ACTION RESEARCH: A NEW EXPLORATION OF ITS \(^1\) TWO MASTERS

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Abstract

This paper reports on the application of the McKay and Marshall approach to Action Research (AR) to one of the Information Systems (IS) discipline’s intractable problems: the academic-practitioner relationship divide. It aims to demonstrate the experiences of an inexperienced AR researcher, and the practical value provided by following the McKay and Marshall dual cycles approach. These aims are explored using a documented AR case. The efficacy of the operational guidelines for undertaking AR are examined; along with the framework to address research rigour. The authors hope that providing an exemplar of this approach will encourage other potential AR researchers to see the possibilities and rewards of pursuing this method.

Keywords: Action Research, IS Crisis, Academic-Practitioner Relationship Divide, Dual-focus

Introduction

Many prominent Information Systems (IS) academics including Baskerville, Myers (2004), Mumford (2001a), Checkland (1990) and Avison et al (1999) have encouraged a wider adoption of Action Research (AR). They argue its appropriateness on a number of bases, including: the highly-applied, almost vocational nature of the field, the suitability of AR to encourage collaboration between researchers and practitioners, and the potential relevance of the research to practice.

Enid Mumford (2001b), one of the pioneering greats of AR in IS, defined it as 'research that involves practical problem solving which has theoretical relevance'. The dual elements of practitioner interest, and researcher interest, are fundamental to AR. It not only involves getting a clear understanding of the problem, and generating ideas to address those problems (theory, growth of knowledge), but also involves the `practical application of those ideas in a real world situation' (Mumford, 2001b).

The motivation for this paper is encapsulated in its title. For a relatively inexperienced researcher, the task of undertaking a complex AR research project was daunting. An initial reading of the AR literature produced a disparate wealth of ideas and concepts, but little in the way of an overall framework on which to ground an understanding. Of particular concern, was the lack of information about the processes and procedures of how to actually undertake rigorous AR. Advice to the supervisor that, with neither party experienced in AR, this would be a risky venture for a PhD, further fuelled the uncertainty. Another complicating factor was that the nature of the researcher’s topic of interest was unlikely to be shared by any practitioner group, and thus would require a dual focus approach. The methodological implications of that appeared to be problematic. The researcher explored the possibility of alternative research approaches, as there was a strong commitment to the topic in question. When that produced no new options, the researcher returned to the AR literature and explored the work of McKay and Marshall (2006) more deeply. That body of work appeared to offer solutions to address the main concerns, and so the project

\(^1\) see McKay and Marshall “Driven by Two Masters, Serving Both” (McKay and Marshall, 2006)

Sections of text which refer to ‘researcher’ in the singular, are specific to the first author who undertook the research study.
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proceeded with the adoption of their approach. It is hoped that by explaining the background circumstances, that other researchers will be encouraged to see the possibilities and rewards of pursuing AR. This paper aims to demonstrate the experiences of a researcher applying AR in a significant research project for the first time, and the practical value provided by following the McKay and Marshall approach. These aims are explored using a documented AR case.

This research makes several contributions. Firstly, it presents a documented example covering all steps in the two cycles of McKay and Marshall’s approach. A working example such as this is instructive for others wishing to follow their approach. Secondly, testing out their approach yields insights into the practicality of applying this method. Thirdly, documenting the case contributes toward addressing the acknowledged lack of AR exemplars. Fourthly, it illustrates the usefulness of the dual-cycle approach in catering for the often differing interests of the researcher and practitioners. In doing so, it tests the proposition that AR serves both interests. Lastly, it tests Baskerville’s (2006) assertion regarding the usefulness of AR for addressing intractable problems in the IS discipline.

In the sections which follow, the salient features of AR will be reviewed, along with the background to both the research topic and the example AR case, after which the documented case is presented. As this is a work-in-progress, the concluding comments are combined with the discussion.

