Action Research Models in Business Research

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Introduction

Action research has been found to be a practical research methodology in business and management research in recent years. The Graduate College of Management at Southern Cross University has been promoting action research in business research since 1999. This paper describes models being used by management researchers at Southern Cross University at both conventional and professional doctorate levels. The intention of this paper is to share useful models and frameworks that have been developed during these programs and discuss some issues that arose while applying action research. The authors hope that sharing their experiences through this paper would provide food for thought for managers, business people and doctoral researchers to design their action research approach to their research projects.

Action Research in Business Research

The suitability of action research has been discussed by several scholars who have written about management and business research. (Dick 2002, Bawden & Zuber-Skerritt 2002, Perry and Zuber-Skerritt 2002; Sarah et. al. 2002, Coghlan and Brannick 2001, Greenwood and Levin 1998; Eden and Huxham 1996, Easterby-Smith et. al. 2001, Gill and Johnson 2002, Gummeson 1999). A growing interest in action research methodology in business is evidenced by a number of papers explaining how action research has been effective in solving a variety of business problems:

- Marketing (Knox & Bickertos 2003; Vignali & Zundel 2003)
- Product development (Anders and Agnar 2003; Shaw, Burgess , Hwarng and de Matto 2001)
- Manufacturing, Engineering and operations management (Coghlan & Coghlan 2002; Gilmore & Smith 1996; Kwok 2002; Waring & Wainwright 2002; Westbrook 1995)
- Organisational change and transformation (Kotnour 2001; Kotnour et. al. 1998)

- Information systems and E-Commerce (Goh 2002; Kock & McQueen 1995; McKay & Marshall 2001; Stirling, Petty & Travis 2002; Chiasson & Dexter 2001, Yoong & Gallupe 2001; Lau 1999)
- Accounting (Kaplan 1998)
- Small Business (Greenwood & Levin 1998; Boon and Ram 1997)
- Management Development (Sankaran & Sng 2002; Abraham 1994)

Some reasons why action research is attractive to managers are (Coghlan & Coghlan 2002, Dick 2002; Sankaran 1999; McNiff, Lomax and Whitehead 2001; Abraham 1994, Easterby-Smith et.al.2001)

1. It uses action as an integral part of research. It integrates thought and action.
2. It is focused on the researcher's professional values rather than methodological considerations.
3. It allows practitioners to research their own professional activities.
4. It helps to improve practice at the workplace.
5. It helps managers in their professional development by critically examining their own beliefs and practices.
6. It helps managers to be multidisciplinary and work across technical, cultural and functional boundaries
7. It helps managers in implementing change effectively. Action research is founded on a research relationship in which those managers involved are participants in the change process. It pursues both change in the form of action and understanding through research.
8. It is problem-focused, context-specific and future-oriented.
9. It helps to develop a holistic understanding.
10. It can use a variety of data collection methods that suit an organisation's environment.

The PhD Model

Since the inception of its PhD program by using action research in 1999 at Southern Cross University, eight managers have used action research in their doctoral research program. This program has been deliberately kept small to ensure quality of research and adequate supervision. Several managers have also applied action research in the University's Doctor of Business Administration program.

