

Managing industry-academia partnerships

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Abstract

This paper addresses the complexity of industry-academia research partnerships which include students in tripartite management research activities. The benefit of this paper is two-fold. Firstly, it develops a framework, which seeks to bridge the experience gaps of all participants. Secondly, it seeks to evaluate the processes involved in developing a three-way partnership involving both academic and student participants with an industry partner in an action research (AR) project. The case used for the project aimed to facilitate the mutual development of knowledge and insights through the sharing of experiences among industry, academe and students in implementing AR in sustainability management. This paper evaluates that process from the perspective of what facilitated the three-way partnership in the context of the practice/research gaps and values divergences among the participants. Although not all the findings from this case can be generalised, valuable lessons about the facilitation of a three-way learning partnership were learned and these lessons can be adapted and implemented to suit a particular context and time.

Keywords: active learning; business schools; MBA; organisational learning; partnerships

Introduction

This paper addresses the complexity of industry-academia research partnerships which include students in tripartite management research activities. The context for the paper is "Education about and for sustainability in Australian Business Schools", a project undertaken by several Australian universities in collaboration with the Australian Research Institute in Education for Sustainability (ARIES, 2009) and funded by the Department of the Environment and Heritage (now the Department of the Environment, Water, Heritage and the Arts). The focus of the ARIES collaboration was on Partnering Corporations and Business Schools, providing an opportunity to explore issues of sustainability from a Business School perspective and engage in practical partnerships with industry. This paper develops a model for handling the research-practice gaps which may exist in industry-academia research partnerships that include students as participants. It is proposed that the action learning process facilitates the planning and learning through action, narrative and reflection, and has the potential to bridge the practice/research gap.

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Aim of the paper

The paper outlines the processes involved in developing a three-way partnership involving academic and student participants with an industry partner in an action research (AR) project. The case study evaluates the effectiveness of processes within that project partnership. The project on which the case is based aimed to facilitate the mutual development of knowledge and insights through the sharing of experiences in implementing AR in sustainability management.

Literature

In a review of the literature on industry-academia partnerships, it became apparent that different authors use different terminology to describe the relationships that exist between academics and practitioners undertaking collaborative research projects. There are research collaborations (Macduff & Netting, 2000; Amabile *et al.*, 2001; Rynes & McNatt, 2001; Gomes *et al.*, 2005; Dooley & Kirk, 2007) and research partnerships (Hall *et al.*, 2003; Henderson *et al.*, 2006), while Cyert and Goodman (1997) appear to use alliances and partnerships interchangeably. There are also relationships between researchers and organisations (Hinkin *et al.*, 2007; Perkmann & Walsh, 2007), interfaces (Alves *et al.*, 2007) and university-industry linkages (D'Este & Patel, 2007). While the nature of the industry-academia interaction varies in size, structure, formality and length of time, it was decided not to be restricted by the "buzzwords" (Macduff & Netting, 2000) but to explore all of the relevant literature. For this collaboration, the term partnerships was used because it encapsulated the spirit of equal-commitment to the project by all the parties. For the purpose of this article the literature within the management field is emphasised rather than science and technological fields, as the latter can involve different variables and constraints.

A number of common themes around the nature of industry-academia partnerships emerge in the literature. There is agreement that partnerships should be mutually beneficial (Stead & Harrington, 2000; Dooley & Kirk, 2007; Guide & Van Wassenhove, 2007), that they should strive to understand the needs of the parties and any constraints, and work towards mutually beneficial solutions (Barnes *et al.*, 2002). Each should be treated as of value and as having something to contribute (Bartunek, 2007), and value creation is essential for a win-win relationship in a partnership (Campione, 2003; Hinkin *et al.*, 2007).

The drivers and benefits of collaboration may be quite different for industry and academic participants. This would be particularly applicable where the latter incorporate graduate student participants. In terms of management research, it has been suggested (Rynes & McNatt, 2001; Gomes *et al.*, 2005) that there may be a research-practice gap between some academic research and the difficulties experienced by practitioners in translating this research into practice within their organisations. Hinkin *et al.* (2007) wrote of a "disconnect" between the needs of business and academic research. Well-planned inclusive collaborative research would go some way to addressing this problem.

From the point of view of industry, there must be a motive for companies to participate in research. This may include access to knowledge, highly qualified academics and skilled researchers who can use existing research infrastructure and facilities (Butcher & Jeffrey, 2007; Dooley & Kirk, 2007). Access to high quality analytical research may complement the work of corporate business analysts (Gomes *et al.*, 2005). While they may be agreeable to contributing, companies may be more likely to participate if the research topic is relevant and of benefit to their company (Hinkin *et al.*, 2007). Rynes and McNatt (2001) found that relationships initiated by the organisations rather than the universities were more likely to continue after the end of the research and that those organisations were less likely to request publishing anonymity.

