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Citation: Daws, Michael, Johansen, Eric and Osborne, Allan (2009) Releasing the power: research led learning in a professional practice undergraduate curriculum. Northumbria Working Paper Series: Interdisciplinary Studies in the Built and Virtual Environment. ISSN 1756-2473

Published by: Northumbria University

URL:

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Releasing The Power: Research-led Learning in a Professional Practice Undergraduate Curriculum

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ABSTRACT

There is a challenge for vocational programmes in Higher Education in addressing the needs of a practice based discipline while developing enquiry based abilities in students. Ongoing research is being carried out into the use and suitability of student research-led learning within Built Environment curriculum at Northumbria University. This is aimed at undergraduate professional practice education and its perceived value by staff and students as compared to the use of the more traditional perceived transmission-based pedagogy. A focus group based survey of final years students was carried out to obtain an improved understanding of the value of research-led learning and to seek to highlight and extend staff opportunities and motivation to employ such methods across a wider range of curriculum activity, thus helping to justify the “release” of curriculum ownership to the student. It appears that students struggle to see the value of work which is not directly related to employment and it is suggested that more work is needed in measuring and understanding the enquiry based skills which are being used in the workplace already and using pedagogical approaches in language and practice which are more easily digested by students because research led learning is seen to be practical and have real results in what they perceive as the “real world”. Research-led learning needs to be carefully and sensitively embedded within the student learning experience at undergraduate level.

Key Words: research-led learning, life-long learning.

CONTEXT

The much heralded Leitch Report (2006) provided once again a strongly focussed reminder that Higher Education has a responsibility to foster and further develop our skills provision to maintain a healthy employment resource base and to engage successfully in an increasingly competitive global economy. The report strongly advocates for a rebalancing of the priorities for HE institutions to make available relevant, flexible and responsive provision that meets the high skill needs of employers and their staff. The inference seems to be that this rebalancing is a major need in the sector. While this may be the case in some parts of the sector we in the School of the Built Environment at Northumbria University would want to challenge such an inference. We would wish to suggest that the high skills needs of employers and their staff are already a major and essential part of our curriculum agenda. This agenda is heavily influenced and guided by a raft of supporting activity and documentation, not least the activities of bodies like the Quality Assurance Agency through their subject benchmark statements or the professional validating bodies like Chartered Institute of Building or Chartered Institute of Architectural Technologists. These explicitly include a skills agenda in fine-grain detail with very specific learning outcomes. Other influences on curriculum and learning are, of course, the immediacy of student employment and strong direct links with the professional employment marketplace. We would argue that most, if not all, universities providing built environment education under such operational conditions would challenge whether this rebalancing is needed.

Concurrent to questions being asked of universities by reports such as Leitch, has been the recent challenge set by the Higher Education Funding Council (HEFCE) for universities to increase their link between research and teaching and to enhance the effect of research on the student learning experience. This has been supported with follow-up funding opportunities within universities to seek to encourage an increased momentum of activity. Subsequently, the practice of a research-informed learning environment is being revisited by many with either existing models refreshed where appropriate, or new models developed. The objective being that the student learning experience is enhanced by research. However, again from our own perspective, this is not so easy or straightforward to implement. Built Environment education is undeniably practice-based: it is about being able to practice (or not, as the case may be). An Honours Degree demonstrates ability, and provides confidence to both employer and graduate alike, that the graduate is fit for employment. Thus, the conundrum for the designer and provider of built environment education is how to provide balance the skill development between a discipline which sets strong dimensions of practice concerned with the immediacy of employment (the employment-ready skills) and curriculum that is cutting-edge practice but which might not be associated with the immediate workplace requirements.

AIMS

It seems that there is a challenge for a vocational discipline like Built Environment in delivering student, professional and educational needs while balancing between both the preparation for work and the research into teaching agendas. The major concern of academics should be in establishing curriculum design and delivery which achieves the correct balance between practical, applied and enquiry based skills. The curriculum development team for the Construction Related Programmes [CRP] in this School believed that they had developed a suite of programmes which sought to provide this balance but had never measured student perceptions since the actual delivery had been delegated to the module level and never measured beyond that level. As with many academics, they had assumed that they knew what would work.

