Name of Project: Developing a framework for sustainable work-integrated learning (WIL) relationships.

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Project Aims: The project aims to identify critical success factors for industry/community engagement across different WIL sectors. Once identified, these success factors will be used to underpin development of a framework for sustainability.

Report

We are pleased to submit the final report for this study and wish to thank the ACEN committee for their ongoing support and encouragement during this project.

The project was structured in three phases consistent with an action research approach. Phase I was to reflect on and review current thoughts and opinions of the issue of critical success factors. Phase II (the action) was to consolidate findings and design a framework for sustainability. This involved the researchers engaging in mini-cycles of reflection, feedback and re-design. Phase III was to evaluate the framework from the stakeholders’ perspectives.

We outline the results achieved so far and acknowledge the limitations to date in the collection of data. The research team is committed to continuing the study past the funding period to enable the completion the study and to informing ACEN of ongoing findings.

Achievements:

Phase I:

- Individual and collaborative reflection on and review of current thoughts and opinions of the issue of critical success factors in three international contexts
- Literature review and document analysis undertaken and completed covering university/industry and university/community engagement in WIL and CE programs in three International contexts.

Phase II:

- Consolidation of the findings and collaborative designing of a framework for sustainability. This involved the researchers engaging in mini-cycles of reflection, feedback and re-design
- Ethics application approved by Macquarie University HREC 17/11/2015; Waterloo HREC 22/08/2016; AUT HREC 21/11/16.
• Paper, “Collaborating with WIL stakeholders: success factors for sustainable relationships”, presented at WACE Research Symposium in Victoria, Canada, June 2016. (Attached as Appendix A)
• Feedback on the framework provided by symposium participants (see Figure 1)
• Presentation at the ACEN conference at Macquarie University in September 2016.
• Survey developed through significant consultation regarding the three International contexts. Finalised the content of the survey following further feedback from ACEN colleagues and conference participants.
• Delays in distributing the survey due to Ethics Committee requirements. All data collection now underway.

Phase III:
• Delegates at the NZACE conference in Auckland in April 2016 were invited to complete a survey to provide feedback on the proposed framework. The participants confirmed that all 9 factors were considered important for successful and sustainable relationships and that we had not missed any key factors from the framework (see Figure 1)
• Surveys distributed to 150+ partners at Macquarie University. Further emails were distributed through a process of email snowballing to networks within and external to the University. It is unclear how many additional partners these emails may have reached using this method.
• 52 surveys returned to date. I interview scheduled.
• Survey distributed to 4,500 employer partners in Canada and 200 industry placement organisations in Auckland on 30/11/2016
• Development of a draft manuscript to national and international peer reviewed journals to present the findings of the evaluation of the framework. The publication will be submitted when sufficient data has been collected and analysed.

The research team will continue to send out surveys and to conduct interviews with community & industry partners. The original intention was to invite 1,500 industry/community partners to participate in the research.

As the framework has resonated with many colleagues that we have spoken to we believe that the survey will continue to provide evidence of the usefulness of the framework for institutions, as well as industry/community partners.

Our expenditure of the grant has been according to the original grant application, including transcription fees for the interview recordings, WACE Conference fees and travel, and Research Assistant casual wages. An official acquittal

We have met the aims of the project in answering the research questions:

1. What are the critical success factors of industry engagement in WIL across multiple contexts?
2. What are the existing engagement models/frameworks that could be applicable to WIL?
• Through a critical review of the literature and from focus group data a model/framework was developed to represent the critical success factors for university/community/industry engagement.
3. Which of these theoretical models/frameworks are most useful for addressing the challenges and complexity of contemporary contexts of WIL?
   • The framework developed provides a useful model for key stakeholders
   • Evaluative data will be collected on the efficacy of the model with the aim of providing a document of recommendations and strategies for addressing complexities in WIL.

Figure 1: Poster Presentation at NZACE April 2016

**Key Lessons Learnt**
The research team would also like to provide some feedback on the entire process that began with the ACEN Research Symposium in 2014.

**Process:**
• Clearly defined project was developed at symposium- so provided a strong basis to start with.
• Common understanding of the benefits of the project to each one of us/ our institutions
• Value of an international collaboration.

