The roles of mainstream academics, academic developers and workplaces in research-based approaches to Work Integrated Learning

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Abstract

This paper is about the research-based, collaborative approaches to Work Integrated Learning (WIL) that have developed at the Cape Peninsula University of Technology (CPUT) in recent years. The paper begins by contextualising the way in which WIL has evolved at CPUT, with particular reference to the establishment of WIL as a Research Niche Area funded by the National Research Foundation. The paper proceeds to give a brief indication of the research outputs generated by CPUT’s Work Integrated Learning Research Unit (WILRU) and of its influence on the design of a formal teaching qualification for lecturers. The paper then turns to the influence of WILRU at the national level, focusing on the position paper on WIL that was written for the South African Technology Network and published by the South African Council on Higher Education. The seminar paper will consider the implications of the position paper for research-based approaches to WIL at the institutional and faculty levels. The paper concludes with a brief account of a current collaborative WIL research project aiming at publication in a special issue of Teaching in Higher Education entitled “Leaving the Academy”. The project is about “teaching at the interface” of the university and workplaces/communities, looking in particular at what may be involved in the effective transfer of academic knowledge into workplace contexts during work placements that are part of the formal curriculum. In this regard the paper appears to resonate with two previous TLU seminar presentations: Engaging Industry: Embedding Professionally Relevant Learning in the Business Curriculum by Theo Papadopolous and Carolyn Woodley; and Collaborating on Curriculum: Exploring Industry/University Partnerships in Professional Education by Michael Davern.

Context

In the last two decades there has been a growing interest in how higher education can be a vital and progressive force in global processes of economic, political and social transformation. In this context higher education itself has had to become increasingly introspective about how it carries out its core missions of teaching, research and community engagement. South Africa, in its own period of transition after the isolation and demise of apartheid in 1994, has joined in the chase after what Anthony Giddens (2003) has called the “Runaway World”. Of central concern in South Africa has been the question of how higher education can generate the personpower, knowledge and skills
needed to be competitive in the new knowledge economy (Kraak: 2001). Extensive new policy and legislation has aimed to lay the basis for systemic interventions that could change and increase the productivity of the South African world of work. Yet South African higher education has been slow to develop and implement new work integrated programmes (in the case of traditional universities), and in the case of the new universities of technology, has tended to do so with very little theorisation of the work being done and planned, and with very little research and evaluation to study the appropriateness and impact of career-focused programmes. In this period, while there has been considerable critical discussion on the role of work in higher education, there has been relatively less systematic research into and theorisation of the relationship between higher education and the world of work. Higher education, primarily through the work of “mainstream” academics with a special interest in teaching and through Academic Developers, has tended to direct the gaze of its educational research inward toward the acculturation of students into academic disciplines and their related discourses and practices. While this kind of research and scholarship remains important, it has become evident that academic developers involved in professional education need to widen their focus to include the world of work.

The emergence of the Work integrated Learning Research Unit at CPUT

In was in this context that a group of staff, comprising academic developers and mainstream staff in academic departments at the Peninsula Technikon (and subsequently the Cape Peninsula University of Technology formed through its merger with Cape Technikon) decided to apply for funding to the National Research Foundation for the establishment of a Research Niche Area which it called Work Integrated Learning (WIL) to be led by Professor Christine Winberg as head of the Work Integrated Learning Research Unit (WILRU). The research proposal described the focus of WILRU as

... the human, social, organisational and work dimensions of knowledge production, knowledge movement and knowledge use within and across diverse contexts. The RNA will study the processes of knowledge production, movement and use within the specific knowledge community of higher education (HE) and its existing or emerging contexts. In particular we are interested in the practices, mechanisms and processes which facilitate knowledge transfer between HE and its contexts (WILRU: 2001: 1).

The frames for WILRU’s focus are four levels of context: the macro politico-socio-economic-cultural context; the first meso context of higher education teaching and learning systems within institutions; the second meso context of the world of work; and the micro-context of individual people who are located in higher education within its different contexts.

