“An evaluation of practitioners’ views of Consultancy and Applied Research at the University of Derby”

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Abstract

The aim of this research has two objectives; firstly, to evaluate the development of cognitive, transferable and intellectual skills in Higher Education students, secondly, to transfer that knowledge by means of collaboration with community organisations. Experiential learning and regeneration/diversification project work is needed by all communities. The collaboration is built upon our ability to provide graduates and a community with portfolios of independent evidence of achievement obtained from working with a partner organisation.

The work-related learning supports the Community Charitable Trust "New Opportunities Wirksworth" in the market town of Wirksworth, Derbyshire through the delivery of specially negotiated work-based learning.

Teaching, learning and assessment in Higher Education use problem-based learning, especially in vocation-specific domains that is usually undertaken using a constructivist approach (see for example: Hussey et al, 2009; Massa, 2008; Kolb & Kolb, 2005; Brown & King, 2000; Hendry et al, 1999). Such constructivist methodologies are often predicated, for students and for teachers, on the delivery of experiential, entrepreneurial and applied skills. Students are seen as short-changed if they are not engaging with Problem Based Learning from lecturers working at the 'frontiers of knowledge' (Brown & McCartney, 1998: 117). We also acknowledge that Problem Based Learning provides an opportunity for producing outcomes in new knowledge for students and communities that is highly usable when compared to memory-based learning (Barrows et al, 1980).

So, in this research we directed and managed a cadre of students to consider PBL as experiential and practical learning. The project meets the contemporary employability agenda through the application of PBL and knowledge transfer to our specific organisation, 'Wirksworth NOW!'. The outcomes and outputs of the collaboration have applications in NOW's core cluster components for community regeneration: arts, creative industries and culture, trade and tourism, education and training, youth.

Keywords

Problem-based learning, applied research, consultancy, experiential learning.

Introduction

In the current Higher Education (HE) environment students need to obtain evidence of having successfully negotiated and achieved tasks in applied research (Vuojarvi et al, 2011; Hussey et al, 2009; Kivela et al, 2005; Brown et al, 1998; Barrows et al, 1980). At postgraduate level this can be seen through applied problem-solving research where students achieve a qualification using cognitive, transferable and intellectual skills demonstrated by cooperation and collaboration with potential employers. Using a Masters' level module of 150 hours duration at the University of Derby, students demonstrate their skills through Problem Based Learning (PBL). Postgraduate taught students define the question or topic of concern and elaborate and reflect on their project negotiation with practitioners. These applied research task assessments are designed by the learner, in partnership with an organisation, to allow the learner to demonstrate their mastery of research design and research execution. PBL allows students to meet the needs of collaborative stakeholders at the same time maximising relevance, practice with theory (Hussey et al, 2009).

It is the value which our practice partners ascribe to these works that is in question.
Problem-based learning is a powerful tool that uses real world problems to motivate students to identify and apply research concepts and information. PBL encourages students to work collaboratively and communicate effectively and can be used throughout professional development to promote life-long habits of learning (Duch et al, 2001). The goals of PBL include helping students develop 1) flexible knowledge, 2) effective problem-solving skills, 3) SDL skills, 4) effective collaboration skills, and 5) intrinsic motivation). We identify through the collaboration exemplified here that PBL is an instructional approach in Higher Education (HE) that helps students develop flexible understanding and lifelong learning skills (Hmelo-Silver, 2004: 235).

In addition to satisfying stakeholders that the research and teaching is informed by the contemporary issues in society we assure ourselves of the currency and relevance of teaching, learning and assessment by appreciating that much vocation-specific learning is undertaken in a constructivist and problem-based learning context (see for example Hendry et al, 1999; Brown & King, 2000; Kolb & Kolb, 2005).
Although this is not examined here we are aware that our students appreciated the self-directed approach to learning and, after exposure to PBL methods, students demonstrated that they were able to take a more pro-active role in their learning. Our students exhibited a learning transition from that of classroom-dependent to self-dependent (Kivela et al, 2005).

We have also identified that students became active and reflective participants in their own learning by using PBL. They were pushed into unknown learning situations where the parameters of the problem were unclear and the expectations of the partner organisation were poorly defined. The task at hand was ambiguous and challenging to both students and practitioners as it is in the real world (Massa, 2008).

So, our students are short-changed if they are not learning from lecturers working at the 'frontiers of knowledge'; while researchers are hardly worth their salt if they are not regularly reporting back on their latest findings (Brown & McCartney, 1998: 117). Contemporary research, informed by outputs from PBL can be seen as the lifeblood of

a university and the university cannot be an excellent teaching institution without it (ibid: 118).