Early steps
• Development and writing of the grant proposal provided clarity and direction
• The grant application encouraged each of us to make a commitment – which moved the project from just being something of interest to a commitment to continue.
• Multiple phases of the project enabled pilots to be carried out in different international contexts and for feedback to be gained along the way

Lesson learnt
• Don’t attempt to make the project too big. What we thought was quite specific ended up with a lot more complexity.
• Challenge for international data collection was different terminology and models of WIL. But this was also an advantage as it enabled a wider perspective.
• Skype has advantages, but a lot more progress can be achieved in face to face meetings.
• Ethics approval at 3 different institutions can slow the process.

On behalf of the team our heartfelt thanks and acknowledgment of the research support from ACEN that made this work possible.

Prepared by:
Dr Kathryn McLachlan
Appendix A

COLLABORATING WITH WIL STAKEHOLDERS: SUCCESS FACTORS FOR SUSTAINABLE RELATIONSHIPS

Abstract

WIL experiences rely heavily on the development of relationships between the university and key stakeholders; including industry, community organisations, and government. As participation in WIL is increasing in many programs and institutions the issues of scalability and sustainability become paramount, requiring processes and practices for effective collaborating and partnering. According to Mulvihill, Hart, Northmore, Wolff, and Pratt (2011, p. 11), “Each university must negotiate – and re-negotiate - the meaning, value and purpose of engagement with their communities if they are to ensure successful and sustainable partnerships in the long term”.

The paper reports on Phase 1 & II of an action research project that aims to identify and evaluate critical success factors for industry/community engagement across different WIL sectors and contexts. Phase 1 involves reflection and review, beginning with an initial consultation with WIL practitioners in New Zealand and Australia. Two discussion forums were held where the groups were asked to reflect on what they considered were the critical success factors for sustainable WIL relationships. In addition, a literature review was undertaken to draw on good practice frameworks that can assist in addressing the challenges inherent in the engagement process (Garlic & Langworthy, 2008; Arden, McLachlan, & Cooper, 2009; Fleming & Hickey, 2013). These were examined for their relevance to WIL relationships.

A comparative analysis of the key themes emerging from the consultation and literature review; including communication, planning, resourcing, trust and
commitment, are discussed. Key findings will inform subsequent cycles of the project, involving the development and evaluation of a sustainable relationship framework.

Key Words: Work-integrated learning; sustainable relationships; partnerships; success factors; university-industry engagement

Introduction

WIL experiences rely heavily on the development of relationships between the university and industry as well as the community. In order for students to gain the full benefits of a WIL experience, the institution and students are reliant on the involvement of industry. Post-secondary education institutions require strong partnerships with employers in order to shape curriculum and program implementation (Van Rooijen, 2011). Furthermore, engagement with industry can help institutions and program administrators to identify the skills necessary for the work environment and determine relevant assessment criteria within a particular industry context (Hodges, 2011).

While industry members and program administrators exhibit a strong consensus upon the positive outcomes of WIL, there remains a discrepancy between the expectations of universities, industry, and society regarding the proper implementation of WIL programs (Pilgrim, 2012). It is important that this disconnection be addressed as industry engagement in higher education has been demonstrated to play a role in increasing student employability following graduation, and in enhancing professional practice within selected disciplines (Franz, 2008).

In a study that examined delivering WIL to large cohorts of students, Dickson and Kaider (2012), determined that one of the most difficult demands of implementing
WIL programs is creating relationships with industry. While reciprocity, efficiency, and legitimacy are key factors that have been found to motivate industry to be part of WIL, many relationships are built on personal connections (Fleming & Hickey, 2013). WIL relationships dependent on a personal connection within a workplace rather than a formal strategic agreement can create challenges for the long-term sustainability of WIL relationships.

As participation in WIL is increasing in many programs and institutions, the issues of scalability and sustainability become paramount, requiring processes and practices for establishing and maintaining strong relationships. According to Mulvihill, Hart, Northmore, Wolff, and Pratt (2011, p. 11), “Each university must negotiate – and re-negotiate - the meaning, value and purpose of engagement with their communities if they are to ensure successful and sustainable partnerships in the long term”.

The aim of this project was to identify critical success factors for industry/community engagement across different WIL sectors. Once identified, these success factors will be used to underpin development of a framework for sustainability. As part of the data collection, the following research questions are addressed:

1. What are the critical success factors of industry engagement in WIL across multiple contexts?
2. What are the existing engagement models/frameworks that could be applicable to WIL?
3. Which of these theoretical models/frameworks are most useful for addressing the challenges and complexity of contemporary contexts of WIL?