The Nature of Action Research

One of the key characteristics of AR is the active and deliberate involvement of the researcher herself in the research situation (McKay and Marshall, 2001a). This reflected the needs of the researcher, who in this case, was interested in exploring the interaction of academics and practitioners. Such a situation was difficult to identify naturally occurring, in a convenient location. AR is best suited to situations where there are benefits expected for both the researcher (through development of theoretical knowledge), and the participants and their organization (through the solving of an existing, practical problem). The goals of both parties must be compatible and equally respected (Baskerville, 1999). Rather than being a 'single, monolithic research method', AR is in fact a class of research approaches (Baskerville, 1999). Of the four different types identified by Baskerville and Myers (2004), the present study would be described as collaborative AR. There is an interdependence between the two parties, to achieve the dual aims of practical problem solving and theoretical development (McKay and Marshall, 2001a). This infers a willingness by both parties to share in the experiences and learning, and is consistent with Mumford’s (2001a) approach where she encouraged the groups she worked with to analyse their own problems and develop their own solutions.

Consideration was given to whether this research should be treated as Action Learning (Yoong and Gallupe, 2001) or Process Consulting (Schein, 1990). While there are characteristics of each which are present in AR, and relevant to the present study, both have methodological constraints which do not accommodate the research interest, nor accurately reflect the operation and interests of the practitioner group.

AR is cyclic in nature, with iterations continuing until the 'immediate problem situation is relieved' (Baskerville and Wood-Harper, 1996). A variety of AR cycle approaches have been proposed within the IS literature. In its most basic form, AR may be viewed as a simple two-stage process, involving a diagnostic stage, and a therapeutic stage (Baskerville, 2006). However, it most commonly follows the Susman and Evered five phase cyclic process (Baskerville, 2006). The discussion surrounding these approaches has tended to be focused more on the conceptual, rather than practical, operational level. There is an acknowledged dearth of literature that describes in adequate detail, with illustrative examples, the quite rigorous and complex processes that are necessary for undertaking academically-sound AR. This has impeded the adoption of AR, and has prompted the call for a 'Yin-like' monograph (Avison, et al., 1999). Despite the apparent attractiveness of AR, it is often critically labelled as merely being ‘consulting’, rather than research (Baskerville and Wood-Harper, 1996). Another related criticism is that it lacks methodological rigour (Avison, et al., 2001; Baskerville and Wood-Harper, 1996).

The approach proposed by McKay and Marshall (2000b; 2001a; 2002) was selected for this project for two reasons. The first is that their publications have addressed a wide range of the problems to do with the practical mechanics (McKay and Marshall, 2001b) and research rigour (McKay and Marshall, 1999; McKay and Marshall, 2000a), both of which are essential, in order to undertake AR confidently. The second reason is that their dual cycle approach explicitly acknowledges the differing foci and interests of the researcher and practitioner (2001a; 2006). Again, this was of particular import to this study. While others comment on the need to consider explicitly the research interest
to counter the ‘consulting’ charge, and some (Mårtensson and Lee, 2004) have explicated a dual approach to address both interests, McKay and Marshall’s approach was judged to be more intuitively suitable. While McKay and Marshall (2006) have usefully published partial cases to demonstrate particular aspects of their approach, none are fully detailed, and this is problematic for other researchers wanting to adopt their approach. Thus, this paper will report the fitting of an actual project to their approach. Prior to documenting the case, the context of both the research problem and the AR case will be described.

**Background**

Several prominent academics have raised the prospect of a crisis within the IS discipline (Robey and Markus, 1998). In their 2003 paper “Crisis in the IS Field”, Hirschheim and Klein (2003) conclude that, if the discipline is not yet in crisis, then it is in imminent danger of it. Markus (1999) warns that the problem is so serious that it threatens the very existence of the IS discipline as we know it. The opportunity to take corrective action through proactive change is one way to avoid such a crisis. One of the key facets of this problem is the parlous state of the academic-practitioner relationship (Hirschheim and Klein, 2003). Thus, the overarching concern for the broader research project is the academic-practitioner relationship divide. Hirschheim and Klein’s (2003) statement: ‘As an applied discipline, we need to better understand what each community expects from the other’, acts as a prompt for the research question driving the project: **What are the characteristics of an effective IS academic-practitioner relationship?** A research question more specific to this case is detailed within the framework that follows.