The study: how practitioners see university research

As Brown and McCartney identify, The University of Derby (UOD) , is an institution concerned with local, regional and global applied research and appropriate dissemination of knowledge for the sake of its intrinsic value (Brown & McCartney, 1998). The knowledge accumulated can be shared reciprocally between HE institutions and practitioners.

In this paper we consider the recent feedback supplied by practitioners in Wirksworth. This feedback has been freely offered by the project commissioning practitioners in their reviews of work undertaken. The course included the completion by students of up to 150 hours of task-based problem solving. The aim was that both tutors and practitioners completed the evaluation of postgraduate students' learning outcomes from their project consultancy.

Links between research and teaching are valuable because they show that:
• there is a practical application - the resource base is needed to specify the learning outcomes of the modules;
• subject specific knowledge and transferable skills are based upon experiential learning;
• we need resources to inform the developing curriculum, especially that which is considered relevant to practitioners*;*
• we use problem solving skills, interpersonal and communication skills including negotiation and persuasion;
• assessment is clearly devised with practitioners' needs in mind, the learning and teaching will reflect the problem-solving or PBL approach;
• this is complementary to and supportive of the rest of the curriculum (Deakin, 2006: 78-79).

Let's also consider our student expectations and their links to practice. We can consider the following top two motivation factors for taking a taught postgraduate programme. These are to progress in the current career path and to improve employment prospects (Baum, 2007; Baum, 2008). Postgraduate students surveyed in one recent research project rated the quality of the teaching and learning very highly. The students also rated the intellectual stimulation of the course highly; indicated that staff were enthusiastic about what they were teaching; staff were good at explaining things. This reassures about the effectiveness of PBL teaching and learning methods (Park & Kulej, 2009: 2). In the UK 2009 Postgraduate Taught Experience Survey, students rated three areas higher than overall experience in terms of experience against expectation, skills and personal development (89%), career and personal development (86%) and learning resources (86%)(ibid, 24).

So in returning to the practitioners' views of applied research and consultancy from universities we must identify both partners' strategic aim and intent and clearly link them to contemporary quality best-practice management approaches highlighted by practitioners. This highly experiential approach has resulted in mutual gains for both the students and the partners involved. In one project report, an extended Enterprise

Centre network, recorded their gratitude and pleasure where student teams had presented an analytical report which met the initial brief. Students gained real experience and insight into conducting a challenging consultancy project for demanding clients, whilst at the same time beginning to create a network amongst the local business community (Beresford, 2001 and Ineson, 2001 through the HEA and HLST).

A relationship of trust between the researcher and the organisation is critical to success (Dawson et al, 2011; Vuojarvi et al, 2011; Cleverdon et al, 2009; Taylor 2000). There is a tangible need for these relationships to be embedded in the organisation with ample time for our postgraduate student to observe, connect, and be accepted. There is a need to establish credibility through demonstrating an in-depth understanding, analysis and synthesis of the dynamics being explored. This is coupled to the ability of UOD students to answer questions and to have the participants ‘‘buy into’’ the research at all levels of management is also critical (Hinkin et al, 2007: 107).

Practitioners reveal there are four potential benefits of cooperating on academic research projects:
1. obtaining ‘‘actionable’’ research results,
2. experiencing interesting opportunities for personal or professional growth,
3. strengthening relationships either with a particular researcher or with a university, and
4. making a contribution to the advancement of knowledge in general or at a specific university. These benefits are therefore also considered in the emerging model.

Finally, from the perspective of academic researchers the key benefits from cooperative research include:
1. obtaining high-quality organizational data,
2. creating opportunities for top-tier journal publications,
3. impacting managerial practices, and
4. developing meaningful relationships with leaders in organizations (Hinkin et al, 2007: 110).

This can be considered as evidence of a developing but exploratory link between education (supply) and practice (demand) rather than the notion of pure and applied research driven by existing HEI research paradigms (for examples see Hendry et al, 1999).

