Exploring the Pedagogies used in Work-integrated Learning

(Research paper)

Abstract

This paper focuses on the pedagogical approaches used in New Zealand WIL programs in terms of integration of student knowledge, and what impact these have on student learning. A collective case study methodology was used involving three areas of tertiary education science and engineering; business and management; and sport studies. The study involved researchers working collaboratively conducting focus group interviews with a selection of WIL students, academic supervisors, and employers from the relevant discipline about their teaching and learning experiences at both the academic institution and in the workplace. Relevant documentation (e.g., course/paper outlines, graduate profiles, etc.) was analyzed to afford data triangulation. The findings indicated that the WIL experience is a point of difference that students and employers value. Student learning (soft and hard skills, personal and professional development) occurs from a variety of sources (self-directed, supervisors, and peers) and a variety of modes (on campus, on placement). The findings reinforce what can be achieved through WIL programs, and through dissemination of the findings raise awareness amongst tertiary education institutions (TEIs) of the future possibilities available via this pedagogy.

Introduction

A key aspect of WIL/cooperative education is that it entails the *integration* of knowledge and skills gained in the TEI and in the workplace. It is the integration aspect of WIL that distinguishes it from *workplace learning*. Although there have been calls for more integration of on-campus and off-campus learning (e.g., Grollman & Tutschner, 2006; Stenstrom Grollman, Tutschner, Tynjala, Nikkanen, Loogma, Volanen & Marhuenda, 2006), there is

limited literature on integration, despite the benefits of WIL being widely reported. Van Gyn, Cutt, Loken and Ricks (1997), Parks (2003) and Eames (2003b) reported that WIL experiences allowed students to see how to put theories learned in the classroom into practice when in the workplace. Apostolides and Looye (1997) suggest that this combination of course work (i.e., classroom or on-campus learning) and co-op experiences (i.e., work-place learning) that has three stages the early stage, the middle stage and the late stage, with students activities and experienced pedagogies increasing in complexity with advancement through the stages. The only other literature about the integration of WIL is based on the notion of critical reflection, for example, facilitation of learning in the workplace via critical reflection tools such as reflective metaphor, reflective journals, and critical incident analysis (Gray, 2007). Such a strategy is designed to enhance learning *per se*, rather than to foster integration directly. Paku and Lay (2008), however, report that science and engineering WIL students exhibited limited capacity for critical reflection in spite of the direct use of such tools to drive critical reflection.

Methodology

The research was interpretive in nature and philosophy. This study was one year in duration and it employed a collective case study methodology (Bassey, 1999; Merriam, 1998). It involved three important areas of tertiary education; *science and engineering*; *business and management*; and *sport*, which allowed the researchers to gain an in-depth understanding of the issues of interest and to explore meaning from a number of angles (Merriam, 1998), and across different educational contexts. Case studies are a very common methodological approach used in WIL research because of the highly contextualized nature of such programs (Coll & Chapman, 2000). Documentation (i.e., course/paper outlines, graduate profiles, etc.) was analyzed to provide data triangulation. Researchers from each sector conducted focus-

group interviews involving questions focused on pedagogies used on campus, on placement, on both and associated learning. Issues of c*redibility and dependability* were enhanced by the prolonged engagement, persistent observation, peer debriefing, negative case analysis, member checks, and progressive subjectivity which provided an audit trail (Guba & Lincoln, 1989, 1994). Transferability was enhanced by the provision of a 'thick' description which details the context, methodology and data analysis procedures (Merriam, 1998). The case studies included:

- 30 WIL students (12 from science & engineering; 7 from sport; and 11 from business and management), who had completed some co-op experience;
- 22 WIL practitioners - university/academic supervisors. (8 from science & engineering; 7 from sport; and 7 from business and management); all were experienced staff.
- 16 employers of WIL students (6 from science & engineering; 6 from sport; and 4 from business and management). These employers ranged in seniority, but all had been involved in WIL programs and several had supervised co-op for many years.

Results/Discussion

There was strong consensus across all three sectors and each cohort of stakeholders that all three parties benefit from WIL, with most benefit accruing to students, who were seen to gain important graduate competencies/skills and career enhancement. On-campus pedagogies consisted of lectures, tutorials and in the case of science and engineering, outdoor education and information systems students, practical work. Assessment approaches all incorporated elements of reflection (e.g., assignments, reflective journals, etc.), linking the complexity of the dual and complementary nature of the learning environments (Eames & Bell, 2005). The main purpose of such pedagogies was to provide basic content knowledge and theory, with practical, real world work anticipated from the off-campus work placements/practicum or

project. Most programs irrespective of the WIL component saw themselves as applied in nature, and some employed group work and other pedagogies to foster at least some skill development in the behavioral/soft skills area. However, the stakeholders thought any real world experience came mostly from the off-campus activities.

The pedagogies employed off-campus tended to be more informal in nature than the on-campus pedagogies, and consisted of inductions and one-on-one mentoring. There was no consistent mechanism which off-campus supervisors or mentors employed to foster learning. Students' off-campus learning occurred alongside professionals in their area via an apprenticeship model of learning (Lave & Wenger, 1991; Rogoff, 1995). Skills gained in off-campus learning are mostly behavioral/soft 'people' skills such as communication, time management along with an understanding of workplace culture, treating others with respect, a good work ethic, and developing a sense of professionalism culminating in an appreciation of what it means to be a professional in their specialty area (Eames, 2003a, 2003b; Eames & Bell, 2005).

Stakeholders across all sectors consider that students learnt in a variety of ways, from a variety of sources with knowledge resident in a variety of places across an organization, *distributed cognition* (Perkins, 1997). Students reported that their learning (supported by the views expressed by mentors and academics) depended on the setting; *situated cognition* (Wertsch, 1991), and was *specific* to that industry and that firm (Eames, 2003a, 2003b). The teachers (be they lecturers or workplace mentors) employed a variety of tools, which involved, for example, the use of language specific to that educational setting and writing in a specific way.

Conclusions

There is little evidence of direct *explicit* attempts to integrate on- and off-campus learning, although all parties *expected* this would occur and agreed it *should* occur. However, overall integration is *implicitly* or indirectly fostered by a variety of means. The principal means for fostering integration of on- and off-campus learning is by reflection and review, via, for example, reflective journals, and assignments/reports post-placement. This integration mostly consists of reflection-*on*-action (Schön, 1991), after the learning activities, and consists of reflection on personal growth, and incident/event deconstruction. In this sense it is similar to the activities of the teaching practicum, which strongly encourages reflection after the event (Allen & Peach, 2007).

The implications of these findings are that program leaders should formally state that their WIL programs *requires integration of knowledge,* and set this as an explicit learning objective. They need to work with employers/workplace supervisors to develop more formal pedagogies for workplace learning. Students also need to be encouraged not just to reflect on action but reflect before and in action (Schön, 1991).

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Acknowledgement

This project was funded by a New Zealand Ministry of Education Teaching Learning Research Initiative grant