The PhD model incorporating action research shown in Figure 1 was developed by four PhD students from Singapore and their supervisors from Southern Cross University who had themselves successfully completed action research theses within four years. (Davies et.al. 2000).
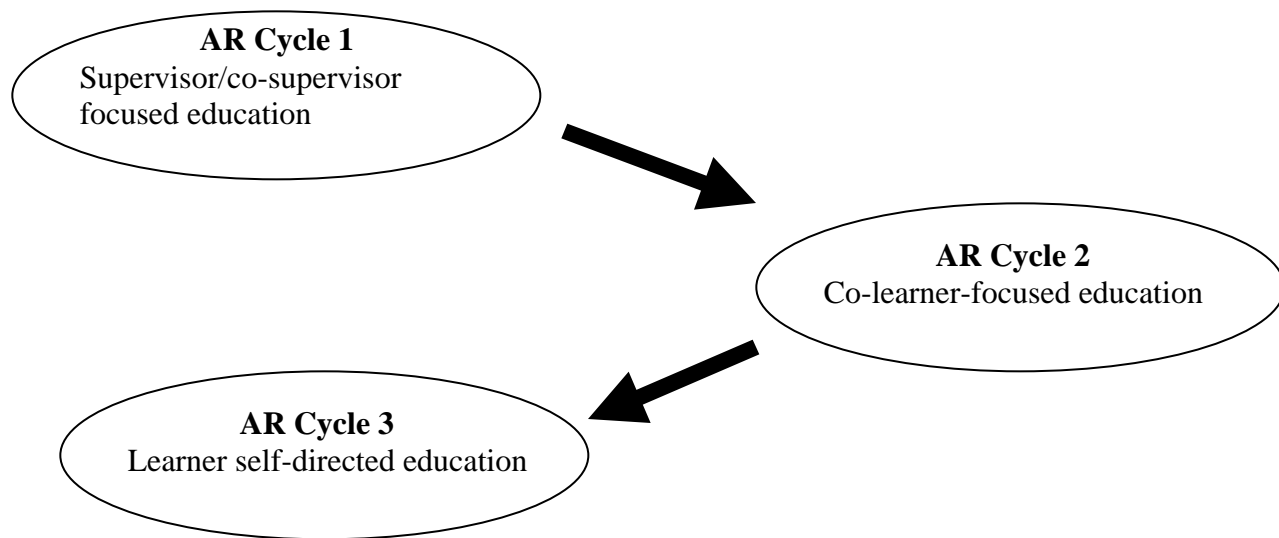
Figure 1 – An Action Research Model for a PhD program

A distinguishing feature of the PhD Model is the adoption of three teaching/supervising modes, namely, supervisor/co-supervisor-focused education, co-learner-focused education and learner's self-directed education. Each of these three modes is an action research cycle by itself. In the first cycle, students who are enrolled in the program start off with a pilot action research project using a plan-act-observe/reflect-theorise cycle. The students meet a supervisor from the University who is familiar with action research in Singapore who introduces them to action research. They then learn about applying action research methodology through the Action Research and Evaluation On-Line Program (http://www.scu.edu.au/schools/gcm/ar/areol) conducted by the University where they work in groups called 'learning sets' to discuss and learn more about how action research can be useful to their own situations. During this cycle, the students also meet as a face-to-face 'learning set in Singapore with local supervisors experienced in action research.

The students then attend a residential seminar in Australia with their supervisors at the University along with a local supervisor from Singapore. During the seminar, students learn to use tools such as focus groups, search conference, stakeholder analysis, interviewing, grounded theory that can assist them in data collection. At the seminar, they also consolidate their research proposal with their supervisors. The seminar builds a bond between the students, their supervisors and the University as well as gets them to focus on their research proposal in an academic environment away from their busy workplace.

Upon returning to Singapore, from their residential program in Australia, the students and their local supervisors enter the second action research cycle. The students then carry out their research meeting in learning sets with local supervisors every month supported by library resources and discussion lists set up at the University particularly *arlist* and *actlist*. In this cycle, the students apply the methodologies, terminologies and techniques they have learnt in the first cycle to their research situation. The local co-supervisors work with each student in 'learning sets' to identify areas they have to learn to address their problem situation; they show each student how to direct themselves through information as well as to help each student to relate their research topic to the student's own experiences. The outcome of the second action research cycle is an intellectual framework of ideas.

With this intellectual framework of ideas, the students proceed to the third action research cycle that is learner self-directed. In this cycle, each student will direct his/her own path of learning. Each student is responsible to derive the thematic concern and relevant research question(s), develop a research design and plan research implementation to build a framework for the thesis.

A supervisory team from Southern Cross University oversees each student's overall academic performance through the three action research cycles. In addition to their email facilitation, they provide face-to-face discussions over a weeklong period each year in Singapore. The meetings are very intensive and conducted using presentations and discussions in teams and individual supervision sessions.

The expectation from this structured program was that the students would be able to complete their PhD program within three to four years. The majority of the students from the first intake in 1999 have achieved this. One student who has not been able to progress to complete within the stipulated time has had career and personal disruptions, which has considerably affected the progress of his work. The progress of the second intake of students has improved over the first intake basically due to fine-tuning the model and peer support from the students from the first intake in 'learning sets'.