For academia, there are tangible benefits of partnerships with industry such as access to sources of research funding and competitive advantage in relation to grant applications (Dooley & Kirk, 2007). Academics gain access to empirical data, which grounds research, increases the likelihood of publication, and places them in a position to identify emerging research issues (Gomes *et al.*, 2005).

Collaborative projects provide researchers and students with "real-life relevance" to their research (Guide & Van Wassenhove, 2007) and add to organisational learning by developing critical reflection in those involved (Henderson *et al.*, 2006). As discovered in research by Nowak *et al.* (2008):

industry participants have stressed the importance of students' exposure to an experience with real world examples [...] this would require partnership with some willing business operations. (p. 28)

While partnerships involving scientists and engineers tend to focus on issues such as product development, Henderson *et al.* (2006) pointed out that for business and management academics, the focus is on process and people issues. Work with industry provides detailed knowledge and insights into managerial processes, and gives students an opportunity "to listen to managers and develop the skills needed to abstract a problem from a real industrial setting so that it becomes tractable" (Guide & Van Wassenhove, 2007, p. 538).

While there can be significant benefits from collaboration, there are also potential problems. Universities and organisations have very different cultures with different priorities, objectives and values, and finding the balance that satisfies both is a major challenge (Dooley & Kirk, 2007). Academics are accustomed to presenting information, while practitioners are often more accustomed to round-table discussion of issues; academics generally work in a top-down principal investigator research model which may not be understood or appreciated by practitioners (Amabile *et al.*, 2001). Interposing students into this mix adds another set of values, priorities and practices. An alternative to the traditional hierarchical model of research is the dialogic or interactive model, which is more loosely structured and fluid in the roles of participants, and allows for more interaction (Macduff & Netting, 2000).

There may be conflict over the academic desire to publish research results and industry concern to protect intellectual property and maintain competitive advantage (Dooley & Kirk, 2007). Academics may enhance relationships by “trying to enter into and understand practitioners’ worlds and modes of knowing, as well as empathizing with and appreciating the complexities of practitioners’ experience and knowledge” (Bartunek, 2007, p. 1328). Time frames in academia may differ from those in industry. In academia, the time between project initiation and product creation may be long (Gomes *et al.*, 2005), while companies think much more in the short-term, (Cyert & Goodman, 1997). Student participants work to a different and very structured timeframe. Lack of clarity about expectations, roles and responsibilities may cause some members of the collaboration to be uncertain about how much time commitment is needed from “good” members of the team (Amabile *et al.*, 2001).

Conflict between collaborative researchers can be minimised in a number of ways. The development of a close relationship over a long period is more likely to create a level of trust and openness conducive to sharing research results (Macduff & Netting, 2000). Dooley & Kirk (2007) suggested the need for a champion within the university to “reduce institutional barriers that impede effective knowledge exchange” (p. 323). In addition, they cautioned that:

Crucial to establishing a successful collaboration there has to be a champion with a combination of personal dynamic capabilities and who has established social relationships with individuals in senior positions in the companies and organisations which can form the core of a strategic alliance. (p. 329).

The status of champions within the organisation is important, as the higher the status, the easier it is for them to engage in collaborative research (Macduff & Netting, 2000).

There may be benefits for those researchers who spend more time in the organisations they study, both in terms of researcher learning and research quality (Rynes & McNatt, 2001). This would also provide the opportunity to “establish their credibility in part by showing an in-depth understanding of the dynamics being explored” (Hinkin *et al.*, 2007, p. 107). Frequent and well-planned communication provides opportunities for conflict resolution, particularly given that the researchers are often spread across multiple locations (Amabile *et al.*, 2001).

It is clear from the literature that there are particular structural and dynamic relationships involved in industry-academia research partnerships and the research team were keen to explore these relationships within the context of a once-only case as a starting point.

Research methodology

This paper reports on a case study involving the use of AR in a project which involved academic, industry and student participants as equal partners in the research. A case study has the value of enabling the exploration of the structural and dynamic relationships operating without a level of abstraction. Yin (1984) argued that it enables the retention of the holistic characteristics of real-life events in fields such as organisational and managerial processes. He noted that while the results are not generalisable to populations, the case study compares to an experiment, where what is generalisable are the theoretical propositions.

