

Responding to Rapid Change in Higher Education: Enabling University Departments Responsible for Work Related Programs Through Boundary Spanning

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Abstract

Boundary spanning links organisations to one another in order to create mutually beneficial relationships; it is a concept developed and used in organisational theory but rarely used to understand organisational structures in higher education (Pruitt & Schwartz, 1999). Yet understanding boundary spanning activity has the capacity to help universities respond to demands for continuous quality improvement, and to increase capacity to react to environmental uncertainty. At a time of rapid change characterised by a fluctuating economic environment, globalisation, increased mobility, and ecological issues, boundary spanning could be viewed as a key element in assisting institutions in effectively understanding and responding to such change. The literature suggests that effective boundary spanning could help universities improve organisational performance, use of infrastructure and resources, intergroup relations, leadership styles, performance and levels of job satisfaction, technology transfer, knowledge creation, and feedback processes, amongst other things.

Our research aims to put a face on boundary spanning (Miller, 2008) by contextualising it within organisational systems and structures in university departments responsible for *work related programs* i.e. Work Integrated Learning (WIL) and Co-operative Education (Co-op). In this paper these approaches are referred to collectively as work related programs. The authors formed a research team in Victoria, British Columbia in 2009 at a sponsored international research forum, *Two Days in June*. The purpose of the

invitation-only forum was to investigate commonalities and differences across programs and to formulate an international research agenda for work related programs over the next five to ten years. Researchers from Queensland University of Technology, University of Cincinnati, Baden-Wuerttemberg Cooperative State University, University of Ottawa, and Dublin City University agreed that further research was needed into the impact stakeholders, organisational systems, structures, policies, and practices have on departments delivering work related programs. This paper illustrates how policy and practice across the five institutions can be better understood through the lens of boundary spanning. It is argued that boundary spanning is an area of theory and practice with great applicability to a better understanding of the activity of these departments. The paper concludes by proposing topics for future research to examine how boundary spanning can be used to better understand practice and change in work related programs.

Keywords: Boundary spanning, work integrated learning, co-operative education, organisational frames, permeability, transitions.

Background

Boundaries establish demarcation lines for the domains of tasks and people which an organisation stakes out for itself. Boundaries also serve as mechanisms to secure a certain amount of organisational independence from the environment. It is important to note that organisations differ in the degree of permeability of their boundaries. Permeability, in this regard, is defined as “the extent to which marginal outsiders participate in or influence organizational activities” (Corwin & Wagenaar, 1976, p. 472). Boundary spanning has been recognised as contributing to new and productive practices and a key ingredient in knowledge transfer across organisations (Carlile, 2002). Carlile (2004) pointed out, however, that there are practical and political challenges when knowledge must be shared across different

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domains. He argued that it is not just that communication is hard but that individuals must have the capacity to manage knowledge in practice that is localised, embedded, and invested in practice. Traditionally, studies of human development assume that the processes of knowledge and skill acquisition are hierarchical, and thus vertical. However, Beach (1999) argued that learning at work is a horizontal process, whereby learners acquire forms of knowledge embedded or situated in specific contexts. This situated knowledge can take a variety of forms: It might be knowledge about how to participate in a community of practice, to change and vary work practices, or to connect different pieces of codified knowledge together to resolve work problems. For example, for students to benefit from work related programs, they need to learn how to successfully span boundaries and to negotiate learning in work and university contexts.

A concise definition of boundary spanning is not easy to find. However, a characteristic of boundary spanning is that it is a process of horizontal development. That is, “learners have to develop the capability to mediate between different forms of expertise and the demands of different contexts, rather than simply bringing their accumulated vertical knowledge and skill to bear on the new situation” (Bernstein, 1996; Griffiths & Guile, 2004, p. 69). Leifer and Delbecq (1978) defined boundary spanners as those who operate at the periphery or boundary of an organisation and who facilitate information exchange between an organisation and its task environment. Within the context of work related programs in higher education these boundaries are recognisable within the institution as an entity interacting with employment locations as separate entities. While students are affiliated with both organisations, the educational institution and the employer, each organisation operates under its own autonomous authority. In this way boundary spanning activities link one organisation to another in order to create mutually beneficial relationships.

