PAPER
50

Action research theses

Bob Dick (1993) *You want to do an action research thesis? — How to conduct and report action research*. (Including a beginner's guide to the literature). Chapel Hill, Qld.: Interchange. [Also Buckingham: IMC Courseware]
Available on the web at http://www.scu.edu.au/schools/gcm/ar/arp/arthesis.html

Contents

Figures

Introduction

This document begins with a brief overview of action research and a discussion of its advantages and disadvantages. The intention is to help you make an informed choice about your approach to your research. There is a particular focus on doing research for a thesis or dissertation, or for a similar independent research report.

If a thesis is not your interest I think you will still find material of use. The document also includes brief accounts of some of the methodologies that exist within action research. An even briefer mention of the data collection methods which can be used is also included.

This background material is followed by two practical sections. The first of them describes how action research can be carried out. A format for writing up the research is then presented. The form of action research described is one which uses a cyclic or spiral process. It converges to something more useful over time for both action and understanding. It is chosen because of the rigour and economy which it allows. I think it is also more easily defended than some other forms.

I write as a practitioner in a psychology department where action research is viewed with some scepticism. You may be doing your research within a setting where action research and qualitative approaches are more common. If so, you may not need to approach it with quite as much caution as I suggest.

In all of this, it is not my intention to argue against other research paradigms. For some purposes quantitative, or reductionist, or hypothesis-testing approaches, alone or together, are much more appropriate. In many research situations action research is quite unsuitable. My only intention is to offer action research as a viable (and sometimes more appropriate) alternative in *some*

research settings. Should you choose to do an action research study this paper will then help you to do so more effectively and with less risk.

Nor do I have any objection to quantitative research. If your measures adequately capture what you are researching, quantitative measures offer very real advantages. However, qualitative measures may allow you to address more of what you want to examine. In such situations it is appropriate to use them.

The paper is copiously referenced so that you can identify the relevant literature. Embedded in the reference list are also some other works. About half of the references are annotated to assist you in an intelligent choice of reading. The annotations are my own opinion, and might not accord with everyone's views.

What is action research?

As the name suggests, action research is a methodology which has the dual aims of action and research...

action	to bring about change in some community or organisation or program
research	to increase understanding on the part of the researcher or the client, or both (and often some wider community)

There are in fact action research methods whose main emphasis is on action, with research as a fringe benefit. At the extreme, the "research" may take the form of increased understanding on the part of those most directly involved. For this form of action research the outcomes are change, and learning for those who take part. This is the form which I most often use.

In other forms, research is the primary focus. The action is then often a by-product. Such approaches typically seek publication to reach a wider audience of researchers. In these, more attention is often given to the design of the research than to other aspects.

In both approaches it is possible for action to inform understanding, and understanding to assist action. For thesis purposes it is as well to choose a form where the research is at least a substantial part of the study. The approach described below tries to assure both action and research outcomes as far as possible. You can modify it in whatever direction best suits your own circumstances.

Characteristics of action research

Above, I defined action research as a form of research intended to have both action and research outcomes. This is a minimal definition. Various writers add other conditions.

Almost all writers appear to regard it as cyclic (or a spiral), either explicitly or implicitly. At the very least, intention or planning precedes action, and critique or review follows. Figure 1 applies.

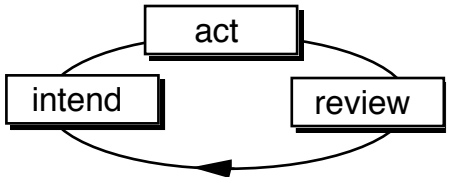

Fig. 1

The action research cycle consists at least of intention or planning before action, and review or critique after

I will later argue that this has considerable advantages. It provides a mix of responsiveness and rigour, thus meeting both the action and research requirements. In the process I describe below the spiral is an important feature.

For some writers action research is primarily qualitative. Qualitative research can be more responsive to the situation. To my mind a need for responsiveness is one of the most compelling reasons for choosing action research.

Participation is another requirement for some writers. Some, in fact, insist on this. Participation can generate greater commitment and hence action. When

change is a desired outcome, and it is more easily achieved if people are committed to the change, some participative form of action research is often indicated.

My own preferences, just to make them clear, are for cyclic, qualitative and participative approaches. However, this is a matter of pragmatics rather than ideology. I see no reason to limit action research in these ways. To my mind it is a stronger option for offering a range of choices.

There are many conditions under which qualitative data and client participation increase the value of the action research. However, to insist on these seems unnecessary. It seems reasonable that there can be choices between action research and other paradigms, and within action research a choice of approaches. The choice you make will depend upon your weighing up of the many advantages and disadvantages.

The advantages and disadvantages

This section describes some of the more important advantages and disadvantages. One of my intentions in doing this is to correct a common misperception that action research is easier than more conventional research. A description of action research then follows. This provides a basis which will be used later to establish ways of maximising the advantages and minimising the disadvantages.

Why would anyone use action research?

There are a number of reasons why you might choose to do action research, including for thesis research...

- Action research lends itself to use in work or community situations. Practitioners, people who work as agents of change, can use it *as part of their normal activities*. Mainstream research paradigms in some field situations can be

more difficult to use. There is evidence, for instance from Barlow, Hayes and Nelson (1984), that most US practitioners do very little research, and don't even read all that much. Martin (1989) presents similar evidence for Australian and English psychologists.

My guess is that they don't find the research methods they have been taught can be integrated easily enough with their practice. Both the US and Australian studies focussed on clinical psychologists. The argument can probably be made even more strongly for psychologists who work as organisational or community change agents. Here the need for flexibility is even greater, I think. And flexibility is the enemy of good conventional research.