As the result of this case, what we offer is a framework for industry/academe/student participation, which may subsequently be tested. This was a once only case limited to a particular context and time. Although not all the findings from this case can be generalised, from the project emerged valuable lessons about the facilitation of a three-way learning partnership and these can be adapted and implemented to suit other contexts.

In the project, AR methodology was employed to facilitate the experiential learning process relating to sustainability management. Bennis and O’Toole (2005) suggested that MBA programmes require multidisciplinary, practical and ethical questions and scenarios that reflect the complex challenges confronting business leaders. As such, AR is an appropriate method of inquiry for this project as it allows collaborative dialogue, participatory decision making, inclusive democratic deliberation and the participation

of relevant parties (Stringer, 1996).

There is an iterative process of “cycles of planning, acting and observing, and reflecting” (Kemmis & McTaggart, 2000, p. 595) in AR. Each cycle tends to overlap as new observations are made. Figure 1 illustrates the Riding *et al.* (1995) version of the self-reflective cyclical change process of AR.

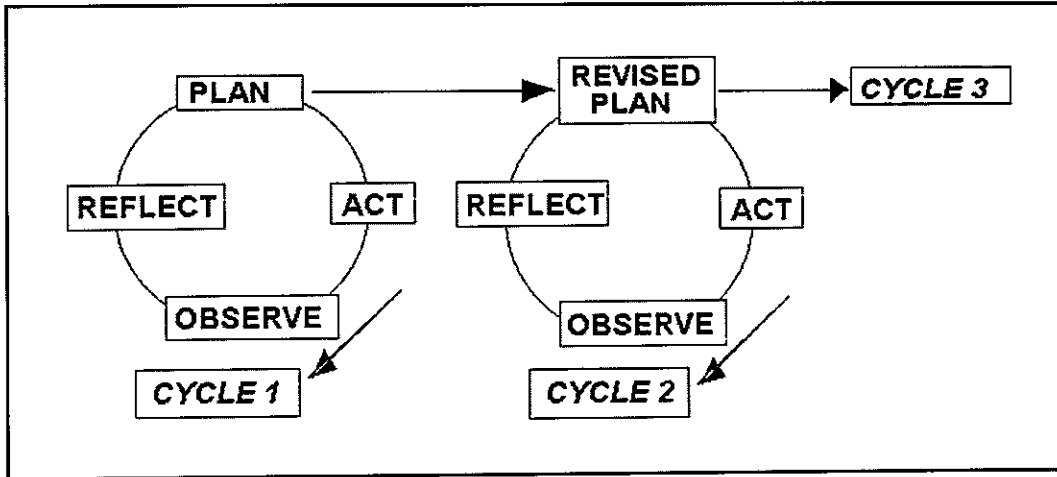


Figure 1: Self-reflective cyclical change process of action research
Source: Riding *et al.* (1995)

The AR process is enriched by the diversity of experiences and capabilities of participants and through collaborative communication processes, “participants and researchers cogenerate knowledge” (Greenwood & Levin, 2000, p. 96). It is particularly true of this project that the participants brought to it a diversity of knowledge, experiences and capabilities. In Figure 3 this is identified as the “research/practice” gap. The participatory nature of AR also provides a valuable continuous process for exploring ways in which sustainability is relevant to the workplaces of all participants.

Figure 2 illustrates the key features of AR adapted for this project from the Riding *et al.* (1995).