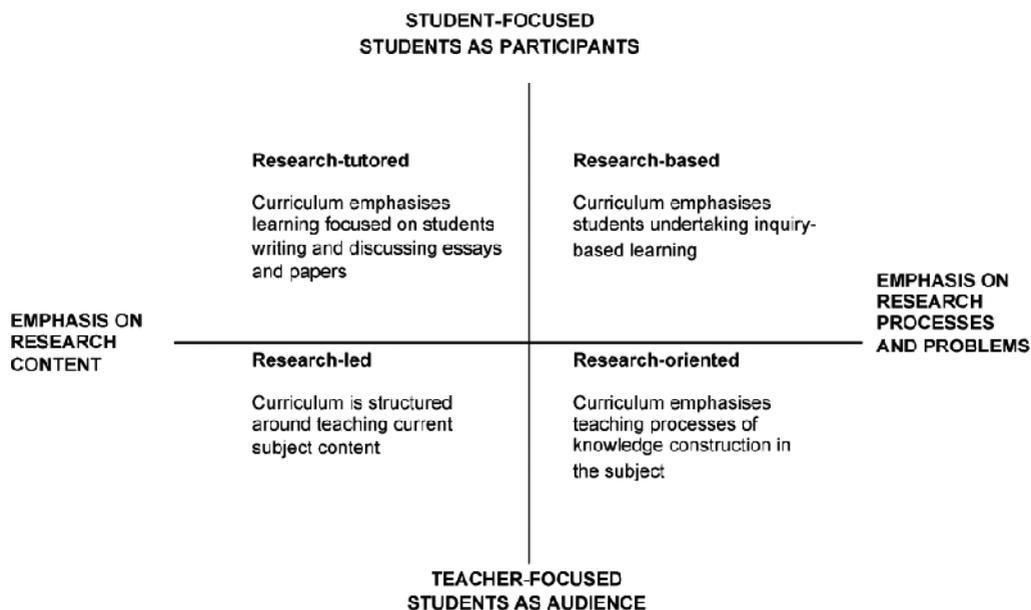
The specific aim of this small-scale research project was to review the current situation across the CRP which was considered a typical final year built environment curriculum and to see what could be discovered from the students' experiences and attitudes to their learning with a view to improving curriculum and delivery for vocational programmes.

SEARCHING FOR A BUILT ENVIRONMENT CURRICULUM MODEL

There is much to be said for an education process that prepares the graduate for an age of radical uncertainty and super-complexity (Barnett, 2000). To cope with uncertainty and the unknown seems to be a necessity as businesses strive to remain competitive in an ever changing environment. But the here and now is important and of real significance for the graduating student. For the built environment student, constraints and “edges” to learning do exist – driven by the real and immediate pressures on the student – successful employment is crucial post-graduation and is a major concern for all concerned. Indeed in the current era of the use of higher education indicators of performance, successful employment post graduation is a major indicator of success. Additional contexts for the final year student are that built environment education has a performance-based agenda which is framed, informed and directed by practice and the Professional and Statutory Regulatory Bodies and most are likely to either be employed and attending part-time or have just returned from a placement year. These students are likely to relate their efforts, knowledge and skill needs to the immediate work place and the potential of employment. It is therefore not the liberal agenda traditionally associated with some degree courses where free choice with regard to curriculum content might be an option.

Two dimensions seem to prevail outlining the substance of knowledge and the process of gaining knowledge as:

- Students construct knowledge and make meaning of experiences; and construction takes place in the context of their evolving conceptions of knowledge itself and their role in creating it. Baxter Magolda (1999) argued that students need to be engaged within a student centred environment, but as Ramsden (2001) also argues, this can only be generated by a pretty radical rethink of how we operate within undergraduate curriculum – the main hope for realising a genuinely student centred undergraduate education lies in re-engineering the teaching–research nexus.



Source: Jenkins and Healey (2005) Institutional Strategies to link Teaching and Research.

Figure 1: Curriculum Design and the Research-teaching Nexus.

- Students need to engage as participants in a learning process – as discoverers of knowledge rather than receivers of knowledge and as articulated by Jenkins and Healey (2005) the student is a participant.

A major conclusion from Jenkins and Healey's work is that the nexus between research and teaching is not automatic and that it has to be purposefully designed into the curriculum. This has been our position at Northumbria University: to use the flexibility and freedom inherent in a modular programme structure to design into the curriculum research-led learning within certain modules that can add to the quality of the learning experience, prepare the student for life-long learning capability (knowledge gain needs to be sustainable) and to harness student motivation with the passion and energy generated from personal enquiry and engagement (Rowland, 2000) with the student empowered to learn.

FIELD WORK: LISTENING TO THE STUDENT VOICE

(Student comment is indicated in italics in this section)

The CRP consists of an inter-linked suite of programmes consisting of 4 named degrees with part-time, full-time and 4-year thick sandwich modes. Focus group interviews were carried out with groups of final year students. In total 5 groups were invited to participate [2 sandwich, 1 full-time and 2 part-time] but only 3 chose to participate [2 sandwich & 1 part-time]. The interviews sought to elicit student opinion and comment with regard to Final Year modules and a broad range of questions were developed with regard to:

- Engagement with the Learning Process;
 - The value of Directed as compared to Independent Learning; and
 - Assessment for Learning
- The CRP offers a range of module approaches, for example:
- independence in learning [as exemplified by the dissertation]
 - innovative approach containing high levels of independent research activity related to subject knowledge development allied to professional skills application through the assessment activity;
 - subject content being presented in a didactic approach with what was being delivered and taught being directly assessed – either by coursework or by a traditional (unseen) examination.