WILRU projects “theorise Work Integrated Learning, research the differences between academic and workplace knowledge production systems, study academic and workplace writing, evaluate educational policies, practices and partnerships, and trace the impact of career-focused programmes” (WILRU: 2001: 3). The knowledge base for the diverse range of WILRU projects draws on five main traditions: studies in the sociology of education (e.g. Bernstein: 1971; 1990 and 1996); studies in the sociology of work (in particular studies of situated learning, e.g. Wenger 1998) socio-cultural studies of teaching and learning practices (e.g. Heath: 1983; Street: 1984); studies in the sociology of science (e.g. Latour 1987; 1991); and studies in the sociology of knowledge production and knowledge management (e.g. Castells 1996; 1997; 1998). In the latter category, WILRU has been
particularly interested in what has been characterised as Mode 2 knowledge production (e.g. Gibbons et al. 1994; Nowotny et al. 2001) and the related transdisciplinarity (what WILRU prefers to call transcontextuality).

In the South African developmental context WILRU has identified six capacity-building objectives:

1. To build knowledge in areas of theoretical understanding of work integrated learning
2. To develop research competencies appropriate to work integrated learning
3. To achieve qualifications in the field of work integrated learning
4. To develop competence in the supervision of research students
5. To develop skills in writing for publication
6. To develop competence in research management.

To date the WILRU project, with the assistance of research partners from MIT and Ohio State University in the USA, from the University of Twente in the Netherlands, from the University of Lancaster in the UK, and from the Institute of Education, University of London, has been remarkably successful in working towards its objectives. For example, in 2005, WILRU members produced more than 20% of the total CPUT research output. Below is a brief sample and indication of the research outputs in peer-reviewed journals:


Influence on an award-bearing programme for university teachers

The growing influence and reputation of WILRU within CPUT was extended when the leader of WILRU, Professor Christine Winberg, became Head of Academic Staff Development in the Fundani Centre for Higher Education Development. As academic coordinator of the Higher Diploma: Higher Education and Training, she led a process in which WIL pedagogy became central to the delivery of the programme, resulting in the introduction of elective modules in specialized areas such as
engineering education, business education and health science education as well as in WIL itself. As a consequence graduates of the programme showed an increasing interest in postgraduate studies related to WIL in such fields as Graphic Design and Office Management and Technology.

Accompanying the use of WIL pedagogy in the HDHET has been the growing realization that such programmes themselves need to exemplify WIL principles, with consideration of such factors as how new academics in professional development programmes like the HDHET relate their learning to their new communities of practice at the departmental and faculty levels. The complexity of collaboration between whole academic departments and professional development programmes offered by academic developers is suggestively explored in recent work by a research associate of WILRU at the University of Cape Town (Jawitz: 2007; 2009a; 2009b).

**Growing influence of WILRU at the national level**

WILRU’s influence soon began to extend to the national level. In the years 2004 to 2006 the Council on Higher Education and Higher Education South Africa initiated a national investigation into the quality of experiential/workplace learning in technikon/university of technology learning programmes, based on their concern that many of these programmes were not deserving of government subsidy and could not be accepted without evaluation into the proposed new Higher Education Qualifications Framework (HEQF). A commitment to ensuring that workplace learning components of new programmes on the HEQF would meet minimum quality standards is reflected in the policy statement on WIL which appears in the HEQF document:

> Some qualifications will be designed to incorporate periods of required work that integrate with classroom study. Where Work Integrated Learning (WIL) is a structured part of a qualification the volume of learning allocated to WIL should be appropriate to the purpose of the qualification. It is the responsibility of institutions, which offer programmes requiring WIL credits to place students into WIL programmes. Such programmes must be appropriately structured, properly supervised and assessed (Department of Education, 2007: 9).