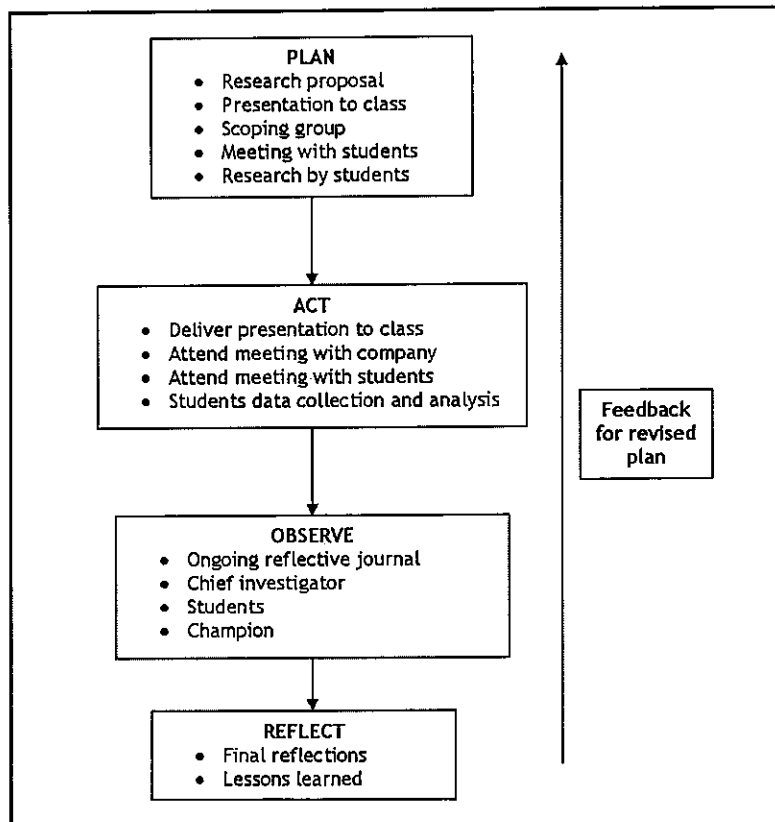


Figure 2: Application of the AR model to the project

First cycle:

- develop a plan of critically informed action
- the group members act to implement the plan, which must be deliberate and controlled
- observe action to collect evidence
- reflect critically on the action

Second cycle - act on input from evidence and reflection on cycle one.

Since the effectiveness of the plan or idea within an AR model is unknown with certainty until after implementation, the most valuable learning transpires after action. This is known as action learning (Pedler *et al.*, 2005). It serves as a platform for integrating learning and work experience across the various conditions (Ballard, 2005). The underlying assumptions of action learning were summarised by McLoughlin and Thorpe (1993) and Pedlar (1983, as cited in Henderson *et al.*, 2006). Table 1 reflects the underlying assumptions of action learning as evidenced in the project.

Underlying assumptions of action learning (Pedler, 1983; McLoughlin & Thorpe, 1993, as cited in Henderson <i>et al.</i> , 2006)	As evidenced in the project
It must be based on an actual organisational issue	Education for sustainability-based change in the current case
Those involved must be willing to take risks and experiment	The Business School, the company and the students were all taking a risk in participating in this project
There must be authority for this action	There was a formal, legal contract between the Business School and ARIES; ethics approval requirements for the university and company were met; letters of support were provided by the Head of School and the CEO of the company; authority was invested in the Chief Investigator and the company champion
A system for learning reflectively	Critical action learning relating to sustainability developed during the partnership while engagement with the process itself served to bridge the research/practice gap with which the individual participants commenced the project

Table 1: Underlying assumptions of action learning as evidenced in the project

As an iterative process, AR balances problem solving implemented in a collaborative context with data-driven collaborative analysis or research, to understand underlying causes enabling organisational and personal shift (Reason & Bradbury, 2001).

Issues related to action research

As an iterative process, AR is a cyclical rather than a linear process, using feedback loops. It encourages involvement and participation of individuals in the organisation and uses expert inputs. Multiple sources of information might be used simultaneously (Waddell *et al.*, 2004). Researchers are in a position to accept potential challenges to their assumptions and prejudices. Some of the disadvantages are that it is time-consuming; the real-time issues could change before the iterative process of AR has been completed (Dickens & Watkins, 1999); within the corporate context, the transfer of key people can result in the learning being lost. AR requires an objective ethical approach, especially from those with expert knowledge.

The research process

Results of this project are presented through learning narratives and reflections, which highlight the practicalities of this type of partnership research. The paper focuses on this particular industry-academia alliance rather than the wider ARIES collaboration.

Within the context of this case the industry-academia alliance encompassed the following components:

- 1) An identified sustainability project in 2007/08 within the company, with an agreement that the partnership would facilitate mutual learning about the implementation of corporate sustainability policies, or individual projects as part of that policy.
- 2) An opportunity for selected MBA students to participate, through either a part-time internship as part of the corporate team or within an MBA student team which would undertake a discrete task relating to the sustainability intervention.
- 3) Opportunities for Business School researchers and students to be closely involved with the implementation of a sustainability research project. The researchers selected AR methodology to guide participation and review the process.
- 4) Participation in an MBA Leadership in Sustainability Forum, designed to facilitate ongoing

collaborative learning about the systems, practices and policies used within the company in implementing action for sustainability, and through critical discussion seek improvements.

Preliminary discussions

The researchers identified two possible interested companies and conducted exploratory meetings. The chosen companies were within the resources/industrial area; had a public commitment to sustainable development; their size and the nature of their operations meant that they have a significant impact on environmental, social and economic sustainability; and it was felt that a partnership project would be mutually beneficial to the companies, the Business School and the students.