The timing meant that these were carried out mid-year – just after the end of their first semester and at the beginning of the second semester of their study. It must be acknowledged therefore that student disposition, subsequently, may have been influenced by this timing – potentially a particular sensitive time for students as module marks for semester 1 were being fed back to students and year-long modules, in the main, would also have interim stage marks fed back to them at this time.

ENGAGEMENT WITH THE LEARNING PROCESS

The step up to the Final Year modules was considered by interviewees to be a big one but the dissertation – the largest piece of work in the final year – the capstone of achievement – gave the students a good sense of satisfaction – a job well done – *I was quite proud of the work that is involved in the dissertation*. Nevertheless, one student considered the dissertation unnecessary as it was “academic” and *not practice-based in the sense of this vocational degree course*.

For modules delivered via a didactic approach (interestingly, this approach was considered necessary by students for the “dry” subjects), the challenge for the lecturer, and the need expressed by students, was for such subjects to be delivered with enthusiasm and by an acknowledged expert in the “field” – *dry subject can be boring: it is up to the lecturer to make it interesting*. Students were very happy to “receive” an education and to partake in an expert master-class.

An unexpected dimension generated from one of the focus groups was the importance of space and the seating arrangements in a classroom – something we had not personally considered or felt important. The freedom to express opinion we all agreed was important and necessary to the learning process but students believed that this was being hindered by the formality of some classrooms where students were “behind desks” and therefore perhaps inferior or subservient (to the lecturer) in the “pecking order” of debate.

Large seminar groups were also considered a hindrance and added to student frustration with opportunities being lost by not being able to achieve that learning that can be generated by active discussion.

Part-time students considered themselves to be at an unfair advantage for a number of reasons: one, that they did not spend enough time at university and two, that they were wrongly considered to be expert and experienced in the workplace which some tutors considered to be of great advantage – but many of these students considered that their workplace experience was far too narrow and therefore of limited value to their own degree programme.

Group work was also considered a great frustration with a number of interviewees, especially the “forced groups” where the module tutor selected the groups or where group size was too big. Small, self-selection groups were considered to be the most appropriate to allow a student to engage effectively with a topic and not waste much valuable time chasing down under-performing group members.

Ownership of the learning process was clearly and sharply articulated by one student response – *my degree is down to me; I like to think that my future is in my own hands.*

Students appeared to be very frank and open with their learning aspirations. Many explained that what was important to them (and frustrating to us as lecturers) at this stage in their careers was the degree qualification and not the content! The full-time students were generally tied into the soon to arrive challenge of employment post-graduation (the degree qualification being seen as the gateway to a successful job), perhaps understandably so given the strongly explicit vocational nature of their degree programme coupled with their final year of study following on so closely from their Placement Year spent out in industry. Part-time students were also nervously following their own personal degree classification performance given their “peer-exposure” of their professional development in their own personal workplace situation to how they might perform, with often career progression dependent on the result. Consequently, engagement appeared to be consistent across all modules whether or not they were considered to be research-led modules or “taught” modules. This is not what we expected. We had anticipated that the modules which allowed elements of free curriculum choice would generate additional interest and commitment from a student and lead to increased levels of personal motivation.

For example, some student led research seminars were received with comments such as *it was a good experience but some did not like it – just wanted to do the learning and get marked for the learning and I am motivated to learn but obviously I want it to count towards something.* Perhaps the two biggest factors reported by students being the *grade result* and the need to do *something to help me with my job.*

THE CHALLENGE OF INDEPENDENT LEARNING AS AGAINST DIRECTED LEARNING

All students interviewed were currently consumed with the challenge of their dissertation and (reassuring for us) were generally comfortable with the process and outcomes required of them in this, their biggest piece of work. But other deliberately focussed independent learning modules did not fare so well. Students seemed to be generally uncomfortable with these. For example, much frustration was directed at modules which required independent research activity but which were considered vague in their requirements – the learning outcomes and subsequent assessment criteria, they argued, were not well articulated or formulated. In one instance, a student commented that a particular enquiry-led module was frustrating

to deal with whilst taught modules where we are given the information or where there is a book tailored to our needs *are a lot easier to digest*. Whilst this student appreciated the value of the work being done – *we are learning things which are going to happen in practice for us*, the same student was clearly unhappy that this was not being assessed – *but maybe it is not being acknowledged in our assessments – there is a lot of thinking goes into this but it is not assessed*. One student also argued for support and guidance in directed learning so that the outcome of the learning fitted between suitable parameters – *I do like the independent stuff – because I can go away and do it myself and I get interested in it but I then need someone to direct it as well just in case I am not going in the right direction – I need this safety net*.