The DBA Model

Southern Cross University also runs a large DBA program where some of the students have chosen action research as their methodology. But there are differences in the action research approach taken by students in the DBA program from those in the PhD program . Most of the students in the DBA program tend to work by themselves on a specific business problem for a shorter duration than the PhD students. Generally DBA students have found it difficult to work in learning sets or peer groups. To help students to structure their research, a simplified model for conducting action research for DBA students was developed by Professor Chad Perry (Perry and Sankaran 2002).

The model for DBA students is derived from a model proposed by Perry & Zuber-Skerritt for graduate management programs. The original model developed by Perry and Zuber-Skerritt (1992: 204) emphasized on a group of people (managers and staff) working together, involved in action research cycles in a systematic way and making a public report of that experience. This original model of action research tries to follow action research in a 'pure' form that is process-oriented, emancipatory and following a critical theory paradigm.

In management situations, faced by DBA students, results become very important as an organization is willing to fund research or allow managers to use their time on their research only if it can be convinced of benefits arising from the research.

A two-cycle model was developed (Perry and Sankaran 2002) with a

- Core action research project that deals with the manager's concern to address an organisation's problem

- The reflections from this core project becoming the data collected for a thesis action research project that the manager deliberately sets up to complete a professional doctorate program.

The thesis action research project follows the process used for a normal doctoral thesis: starting with a background to the research, literature review, justifying action research methodology, analysing data and writing up the conclusions in a thesis.

The core action research project usually results in a report to the organization similar to a consultant's report. As long as confidentiality is not an issue the organizational report formed part of the student's thesis submission.

This model is discussed further as the figure of 8 framework later in this paper.

Three students have successfully applied this two-cycle model for their professional doctorates in strategic management, marketing management and information systems applications.

Useful frameworks in action research

In this section we will describe some frameworks that PhD and DBA students have used in their action research. Some of these frameworks were adapted from the literature while some were developed during the program by the researchers and their supervisors