In the first of these companies, a “champion” was identified within the sustainability management section, keen to move from strategic policies and plans to the implementation of initiatives. However, the company withdrew its support due to stretched time resources, as they were concerned about the potential number of students. It still agreed to participate in the MBA Leadership in Sustainability Forum, which meant maintenance of valuable linkages. The second, a major industrial company, had a well-advertised commitment to sustainability issues and the chief researcher already had a good professional relationship with one of the managers. This person agreed to champion the project with the support of the company CEO. This partnership forms the basis for the discussion in this paper.

Implementing the initial plans and project

At the start of the year, the manager/champion gave an excellent presentation in an MBA class on sustainability management. In particular, the students responded to his honesty regarding the difficulty of “walking the talk” and the need for the company to make a profit, acknowledging that even for committed companies the reality could sometimes make it difficult to attain sustainability goals. It was seen as positive that this manager gave the presentation as it provided a face to the project and company. The research team anticipated that several students would take up the opportunity to be involved but the predicted time commitment created some problems because of work schedules of students. In addition, some students preferred to undertake the project within their own organisations rather than an unfamiliar corporation. At the start of the project, one student commented: “the exposure to work with a real client is definitely a challenging one and requires a lot of hard work and guidance”. After completion of the project, one of the student’s comments was: “without a good mentor ... I will find this really really tough to get it done...”. Another student wrote in his reflective journal: “moral of the story: you can plan for everything but you need to expect the un-expectable”.

A briefing meeting with students, after which two students took-up the challenge, was followed by a scoping meeting between the researchers and eight key players from different sections of the company.

Then reality hit: the pitfalls and lessons learned

There is extensive literature on the practical implementation problems surrounding industry/academic partnerships. What distinguished this work was the additional involvement of students as active participants within the action learning framework. Based on the reflective learning of participants, combined with applicable literature on partnerships, the authors propose a framework for the effective implementation of learning partnerships involving three-way participation of industry, academe and students. Figure 3 presents this framework.

In this project it was important to acknowledge the potential for a research-practice gap (Rynes & McNatt, 2001; Gomes *et al.*, 2005, Hinkin *et al.* 2007) to exist between academe, the students and the practitioners within this company. This was particularly important in light of the extensive practical experience relating to sustainability held by some of the company participants, the research-based knowledge of the academics, and the relative inexperience of the students. The AR process, with its emphasis on a cycle of collaborative planning, action, observation and reflection, provided the opportunity to bridge these gaps within the process focused on sustainability. Figure 3 illustrates where the action learning cycle is enfolded within and facilitates the collaborative learning of the participants. There are two parts to this: firstly the contextual base and secondly the embedded learning processes and AR.

Building the contextual base

The contextual conditions (see Figure 3) within which this effective cycle of learning can take place are also critical to its success. The pre-existing academe/industry relationship built prior to proposing a particular project/action largely set the contextual conditions. The contextual conditions recognised here are:

- trust and effective relationships have been developed (Macduff & Netting, 2000) between the academic and industry partners
- champions have been identified (Dooley & Kirk, 2007)
- there is a clear commitment to proceed to completion from all participants

The following discussion outlines the contribution of contextual issues to this project and the identified problems.