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This is particularly important from a student perspective because increasingly, workers are expected to act as boundary spanners between activity systems, or to have the ability to contribute to the development of innovative forms of social practice, producing new forms of knowledge (Griffiths & Guile, 2004). Boundary spanning for students undertaking work related programs requires support for re-situating knowledge

and skills in different contexts. In the knowledge economy learners need to develop the confidence to cross organisational boundaries between different, and often diverse, communities of practice. They must connect their knowledge to that of other specialists, variously in educational institutions, workplaces or the broader community. An emerging model of this activity takes greater account of the influence of the context (i.e. the organisation of curricula and work) upon student learning. This is influenced by the extent to which learners have opportunities to participate in a range of practices that support learning through work experience, and how far work related programs support learners to mediate between theoretical and everyday knowledge in order to create new knowledge and new practices (Griffiths & Guile, 2004; Peach & Matthews, 2011). For this to occur, learning is required to contribute to the transformation of work contexts, suggesting in turn that there is an even greater demand for an innovative, connective model of pedagogy and learning in work based contexts. That is, a model is needed to assist learners to cultivate the capability for boundary spanning and knowledge development (Griffiths & Guile, 2004).

What follows is an investigation of how work related programs might be better understood through the lens of boundary spanning. This includes a brief overview of relevant literature, a discussion of the benefits of work related programs, and examples of activity in four of the five participating universities that might be better understood through boundary spanning. The paper concludes with proposed areas for future research to support the way university departments responsible for work related programs can respond to rapid change.

Boundary spanning: An overview. Boundary spanning can be located in various organisational frames, as described by Bolman and Deal (as cited in Pruitt & Schwartz, 1999, p.63). These four frames can be interpreted in relation to work related programs, structures, and systems as follows:

1. The bureaucratic frame (the traditional internal hierarchy of vertical layers in an organisation) can be interpreted in relation to departments responsible for work related programs with questions like: Where in the organisational structure is the department situated? What rights and constraints in relation to external relations does this situation bring?
2. The human relations value frame gives rise to questions in relation to work related programs with regards to alternative boundary spanning activities such as informal learning, networking, community-based learning, and how other forms of mentoring are utilised in these programs (ul Hassan & Yaqub, 2010). This frame can be interpreted using a question such as: How can organisations develop so as to become open to new knowledge and networking on a level greater than that of the individual?
3. The political frame (acknowledging competition over scarce resources) prompts questions about who makes decisions in relation to work related programs especially in relation to external resources. Who has the right to administer and distribute such resources?
4. The symbolic frame (viewing actions as *theatre*, i.e. events may not always be what they seem) promotes questions pertaining to the symbolic frame of language and semiotic phenomena. For example: How is the department responsible for work related programs presented on the institution's website and what is the design of its stationery and logo?

These frames designate the locus of boundary spanning activities and to these distinctions can be added a different categorisation of moving across boundaries. Miller (2008) distinguished between organisational and cultural boundaries, arguing that these include internal vs. external boundaries, personal vs. institutional boundaries, and attitudinal stances towards boundaries, i.e. flexibility vs. rigidity. Miller (2008) and Carlile (2004) also identified several key characteristics of successful boundary spanners. Boundary spanners have a wide array of contacts and exceptional interpersonal skills, and are effective collectors and disseminators of information. Successful boundary spanners are trusted and respected by diverse stakeholders and they understand the social and organisational complexities of collaboration. Boundary spanners convene diverse and eclectic partners, assembling apparently disparate groups around shared concerns. These characteristics and attributes enable boundary spanners to move freely and flexibly within and between communities and organisations.