Appropriate applied research, generated by HEIs and guided by practitioners and jointly commissioned through public funds and the relevant ministries of development, education and local government, can meet contemporary demand from society as is explored by Singh and Knight:

- developing “human capital” for the benefit of the individual (‘to invest in their future’) and for their community/society (‘a productive contribution to the community’,
- an “instrumental” and “flexible” approach to “economic growth” (‘a dynamic synergy between research and development and innovation’,

- knowledge/skills/technology as a "market-oriented commodity" ('enabling individuals to adapt and learn, consistent with the needs of an adaptable knowledge based economy' and to 'add value to individuals and the society'),
- an "economically rational" use of resources, including staff and students, and a demand for greater efficiency/effectiveness ('efficiently use the financial resources' to achieve prescribed results),
- a requirement for public "accountability" and "responsibility" – 'institutions are accountable to their respective stakeholders' including government, industry and the community as well as "clients", hence the need for 'transparent' policies and 'public scrutiny',
- coping with "unpredictability" – hence the need to 'generate new ideas, solve problems, improve products or processes and adapt to new and changing environments, changing national priorities' and,
- "flexibility" — higher education 'needs resilient absorptive capacity for accommodating unforeseen changes in demand, organisational flexibility', resource and staffing flexibility, a range of 'effective pathways for learning' including 'modes of learning, delivery methods, assessment, and availability of learning resources'.
  (Singh & Knight, 2002: 2).

These factors also provide points of reference for the framework in question and evidence for emerging good practices in Problem Based Learning and research outcomes.

Building a model of experiential and exceptional practice: Negotiating the solution: the guided model of learning on-the-job.

An experiential model is developed using Hinkin et al (2007) and Singh and Knight's (2002) paradigms with an application of devices to engage practice and to model responses and outcomes that can deliver on scholarship and on vocational sector demand. This constitutes best use of our guided model equivalent to the research requirements for consultancy as an example of PBL.

We concur with Kolb et al (2001), who proposed that the learner's development can benefit from a specialised way of using an holistic and integrated mode of knowledge sharing. That development in learning sophistication is seen as a move from specialisation to integration. In our research-informed teaching we can anticipate integrated learning involving a creative tension among the four learning modes that is responsive to contextual demands. Kolb et al have discussed this as an idealised learning cycle or spiral where the learner touches all the bases; experiencing, reflecting, thinking, and acting, in a recursive process.

In the context of practitioner friendly and work-related problem solving we have examined the research-informed teaching and PBL paradigm. This has four components which coincide with our evaluative, practice-led, resource compliant and globally applicable model developed in Table 1, which was sourced from Hinkin et al.

Table 1: Issues informing relevance in Applied Research and its Beneficiaries

Issue/ Importance to Partner	Learner	Practitioner	Research Beneficiary	HEI Beneficiary
Accessibility	*	*	*	*
Professional growth				*
Developing relationship		*	*	*
Positive Evaluation		*		*
Cost-benefit models		*		
Practical Focus –'demand-side' orientation	*	*		
Resource Limits			*	*
Global application		*		*
Innovation	*	*	*	*

In Table 1, the asterisk indicates concurrent achievement of applied research by UOD postgraduate students leading to beneficiary satisfaction based on current reflection of practitioners.

The term 'scholarship model of teaching' has been developed by Brown et al. and is used to capture the proposition that teaching should not be seen as an activity separated from research, but which co-exists and inter-relates with one and another in the act of learning. The act of learning, which is creative in the sense that its use of teaching and research to inform the syllabus and set curricula, is also used to assess student performance. We can no longer try to separate teaching from research, which up to now has done so much to under value the nature of the relationship between them. Examining the nature of the relationship between teaching and research, Brown (2002: 30) goes on to say "the relationship between research and teaching is a serious matter, we should be serious about it". In the scholarship model, teaching and research are linked together because they are not only seen to be complementary, but synergistic in advancing knowledge and progressing understanding (Deakin, 2006: 76).

The framework proposed by Singh and Knight in 2002 forms the basis for this evaluation of success in the form of an abbreviated text-analysis process with the feedback provided to the students after their consultancy project was completed.

This then constitutes the next table. In this table the factors considered important in the literature are matched to feedback provided by practitioners working with our postgraduate students in their assessment.

Table 2: Matching Issues and Outcomes

Issue	Positive Outcome	The Evidence – Feedback Comment
Accessibility	Consideration of the external operating environment.	We now have had the opportunity to study the presentation in more detail and would like to congratulate on your thorough and intelligent analysis of necessary measures to enable us to function efficiently and hopefully go from strength to strength.
Developing a relationship	Evidence of negotiation using our perspective. Persuasiveness in the argument presented.	Has assessed all the key demographic and worked hard to put together this consultancy that addresses community engagement whilst relating to initiatives…
Positive evaluation	A first rate report, very well researched an executed.	Even if the results are not implemented immediately, they provide interesting and useful details regarding park usage and visitor requirements. Recommendations are extremely valuable and will definitely become an important part of our technical infrastructure.
Cost-benefit model	Offered a range of options.	I was impressed that highlighted the secondary spend and also with the range of groups XYZ managed to highlight on such a small timescale. Recommendations should be implemented over a considered and realistic time period, and be itemized in order of necessity and the potential return on investment for the property.
Practical focus, i.e. a demand-side orientation	Recommendations were prioritised. Engagement with core	Has assessed the key demographic and worked hard to put together this