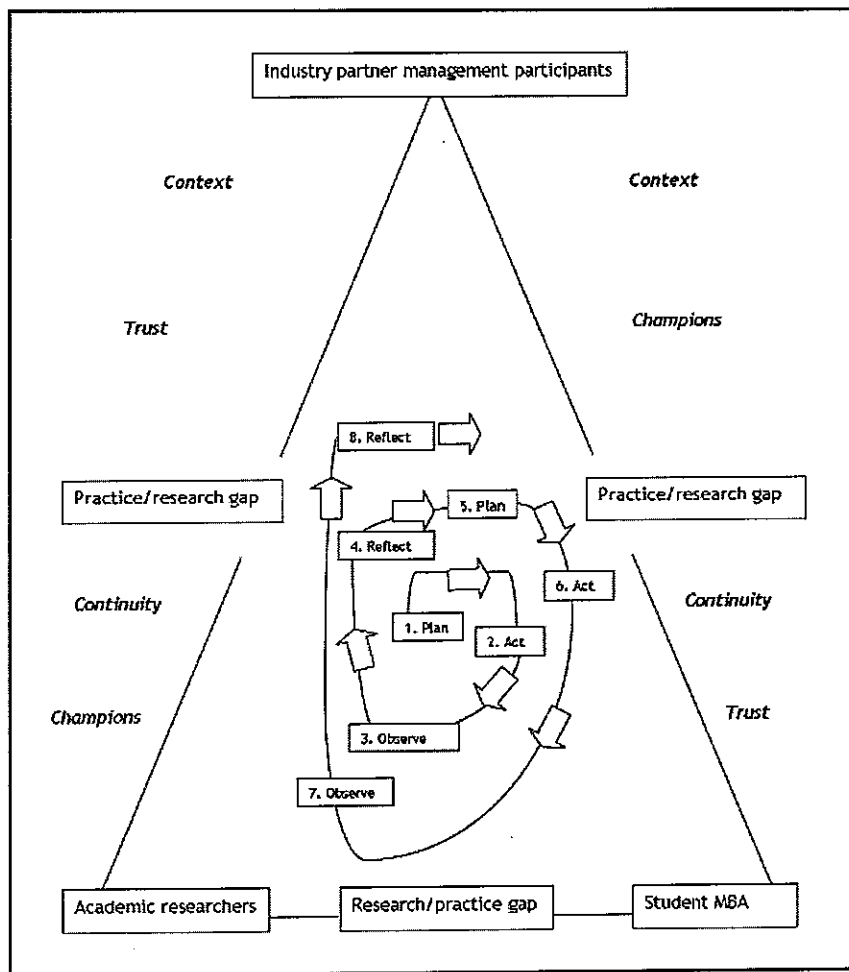


Figure 3: Using action research to close the research/practice gap

Create trust and effective relationships

There was trust between the different members of the project and each person contributed their strengths to ensure effective completion. Trust is a pre-requisite to success. High levels of personal integrity, honesty and adherence to ethical codes develop trust (Gilbert *et al.*, 2000; Snow & Mulrooney, 2002; Hinkin *et al.*, 2007; Suseno & Ratten, 2007). Ideally, trust should be built on a working relationship with the company rather than one-on-one relationships, as this can create problems when people move (Campione, 2003).

In this project, there was an existing relationship between the participating company and the researchers, which meant that commitment was not a problem. Holding project meetings at both the Business School and the company strengthened commitment and ownership. This signalled that partners were equal and participants were able to experience both environments and cultures. The students also travelled to the company to undertake their research. Usually, when management signals informally and/or formally that a project is important, there will be greater dedication from staff. However, it must be clear that although there was commitment from management, the project was an independent university project. This allowed for anonymity of participants in data collection. There needs to be a clear motive for the company to participate and, to ensure ongoing commitment, employees need to be provided with feedback on the results (Hinkin *et al.*, 2007).

Find a champion

The value of a champion (Dooley & Kirk, 2007) was very clear. In the authors' experience, a champion is needed very early in a project and may be identified through long-running interaction with the organisation or previous successful partnerships. In this example, the manager in the company was the project champion and made it work through commitment, drive and leadership. He came from the position of "doing sustainability" and his own commitment and values were very apparent. Having such an enthusiastic and committed champion gave participants confidence that the project was one that was worth doing.

Champions need to drive the process to ensure success (Campione, 2003). They ensure that other employees give a project the commitment and attention it requires and have the incentive to cooperate in a collaborative venture (Barnes *et al.*, 2002; Guide & Van Wassenhove, 2002). Champions need to convince senior management that the risks are worth the potential reward (Campione, 2003).

In working with the ever-evolving corporate world, there is always a risk that the champion may have to leave the project, which is what happened in this case. It was clear that, when this champion left the company towards the end of the project, the momentum changed. The corporate world is subject to sudden changes - mergers, acquisitions, reorganisations, fluctuation in the economy and downsizing (Cyert & Goodman, 1997) - and researchers need to be prepared to deal with these situations. Although disruptions cannot be anticipated, their impact can be mitigated by contingency planning (Butcher & Jeffrey, 2007). While it was still possible to finish this project, based on the previous agreements and planning, another manager who acted as a back up for the champion assisted with maintaining the momentum of the project. The champion in the company and the chief researcher had a good professional relationship based on previous work. Although the researchers in the Business School had not worked together previously they knew each other. All these pre-existing relationships assisted positively with the project.

Continuity of participants

Commitment to proceed to completion is critical to success and this became a problem. As noted earlier, the unplanned departure of the company project champion could have created difficulties for the project which would have been minimised had a deputy been in place from inception. Nevertheless, the commitment of the original champion ensured that the enthusiasm engendered carried the project to completion. The potential for student participants to leave the project means that careful contingency planning needs to be in place. Continuity of participants is crucial to sustain trust, as trust develops on a person-specific basis. Lack of continuity creates disruption and is undesirable, as each new participant needs to be briefed and new relationships have to be formed (Barnes *et al.*, 2002).