Increasingly in Australia, practitioners within academic settings are being pressured to publish more. Those I have talked to report that the research is a heavy additional load: almost an extra job. Action research offers such people a chance to make more use of their practice as a research opportunity.

- When practitioners use action research it has the potential to increase the amount they learn consciously from their experience. The action research cycle can also be regarded as a learning cycle (see Kolb, 1984). The educator Schön (1983, 1987) argues strongly that systematic reflection is an effective way for practitioners to learn.

  Many practitioners have said to me, after hearing about action research, "I already do that". Further conversation reveals that in their normal practice they almost all omit *deliberate and conscious* reflection, and sceptical challenging of interpretations. To my mind, these are crucial features of effective action research (and, for that matter, of effective learning).

- It looks good on your resumé to have done a thesis which has direct and obvious relevance to practice. If it has generated some worthwhile outcomes for the client, then that is a further bonus. (There are other research methodologies, including some conventional forms, which also offer this advantage.)

- Action research is usually participative. This implies a partnership between you and your clients. You may find this more ethically satisfying. For some purposes it may also be more occupationally relevant.

So why doesn't everyone use it?

You may wonder, then, why it is not more common. The main reason, I suspect, is that it isn't well known. Psychology has ignored action research almost completely. My impression is that there is less debate in academic psychology about research methods and their underlying philosophy than in most other social sciences.

I recall that at the 1986 annual psychology conference the theme was "bridging the gap between theory, research and practice". This was a priority need in psychology, to judge by the choice of theme. Although some of the papers were about applied research in field settings, to my knowledge no paper given at the conference specifically mentioned action research. Yet in action research there need be no gap between theory, research and practice. The three can be integrated.

An ignorance of action research isn't a reason to avoid it. There *are* good reasons, however, why you may decide to stay within mainstream research. For example, here are some of the costs of choosing action research as your research paradigm...

- It is harder to do than conventional research. You take on responsibilities for change as well as for research. In addition, as with other field research, it involves you in more work to set it up, and you don't get any credit for that.
- It doesn't accord with the expectations of some examiners. Deliberately and for good reason it ignores some requirements which have become part of the ideology of some conventional research. In that sense, it is counter-cultural. Because of this, some examiners find it hard to judge it on its merits. They do not recognise that it has a different tradition, and is based on a methodological perspective and principles different to their own. (At a deeper level some of the differences disappear. Some examiners, however, judge research in terms of more superficial and specific principles.)

The danger is that you will receive a lower grade for work of equivalent standard and greater effort. My observation is that some examiners can't discriminate between good action research and action research which is merely competent. The fact that a study is directly relevant to practitioner psychology and may lead to change does not necessarily carry any weight.

Within psychology this is a greater issue for fourth year theses than it is at Masters level and beyond. I suspect it is also more of a source of difficulty in academic psychology than in many other disciplines.

- You probably don't know much about action research. (Some of you may not think you know much about conventional research either. But you've been taught it for 3 or 4 years, or more. You have picked up some familiarity with conventional methods in that time.) Action research methodology is something that you probably have to learn almost from scratch.
- You probably can't use a conventional format to write it up effectively. Again, that means you have to learn some new skills. In psychology there is a strong expectation that the format recommended by the American Psychological Association (APA) will be used. A non-APA format may alienate some examiners. Again, this may be more of an issue for people working within the discipline of psychology than in some other social sciences. However, most disciplines have their ideologies about how research should be reported.
- The library work for action research is more demanding. In conventional research you know ahead of time what literature is relevant. In most forms of action research, the relevant literature is defined by the data you collect and your interpretation of it. That means that you begin collecting data first, and then go to the literature to challenge your findings. This is also true of some other forms of field research, though certainly not all.
- Action research is much harder to report, at least for thesis purposes. If you stay close to the research mainstream you don't have to take the same pains to justify what you do. For action research, you have to justify your overall approach. You have to do this well enough that even if examiners don't agree with your approach, they have to acknowledge that you have pro-

vided an adequate rationale. (This may be true for other methodologies outside the research mainstream too.)

- All else being equal, an action research thesis is likely to be longer than a conventional thesis. As already mentioned, you have to provide a more compelling justification for what you do. In effect, you have to write two theses. One reports your method, results and interpretation. The other explains why these were appropriate for the research situation. In addition, if you use qualitative data (and you probably will) that also tends to take more space to report.

  This is particularly relevant for those of you doing a thesis where page limits or word limits are imposed. If there is such a limit you have to write very succinctly, yet do so without undermining your thesis or your justification.

For most people, these disadvantages outweigh the advantages. *Above all, if you are choosing action research because you think it may be an easier option, you are clearly mistaken.* I assure you it isn't. It's more demanding and more difficult. Particularly at fourth year there is a high risk that you won't get as well rewarded for it in the mark you get.

I expect that most of you have had a reasonably typical university education. If so, and particularly if you studied psychology, you know enough about conventional research that at least you can do it as a "technician", by following a formula. It's better to be creative, but you don't have to be. In action research there isn't a choice. The demands for responsiveness and flexibility require creativity if the study is to be effective. Yet you have to learn quickly to be a good technician too, so that you do not displease the examiners.

It amounts to this. Whatever research method you use must be *rigorous*. That is, you must have some way of *assuring* the quality of the data you collect, and the correctness of your interpretation. You must be able to satisfy yourself and others that the interpretation you offer is consistent with the data. Even more

importantly, you have to be able to demonstrate that it is more likely than alternative interpretations would be.