In response to this statement, the South African Technology Network, a subdivision of Higher Education South Africa representing the interests of universities of technology, commissioned WILRU to write a position paper on WIL. In this position paper, WILRU problematised the HEQF conception of WIL and proposed that it be defined as “an educational approach that aligns academic and workplace practices for the mutual benefit of students and workplaces” (Engel-Hills et al 2008). The position paper then proposes a typology for WIL comprising work-directed theoretical learning, problem-based learning, project-based learning and workplace learning, with possibilities for many hybrid combinations. Figure 1 presents the typology with an indication of the terms, practices, activities and sites associated with each type of learning.
<table>
<thead>
<tr>
<th>Type of learning</th>
<th>WDTL</th>
<th>PBL</th>
<th>PJBL</th>
<th>WPL</th>
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</thead>
<tbody>
<tr>
<td>Terms and practices associated with the learning type</td>
<td>Classroom-based instruction, Lecture, Tutorial, Peer learning groups</td>
<td>Sequenced real world problems, Integrated learning, Discovery learning, Self-directed learning, Peer learning groups</td>
<td>Industry project, ‘Real world’ learning, Guided practice, ‘Capstone’ modules</td>
<td>‘In-service’ Work placements, Cooperative education, Practicum Work-based learning, ‘Sandwich’ courses, Apprenticeships, Internships, Traineeships</td>
</tr>
<tr>
<td>Examples of work-integrated learning activities</td>
<td>Career-focused courses and curricula (e.g., maths for engineering, communication for business), Guest lectures (e.g., from industry), Authentic examples, Workplace assessors (e.g., student presentations)</td>
<td>Work simulated problem/task &amp; texts, Case studies, Group work, Facilitated learning process</td>
<td>Study visit, Site visit, Job shadowing, Authentic tasks &amp; texts, Fieldwork, Interviews, Team work, Service Learning, Integrated trans- or inter-disciplinary projects</td>
<td>Learning contracts, Log books, Learning logs, Journals, Mentoring, Specific training, Learning portfolios</td>
</tr>
<tr>
<td>Sites of learning</td>
<td>Lecture theatre, Classroom, Laboratory, Studio, Websites</td>
<td>Classroom, Laboratory, Group sessions, Library, Electronic media</td>
<td>Multiple sites: Classroom &amp; Workplace, Laboratory &amp; workplace, etc</td>
<td>Workplace &amp; Classroom (for preparation &amp; reflection)</td>
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Figure 1: A WIL typology (Engel-Hills et al 2008/10)

WILRU theorises this typology by drawing on the reservoir of theories and concepts described earlier in this paper, and in particular on the work of Bernsteinian Michael Barnett (2006), Michael Eraut (2002; 2004) on professional education, and Activity Theory (Engestrom 2001).
Implications of research-based approaches to WIL involving AD specialists, mainstream academics and workplaces

WILRU’s conceptualisation of WIL has a number of implications for universities interested in adopting a research-based approach to WIL. Questions that arise are briefly identified and discussed below.

Who conducts the research and for what purpose? The research may be for higher degrees and/or for conferences and peer-reviewed journals, it may be evaluative at the departmental, faculty, programme or subject level. A related question is whether the research should be independent or collaborative. If the latter, it may involve collaboration between academic developers and mainstream academics and may include partners in workplaces associated with the university. In South Africa we have identified a need to build the research capacity of Cooperative Education and Service Learning staff, who have traditionally not been deeply involved in the curricular and pedagogical aspects of work placements. Research-based approaches to WIL may also involve collaboration with higher education specialists outside the university, as in the case of regional, national or international projects such as those concerned with the employability of graduates (Knight and Yorke 2004; Griesel and Parker 2009; Kallioinen 2010).

Linked to concerns with employability is the growing interest in research-based approaches to graduate attributes (Barrie 2004). Barrie envisages research into graduate attributes at institutional, national and international levels but also suggests that there is space for further research at the faculty and departmental levels when institutional policies are recontextualised at these levels. A look at research outputs related to Graduate Attributes policy on the University of Sydney website seems to indicate that the bulk of the research is being generated by the University’s Institute for Teaching and Learning. This suggests that faculties and departments may need to develop strategies to ensure that research is conducted at more local levels and optimally disseminated at these levels.

The growing interest in WIL and graduate attributes may also be usefully linked to another macro-level research initiative which has recently spread from the USA to South Africa, Australasia and other countries (for more information on these see http://nsse.iub.edu; http://sasse.ufs.ac.za/ and http://ausse.acer.edu.au/). I refer here to macro studies of student engagement which are primarily concerned with pointing institutions towards the institutional and individual behaviours and practices that lead to student success. There are clear overlaps and potential synergies between what Graduate Attributes research suggests are the key attributes for success in the world of work and community and what Student Engagement research suggests are the attributes of successful students in universities (e.g. a capacity for active and collaborative learning). An example of how Student Engagement research can open up lines of inquiry for WIL research is the SASSE finding that students at CPUT report relatively few opportunities to engage individually with academics on their future careers, despite the fact that CPUT regards itself as a career-focused university.