The embedded learning processes and AR

In the course of this project, it was apparent to the research team that the processes within AR enabling organisational learning were also enabling in relation to the need to bridge the differing practice/research gaps and values bases which arise. These must be overcome if industry, academics and students are to work effectively in a collaborative programme. The elements of the AR process which play a critical enabling role are:

- implementation of a dialogic (Macduff & Netting, 2000) rather than hierarchic approach: the assumption of equality of the participant groups with full, informed and encompassing dialogue (Stringer, 1996) as the means to progress the process
- dialogue is used in developing clear expectations of and for all participants
- communication channels are clear and open throughout (Amabile *et al.*, 2001)
- critical reflection is facilitated at all points of the project and by all participants (Greenwood & Levin, 2000), and encompasses team development as well as organisational learning; reflection insights are communicated among all team members

Equality of participants and dialogue as a means to progress

In this study, a scoping meeting with the key members of the company and the research team provided the topics for research. Hinkin *et al.* (2007) supported this approach and stated that "the scope of the project must be jointly negotiated" (p. 108). Each group must be clear on what they want and expect from the project (Campione, 2003).

The scoping session was very stimulating and facilitated new insights, not only for the academics but also for the various company participants, who were drawn from a range of sections of the company including management, engineering and the technical/trades workforce. We do not believe this diverse group had been brought together before to focus specifically on sustainability. The session was very open, not overtly structured and discussion was free ranging. The sharing of insights was stimulating and, while the discussion about the possible project topics provided the researchers with a window into the company, it was interesting to observe members of the company group sharing opinions and knowledge between themselves. This scoping session set the tone for a climate of equality of participants. It was also a very important element in closing the research/practice gap between the academic and company participants, with both groups learning from each other. The final decision-making about the choice and scope of topic was therefore based on a sharing of ideas and opinions within the practitioner group and the academic group, which also added to ownership of the project within both groups.

Students had already participated in a dialogue with the industry champion and academics within a course forum, which allowed free ranging questioning and discussion. A subsequent briefing meeting of students with

the academic and industry champions was inspiring because of their enthusiasm and willingness to take a risk and do something different.

Dialogue to develop clear expectations

In this research partnership, communication was open and inclusive, and that assisted with positive working relationships. However, in any partnership there is always the potential for conflict, and it must be identified and managed as soon as possible. The diversity of values and personalities could lead to of conflict (Strozniak, 2000; Meyer *et al.*, 2004). If the project had been longer, the loss of the original champion and possible divergent interests of his replacement would have been a potential source of conflict.

Research for the sake of research will not create a real commitment as people and companies ask the question “what is in it for me?” before they commit. Hinkin *et al.* (2007) recommended that there must be clear mutual benefits and examples are summarised in Table 2.

Practitioner perspective benefits	Academic perspective benefits
Actionable outcomes (feedback assists with the operations of the company)	High quality data
Opportunity for growth (personal and/or professional)	Creating opportunities for valued publications; impacting managerial practices
Strengthen relationships with researcher or university	Developing relationships with industry partners
Contribution to knowledge	Contribution to knowledge

Table 2: Possible mutual benefits

A clear business strategy should drive the project (Campione, 2003). This applies to all participants and risks are minimised by selecting the most appropriate project.

In this project, the extensive dialogue between the company and academic participants enabled the identification of a project which met the needs of both. Student participants were seeking a grade for a particular course, but had also been offered the opportunity to experience a live in-company project, and interaction with a company champion and organisation which already had a reputation for action in the sustainability field. These were mature students already operating within the management sphere. A presentation by the company champion to the students facilitated their expectations and created the free flow of discussion. In addition, the academic team was also available and discussed expectations with interested students.

One element in the discussion of expectations was the control and minimisation of the risks involved for each party. Risks from the view of the company are sensitive and/or confidential information getting into the wrong hands and issues of intellectual property rights (Campione, 2003; Alves *et al.*, 2007). As confidentiality issues are real, there must be strategies to manage these concerns, such as a clear statement of the boundaries of confidentiality, ensuring that the confidential information is marked and that this is communicated. The project was subject to ethics approval through the University and the students signed a confidentiality agreement with the company.

A risk for the students was that the project would require financial resources for travel, communication, and secretarial support with interview and focus group transcripts. This was met by allocating some resources for the students to use. Their other resource need was time. This was more difficult to manage and one clear outcome for the academic staff was recognition of the need for planning the time commitments of both academics and students, especially since the company was located a 45 minute drive south of Perth.