The AR case study which will be used as the basis for examining the efficacy of the McKay and Marshall approach, is termed the ‘Academic and Industry Workshop’. This particular case was initiated by a group of newly established Business Analyst (BA) practitioners, who sought the support of the researcher (an IS academic from the same university), to lead a series of professional development workshops. An organizational restructure had resulted in the newly established team of three BAs. The agreement was for a series of up to 20 workshops, extending over a period of up to one year. Avison et al (2001) describe this type of AR as ‘problem-driven’, as it was initiated by practitioners. This has implications for project control, evidenced in this case where the workshop topics and the order of priority, were practitioner-driven. Initial interest from the researcher perspective was based on the opportunity for scholarship enrichment, as systems analysis and design is one of her main teaching areas. However it became more compelling, when the researcher recognized the possibility of incorporating research relating to the academic-practitioner relationship divide, into the project. Another control aspect relevant here is that the researcher must understand the importance of ‘getting out’ of the project when the job is done to the practitioners’ satisfaction. This helps the group to be self-sustaining and avoid over dependence (Mumford, 2001b).

There appears to be a natural synergy between AR as a research approach which explicitly identifies interest in both the researcher and practitioner, and the IS discipline problem of the academic-practitioner relationship divide. In “Educing Theory from Practice”, Baskerville (2006) explores the theoretical component of AR. He raises the point that intractable problems in practice offer fertile ground for theoretical development because their (intractable) nature means that traditional remedies have been shown to be have been imperfect, that is ‘existing knowledge cannot seem to fix’. Therefore, there is a great opportunity for new knowledge (theory) to emerge from their successful resolution. He uses the term ‘educe’ to show that the new theory emerges from the experiences of the problem setting, stating that ‘the solution was not quite deduced or induced, but simply apparent to observers with the right background and enough courage to act on their observations’. In their forward to a special issue of Management Information Systems Quarterly devoted to AR, Baskerville and Myers (2004) described AR as ‘strongly oriented toward collaboration and change’. The academic-practitioner relationship divide is one of the intractable problems besetting the IS discipline, and one which will require collaboration and change to resolve. This is further supported by Mårtensson and Lee’s (2004) assertion that the dual roles of AR may address the rigour versus relevance issue. That logic may be equally applied to the academic-practitioner relationship divide.

In the following two sections, the particular details from the Academic and Industry Workshop AR case study are detailed against the generic steps of the two cycles from the McKay and Marshall approach. Codes (R1, R2…, for example) from Figures 1 through 4 relate to the subheadings in the text following the figures.
In light of the background outlined above, the overarching idea of this research was to investigate the academic-practitioner relationship as a significant element of the IS crisis. While this particular AR case will inform the research question (specified earlier), it will more specifically address: To what extent is the Academic and Industry Workshop approach effective in bridging the IS academic-practitioner relationship divide?

R1 Research themes/interests/questions: The researcher has a particular idea, or objectives, or research questions of interest which she wishes to pursue (McKay and Marshall, 2001a).

CR1 The academic-practitioner relationship divide: In light of the background outlined above, the overarching idea of this research was to investigate the academic-practitioner relationship as a significant element of the IS crisis. While this particular AR case will inform the research question (specified earlier), it will more specifically address: To what extent is the Academic and Industry Workshop approach effective in bridging the IS academic-practitioner relationship divide?

R2 Reconnaissance/fact-finding in relevant literature: Having identified some initial area of interest, the researcher will engage the relevant literature, clarifying issues and identifying existing theoretical frameworks of relevance. A theoretical framework from which to investigate the research interest will be adopted (McKay and Marshall, 2001a).

CR2 Review IS literature. In the absence of a formally espoused theoretical framework, one has been proposed (Darroch and Toleman, 2007). The framework addresses three main areas: the proposed causes of the academic-practitioner relationship divide; the proposed solutions to bridge the academic-practitioner relationship divide; and a description of how appropriate and highly functional relationships may be characterized.

R3 Planning and designing research project to answer research questions, hypotheses etc.: From there, the researcher plans and designs a research project with the express purpose of enabling her to find answers to research questions, themes, or objectives, and so on (McKay and Marshall, 2001a).