Combining action learning and action research

It was observed that managers found it difficult to get permission to use action research from senior management of their organisations who feared that such research might lead to academic outcomes that cannot be put into practice. While organizations accepted the necessity for learning and development they were wary about supporting research especially when they felt that the research was for the personal benefit of the manager to get a doctoral qualification. In such situations managers found that proposing a combination of action learning to satisfy the benefits of the research to the organization on one hand and action research to satisfy the academic requirements of a University on the other was a good option (Sankaran and Sng 2002). The framework shown in Figure 2 was used to combine action research and action learning was adapted from a paper written by Perry & Zuber Skerrit (1992: 204).
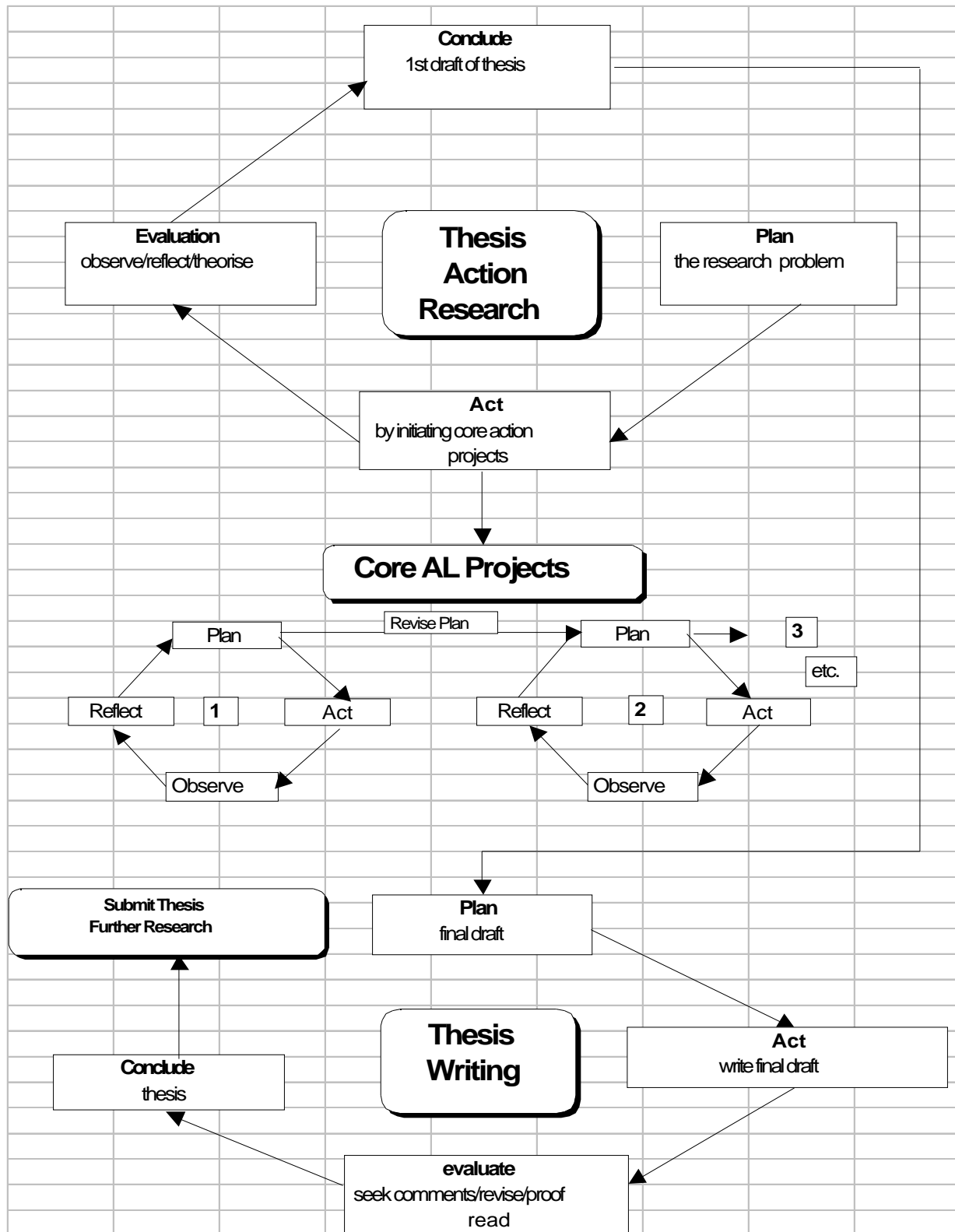
Figure 2: Combined AR/AL Framework (Adapted from Perry & Zuber-Skerrit 1992: 204)

This framework separates the research into two or more distinct projects. The 'core' research projects, which are presented to the management as action learning projects, are designed to solve a critical organizational problem directly linked to its strategy. These may be one or more projects with one feeding into the other as a reflective spiral of action research. As they use the 'action learning' model they are also viewed as leading to management learning and development by the organisation.

The 'thesis' action research projects are designed as a research project meeting the requirements of the doctoral program of the University. The 'core' projects are linked to the 'act' phase of the thesis action project.
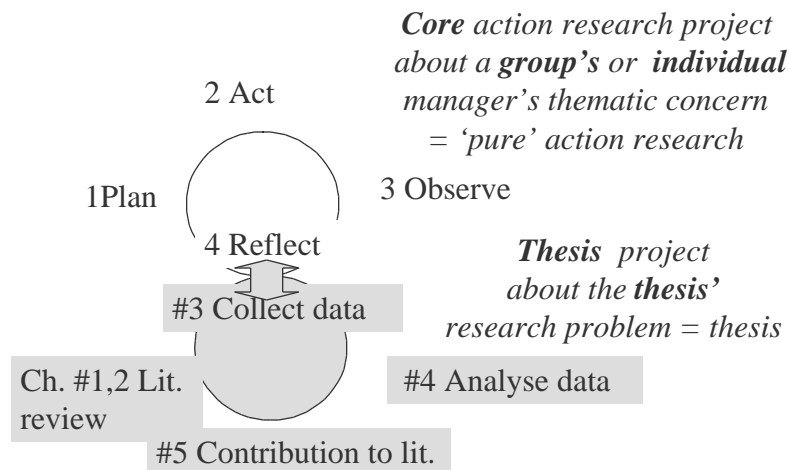
The Figure of 8 Framework

The professional doctoral program at the University is a structured program for conducting practice-based research. Generally managers who joined this program were busy executives who found it very difficult to find 'research' time. This program was well supported by materials and workshops that helped managers to cut down the time required to look for information and procedures by standardising them.