Methods
The approach used for this project was based upon the principles of action research. While there are a number of different models of action research, a generic definition that appears to capture the diversity is presented by Reason (1993, p. 1268):

All models of action research suggests that inquiry engages in a cyclical process; problems are identified and questions asked, some form of action is designed and carried out, empirical and/or experiential data are gathered, and then in a reflective mode the experience is compared with the starting idea and questions.

In particular, the use of developmental action research (Cardno, 2003) was deemed appropriate for this project as it encouraged a participatory approach to problem solving and improving practice consistent with the collaborative philosophy of work-integrated learning.

The project is structured in three phases consistent with action research. Phase I was to reflect on and review current thoughts and opinions of the issue of critical success factors. Phase II (the action) was to consolidate findings and design a framework for sustainability. This involved the researchers engaging in mini-cycles of reflection, feedback and re-design. These two phases are presented in this paper, while Phase III will be to evaluate the framework from the stakeholders’ perspectives.

**Phase 1: Reflect and Review**

A literature review to identify existing good practice of models of university-community engagement was the first stage of this phase of the research. These were examined for their relevance to WIL relationships. Document analysis of programs, practices and resources being used in universities was also used to identify existing frameworks and explore their appropriateness for addressing the challenges and complexity of contemporary WIL contexts.
The second stage in this initial phase involved consultation with practitioners from within the WIL community in New Zealand and Australia. Two discussion forums were held where the groups were asked to reflect on what they considered were the critical success factors for sustainable WIL relationships. The common themes from each forum were summarized. The data from the two forums were then compared and the overall summary is presented in the findings section of this paper.

Findings
This section reports the findings from phase one of the action research process (reflect and review). The findings were drawn from the two stages, literature review and document analysis as well as thematic analysis of the data collected from the discussion forums.

Critical success factors for sustainable partnerships identified from the literature
As part of the review process it was important to acknowledge that while different models of work-integrated learning have a number of common elements, there are wide variations that may impact on the relationships that are formed. For example, in the Canadian model of co-operative education, students are hired and paid by employers to work four-months full-time for their organization. In other forms of WIL students are volunteering their time in an organization. The paid/unpaid difference can be significant in terms of the expectations of the partner organization. The complexity of managing stakeholder expectations is highlighted by Brown (2010), who contends that establishing effective organisational procedures and clear communication can assist in explicating realistic expectations. The variation among models led to an examination of the literature on partnerships from a number of different perspectives.
Those areas included the literature on community/university engagement, on industry/university partnerships and lastly on industry-to-industry partnerships.

Community and University Engagement

From the review of literature, a number of good practice frameworks were explored that addressed the challenges inherent in the engagement process (see Garlick & Langworthy, 2008; McCabe, Keast, & Brown, 2006; Mulvihill et al., 2011). The findings from the GraniteNet project, which draws on this literature, as well as identifying both implicit and explicit key success factors was considered particularly relevant to building long-term relationships. These thirteen key success factors, shown in Table 1, may lead to an increase in the sustainable engagement of the greater community with post-secondary education institutions (Arden, McLachlan, & Cooper, 2009).

Table 1: Critical success factors for sustainable university-community engagement (Arden et al., 2009, pp. 6-7).

<table>
<thead>
<tr>
<th>More Tangible Factors (Explicit)</th>
<th>Less Tangible Factors (Implicit)</th>
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<tbody>
<tr>
<td>• Written agreement (MOU/Contract)</td>
<td>• Evidence of trust</td>
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<tr>
<td>• Clear and agreed purpose to the relationship</td>
<td>• A shared vision</td>
</tr>
<tr>
<td>• Results orientated to meet community defined priorities</td>
<td>• Sharing of knowledge, expertise and resources</td>
</tr>
<tr>
<td>• Demonstrated commitment of resources and leadership</td>
<td>• Commitment to learning</td>
</tr>
<tr>
<td>• Interdisciplinary (university) and broad community involvement</td>
<td>• Acknowledgement and respect for ‘insider’ and ‘outsider’ roles, knowledge, expertise and perspectives</td>
</tr>
<tr>
<td></td>
<td>• Effective communication</td>
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</table>
• Demonstrated mutual benefit (university and community outcomes)
• Ongoing evaluation

These factors were divided up into explicit and implicit behaviors and attitudes, which can contribute to the development of sustainable engagement between the university and community.