By contrast, Goldring and Simms (2005) claimed that the research on boundary spanners remains unclear and we need to further develop our understandings of this work in various situations. A qualitative study by Miller (2007) examined boundary spanning leadership in community-based contexts, focusing on exceptional leaders of university-school-community (USC) partnerships in two urban American regions. The findings indicated that boundary spanners are aided by contextual knowledge, interpersonal skills, trust and connectedness, further suggesting that they are motivated by an underlying community loyalty and a fundamental social consciousness. Accordingly, boundary spanners are compared with community organisers and described as “institutional infiltrators organizing for community advancement.” Although leaders with the skill of those studied by Miller (2007) are rare, he suggested that effective boundary spanners could help develop sustainable boundary spanning infrastructure within their communities (Miller, 2008). Wenger (as cited in Zaitseva & Mitchell, 2007, p.317) described people who are able to make connections across communities of practice as boundary spanners or “brokers.” For organisations to be agile they thus require brokers or boundary spanners with suitable attributes to understand the processes of boundary spanning, and the organisational frames within which it operates, so as to optimise the potential for an organisation’s success.

Boundary spanning as a way to understand change and improve practice.

Several researchers (Carlile, 2002; Lee, Ohta, & Kakehi, 2010; Levina & Vaast, 2005) highlight the value of boundary spanning in times of environmental uncertainty when an organisation’s need for information is irregular and unanticipated. Organisations including university departments responsible for work related programs must understand the correlation between change, organisational approaches, and positive outcomes and the importance of organisational agility in the face of environmental uncertainty.

Successful boundary spanning has several implications for organisational agility. First, it positions these activities in a context with respect to organisational functioning, defining how an organisation interacts with its environment and how relevant information enters the organisation. This process suggests different modes of boundary spanning that rely on internal and extra-organisational factors that involve tradeoffs in efficiency and adaptability. Second, organisations need to consider the consequences for individual boundary spanners such as power, participation in decision making, and feelings of stress and satisfaction. Third, boundary spanning activities intervene between the environment and the organisation, where the organisation is an entity comprised of heterogeneous subsystems, each facing different aspects of the same global environment, and each with its discrete structure and processes (Pruitt & Schwartz, 1999). Pruitt and Schwartz (1999) argued that types of boundary spanning can be understood as:

1. **Representing** – influencing, external negotiating.
2. **Transacting** – trading and dealing with external entities.
3. **Administering** – internal negotiating.

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4. **Scanning** – identifying emerging trends or events that provide opportunity or threat [relevant for relationship with external world].
 5. **Monitoring** – tracking changes, trends and/or events identified as strategic [relevant for internal boundaries and relations].
 6. **Protecting** – warding off external pressures which could be disruptive [managing of external influences].
 7. **Linking** – establishing and maintaining key relationships with important organisations, groups and individuals [negotiating with external entities].
 8. **Processing and gate-keeping** – [internal negotiation].

Such activities are discernable in behaviours, processes, and systems established in higher education institutions as ways of enabling students to transition into the workplace in the context of employers, industry, and communities. The benefits of this activity are briefly discussed in the next section.

Benefits of understanding work related programs as a form of boundary spanning. A significant concern of work related programs is the transfer of learning. Instead of understanding transfer as reapplying the knowledge and skills acquired in one context to another, transfer is more usefully viewed as a form of boundary spanning involving consequential transition. Such transitions position the learner engaged in a variety of different tasks and in a range of contexts. This transfer occurs while individuals participate in cultural practices, frequently while interacting with others having greater expertise than themselves in the workplace *zone of proximal development*. The zone of proximal development is effectively the gap between what a learner has already mastered—the actual level of development—and what the learner can achieve when provided with educational support—potential development (Engeström, 1987; Vygotsky, 1978).

A major challenge faced in work related programs is developing structures and processes across boundaries that assist stakeholders to cross social and cultural borders between education and work.