Most conventional research methods gain their rigour by control, standardisation, objectivity, and the use of numerical and statistical procedures. This sacrifices flexibility during a given experiment—if you change the procedure in midstream you don't know what you are doing to the odds that your results occurred by chance.

In action research, standardisation defeats the purpose. The *virtue* of action research is its *responsiveness*. It is what allows you to turn unpromising beginnings into effective endings. It is what allows you to improve both action and research outcomes through a process of iteration. As in many numerical procedures, repeated cycles allow you to converge on an appropriate conclusion.

If your action research methodology is not responsive to the situation you can't aspire to action outcomes. In some settings that is too high a price to pay. You can't expect to pursue change and do good mainstream research within a single experiment and at the same time.

Good action research is like good social consultancy or community or organisational change. It draws on the same skills and procedures. It offers the same satisfactions. The costs are that it takes time, energy and creativity. And at the end of it you *may* have to satisfy examiners who are not field practitioners. In fact some of them may not understand and may even be unsympathetic.

Is there some way around this?

Perhaps you are discouraged by now. If so, that's reasonable—perhaps even realistic. On the other hand, perhaps for you the advantages outweigh the disadvantages and the thought of a lower grade does not distress you provided you pass. In any event, there are ways in which you can reduce the risk of doing action research. The two most important actions you can take are...

- At all times collect and interpret your data in defensible ways. In particular, know your overall methodology before you begin. At least, know how you intend to start, and check that it is defensible. You will change your mind about your methodology in the light of your experience; but because the changes are motivated by evidence, they too will then be defensible.

  Always use methods for data collection and interpretation which test or challenge your emerging interpretations. That is, *seek out disconfirming evidence*. Integrate your library research with your data collection and interpretation. There, too, seek out *dis*confirmation.

- Justify your methodology carefully in the eventual thesis. Carefully explain your reasons for using action research, qualitative data collection, and the specific methods you use. Be careful to do so without being evangelistic, and without implying even the mildest criticism of other research paradigms.

I will have more to say about each of these later.

It may be that there is enough appeal in the thought of using a research method which suits practitioners. If so, the following account will help you to do so while reducing the risk of displeasing the examiners of your thesis.

I assume in what follows that doing good research is a goal, and that you would prefer to please the examiners at the same time.

How do you *do* action research?

There are many ways to do action research. It is a research paradigm which subsumes a variety of research approaches. Within the paradigm there are several established methodologies. Some examples are Patton's (1990) approach to evaluation, Checkland's (1981) soft systems analysis, Argyris' (1985) action science, and Kemmis' critical action research (Carr and Kemmis, 1986). Each of these methodologies draws on a number of methods for information collection and interpretation, for example interviewing and content analysis. Figure 2 summarises the three levels.

These are choices you have to make—paradigm, methodology, methods. Each choice has to be justified in your eventual thesis. The aim in making the choice is to achieve action and research outcomes in such a way that each enriches the other. That is an important point. Some of the issues which need addressing in the choice are presented clearly in Lawler, Mohrman, Mohrman, Ledford, and Cummings (1985), particularly the introductory paper by Lawler. The illustrative title of the collection of papers is *Doing research which is useful for theory and practice*.

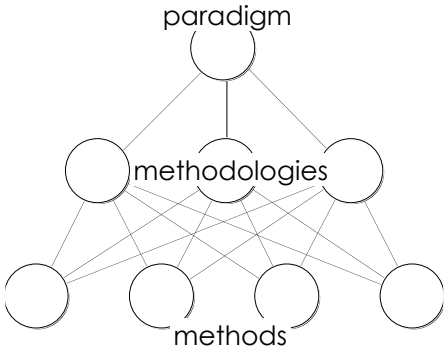

Fig. 2

Within each paradigm of research are several methodologies, each drawing on a number of methods for data collection and interpretation

Below, I describe an approach as *one* example of how you might go about it. I have chosen it because it is an approach I am familiar with. Also, it achieves a balance of action and research, and it is more economical to report than other approaches I know. The description is quite general, subsuming the methodologies I have already mentioned. The description is step-by-step, to help you to follow it easily.

I want to avoid the style of much of the literature on counter-cultural research approaches. Many of them evangelise for their own particular variety. Consequently they sometimes give the impression that there is one best way to do research, which just happens to be the one they advocate. I think that the approach I describe below is good, or I wouldn't offer it. I don't want you to think it's the only way.

So don't feel obliged to follow the approach I describe. You can expect to have to tailor it to the research situation. If you can do action research without having to modify it on the run, it probably isn't the appropriate choice of paradigm. However, most of the steps in the description are there for good reason. If you modify it, be clear about what you are doing, and why you are doing it. Expect that you will have to modify it to respond to the situation. Expect, too, that each modification needs careful choice and justification.

It *is* important to remember that many examiners are likely to suspect action research of being far less rigorous than more conventional research. It need not be, but much of it in the past has been. Whatever your choice of methods, therefore, focus on rigour: on the quality of your data and your interpretations. The most effective way of doing this, I believe, is to follow two guidelines...

1 Use a cyclic (or "spiral") procedure. In the later cycles you can then challenge the information and interpretation from earlier cycles. Both the data you collect, and the literature you read, are part of this. In effect, your study becomes a process of iteration. Within this process you gradually refine your understanding of the situation you are studying.

   You can think of it in this way... Conventional research works best when you can start with a very precise research question. You can then design a study to answer that question, also with precision.