In the initial action research sessions at professional doctorate workshops managers were provided with general concepts of action research in the belief that they would be able to design their research and data collection processes. Although managers found the notion of action research more flexible and attractive, as it gave them an opportunity to solve workplace related problems as well, they found it difficult to apply in practice compared to applying survey research or case research, which had very clear procedures.

In subsequent workshops the Perry& Zuber Skerritt framework (1992:204) explained earlier in this paper was presented as a way to structure their action research. But this did not help either as managers found it difficult to set up action research groups. Managers doing the professional doctorate programs normally completed their projects by themselves. They could not have the luxury of setting up several core action research projects at their workplace.

Hence the two-cycle or Figure 8 framework was developed as shown in Figure 4 which also incorporated Perry's (1998) five-chapter thesis writing outline used by researchers using other methodologies in this program.

Figure 4 The Figure of Eight Framework (Source Perry and Sankaran 2002)

This framework is quite similar to the Perry and Zuber Skerrit framework discussed earlier. But in this framework both the core project and thesis project are projects carried out by the manager. The former solves a problem at the workplace and the latter helps in writing a research thesis.

Although this framework was devised by Perry and Sankaran (2002) for DBA students two PhD students supervised by Professor Perry have successfully used this simplified framework for their research in franchising management and management of development aid projects.

## *The Dialectical Soft Systems Framework*

Some managers who attended the Action Research and Evaluation On-line (AREOL) program were attracted to using the Checkland's Soft Systems Methodology (1999).

Checkland's (1999:163) seven-step methodology essentially included:

1. The problem situation 'unstructured'

2. The problem situation 'expressed'

3. 'Root definition' of relevant systems

4. Build 'conceptual models'

5. Compare the 'conceptual models' with the 'real' world.

6. Think about feasible, desirable changes

7. Take action to improve the problem situation.

It is important to emphasize that Checkland's SSM need not be applied in a step-by-step manner. It is recommended that it be used as an adopted way of thinking that does not itself have to be thought about at all. As pointed out by Checkland and Holwell (1998), the description for such an experienced use of Checkland's SSM is not easy, simply because once it has been absorbed as a way of thinking it tends to become "invisible". According to Dick (2000), this invisible nature of experienced use of Checkland's SSM is contributed by the fact that inherent cyclic nature of Checkland's seven steps and the use of dialectic comparisons are not being made evident. Such a dialectical framework of Checkland's SSM described in Dick (2000) has been used by two independent researchers at Southern Cross University. One is a PhD research by Tay (2003) and the other is a DBA research by Cheah (2002). Action research cycles are incorporated into the inquiry process of the dialectic soft systems framework shown in figure 5.
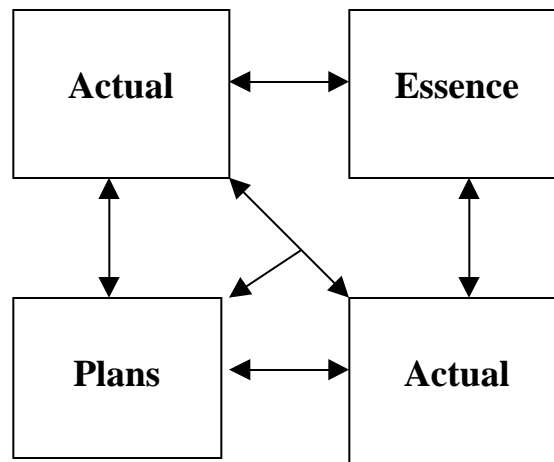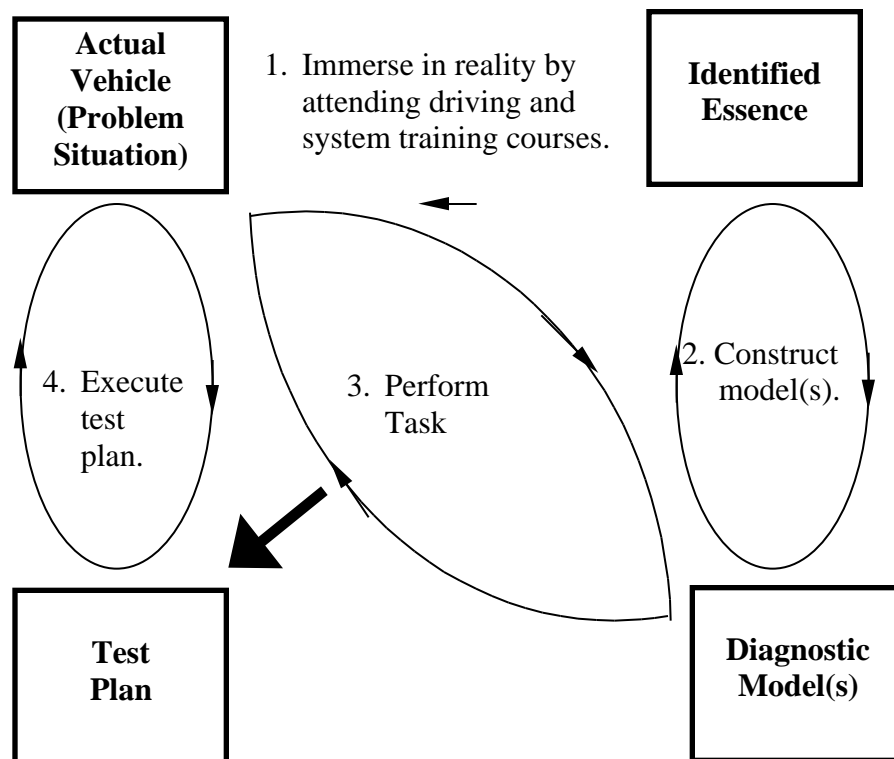

