was relatively small descriptive rather than statistical analysis of the data was deemed appropriate. There were 11 male and 11 female students. The students were in one of two age ranges:

- 7 male students under 21, 4 male students aged between 21 and 34
- 4 female students under 21, 7 female students aged between 21 and 34

I chose to classify the students in these ways to see if there were any differences between male and female students' approaches to learning. I was also keen to establish whether age had an impact on the approach to learning. Meyer & Scrivener (1994) suggest that school leavers attending university for the first time "…find it more difficult to organise their time; the subject appears fragmented without an overall structure, and they are overwhelmed with the amount of work that needs to be core. Attempts to understand (deep approach) are undermined, and their perception of the course content is superficial".

Theme	Statement	Mean	Male mean	Female mean
To do with: Confidence in maths and working in groups	I feel confident about working with numbers	2.6	2.4	2.8
	I have a strong mathematical background	3.0	2.7	3.4
	I find working in a group to solve biomechanical problems useful	2.9	2.9	2.8
To do with: Relevance of Biomechanics	It is clear to me why Biomechanics is included in the P&O programme	1.8	1.5	2.1
	I will use at least some of the principles of Biomechanics in my future career	2.0	1.5	2.5
	Knowledge of Biomechanics is essential for practising prosthetists / orthotists	2.2	2.0	2.4
To do with: Learning and teaching method	Solving practical problems helps me to understand Biomechanics	1.8	1.6	2.3
	I find worked examples of biomechanical problems useful to refer to	2.0	1.6	2.0
	Short class tests, which do not contribute to my final grade, are helpful	2.0	1.6	2.3

Looking at the group of statements that relate to how students perceive the "relevance of Biomechanics to P&O", it can be seen that students do seem to understand "why Biomechanics is included in the P&O programme" (mean=1.8). Scores are also relatively good for statements relating to the use of the "principles of Biomechanics in my future career" (mean=2.0) and that a "knowledge of Biomechanics is essential for practising prosthetists/orthotists" (mean= 2.2).

It is interesting to note that, on average, male students perceive Biomechanics to be more relevant to the overall programme (male mean=1.5, female mean=2.1), believe they will use "the principles of Biomechanics in their future career" (male mean=1.5, female mean=2.5), and believe the "knowledge of Biomechanics is essential for practising prosthetists/orthotists" (male mean=2.0, female mean=2.4). One possible explanation for this may be that the female students were

attracted to, and have a preference for, the other aspects of the programme, such as manufacturing or patient care.

Moving on to the group of statements regarding students' "confidence in maths and group working", the overall results showed that the students were reasonably "confident about working with numbers" (mean=2.6), but did not feel they had a "strong mathematical background" (mean=3.0). The score on this item was the lowest mean in the questionnaire, showing the students disagreed with this statement the most. It is worth noting that I decided to ask students about their own view of their mathematical background rather than simply reviewing their "A" level results, as I felt it was their own perception of strength that was important.

In general, female students reported feeling less "confident about working with numbers" (female mean=2.8, male mean=2.4), and felt they had a

weaker "mathematical background" (female mean=3.4, male mean=2.7). This was particularly notable for female students under the age of 21 (mean=3.5). Confidence increased with age for the female students and decreased with age for the males. Male students under the age of 21 were the most confident of all the groups (2.6). In general, female students find group working more useful than their male peers (female mean=2.8, male mean=2.9). This may be a result of different preferred learning styles between males and females, but this goes beyond the scope of my particular study.

The final group of statements within the questionnaire related to "learning and teaching method". My aim here was to try and establish whether students felt more comfortable with the theoretical and conceptual aspects of the course or its practical application. The overall results showed that, in general, students did find "solving practical problems helps me to understand

Biomechanics" (mean=2.0) and "worked examples of biomechanical problems" are "useful to refer to" (mean=1.8). The students also found non-assessed class tests useful (mean=2.0). Male students indicate that they find these methods more useful than female students. There is also a difference between female students under the age of 21 and those between 21 and 34, with the older female students finding these techniques more useful than their younger peers.

Interestingly, the majority of qualitative responses were concerned with the type of teaching methods used. Here the emphasis was on the practical application of the theory. The suggestions include "starting off" students on biomechanical problems to prevent them getting stuck right at the start, and making the teaching more practically relevant by using anatomical models and clinical situations.

Limitations of the study

In general, I was happy with the way that the research process worked. The questionnaire provided an effective and speedy way of gathering student opinions that encouraged students to answer as truthfully as possible. It would have been useful to have additional qualitative information (e.g. from discussion groups), however, this would have compromised the anonymity of the students and subsequently the results of the survey. It would also have raised ethical questions regarding whether students should be put in the situation of publicly commenting on a teacher's performance before work had been graded.

Were I to run the questionnaire again, I would amend the final three statements. For example, instead of asking students if they want more tests in class I would include a list of

possible teaching techniques and ask the students to rank their preferences. Alternatively, I may investigate incorporating questions from a pre-existing questionnaire, such as the Oxford Centre for Staff Development's questionnaire for improving student learning.

Conclusions

Reviewing the results the following conclusions may be drawn from the study:

• Students generally understand clearly why Biomechanics is included in the curriculum of the BSc (Hons) P&O programme, and generally believe that the knowledge they gain from it is essential for their future careers and will be utilised by them. Female students were, however, less likely than male students to perceive the subject as useful and relevant.
• Students are reasonably confident about their ability to work with numbers. In general, younger male students are more confident than their peers.
• In general, students do not feel they have a strong mathematical background.
• Overall, students do not seem to find working in a group to solve problems particularly useful. However, this does not seem to be linked to a lack of confidence in working with numbers, as female students, who were least confident, reported finding this technique more useful than did male students.
• In general, students find the application of theory to practical situations a useful learning tool.

What next?

"At its simplest, action research involves setting something up and running it to see what happens" (Moore 1987). "To be properly regarded as action research a project would need to contain a continuous

thread of objective valuation and a mechanism whereby the results of the valuation and the lessons learned during the project can be fed back into the process" (Moore 1987).

Taking Moore's (1987) definition of action research into account, the next stage is to take the results of the research and try to incorporate them into my teaching for the next group of students joining the programme in 2005. This is particularly important for me personally, as my teaching commitments will be expanded and I would like the opportunity to develop my teaching materials in line with revisions based on the results of this research.

The questions that I need to address relate back to Biggs' (1999) factors for encouraging a deep approach to learning within the teaching environment and aligning different teaching and learning methods with the aim of promoting that approach. In my specific context, this would mean:
• Establishing a way of bringing out the explicit structure of Biomechanics.
• Reviewing the way in which I run teaching sessions with the aim of encouraging more explicit responses from students.
• Developing methods of establishing what students already know, so that the course can utilise and build upon this knowledge.
• Developing methods for uncovering and eradicating student misconceptions.
• Revising the assessment process to focus more on structure than repetition of facts.
• Encouraging a positive working environment where students feel able to make mistakes and learn from them.
• Establishing explicit aims and objectives for the Biomechanics 1 module and ensuring that I teach and assess in alignment with them.

My course of action is now to apply what I have learned from this project to the design of the Biomechanics 1 module for the next academic year, and to develop ways of monitoring how successful I have been in encouraging the students to avoid taking a surface or superficial approach to the subject.

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