   In action research your initial research question is likely to be fuzzy. This is mainly because of the nature of social systems. It is also because you are more likely to achieve your action outcomes if you take the needs and wishes of your clients into account. Your methodology will be fuzzy too. After all, it derives from the research question, which is fuzzy, and the situation, which is partly unknown.

   If you address a fuzzy question with a fuzzy methodology the best you can hope for *initially* is a fuzzy answer (Figure 3). This, I think, explains some of the opposition that action research draws from some quarters.

But here is the important point...Provided that the fuzzy answer allows you to *refine both question and methods*, you eventually converge towards precision. It is the spiral process which allows both responsiveness and rigour at the same time.

In any event, the whole purpose of action research is to determine *simultaneously* an understanding of the social system and the best opportunities for change. If you are to be adequately responsive to the situation, you can't begin the exercise with a precise question. The question arises from the study.

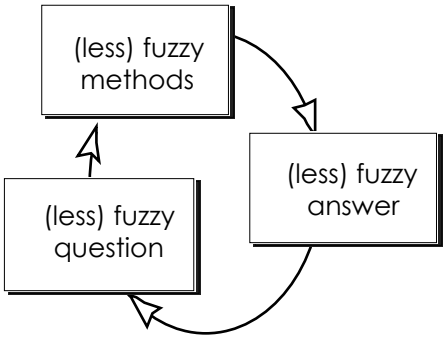

Fig. 3

Action research often starts with a fuzzy question and methodology; but provided each cycle adds to the clarity, this is appropriate

This is the most important reason for choosing action research: that the research situation demands responsiveness during the research project. If you don't have to be responsive to the situation, I think you would be well advised to save yourself a lot of trouble. Use more conventional research methods.

As it happens, one of the key principles of action research is: let the data decide. At each step, use the information so far available to determine the next step.

2 At all times try to work with multiple information sources, preferably independent or partly independent. There are ways in which you can use the similarities and differences between data sources to increase the accuracy of your information.

This might be called *dialectic*. It is similar to what is often called triangulation in research (Jick, 1979). For more background on this important topic you might read some of the material on multimethod research. Examples include Brewer and Hunter (1989), Cohen and Manion (1985), and Fielding and Fielding (1986).

Any two or more sources of information can serve your purpose of creating a dialectic. Here are a few examples. You may use...

- different informants, or different but equivalent samples of informants;
- different research settings (as a bonus, this increases the generalisability of your results);
- the same informant responding to different questions which address the same topic from somewhat different directions;
- information collected at different times;
- different researchers;
- or, as in triangulation, different methods.

I have described elsewhere a data-collection method, convergent interviewing (Dick, 1990b), which uses paired interviews to create a dialectic. This illustrates the principle. After each pair of interviews, the idiosyncratic information is discarded. Probe questions are then devised for later interviews. Their purpose is to test any agreements by finding exceptions, and to explain any disagreements (Figure 4).

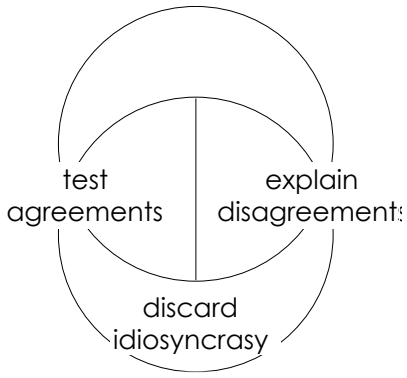

Fig. 4

Only overlapping data are considered. If the informants (etc.) are in agreement, later cycles test the agreement; if disagreeing, later cycles attempt to explain the disagreement

So, for example, if two interviewees agree about **X**, whatever **X** is, look for exceptions in later interviews. If the interviewees disagree about **X**, try in later interviews to explain the disagreement. If only one person mentions **X**, ignore it.

In effect, treat agreement sceptically by seeking out exceptions. The disagreement between the original data and the exceptions can then be resolved, leading you deeper into the situation you are researching.

It is an important feature of this approach that the later interviews differ from the earlier interviews. This gives you the chance to be suspicious of your emerging interpretation, and to refine your method and your questions. Each interview (or pair of interviews) becomes a turn of the research spiral.

(For an independent assessment of convergent interviewing as a qualitative research tool see Thompson, Donohue and Waters-Marsh (1992).)

What I suggest you do is follow these two groundrules, and explain them clearly in your thesis. You will be less liable to the criticisms which some action research theses have faced in the past.

The purpose in action research is to learn from your experience, and apply that learning to bringing about change. As the dynamics of a social system are often more apparent in times of change (Lewin, 1948), learning and change can enhance each other.

However, you are more likely to learn from an experience if you act with intent. Enter the experience with expectations. Be on the lookout for unmet expectations. Seek to understand them. A different way of describing action research is therefore as an intend→act→review spiral. A more elaborate form is shown in Figure 5.

It is by being deliberate and intentional about this process that you can maximise your learning. At each of the steps you learn something. Sometimes you are

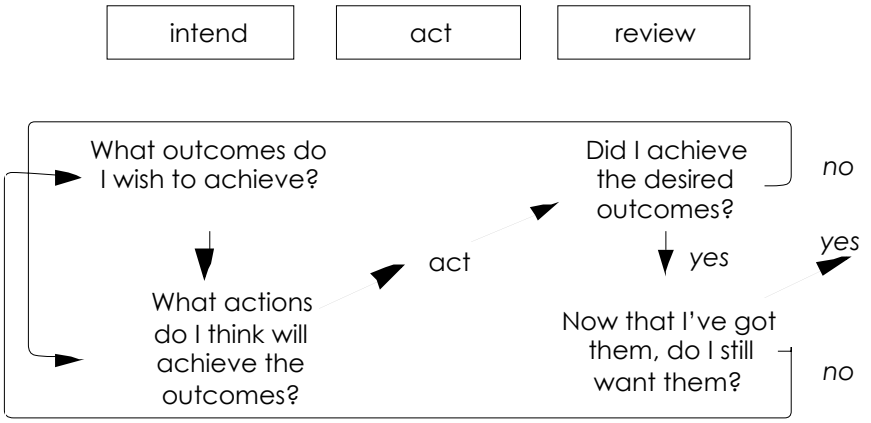

Fig. 5 An expanded version of the intend/act/review cycle

recalling what you think you already understand. At other steps you are either confirming your previous learning or deciding from experience that your previous learning was inadequate.