Figure 5 Dialectical Framework of SSM (Source: Dick 2000)

Dick's (2000) framework advocates the application of SSM 'thinking' as progressing through four dialectics.

- **1st dialectic** – Between immersion (rich picture) and essence (root definition) where researchers try and experience the problem situation as fully as possible and then stand back and define its essential features. (Steps 1 to 3 of Checkland's SSM)

- **2nd dialectic** – Between the essence (root definitions) and the ideals (conceptual model) where the researchers try to find an ideal way to achieve the same transformation of inputs into outputs. (Steps 3 and 4 of Checkland's SSM)

- **3rd dialectic** – Between ideals and reality where researchers think about improvement to the ideals or the actual situation. (Steps 5 and 6 of Checkland's SSM)

- **4th dialectic** – Between plans and implementation where the plans are implemented and differences between plans and reality can be monitored through which further improvements can be carried out. (Steps 6 and 7 of Checkland's SSM)

Dick's proposed way of using soft systems thinking is more 'action' driven than 'concept' driven and seems to have been easier to adopt while putting soft systems thinking into practice by our doctoral researchers. Figure 6 shows how Dick's framework was applied by Tay (2003) in his research. Tay's project was to build a diagnostic expert system model to aid in fault finding of a specific military vehicle.

Figure 6: Application of a Dialectical Framework of SSM (Source; Tay 2003:113)

A framework to use grounded theory as action research

One well-established approach to theory development through qualitative methods is Grounded Theory. According to Strauss (1987), Jorgensen (1989), Strauss and Corbin (1990), Yin (1993), Miles and Huberman (1994), Bennet (1997), McCormick and Pressley (1997), Dick (2000a) and Locke (2001), an important aspect of using grounded theory is that it does not represent a change in philosophy and scientific thought; but it has the ability to maintain an analytical distance and allows concepts to emerge from the patterns indicated by the data. Most importantly, Grounded theory provides a number of techniques that increases the validity and reliability of qualitative research.