A major challenge faced in work related programs is developing structures and processes across boundaries that assist stakeholders to cross social and cultural borders between education and work. In formal learning settings, the goals of instruction are rendered explicit, the learning processes clearly stated and educators' responsibilities for intervening to support learning well defined. However, the process of boundary spanning means that the zone of proximal development is far less clearly demarcated. This is partly because learning in workplaces includes undertaking actions whose object and motive is not learning per se, but where learning may still be a by-product. The form of learning in which individuals engage when bridging the boundary between education and work or between one work context and another features horizontal development or mediating between different forms of knowledge and performance in different contexts (Tuomi-Gröhn & Engeström 2003). The responsibility for enabling students and staff to operate as boundary spanners in work related programs is shared. That is, stakeholders including

students, employers, and universities, have a role in creating environments where boundary spanning is understood, valued, and made possible so that benefits are distributed (Peach & Gamble, 2011).

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The key stakeholders within this educational methodology are students, educators (institutions), and employers. Each stakeholder participates in a highly complex process involving the negotiation of multiple domains of knowledge. These stakeholders possess, at best, a partial understanding of domains other than that their own, and are possibly only capable of articulating partial knowledge within their own domain (Carlile, 2004; Hutchins, 1991; Johnson, Lorenz, & Lundvall, 2002). The triad partnerships that underpin work related programs are based to a large extent upon creating an environment of joint enterprise and an expectation, a collective mindset, and an atmosphere in which all stakeholders believe that the rewards for participation exceed the conflicts and costs (Carlile, 2002) of operating outside their own organisational domain. This perceived benefit is the driving force facilitating effective boundary spanning.

Benefits of work related programs for employers. The benefits to employers of work related programs are well documented. A study of practice at Northeastern University (Neilsen & Porter, 1983) indicated that students engaged in this activity generally perform better with respect to pre-professional employment, recruitment yield, and permanent employment performance. A study by Georgia Organization of Southern Bell found that graduates who undertake work related programs are better prepared to assume future management responsibilities (Phillips, 1978). Another study showed the cost effectiveness for companies involved in work related programs. Whilst initially expensive, the majority of organisations reported cost effectiveness by the second term of involvement. In studies commissioned by the World Association for Cooperative Education employers reported benefits including: ability to hire students for project work, access to additional help or assistance, access to enthusiastic/motivated employees, flexibility and cost effectiveness of hiring, and ability to pre-screen future employees. A national survey for the Science Council of Canada (Ellis, 1987) clearly indicated the existence of a unique role for work related programs in Canadian economic renewal, with benefits including: evaluating/recruiting full time employees and employing students who produce high quantity and quality of work. In a regional study by Dobreci (1996) for the Ministry for Education in British Columbia, employers emphasised the importance of employability skills and indicated that service and flexibility were key. A research project conducted by Van Gyn, Cutt, Loken and Ricks (1997) revealed differences for students who participate in work related programs. Testing longitudinally for the values of communication, problem solving, values clarification, functioning in social situations, using science and technology and the arts, students who participated out-performed other students on all values. Employers interviewed and surveyed for an Australian investigation into work related

programs (Patrick et al., 2009) also reported that they accrue many benefits from engagement in work related programs which in most cases outweigh the costs involved.

Benefits of work related programs for students. The benefits to students of successfully crossing the social and cultural borders between education and work include: improved learning (Linn, Howard, & Miller, 2004), improved problem solving, improved motivation to learn (Weisz, 2000), higher retention rates, and increased ability to finance tuition (Coll, Eames, & Halsey, 1997). Personal benefits include: increased autonomy; self-efficacy; self-confidence; personal agency; initiative; teamwork; cooperation; and relationship building (Apostolides & Looye, 1997; Coll & Chapman, 2001; Jones, 2007; Mueller, 1992; Peach & Matthews, 2011; Weisz, 2000; Weston, 1983). Students are also provided with significant career benefits including being better equipped to identify and clarify career options, make better career decisions, and increased employment opportunities and access to work networks (Coll & Chapman, 2000; Coll et al., 1997; DeLorenzo, 2000; Peach & Matthews, 2011).