This is equivalent to what Gummesson (1991) calls the "hermeneutic spiral", where each turn of the spiral builds on the understanding at the previous turn. It is these—the responsiveness to the situation, and the striving after real understanding—which define action research as a viable research strategy.

This helps to explain why action research tends also to be qualitative and participative. In *quantitative* research you often have to give a fair amount of time and attention to the development of an appropriate metric or system of measurement. Every time you change your mind about your research question you risk having to modify your metric.

Participation favours qualitative methods. Participation by the client group as *informed* sources of information gives you a better chance of discovering what they know and you currently do not. They are more likely to join you as equal partners in this endeavour if you speak to them in their own language (for instance, everyday English) than in numbers or technical language.

In addition to gaining some background knowledge of action research, you also need enough prior information to enable an intelligent choice of methodology. The following section describes four action research methodologies.

Choosing an approach

As I have said, there are paradigms (such as action research), methodologies (soft systems analysis, for example), and methods. You will change your mind during the course of the study about methods, so you need not concern yourself too much about them now. You may even change the methodology you use; but it doesn't hurt to begin by choosing one as the possible vehicle for your study.

There are advantages in following a published approach. In particular it can be simpler to use a process described by an author who has sufficiently explained and justified it. In your eventual thesis it is then someone else who is providing much of the justification for what you do. This is less risky than having to provide it yourself.

By the way, I do not think you should accept anyone else's arguments uncritically. Satisfy yourself that the argument is well made. Better still, suggest some improvements.

Below, I give brief accounts of four methodologies. One is participatory action research, to some extent in the style of the "critical action research" of Kemmis and his colleagues at Deakin University (Carr and Kemmis, 1986; Kemmis and McTaggart, 1988). A second is action science as developed by Argyris and his colleagues (for example Argyris, Putnam and Smith, 1985). Checkland's (1981) soft systems methodology comprises the third. The fourth, evaluation, is itself a large family of methodologies. I draw to some extent on the work of Patton (for example, 1990) and Snyder (personal communication). I do not assume that the

developers of these methodologies would necessarily agree with my summary of them.

Participatory action research

The action research literature is reasonably large, and growing. It is often characterised by process-oriented, practical descriptions of action research methods. Action research in education, in particular, is common. To select from the large number available, I might mention as examples Elliott (1991), McKernan (1991), and Winter (1989). Each of these is written from a different perspective.

A number of works which use the Deakin model provide useful reading. Kemmis (1991) is one. Ortrun Zuber-Skerritt (1992a, 1992b) has recently published two books in this tradition.

You may also want to supplement your reading from works on qualitative research generally. Examples here include Gummesson (1991), Marshall and Rossman (1989), or Strauss and Corbin (1990). Marshall and Rossman is a good starting point. Whyte (1991) contains a collection of papers mostly illustrating participatory action research with case studies done in a variety of settings.

If you look at the bibliography you will find that three publishers in particular, Falmer and Kogan Page in England and especially Sage in the US, specialise in qualitative research. Most of their publications (or at least those I've seen) are well written and useful.

When it comes to justifying your use of action research, I think the first half of Checkland (1981) provides a more coherent argument than most of the others. (Not everyone agrees with me about this). Although he is describing soft systems methodology, described below, he explicitly identified it as an action research methodology (Checkland, 1992). In his keynote address to the Action Learning Congress in Brisbane in 1992 he argued that a legitimate rigorous

action research methodology requires an explicit methodological framework. I agree. He claims most action research ignores this requirement.

In addition, Checkland uses language which will be less of a challenge to the expectations of examiners unfamiliar with action research. In contrast, the arguments of Kemmis and his colleagues (see below), and many other writers in the field, are occasionally polemical enough to stir defensiveness. I advise caution in their use.

There is also good material in some of the papers in the collection edited by Van Maanen (1983). Van Maanen's own introduction and epilogue provide good starting points.

The form of action research taught at Deakin University by Stephen Kemmis and Robin McTaggart provides a framework. There are several sources, but particularly Carr and Kemmis (1986), and Kemmis and McTaggart (1988). If your examiners are familiar with action research, it may well be that this is the form they know best. Deakin also offers a distance education course in action research, reported electronically by McTaggart (1992).

The Deakin University people work with a particular form of action research, and tend to be critical of other approaches. If you use their method, it would be as well to document and argue for any deviations. As I said above, they also often argue more on ethical than epistemological grounds, and somewhat evangelically. Your best strategy for thesis purposes may be to use their processes, which are effective and well explained. However, it may be better to find your arguments elsewhere.

To help you place their approach in context, you may also want to read Grundy (1982, 1987). This will help you distinguish the Deakin approach from some of its alternatives. In addition, McTaggart (1991) has written a brief history of action research, with a particular emphasis on educational settings.