CR3 Planning research design, including data collection & performance indicators: Several meetings were held with various stakeholders (including senior faculty, ICT management and the BA group), in which the overall objectives of the project, and the specific objectives of both parties, were discussed. Broadly, from the researcher perspective, the research project will 'test out' the efficacy of the Academic and Industry Workshop approach as a mechanism to bridge the academic-practitioner relationship divide. Data sources include recorded and transcribed interviews, a research journal, email correspondence, as well as workshop and organizational documentation. The research design took into account the timing of specific data collection processes, as well as considering appropriate criteria for determining the impact of the intervention/treatment/action, and deciding when the project was complete (not specified here due to space constraints). These data sources will provide evidence to determine whether the research question has been answered, and whether the research is complete. The McKay and Marshall (2000a) framework to address research rigour was also adopted for this project. It is comprehensive and

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**The Theoretical Interest Cycle for Research**

**Figure 1. The generic AR cycle as it pertains to research (McKay and Marshall, 2001a)**

**Figure 2. The Academic and Industry AR case study cycle as it pertains to research**
detailed, with criteria listed under the major areas of: conduct of research, conceptual significance of research, practical significance of research, and presentation of research (McKay and Marshall, 2000a). Issues relating to specific methodological rigour, such as interview and transcription protocols, were also incorporated into the research design (Denzin and Lincoln, 2005; Kvale, 1996).

**R4 Action steps and R5 Implement:** Action is taken, the researcher remaining cognizant of her particular theoretical perspective (McKay and Marshall, 2001a).

**CR4 and CR5 Conduct workshops, and research data collection:** The series of paired workshops was conducted over a period of eight months. Recorded interviews were conducted at specified points such as the start of the project. Other data collection activities, outlined above, were also undertaken.

**R6 Monitor in terms of research interests:** These actions are monitored in terms of research interests (McKay and Marshall, 2001a).

**CR6 Monitor research interests via feedback and journal reflections:** The project was continuously monitored in respect of the research question. McKay and Marshall (2000b) refer to ‘mini-cycles’ wherein the researcher constantly monitors, reflects and evaluates the research project and its progress, thus continually refining the project. Mini-cycles were apparent in this project, equating roughly to each pair of workshops. The researcher sought feedback from the workshop participants informally (verbally and via email) at the end of each workshop. Formal feedback was sought during recorded interviews at specified project review points. Researcher reflections were recorded in a research journal. This monitoring offered insight into the progress of the project in terms of answering the research question.

**R7 Evaluate effect of intervention in terms of research questions, etc.:** The results of the actions are evaluated for the effect the intervention has had in terms of the research questions (McKay and Marshall, 2001a).

**CR7 Evaluate workshop impact in terms of the data answering the research question:** From a research perspective, the evaluation process was focused on whether the data collected offered sufficient evidence to answer the research question. The intervention was in the form of the workshops. Thus, from the researcher interest, the question was: ‘does the data from the interviews and researcher reflections (principally), provide the necessary evidence to answer the research question?’.

**R8a Amend plan and design if further explanation and research are required:** Otherwise, the researcher will amend her plans and designs to seek further explanations. Another AR cycle is thus embarked on (McKay and Marshall, 2001a).

**CR8a If stage 2 is pursued, revise approach:** The possibility of a spin-off AR project has been flagged. If pursued, it will offer similar opportunities for exploring the academic-practitioner relationship. It will likely take a similar workshop format, but address a different practitioner problem (adaptive system development approaches), and involve a different practitioner group (application developers).

**R8b Exit, if questions are satisfactorily resolved:** If the research questions can be answered or satisfactorily resolved, or in some way illuminated or even reframed, the researcher exits from the organisational setting (McKay and Marshall, 2001a).

**CR8b Exit, as research question is satisfactorily resolved:** Following the above evaluation process, it was determined that there was sufficient evidence to provide answers to the research question.
The Real-World Problem-Solving Interest Cycle for Practice

**P1 Problem identification:** An action researcher must become aware of a real-world problem, one that provides scope for the elucidation of research themes or ideas. (McKay and Marshall, 2001a)

**CP1 BAs need help with professional development:** The real-world problem in this case is in the form of a newly established group of BAs who require access to a relevant knowledge source to assist them in establishing a contemporary, professional skill base, contextually suitable to their work environment. Broadly, this requires a range of tools, techniques and methodologies which are suitable for use in their work environment. The researcher became aware of the problem through professional connections within the university. She was approached for assistance because of her expertise in business analysis, based on past professional background, and current teaching areas.