Clear and open communication channels

Many meetings were conducted to ensure effective communication. These included meetings of the industry champion and academics; academics and a cross section of company “thought leaders”; academics, company participants and students; students and the industry champion. These were facilitated discussions rather than formal meetings and allowed exchange of ideas within a setting of equality of the participant groups. Emails were also used to clarify ideas. In addition to communication between collaborating academics and practitioners, and later students, it was also necessary for the lead investigator to meet regularly with the students and be in regular email contact (Butcher & Jeffrey, 2007).

Hanson (2005) stated that the best ideas do not succeed without effective communication, including that each member must be clear about their own objectives and messages. One of the major factors affecting partnerships in inter-professional teams is communication. Members must feel comfortable to contribute and teams must learn to identify processes and strategies enabling them to work efficiently and resolve conflict when it occurs. It is also important that intermediate communication be held between meetings, such as

telephone calls or brief newsletters highlighting developments since the previous meeting (Barnes *et al.*, 2002). On reflection, a monthly newsletter, in addition to the forms of informal continuous contact (email and telephone), may have supported the work. However, to have created this additional communication would have required extra resources.

Create a system for reflection

In this research project, the students and chief investigator kept ongoing reflective journals and at the end of the project the researchers, company champion and students reflected on the experience.

In his reflections, one of the students expressed his nervousness at managing the focus group he ran with the company, even though his was a confident professional who regularly delivered presentations to a large multinational company. For example, in his reflection journal he observed: "looks like they are quite keen to get a lot of people involved... their optimism scares me...". Part of that nervousness was recognition that he would be working with experts in their field and that he would be putting his own learning into practice. By incorporating this reflective process within the project, the student had the benefit of articulating and recognising his thoughts, observations and concerns about the gaps in his own background, and the academic researchers gained insight into his experience as part of the AR process.

For the company employees and the students, the focus group format and follow-up interviews, conducted by the students, facilitated reflection and communication as a component of the focus group discussion and interview questions and responses. The students' reflections, then shared with the lead researcher, closed the loop. A system of reflection allows members to explicitly recognise learning as it happens, learn from the current situation and prepare for similar situations in future (Snow & Mulrooney, 2002).

Reflection processes and communication involving the company champion and the lead researcher was not formalised, but rather relied on their ongoing communication as part of the already developed relationship. In retrospect, a more formalised process for reflection and communication at this point within the team may have facilitated continuity when the original company champion left the organisation.

Other lessons learned

It was originally envisaged that several students would take the opportunity to participate but only two finally committed. However, as the project progressed, it became obvious to the academics that students needed detailed supervision and the team had a limited number of supervisors. Had there been more students, it would have been difficult to obtain additional supervisors. More students would also have increased the time committed by the company.

In committing to a project and an external company, it also is crucial to ensure that a sufficient pool of interested and capable students is attracted to the project and that the project is marketed well. In hindsight, we recognised that if the second company had not withdrawn from the project, we might have had difficulty in providing adequate student numbers and academic staff supervision.

It takes time to bring different cohorts (academics, company members, students) together. This project was additional to everyone's already busy schedules, creating some timing problems. The process began slowly, with everyone thinking there was plenty of time, but it ended in a rush to meet deadlines imposed by the student assessment process. Other requirements such as obtaining the interview recordings, transcribing interview, meetings to discuss feedback, all took time.

This experience suggests that it is important to allow for time delays and unexpected events, to ensure that the time frames are realistic and that a level of flexibility is built in. During the course of the project, the manager (who was also the champion) moved to another company. This was towards the end of the project, which was not significantly jeopardised, but some momentum was lost. One of the students also changed her employment, which could have placed additional strain on her and her ability to continue her commitment to the project, though this did not happen.

Conclusion

The aim of the project was to facilitate the mutual development of knowledge and insights in sustainability management through the sharing of experiences among industry, academe and students within the framework of an action research project.

This paper sought to evaluate that process from the perspective of what facilitated the three-way partnership in the context of the practice/research gaps and value divergences among the participants. In this particular project, academics and students engaged with company participants in a journey designed to develop effective collaborative employee-company models of community volunteering. Further research is currently underway which will develop, in collaboration with students, the learning about employee-company

models of volunteering. However, from this project emerged valuable lessons about the facilitation of a three-way learning partnership.

As a case study, this project had the value of enabling exploration of the structural and dynamic relationships operating without a level of abstraction. However, as Yin (1984) noted, the results are not generalisable. What may be generalisable are the insights gained.

Through reflection on the processes used and the lessons learned, we have developed one suggested framework, illustrated in Figure 3, for similar collaborations. This framework actively uses the AR process, not only as the research frame, but also as a mechanism to bridge the practice/research gap, which has been recognised as an impediment when involving business organisations with students and academics in the research process.

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