The essence of the Deakin approach is the use of a defined cycle of research, and the use of participatory methods to produce "emancipation". They call their approach emancipatory action research, and draw on European sources, especially on the critical theory of the Frankfurt school. The cycle or spiral which they describe consists of four steps: plan, act, observe and reflect.. This cycle is carried out by the participants—they conceive of action research as something done by the clients, not something done to the clients by a researcher. To my mind one of the strengths of their approach is the emphasis on research which liberates those who are researched.

Kemmis and McTaggart (1988) provide a description of the Deakin approach. Zuber-Skerritt (1992a, 1992b) uses a similar framework. She draws heavily on Kemmis' work, also relating it to other (especially European) literatures. Anything by Richard Bawden, who runs a whole faculty on action research principles at the Hawkesbury campus of the University of Western Sydney, is likely to contain a thoughtful and well-argued commentary (for example Bawden, 1991). His approach is in most respects consistent with that of the Deakin team. Denham (1989) has done a coursework masters dissertation using action research, though not in the Deakin style.

Participatory action research is a generic methodology. You could treat it as a back-up position for some other approach if you wished. It might also be a good choice if the research situation appears too ambiguous to allow a more specific choice.

The next methodology, action science, is more specific.

Action science

For some decades now, Chris Argyris has been developing a conceptual model and process which is at the one time a theory of social systems and an interven-

tion method. It is particularly appropriate to the researching of self-fulfilling prophecies, system dynamics based on communication flows, and relationships.

The central idea is that, despite their espoused values, people follow unstated rules. These rules prevent them behaving as they might consciously wish. The result is interpersonal and system processes in which many problems are concealed. At the same time, taboos prevent the problems or their existence being mentioned. In effect, the unstated rules of the situation, and the unstated assumptions people form about each other, direct their interactions in both group and organisational settings (Figure 6).

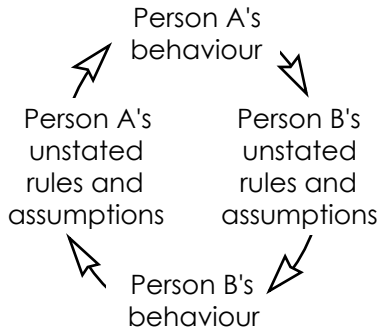

Fig. 6

Each person's behaviour may lead to the other person developing unstated assumptions about that person, and inferring unstated rules about their interaction. The result can be a double self-fulfilling prophecy

I know of no other system which integrates in so well-argued a fashion interpersonal, intrapersonal and system dynamics, and processes for research and intervention. As Argyris presents the approach it does depend on high quality relationships between researcher and client, and skilled facilitation. However, there are alternatives in the form of detailed processes which clients can manage for themselves. These processes are directed towards the same improvement in the social systems and the understanding of the actors as in Argyris' own work (see Dick and Dalmau, 1990). They have been used in one action research thesis to my knowledge, Anderson (1993).

The concepts are developed in Argyris and Schön (1974, 1978). The 1974 book deals primarily with the effects of intrapersonal and interpersonal dynamics on social systems. The later book focuses more deliberately on system dynamics. Argyris' 1980 book provides much of the rationale, as do some of his earlier works.

Many people find this material hard to read. Argyris (1990) is easier to follow. People have told me that a book Tim Dalmau and I wrote (Dick and Dalmau, 1990) sets out the concepts well. If you can get hold of Liane Anderson's (1993) thesis, it contains a very clear overview. Your understanding of the relevant system dynamics may be helped by Senge (1990), who describes system functioning in terms of interaction cycles. Most people find Senge more readable than Argyris (though it is my view that in some respects Senge's book lacks Argyris' depth).

The research methodology is most clearly described in Argyris, Putnam and Smith (1985). It is also worth browsing through Argyris (1985), which was written for consultants. (This is an *action* research project and action implies intervention.) Argyris' 1983 paper is also relevant.

Argyris, too, is evangelical about his approach, and criticises other research methods. If you use his own arguments you may have to be careful to avoid offending some readers.

There isn't a simple way to describe the methodology. Essentially it depends upon agreeing on processes which identify and deal with those unstated rules which prevent the honest exchange of information. The diagram above can be used as a model for the type of information to surface. There is a strong emphasis on the people involved in the research being honest about their own intentions, and about their assumptions about each other's motives. You can think of it as providing a detailed set of communication processes which can enhance other action research approaches.

I have treated action science as action research. However, note the view expressed by Argyris and Schön (1989, 1991). While acknowledging action science as a form of action research they identify an important difference in focus. In particular, Argyris has argued here and elsewhere that normal social research is not capable of producing valid information. Without valid information the rigour of any action research endeavour is necessarily undermined. As I understand him, he believes that action science is a research method which is capable of obtaining valid information about social systems where most other research methods, action research or otherwise, would fail.

Action science is a good choice of methodology if there are strong within-person and between person dynamics, especially if hidden agendas appear to be operating. However, it probably requires better interpersonal skills and willingness to confront than do the other methodologies described here. You can use a predesigned process, but unless you sacrifice some flexibility you still require reasonably good skills.

Soft systems methodology, which follows, is somewhat less demanding in terms of the interpersonal skills it requires.

Soft systems methodology

Soft systems methodology is a non-numerical systems approach to diagnosis and intervention. Descriptions have been provided by Checkland (1981, 1992), Checkland and Scholes (1990), Davies and Ledington (1991), and Patching (1990). The book by Davies and Ledington is a good starting point. It also has the advantage that both authors are now in Brisbane. Lynda Davies is at QUT, and Paul Ledington is in the Department of Commerce at the University of Queensland. Patching's description is very practical. He provides a complementary description, as he writes as a practitioner. The other writers are academics. Jackson (1991) has provided a critique, partly sympathetic, of soft systems methodology and related approaches.