**P2 Reconnaissance/fact-finding about problem context, stakeholders etc.:** Following initial identification, there then follows a reconnaissance and fact-finding activity, where the action researcher endeavours to find out more about the nature of the problem and the problem context, who the problem owners are, key stakeholders in the problem solving process, historical, cultural, and political components of relevance, and so on. (McKay and Marshall, 2001a)

**CP2 Discuss problem and possible approaches with stakeholders:** Several meetings were held with the BA group and their line manager (Manager Applications Support and Development), in order to better understand their needs, and provide the necessary detail for the research design. At the invitation of the BA group, the Manager Functional Analysts also joined the group, as he has some overlapping responsibilities. The researcher’s Head of Department, Dean and Deputy Dean were also involved in negotiations. The issue of academic workloads was a key point for deliberations by the latter group, as no payment was made for the researcher’s services. Email correspondence supplemented meetings.

The problem is that the BAs lack access to sources of knowledge about contemporary methodologies and techniques applicable to their work environment. The BAs are identified as the problem owners as it was they who identified the problem situation, and approached the researcher for assistance. The problem has arisen largely because this is the first time BA jobs have been instituted at the university. Consequently there is no established tradition within the workplace to provide a base of standards, work processes or procedures, tools, techniques, or methodologies. The incumbents, while mostly having extensive software development experience, had not previously worked in the BA role. Another initiative that has impacted this context is that of the newly formed Project Management (PM) role within the university. As in the BA situation, there is no established tradition, and thus staff are still finding their way on many of these issues. There is a natural overlap in the work environment of the BA and PM areas, which adds a further layer of complexity and confusion. The concurrent newness of the two areas has exacerbated the
situation. As these two areas represent a significant cultural change for the wider university community, there are added pressures arising from a lack of understanding of their roles and responsibilities by other groups.

**P3 Planning problem solving activity:** Thus armed, the action researcher, maybe in collaboration with participants in the process, plans a problem solving strategy. (McKay and Marshall, 2001a)

**CP3 Plan workshop content, format and schedule:** The notion that the problem-solving interest is not dissimilar to consultancy was used by the researcher when planning the workshop strategy (McKay and Marshall, 2002). Several planning meetings were held between the BA group, their line manager, and the researcher. It was agreed to hold a series of half-day, paired workshops to be led by the researcher. The workshops were paired in order to address both the provision of technical skills, as well as the integration of the technique into live projects and the wider PM workflow. The trialling of techniques within live projects was essential to the practitioners. They considered that their specific combination of requirements could not be fully met by any one of commercial training, consulting, or the purchase of a methodology. Instead they favoured a customised approach that would concurrently address all their requirements, and which they believed would be most likely delivered by the researcher. A list of topics was drawn up collaboratively, with agreement that the BAs could determine (and revise), the order in which they would be addressed. The topics covered a range of analyst techniques (such as the Unified Modelling Language), tools (such as diagramming and Computer-Aided Software Engineering), methodologies, and system development life cycle approaches. The development of templates for technical documents was also included.

**P4 Action steps and P5 Implement:** Proceed to implement a number of action steps. (McKay and Marshall, 2001a)

**CP4 and CP5 Conduct BA workshops:** Each pair of workshops addressed an individual topic. The first workshop in each pair was a theory session, nominated by the BAs, and led by the researcher, who was also responsible for the development and provision of materials for the session. The group would consider a range of potential live projects suitable for piloting the theoretical material. Possible implementation problems were canvassed. A period of two weeks was allowed, during which the BAs considered the theoretical content, how it may be used to best advantage, and implemented it in the chosen pilot project. At the end of that time, during the second session, the BA group reported on the attempted implementation, and reviewed it in collaboration with the researcher. Problems associated with the implementation in the selected project, and any other problems anticipated with the wider implementation of that theoretical element were discussed. This often resulted in modifications to the application of the theoretical approach, to fit the requirements of the specific context. The particular technique or template would then usually become a permanent part of their approach.

**P6 Monitor in terms of problem solving efficacy:** These actions are monitored in terms of their impact on the perceived problem situation. (McKay and Marshall, 2001a)

**CP6 Monitor workshop impact on BA skills and pilot projects:** The project was continuously monitored in respect of problem solving efficacy (refer earlier discussion of mini-cycles). Feedback regarding satisfaction with the workshop format and content was sought from the BAs at the end of every session. This was in the form of a brief informal discussion (not recorded) toward the end of the workshop; as well as through follow-up email.