ASSESSMENT FOR LEARNING

A further major conclusion from these interviews was how much a modules assessment model figured in the life and times of a student. Listening to the students in these interviews: it was obvious that course-works were the major feature of student effort – if not, the ONLY feature of student effort and subsequent learning. All learning effort with these final year students appeared to be directed to assessment activity and it was apparent how important the timing, style and content of assessment activity became to the student. It seemed to fill their lives as students.

For innovative assessment practices associated with research-led or enquiry-led modules, the assignment brief was often considered to be inadequate and according to some students, the goal posts moved – perhaps after discussion taking place between a student and a tutor – with some decisions being made appearing not to be communicated to the full student cohort. Students did have their own coping mechanisms: *word-of-mouth gets around*. But this, we considered to be inappropriate, and a communication challenge that all module tutors needed to rise up to. Indeed, some interviewees were quite bitter about this – *sometimes it comes down to interpretation of the brief; there were examples of students failing assignments because they have not interpreted what was required*. This, of course, may be considered unfair to the module tutors in question (we have not interviewed them for their opinion), but it does seem to us that this level of student comment does set out the challenge for the “new assessment” model as compared to, for example, the dissertation assessment model, which has stood the test of time and has plenty of examples of practice from previous years to show to new students.

Course-work which had staged assessments were appreciated and valued by these students. It certainly helped with student motivation – *it makes you work from the beginning as a work-in-progress rather than cramming at the end*. But interim early feedback has to be carefully handled by tutors as feedback can have serious negative consequences – *we got a poor mark for our presentation (a group exercise) it was a demotivator in the first instance, but it did make you realise that the final year was not going to be a push over and that you have to up your work rate*.

The end-examination assessment model was a challenge for both student motivation and student learning. For example, one student with all the best of intentions still couldn't engage early with an examined subject – *I had the full intention of revising for Contracts starting in November, but no chance, it just didn't happen*. One student also argued that *you get nothing out of an exam – but, you take pride in a piece of course-work which you have produced along the way*. Another commented – *you have got to learn this off by heart and very rarely take anything from it*.

OUTCOMES

A number of results seemed to emerge from this discourse.

For example:

- Research-led learning can lead to adventure and discovery but also uncertainty. Students need to be supported and guided in this process by the lecturer. “Failure to discover” needs to be managed throughout the learning process and cannot be left to the end when it might be too late for the student.
- Lecturing staff need to appreciate and provide the levels of high staff contact time needed by students for research-led learning – it is not learning just by the student without help, but learning with guidance and support.
- A balance needs to be reached between dependent and independent learning with lecturer expertise and prior knowledge needed to keep a student moving along in the right direction.
- The dissertation is valued and remains appreciated by students.
- Innovative and new assessment models need to be introduced with care and an iterative process of emerging assessment clarification needs to be adequately communicated to all students.
- The ability and confidence of the student to engage with research-led learning is crucial and needs developing. Lecturer knowledge and expertise is crucial in this context and can generate confidence and belief in the student – in our opinion a seriously important and crucial spin-off from being an acknowledge expert in a subject field – of being there before as a learner and enquirer.
- Students appreciate staged assessments as part of a large assignment, for example, the dissertation. This is because the work they complete along the way is valued and feed-forward comments can contribute positively to improvement in their work and performance.
- Course-work which replicates the place and role of the practitioner in the workplace is appreciated and valued by the student.

CONCLUSIONS

In our opinion, this small-scale research project has been of value. It has re-emphasised to us the importance of a holistically-designed curriculum with a balance created across a modular degree programme between short-term and long term skills and knowledge for the student in Built Environment vocational undergraduate education. Universities do have to accept a responsibility to the student to provide for good and meaningful employment post-graduation but also need to grasp the challenge of sustainable, long-term ability. Knowledge is temporary and dated but learning to learn can last a lifetime and be essential to the long-term well-being and capability of the student and the organisation that they work for.

The challenge, however, is that students will be motivated to learn by what they see as being important and this small study suggests that there is still work to do in assisting students to understand the importance of the less immediate and less tangible development of research-based skills through enquiry-based approaches to learning. Perhaps more work is needed in measuring and understanding the enquiry-based skills which are being used in the workplace already and couching our pedagogical approaches in language and practice which is more easily digested by students because it is seen to be practical and have real results in what they perceive as the “real world”.

It is in this context that we would argue for the need for research-led learning to be carefully and sensitively embedded within the student learning experience at undergraduate level.

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