In the description which follows, I will first outline an *inquiry process* which stresses the notion of dialectic rather more than the descriptions given by the authors cited above. I then explain the specific features of soft systems methodology. In doing this I use the framework which this inquiry process provides.

One form of inquiry process consists of three dialectics. In each dialectic you (or the researchers) alternate between two forms of activity, using one to refine the other. Figure 7 outlines the process as a series of dialectics.

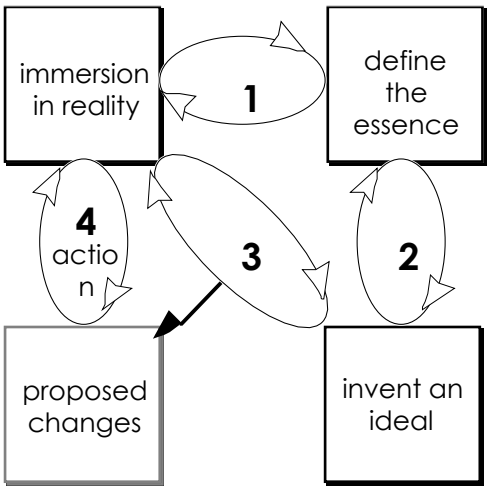

Fig. 7

Checkland's soft systems methodology is here represented as a system of inquiry using a series of dialectics

- To begin you immerse yourself in the reality, in a style akin to participant observation (as described, for example, in Lofland and Lofland, 1984). You then try to capture the *essence* of the system in a description, probably in terms of its most important functions. Then switch between reality and your description of that reality. This is the first dialectic.
- The next dialectic is between the description of the essence, and a depiction of an ideal. The description of the essence you already have, from the first dialectic. You then forget your experience of the reality. Working from the description of the essential functions, devise an ideal system. Alternate

between them until you are satisfied that your ideal achieves the essential functions of the system.

- The third is between the ideal and reality. You compare your ideal to the actual system, noting differences. This third dialectic gives rise to a set of proposals for improvement to the reality. This leads in turn to action, which is a dialectic between plans and reality, and is a fourth step.

The diagram may make this clearer. In more detail...

1. First you immerse yourself in the system, soaking up what is happening. From time to time you stand back from the situation. You reflect on your immersion, trying to make sense of it. At these points you might ask: what is the system achieving or trying to achieve? When you return to immersion you can check if your attributed meaning adequately captures the essentials. This continues until you are content with your description of the essential functions.
2. You then forget about reality, and work from your description of its essential functions. You devise the ideal system or systems to achieve the system's actual or intended achievements. Moving to and fro between essence and ideal, you eventually decide you have developed an effective way for the system to operate.

3 The third step is to compare ideal and actual. Comparisons may identify missing pieces of the ideal, or better ways of doing things. The better ways are added to a list of improvements.

4 Finally, the feasible and worthwhile improvements are acted on, forming the fourth dialectic.

In passing, you may note the resemblance of this to Kolb's (1984) learning cycle (Figure 8). His four-element cycle consists of concrete experience, reflective observation, abstract generalisation, and active experimentation.

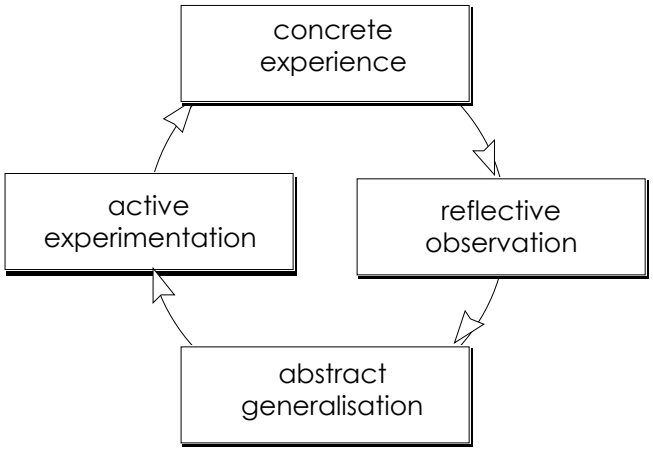

Fig. 8

Kolb's learning cycle
(after Kolb, 1988)

It is typical for each cycle in soft systems methodology to take place several times. A better understanding develops through these iterations. If there is a mismatch between the two poles of a dialectic, this leads to a more in-depth examination of what you don't understand. Continuing uncertainty or ambiguity at any stage may trigger a return to an earlier stage.

To give more impact to the third dialectic, the first dialectic can be put deliberately out of mind when the second dialectic is current. In other words, when you are devising the ideal, try to forget how the actual system operates. In this way, the ideal is derived from the essence, to reduce contamination by the way the system actually behaves. The comparison of ideal and actual then offers more points of contrast.

I have taken some pains to describe the process as an inquiry process. If you wished you could use models other than systems models within the process. What converts this inquiry system into a soft systems analysis is the use of systems concepts in defining the essence and the ideal.

In systems terminology the essence becomes the necessary functions. Checkland calls them root definitions. To check that they are adequate he proposes what he calls a CATWOE analysis. CATWOE is an acronym for...

Customers
Actors
Transformation (that is, of system inputs into outputs)
Weltanschauung (or world view)
Owners, and
Environmental constraints.

The ideal, too, is conceived of in systems terms by devising an ideal way of transforming the inputs into outputs. Systems models help to suggest ways in which the different goals of the studied system can be achieved.