	stakeholders	consultancy…addresses community engagement whilst relating to initiatives such as…
Global application	Implications for compliance policies, for health and safety, for risk, for reputation	I have passed this report on to my senior manager as I feel it has highlighted the general feeling and will be taken forward as a project. Throughout the process it is important that the client continues to monitor progress to ensure visitor experience is continually being improved.
Innovation	Used contemporary resources	The results compiled are invaluable to the success of the strategic planning for the future of commercial activities. Have had the opportunity to study your presentation in more detail and would like to congratulate on your understanding of the original business concept, cultural considerations, practical & financial challenges, potential target markets and ways of approaching these.

(Source, adapted from Singh and Knight, 2002)

The link between problem-solving and applied research is dependent on the creation of a meaningful exchange, based on equal measures of mutual respect and trust. Meaningful exchanges between students and teachers that are effective in developing the high-level skills needed to meet the module's learning outcomes are predicated on achieving correspondence between key issues developed in Table 1 between learner, practitioner and HEI. The high level skills acquired are transferable and can be deployed to support on-going problem-based learning (Deakin, 2006: 84).

Conclusions: excellence in research informed teaching

The paper has identified practitioners' views of PBL in the postgraduate student. We demonstrate the transfer of new knowledge for the benefit of the community. In taking PBL from classroom to practice we are creating a new knowledge transfer environment in which skills can be acquired and tested in a work-or-practice related setting at NOW!

Communities benefit from the research and experiential learning. Taylor (2000) identified communities that have the advantage in regeneration are those with the competences in cognitive, innovative and organisational capacity built by partnerships with supportive institutions. The University of Derby provides such evidence. PBL using work-based learning not only meets the community's needs but also encompasses the University research strategy to promote experiential opportunities to innovation and entrepreneurship.

The action of reflection supports consultancy that delivers the practitioners' desired outcomes, as students incorporate the dimensions that we consider here. These dimensions include accessibility and outcomes for students that move the learner beyond the classroom-based experience. With greater levels of input to the practice-led research agenda our postgraduate students' learning will be further resourced through ongoing collaboration between practitioners and HEIs.

Kolb et al observe the contrast to the "transmission" model where pre-existing fixed ideas are transmitted to the learner (Kolb & Kolb, 2005: 194). The enhancement of experiential learning in HE can be achieved through the creation of learning spaces, such as NOW!, that promote growth producing experiences for students. We anticipate the creation of holistic learning, using a shared repository, juxtaposed with traditional transmission learning, in the outcomes of contemporary experience and problem-based learning.

Experiential learning refers not only to a direct experience related to a subject matter under study but also to the total experiential life space of the learner (Kolb & Kolb, 2005:207). This experience extends to and includes our learner's physical, social and cultural environment. Students now perceive that they are members of a learning community which is known and respected by the University and that the students' experience has esteem and relevance within the vocation and discipline-specific practice arena.

Post-graduate students used to enter higher education conditioned to be passive recipients by their previous educational experiences . Making space for students to take control of, and responsibility for, their learning can greatly enhance their ability to learn from experience. To implement these educational learning space principles requires an holistic program of institutional change that includes curriculum development, faculty development, student development, administrative and staff development, and resource development (Kolb & Kolb, 2005: 209).

In the context of vocational programmes, people management is also an important concern for practitioners. We suggest that practitioners did not appreciate the importance of PBL in developing capacity and skills in re-generation. The community

engaging PBL and post-graduate students' capabilities seldom understand the benefits. In this respect we concur with sector findings (Baum, 2007). For our postgraduates, the opportunity for lifelong learning through professional development portfolios becomes the new quality standard. Levels of reflection and critical integrated thinking embedded in students' courses can expand to meet new expectations of experiential postgraduate scholarship. Communities such as Wirksworth can now positively evaluate outcomes and impacts of PBL and practice-based research without constraining HEI resources, whilst further enhancing global application. Recognition of relevant and globally contextualised published and retrievable PBL is achieved for the research community and for practitioners. In conclusion we have confirmed an enduring positive relationship between HEIs and practitioners.

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