Benefits of work related programs for institutions. Optimising the conditions for successful work related programs provides benefits to institutions such as: improvements in student recruitment, enrolment, satisfaction levels, and academic performance (Coll & Chapman, 2000; Weisz, 2001). This activity also opens up opportunities for employer involvement in curriculum development and a way of attracting new funds (Boud, 2001; Cates & Jones, 1999; Coaldrake & Stedman, 1999; Patrick et al., 2009). Table 1. summarises the key benefits of work related programs for employers, students and educational institutions.

Table 1. Summary of benefits of work related programs for employers, students, and institutions

Employers	<ul style="list-style-type: none"> • cost effectiveness in hiring • hire motivated/ enthusiastic new employees • screen students for permanent employment • interactions with college/ university • reduce recruiting/hiring costs • bring new knowledge into organisation • reduce training costs • assists in completing one time projects • encourages employees to assume management responsibilities • helps company meet affirmative action goals • co-op students hired usually remain with the company longer and progress faster than regular hires
Students	<p>Academic benefits include improved: learning , problem solving; motivation to learn, retention; ability to finance tuition</p> <p>Personal benefits include increased: Autonomy, self-efficacy, sense of purpose, self confidence, initiative; teamwork, cooperation, relationship building</p> <p>Career benefits include aid with: identification and clarification of career options, career decision making and planning, employment opportunities</p> <p>Skill development benefits include increased: competence, technical knowledge and skills</p>
Institutions	<p>Student recruitment and enrolment; improved academic performance; employer involvement in curriculum development and content; driving force in attracting new funds</p>

Effective work related programs are distinguished by stakeholder partnerships (Orrell, 2004) and to continue to accrue the benefits summarised in Table 1., universities need to recognise the role played by boundary spanning in bringing stakeholders closer together in spaces of “strategic overlap” (Ansett, 2005). That is, sharing and assessing knowledge across boundaries to build a common knowledge that is of value to all stakeholders (Carlile, 2004).

Putting a face on boundary spanning: Work related programs. This section gives examples, provided by four of the five participating universities, of activities in departments responsible for work related programs. These examples are linked to types of boundary spanning identified by Pruitt and Schwartz (1999), namely: *representing, administering, monitoring, linking, processing and gate-keeping*. Table 2. does not provide an exhaustive list of activities undertaken by these departments but is illustrative of organizational systems, structures, policies, and practices involving boundary spanning to enable and support work related programs.

Table 2. Linking activities undertaken and types of boundary spanning

REPRESENTING e.g. presenting information about the institution and student affairs to external audiences to shape the opinions and responses of other organisations, groups and individuals [influencing, external negotiating]. For example, promoting the features of an institution's work related programs to industry		
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annual employee of choice breakfast, according recognition to high-performing students and employers.	annual employee of choice breakfast, according recognition to high-performing students and employers.	annual employee of choice breakfast, according recognition to high-performing students and employers.
ADMINISTERING e.g. designing, managing, or performing operations; setting policy in the division or university; planning in the division or university; and changing to meet new demands [internal negotiating]. For example, devising policies and procedures for the operation of work related programs		
Queensland University of Technology	University of Cincinnati	University of Ottawa
CareerHub (an electronic interface connecting employers with job- and placement-searching students) with links to the National WIL Portal. This portal is a national student management system connecting employers and their needs to students across Australia	PAL Database (for programmatic assessment and for individual student assessment. This is an interface between students, employers and academics, where students enter their registration, placement and job evaluation data, and can view their complete evaluation history.	Co-op Coordinating Committees and Regulations website.; Co-op Student Committee (CSC); Co-op Survival Guide; Student Ambassadors and Promotions, Promotions sub-committee that maintains website, email and Facebook for the CSC which creates and prints promotional material, also organises fundraising events.