Grounded theory is combined with action research cycles as shown in figure 7. While action research approach is used to refine the emergent theories of a problem situation, grounded theory is adopted to perform a retrospective analysis of the collected data. This approach is adopted in the doctoral research work of Gloster (1999) and Tay (2003).
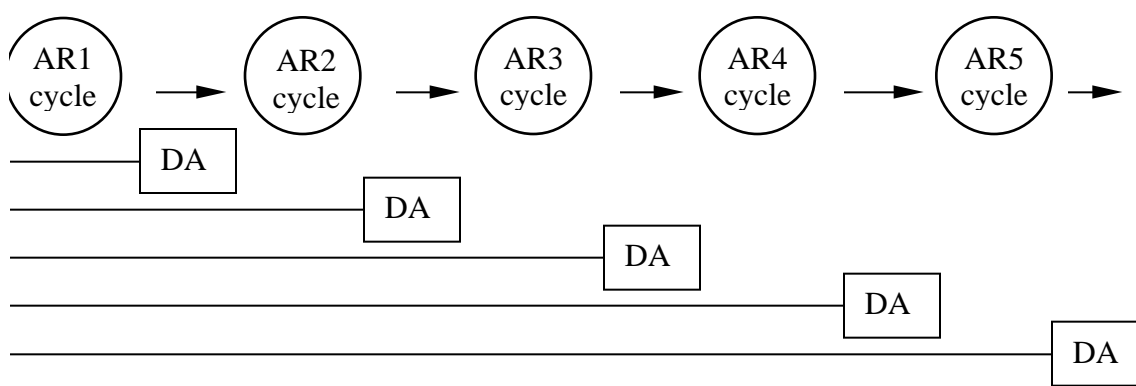
AR 1 = Action research cycle 1.

AR 2 = Action research cycle 2.

AR 3 = Action research cycle 3.

AR 4 = Action research cycle 4.

AR 5 = Action research cycle 5.

DA 1 = Data Analysis for AR 1.

DA 2 = Data Analysis for AR 1, 2.

DA 3 = Data Analysis for AR 1, 2, 3.

DA 4 = Data Analysis for AR 1, 2, 3, 4.

DA 5 = Data Analysis for AR 1, 2, 3, 4, 5.

Figure 7   Combining action research and grounded theory.

Issues

While action doctoral researchers at both the PhD and DBA have effectively applied research, some problems in applying action research have been faced during these programs. We discuss three of these issues in this paper.

Management vs Research Outcomes

A problem frequently faced by supervisors of the managers undertaking action research was the inability of the managers to distinguish clearly between management outcomes and research outcomes due to the action-oriented nature of action research. Managers are generally action and result oriented and they like to see the tangible results of their action research projects as research outcomes. Sometimes these are only management outcomes that cannot be validated as research outcomes. But managers failed to see them that way. To help managers to distinguish the difference between management and research outcomes a concept was developed by adding the nature of outcomes to an action research cycle.
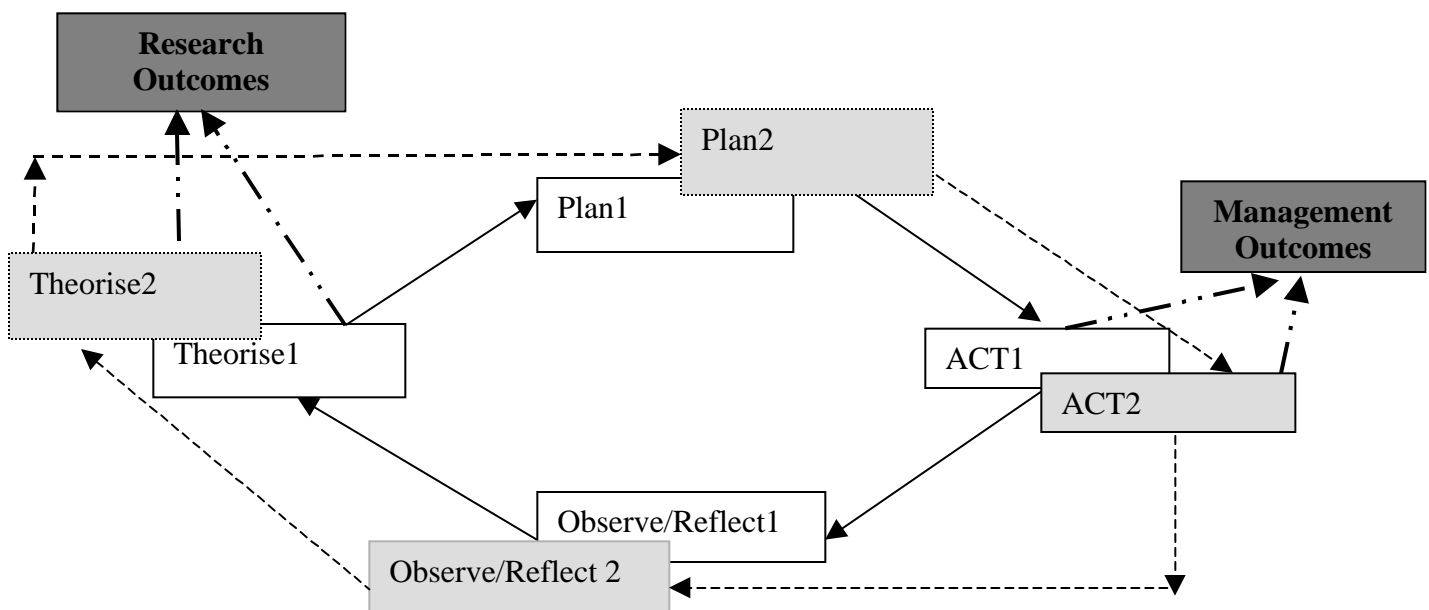
Figure 3: Management and Research Outcomes (Developed by Prof. Alan Davies)