Another means of monitoring the progress regarding the workshop impact on the BAs’ knowledge and skills can be gleaned by an actual example from the workshops. In the first of the paired workshops we covered a range of material on quality assurance and testing. In the follow-on workshop, we formulated a test strategy for one of the BAs’ projects. Upon successful implementation, the test strategy was converted into a template for use in future projects. There was extra benefit in this outcome, since test strategies are a defined deliverable for one phase of the university’s PM approach.

**P7 Evaluate effect of actions on problem:** The results of these actions are evaluated for their impact on the perceived problem situation. (McKay and Marshall, 2001a)
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CP7 Evaluate workshop impact on BA skills and pilot projects: From the problem-solving perspective, the evaluation process was focused on whether the BAs considered that their practical problem had been sufficiently resolved as a result of the workshops. Thus, from the researcher interest, the question was: ‘have the workshops resolved the BAs’ need for professional development?.

P8a Amend plan if further change is desirable: Or alternatively, amends the action plan and makes additional changes to the problem context, thus embarking on another AR cycle. (McKay and Marshall, 2001a)

CP8a BAs are now able to refine their own processes and procedures: The possibility of a spin-off AR project has been flagged (and discussed earlier under the researcher interest cycle).

P8b Exit, if outcomes are satisfactory: At such time as satisfactory outcomes are deemed to have been reached by the stakeholders to this problem context, the researcher exits from the situation. (McKay and Marshall, 2001a)

CP8b Exit, as workshops outcomes are satisfactory: Following the above evaluation process, it was determined that the workshops have been successful. That is, the BAs (and their management) found the workshop format and content solved their problem (to their satisfaction) by providing them access to a source of professional advice, and contemporary techniques and methodologies. They are satisfied with the level of professional skill development, as well as their ability to utilize those skills in their projects.

Discussion and Conclusion

The experience of trialling the McKay and Marshall approach has been greatly positive for the researcher in this project. McKay and Marshall’s publications have addressed a wide range of practical matters in which the researcher must be grounded in order to undertake AR confidently. Such guidelines are indispensable for the inexperienced AR researcher, and make a significant contribution toward encouraging the wider adoption of AR.

The dual focus aspect of the McKay and Marshall approach has proven to be invaluable within the context of this particular research project, helping resolve a serious, structural problem where the researcher and practitioners had quite different interests in the research project. Thus while the focus of the two parties was quite different, the approach facilitated the design of a case that met both needs.

The process of producing a complete case example for both cycles was instructive in two ways. Firstly, addressing the process fully, made the researcher much more aware of the intricacies and subtly different considerations appropriate for each of the two interests. This awareness persisted throughout every step of both cycles, and has brought many important details to the fore. For instance, it resulted in a much more encompassing and rigorous plan for data collection because it was explicitly designed to cover the research question (from the research perspective), as well as the problem solving efficacy. Secondly, the absence of a complete set of guidelines, and somewhat incomplete case examples of the McKay and Marshall approach, left the researcher needing to interpret the meaning of some steps. For example, it was not clear what discernable difference there was between ‘Action steps’ and ‘Implement’. This applied to both research and practice cycles. Consequently the two steps were combined. This research study has addressed that omission, and thus should prove to be informative for other researchers.

Two other concepts raised by McKay and Marshall were found to be useful in this study. Firstly, the parallel between consultancy and the problem-solving interest in AR mirrored the researcher’s role, and the practitioner interest in this particular case. It also markedly facilitated the completion of details in the steps of the practice-interest cycle. Secondly, the concept of mini-cycles was a natural fit with the paired workshops, thus facilitating minor adjustments to the process at identifiable review points.

AR is acknowledged to be a complex and difficult research method to embrace. McKay and Marshall’s assertion that their rigour framework would encourage PhD students to adopt AR, proved to be well-founded in this situation. The researcher found the in-depth, specific guidance on ensuring rigour, to be of great practical benefit, as well as markedly improving researcher confidence regarding the acceptability of the research.

In summary, this case has demonstrated how AR may contribute to addressing the intractable problem of the academic-practitioner relationship divide. In the process, it has illustrated how AR can serve the interests of both research and practice. Furthermore, it has provided another much-needed exemplar of rigorous AR.
References