Macro level Student Engagement research has developed a sophisticated survey methodology that needs to be followed up by qualitative as well as quantitative approaches at more local levels. The phenomenographic approach to Graduate Attributes research developed by Barrie and his
colleagues can likewise be extended to a variety of methodological approaches. Student Engagement and Graduate Attributes research may be strengthened and deepened by WIL research using the theoretical lenses being developed in WIL research internationally.

**A current WIL research project at CPUT**

In the final section of this paper I turn to a brief illustrative account of research that my colleague James Garraway and I have been conducting in collaboration with staff and students in the Analytical Chemistry Department at CPUT as well as with industry partners on a range of sites where Analytical Chemistry is practised. CPUT staff involved in the project are currently aiming at publication in a special issue of *Teaching in Higher Education (THE)* entitled “Leaving the Academy”. The project is about what *THE* calls “teaching at the interface” of the university and workplaces/communities, looking in particular at what may be involved in the effective transfer of academic knowledge into workplace contexts during work placements that are part of the formal curriculum. This research project began in the context of the CHE/HESA national investigation into the quality of experiential learning and work placements in Technikon/University of Technology curricula. We were interested in investigating the extent to which the Analytical Chemistry curriculum prepared students for knowledge transfer and development in workplaces as well as the extent to which students were able to reflect on such transfer and development both in focus group interviews and in reflective essays designed to accompany their workplace research reports. We have subsequently noted that the capacity for metacognition and reflection was identified as a key graduate attribute in the research of Griesel and Parker (2009) and that Dyethe and Engelsen (2003) have argued that the importance of reflection in student learning is not about reproduction but about production of knowledge. Using the theoretical framework of Barnett’s (2006) model of recontextualisation, we shifted Barnett’s focus on the curriculum developer to the students engaged in recontextualisation at the micro-level of their research reports (Garraway and Volbrecht 2007), bearing in mind Eraut’s (2004) point that mobilising and developing university knowledge to deal with workplace problems is far from straightforward.

Methodologically, our qualitative study has contained elements of case study and action research. From the latter perspective the problems we were investigating included quality management in experiential learning work placements, contextual variations in workplaces impacting on the validity and reliability of assessment of workplace research projects, the horizontality of knowledge transfer, and the absence of reflective capability as a specified outcome and assessment criterion in the curriculum. The research itself then identified further problems, as when students in focus group interviews, asked to comment critically on research reports of the previous year, noted that the conclusions of a project did not align with its espoused aims (Garraway and Volbrecht 2007: 7). This suggested that the curriculum might need to be revised to include a module or unit on research methodology.

The continuation of this project has involved tracking student and staff responses and competences in taking a more reflective stance in preparation for workplace learning. At the same time we have continued our investigation into the extent to which diverse workplaces are conducive to knowledge
transfer and development. Problems in this regard are evident in our transcripts of interviews with students, as in the following examples:

I am confused because in the project we are talking about something new. I mean about distilling the crude which they never taught us at school. They can’t teach us this because they don’t know we are going to work in a refinery or wherever. Analytical chemistry is broad. You can work wherever …

The work that we do here is routine, a lot of the time doing the same thing. As a student from university I couldn’t understand why I was doing this analytical chemistry in the first place with difficult subjects while most of the theory, instruments and practical I learned at the university are not available in the company to improve my skills in the analchem field.

It has become clear in our investigation that lecturers need to play a much more active role in student learning at work, in this context working with students and workplace supervisors on the developmental aspects of their research projects, and on developing new ways of working within workplaces and across the contexts of workplaces and universities.

Conclusion

In this paper I have attempted to argue for the value of research-based approaches to work integrated learning in universities. How such approaches are developed and coordinated will vary across universities and their contexts. It seems clear, however, that there is a need for effective collaboration involving mainstream academic staff, academic developers, university staff responsible for promoting university/industry/community partnerships, and staff in workplaces responsible for mentoring university students. Since Academic or Higher Education Development is becoming an increasingly broad field with multiple sub-specialisations it is important to establish, from a strategic point of view, which staff are best placed to optimise the educational value and collaborative possibilities contained in Work Integrated Learning.

References

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