Industry and University Partnerships

The most traditional partnerships between universities and industry have been focused on research/innovation collaborations and there is considerable literature on this topic. As was the case with university and community partnerships, there is a great deal of overlap in the identification of key themes contributing towards the success of industry-university partnerships. According to Barnes, Pashby and Gibbons, (2006) there are eight universal success factors in university-industry partnerships including, mutual trust, commitment, flexibility, learning, continuity of personnel, universal success factors include mutual trust, commitment, good personal relationships, collaboration. A recent review of the literature (Ankrah & Omar, 2015) summarized the factors affecting university-industry collaboration as shown in Table 2. Based on a meta-analysis of the literature, they identified factors that contribute positively or negatively to the success of the partnership and have grouped them into seven main categories.

Table 2: Factors affecting university-industry collaborations (Ankrah & Omar, 2015, p. 397).

<table>
<thead>
<tr>
<th>Main Categories</th>
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<tbody>
<tr>
<td><strong>Capacity and Resources</strong></td>
<td>• Adequate resources (funding, human and facilities)</td>
</tr>
<tr>
<td></td>
<td>• Incentive structures for university researchers</td>
</tr>
</tbody>
</table>
• Recruitment and training of technology transfer staff
• Capacity constraints of SMEs

Legal issues, and Contractual Mechanisms
• Inflexible university policies including intellectual property rights (IPR), patents, and licenses and contractual mechanisms
• Treatment of confidential and proprietary information Moral responsibility versus legal restrictions (research on humans)

Management and Organization Issues
• Leadership/Top management commitment and support
• Collaboration champion
• Teamwork and flexibility to adapt
• Communication
• Mutual trust and commitment (and personal relationships)
• Corporate stability
• Project management
• Organization culture (cultural differences between the world of academia and of industry)
• Organization structure (university administrative structure and firm structure) — Firm size (size of organization)
• Absorptive capacity
• Skill and role of both university and industry boundary spanners
• Human capital mobility/personnel exchange

Issues Relating to the Technology
• Nature of the technology/knowledge to be transferred (tacit or explicit; generic or specialized; academic rigor or industrial relevance)

Political Issues
• Policy/legislation/regulation to guide/support/encourage UIC (support such as tax credits, information networks and direct advisory assistance to industry)

Social Issues
• Enhancement in reputation/prestige

Other Issues
• Low level of awareness of university research capabilities
• Use of intermediary (third party)
• Risk of research
• Cross-sector differences/similarities
• Geographic proximity

Industry to Industry Partnerships

Within industry, companies often form partnerships for mutual strategic advantage. In addition to examining the literature for university/community and university/industry partnerships, we also reviewed research on the factors affecting industry to industry collaborations. Empirical studies of the factors affecting success in a vertical partnership, e.g. manufacturer and dealer report that coordination, commitment, trust, communication quality, information sharing, participation, joint problem solving and avoiding the use of smoothing over problems to be significant in predicting the success of the partnership (Mohr & Spekman, 1994; Monczka, Petersen, Handfield, & Ragatz, 1998).
Critical success factors identified from the discussion forums

The discussion forums identified a number of common themes that were consistent across different models of WIL that were represented by the participants. The key factors identified are summarised in Table 3.

Table 3: Key themes for sustainable WIL relationships

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Benefits, requirements, expectations and standards are provided. Procedures handbooks, (e.g. health &amp; safety, what to do if something goes wrong). Informed, prepared and appropriate students (i.e. match industry needs).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expectations</td>
<td>Informing, understanding and matching expectations</td>
</tr>
<tr>
<td>Commitment</td>
<td>Contracts, develop a sense of belonging, promote three-way partnership</td>
</tr>
<tr>
<td>Communication</td>
<td>Regular dialogue and engagement (face to face if possible). Clear points of contact.</td>
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<tr>
<td>Recognition</td>
<td>Acknowledge and reward industry involvement.</td>
</tr>
<tr>
<td>Promotion</td>
<td>Capture and showcase good practice</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Alternative and innovative approaches, timing and requirements, avoid within and between university competition</td>
</tr>
<tr>
<td>Mentoring</td>
<td>Availability of support, professional development</td>
</tr>
<tr>
<td>Relationship Management</td>
<td>Responsive, nurture relationships, networking, manage multiple interfaces, appropriate timing of contact, seek feedback.</td>
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</table>

Phase II of the project involved an individual review of the findings by the researchers, followed by a dialogic process of collaborative critical reflection to discuss the relevance of the themes and the development of the draft framework, to summarise the success factors that contribute to sustainable WIL relationships. The key factors identified along with the initial design for a framework are discussed in the next section.