(Table 2 content continues on next page)

Table 2. (continued) *Linking activities undertaken and types of boundary spanning*

<p>MONITORING e.g. tracking changes, trends and/or events identified as strategic [relevant for internal boundaries and relations]. For example, putting systems and checks in place to ensure that a program is functioning as intended.</p>		
<p>Queensland University of Technology online Learning Experience Survey (LEX) ; WIL Community of Practice established in 2005</p>	<p>University of Cincinnati student reporting mechanism of the Co-op experience in the Student Evaluation of the Work Term, comprising an evaluation of the work term objectives</p>	<p>Baden-Wuerttemberg State University student project reports at the end of the first and second years, features a graded oral presentation, utilises self-reflection reports in class after the completion of each practical training phase and an evaluation of practical training by the students after each phase. At the end of the third year students present a bachelor thesis dealing with a current topic defined by the training company.</p>
<p>LINKING e.g. establishing and maintaining key relationships with important organisations, groups and individuals [negotiating with external entities]. For example, forging connections between universities (and their students) and employer or industry groups around a particular theme.</p>		
<p>Queensland University of Technology Some of the ways industry are encouraged to partner include offering real world work placements, projects, case studies, simulations and giving guest lectures and workshops across the various disciplines and faculties</p>	<p>University of Cincinnati Interuniversity Council (IUC) comprised of all Presidents of Ohio's public universities. When the Ohio Board of Regents decided to set a goal of doubling participation in Co-op and internship programs by 2017, faculty members at the University of Cincinnati were asked to consult with the IUC to create recommendations regarding how to achieve that goal.</p>	<p>University of Ottawa Young Entrepreneurs is a youth entrepreneurship program delivered by the Ottawa Centre for Research and Innovation (OCRI) to assist young entrepreneurs in the areas of business planning and to promote entrepreneurship as a valid career option. An associated initiative, TalentBridge, is another of OCRI's programs aimed at giving Ontario's young talent the opportunity to work closely with Ottawa-based small to medium enterprises (SMEs)</p>
<p>PROCESSING AND GATE-KEEPING e.g. .communicating information to key decision makers at all levels of the institution [internal negotiation].</p>		
<p>Queensland University of Technology Real World Learning Committee This committee guides the ongoing development, implementation and monitoring of real world learning at the University.</p>	<p>University of Cincinnati The Associate Provost and Director, who administers the Co-op program, sit on the Dean's Council as well as the Provost's Leadership Team</p>	<p>University of Ottawa Committee on Quality of the Student Experience oversees the processing and gate-keeping associated with the Co-op boundary spanning. Notably the Committee includes six student representatives</p>

These activities provide examples of successful behaviours, processes, and systems used to support work related programs and to enable students to transition into the workplace. Whilst not discussed, the limitations and associated practical and political challenges of sharing knowledge across different domains must be acknowledged. These examples highlight the importance of effective communication and the need for individual capacity to span boundaries in order to share and assess knowledge that is localised, embedded, and invested in practice (Carlile, 2004).

Conclusion

In summary, successful work related programs need systems, structures, policies, and practices that enable stakeholders to share and assess knowledge across organisational boundaries. This requires a focus on systems and structures that emphasise transitions and enable boundary spanning. This paper contributes to an understanding of the benefits of work related programs and an understanding of how effective boundary spanning can contribute to improvements in practice. The paper also acknowledges the conflicts and costs

Boundary spanning brings a fresh perspective to the question of transfer of knowledge and skill between education and work.

associated with efforts to creating an environment of joint enterprise and expectation. The examples of activities in departments responsible for work related programs helps to put a face on boundary spanning. These examples help us focus on ways in which enabling systems can lead to improved connective pedagogy, greater organisational agility, and a capacity for innovation

in work related programs in uncertain and turbulent times. Boundary spanning brings a fresh perspective to the question of transfer of knowledge and skill between education and work. It has been our intention to initiate interest in undertaking further research in this area. For our part, we will, in the near future, focus on extending the literature review provided in this paper and on developing a more extensive analysis of the participating institutions, showcasing best practice in work related learning, and building on lessons learned from such practice.

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