This concept made sense to managers to understand that whenever they acted the outcomes they achieved would more likely belong to management outcomes whereas whenever they reflected and theorized they were likely to collect research outcomes. The various management outcomes would be put together in a business report that arose out of the research project for the organisation. The various research outcomes could be consolidated into research outcomes to include in their thesis.

The supervisors also had to convince the managers that the language used to convey research outcomes had to be different from the way they wrote about management outcomes. Proper justification was required to claim valid research outcomes.

Inability to introduce change

One issue that was faced was that one of the managers who took up the doctoral program was that he was not in a position to introduce change in his organisation, nor did he have the necessary influence to persuade his manger to implement the changes he was proposing though his research. So it is important that managers wanting to use action research do an evaluation of how much authority or influence they have in their organisations to implement changes arising out of their research. The program coordinators from the University should also bring this up during their initial discussions with students wanting to enrol into the doctoral program using action research.

Changes in the circumstances of the student

Another problem faced was that one of the managers was unable to keep pace with the rest of the group due to a major career change. While this can happen to any doctoral researcher some sharing of tacit knowledge was lost during this instance. There is no practical solution for this problem. Doctoral programs are always prone to delays due to personal or organisational issues and managers should be thinking about any major changes that may occur during their candidature and how it may affect their research. Action research needs political support and it takes time to build rapport to get such support when someone changes his/her job.

Conclusions

Based on the experience of using action research with managers, it was found that providing some structure to an action research approach did help managers to get down to formulating their research faster thereby improving the chances of completing their doctoral program on time. Simple models and frameworks like the ones shown in the paper also helped managers who generally responded better to patterns and images rather than text. There was no point in providing the managers with a book of readings of highly theoretical or academic papers. They found them time-consuming and hard to comprehend.

However 'how to do' models and frameworks may also act to constrain the thinking of managers doing doctoral research. Robert Flood who has written a book about systems approaches (Flood 1999) relates an anecdote about Peter Checkland, who while addressing a seminar about SSM, started his lecture by putting a blank piece of paper on the overhead projector to convey that a methodology is what you design it to be. So models and frameworks can be used a starting point for students to start thinking about action research but students should be encouraged to develop their methodology in the broader context of action research literature.

Another practical approach to develop an action research methodology is to look at what other action researches have done and adapt it to your own context. The Graduate Research College at Southern Cross University has sponsored a book that has been published to help practitioners to apply action research by studying about real examples of applying action learning and action research at the workplace (Sankaran, Dick, Passfield and Swepson 2002). This book is now supplied to all managers who enrol into the PhD program at the University.

It was found through the doctoral programs that action research provides the inquiry skills with which managers could carry out organisational and research work concurrently leading to better outcomes based on valid and reliable evidence. At a personal level, action research was also found to help managers to reflect and question their own knowledge and work practices with critical friends in 'learning sets' leading to the development of an inquiring spirit.

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