Discussion

Examining the critical success factors for sustainable partnerships identified in the literature as well as those collected through the consultation forum revealed a number
of common themes. As shown in Figure 1, three main threads were identified that represented the overarching factors for sustainability: **compatibility, communication and commitment**.

![Sustainable Partnerships Framework for WIL](image)

**Figure 1**: Sustainable Partnerships Framework for WIL

In addition, nine factors significantly impacting the success of WIL partnerships were identified: learning, trust, recognition, coordination, flexibility, expectations, vision, reciprocity and reputation. Each of these nine critical success factors is connected to one or more of the three main threads.

**Compatibility**

One of the key aspects to sustainable partnerships is that both partners benefit from the arrangement, that is, there is a **reciprocity** among them. There may be variation in the main purpose for partnering among stakeholders, however, there needs to be a shared **vision** of how each can accomplish his/her goals through the partnership. One of the key elements of compatibility is that all partners recognize the role of **learning** as the core of the experience for the student. For universities, this means providing good preparation and support for the students. For the partner organizations it means
providing an environment where the students can learn. That said, it is unlikely that organizations will repeatedly partner with academic institutions to provide opportunities for students if they do not perceive benefits for their organization.

Similarly, if institutions feel that students are not benefiting by working in particular organizations, it is unlikely they will want to continue partnering with those organizations. One of the factors that may affect perception of reciprocity is the reputation of the various partners. For organizations, if the university has a strong reputation in the areas of interest to them, it may increase their view of compatibility. Similarly, organizations with strong reputations for providing good experiences for students will increase the interest of the university in establishing a partnership. To ensure compatibility and success, expectations of the various partners need to be compared and considered.

**Commitment**

In WIL partnerships, commitment is a critical component of creating sustainable partnerships. Commitment develops as trust is established between partners. Through ongoing participation, partners will establish or build on a reputation, thereby increasing their respective commitment to the partnership. An additional factor that may increase the commitment of the partners is recognition of the value of the partnership expressed by the other partners. This might include a formal or informal ‘thank you’ from the university to the partner organizations, or it might be the partner organizations promoting the value of their partnership with the university to peer organizations. In the WIL context, commitment develops through ongoing coordination, which includes a substantial planning process and follows by delivering on what is promised. It is also important that there is attention and action on what is learned as part a continuous improvement process. As partners see how their objectives are met through the partnership, commitment is established. One way of
demonstrating commitment is for each of the partners to ensure the appropriate resources are allocated.

**Communication**

References to successful partnerships, across all domains, include the importance of communication as a foundation of sustainable partnerships. Within the WIL context, communication is critical to ensure compatibility among partners and only through many forms of communication can commitment between partners occur. In fact, as we examine the nine success factors identified in this research, they all connect in some way to communication.

In establishing and coordinating the activities and support for WIL partnerships, communication is critical. In the initial stages of partner formation, it is important to assess whether there is a shared vision for the collaboration and whether appropriate resources can be dedicated. Communication between partners will lead to an understanding of one another’s expectations. A continuous improvement process can be fostered through communication and from the partners learning from one another.

In nurturing an ongoing WIL partnership, communication is important in recognizing the contribution of the partners and in furthering the reputation of the partners. Ongoing communication will ensure the reciprocity of the partnership and demonstrate the flexibility of programs and organizations to adapt to one another’s goals. Through this open and ongoing communication, trust among the partners will develop.

**Next steps for the research**

Drawing on the findings from Phase 1, the development of the framework proposed in Phase II is intended to provide evidence-based good practice guidelines to assist
coordinators and practitioners, working in diverse contexts, to cope with the issues of scalability and sustainability of WIL programs. Consistent with an action research approach, Phase III of this research will involve the administration of a survey as well as interviews with key stakeholders; industry/community partners and university staff, to evaluate the efficacy of the framework and to identify further challenges and complexities of sustainable WIL relationships.

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References