In his earlier work Checkland described this as a seven-step process. The steps are...

(1) the problem unstructured;

(2) the problem expressed;

(3) root definitions of relevant systems;

(4) conceptual models;

(5) compare the expressed problem to the conceptual models;

(6) feasible and desirable change; and

(7) action to improve the problem situation.

Soft systems methodology is well suited to the analysis of information systems. This has been the thrust of the works I mention earlier, though I wouldn't limit it to that application. For an example of a dissertation using it in agriculture see van Beek (1989). Reville (1989) has used it to evaluate a training scheme. It seems to lend itself to the analysis of decision-making systems generally.

The next subsection deals with a more generic methodology: evaluation.

Evaluation

It is misleading to characterise evaluation as a single methodology. There is probably far more written on evaluation alone than on all (other) action research methodologies combined. The approaches vary from those which are very positivist in their orientation (for example, Suchman, 1967) to those which are explicitly and deliberately anti-positivist (such as Guba and Lincoln, 1989). For thumbnail sketches of a variety of approaches, ranging in length from a paragraph to several pages, see Scriven's (1991) aptly named *Evaluation thesaurus*.

As is often so when people have to deal with the complexities of reality, the change in methodology over time has been mostly from positivism to action research and from quantitative to qualitative. Cook and Shadish (1986) summarise the trends, explain the reasons for the shift from positivism, and in doing so provide some useful background. Yes, it is the same Cook who wrote on quasi-experimentation (Cook and Campbell, 1979). This is one of the fringe benefits of using an evaluation methodology—you can support your justification of your methodology with quotes from people who are well regarded in traditional research circles. Cronbach (Cronbach, Ambron, Dornbusch, Hess, Hornik, Phillips, Walker, and Weiner, 1980) and Lawler (Lawler et. al., 1985) are other examples.

There is a sense in which the distinction between evaluation and some other processes is artificial. If you are working within an action research framework then appropriate diagnostic methods can be used for evaluation. So can appropriate evaluation methods be used for diagnosis. In both instances the situation is analysed with a view to bringing about change. A fourth year research project by Reville (1989) has used soft systems methodology successfully as an evaluation tool. Bish (1992), in a coursework masters dissertation, used a general action research approach for evaluation of a fourth year university course.

Two writers who provide a copious justification for their approach to evaluation are Patton (for instance 1982, 1986, 1990) and Guba (1990; Guba and Lincoln, 1981, 1989; Lincoln and Guba, 1985). Of the two, Guba provides the more detailed description of how evaluation can be done. The approach is also a little more carefully argued, though too polemical to be used carelessly.

My own preferred approach is based on an evaluation model developed by Snyder (personal communication), who once lectured at the University of Queensland. I have been developing it into a more systematic process while preserving its responsiveness. It is so far unpublished, though I can provide you with some papers on it (Dick, 1992a, among others). It has been used in a number of settings and has featured in a coursework masters thesis by Bell (1990).

However, if you use the Snyder model or other goal oriented models be aware of the debate about goals. Scriven (1972) and Stufflebeam (1972) between them cover the essentials. Then use Scriven's (1991) entry on goal-free evaluation to bring you up to date.

A brief description of a Snyder evaluation follows...

The Snyder "model" actually consists of a content model based on systems concepts and a number of processes. The content model has inputs (known as resources), transformations (activities), and three levels of outputs: immediate effects, targets, and ideals. Figure 9 shows it diagrammatically.

The processes allow you to address three forms of evaluation in sequence. Process evaluation helps you and your clients to understand how resources and activities accomplish immediate effects, targets and ideals. Outcome evaluation uses this understanding to develop performance indicators and use them to estimate the effectiveness of the system. Short-cycle evaluation sets up feedback mechanisms to allow the system members to continue to improve the system over time.

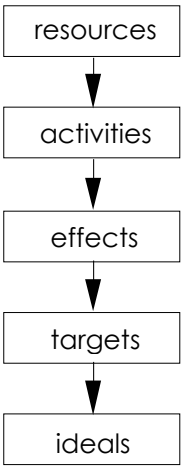

Fig. 9

The systems model which is the heart of the Snyder approach to evaluation. It is a conventional systems model in which resources correspond to inputs, and activities to processes. There are three levels of outputs, consisting of effects, targets and ideals

If done participatively the process component leads to immediate improvement of the system. As the participants develop a better understanding of the system they change their behaviour to make use of that understanding. The outcome component can be used to develop performance indicators. The short-cycle component in effect creates a self-improving system by setting up better feedback mechanisms. You can think of it as a qualitative alternative to total quality management.

Methods

Whatever the methodology you choose, you will require some means for collecting the information. I won't go into these in detail here, but will briefly mention some of the methods and some of the sources.

Firstly, two data collection methods have a strong dialectic built into them. One is convergent interviewing (Dick, 1990b). The second is delphi, a way of pooling data from a number of informants. It is usually done by mail; this makes the process easier to manage, though at the cost of reducing participation. It is described in some detail by Delbecq, Van de Ven and Gustafson (1986). Their

brief and readable book also describes nominal group technique, which is a group data-collection process which allows all views to be taken into account. To alert you to the dangers in using delphi there is a biting critique by Sackman (1975). A briefer and more sympathetic account appears in Armstrong (1985). For a recent example of a research masters thesis in social work using a mail delphi see Dunn (1991).

I have described (Dick, 1991) a face-to-face version of delphi, though one which requires more skilled facilitation than the mail version. This same book, on group facilitation, contains descriptions of a number of methods for collecting and collating information in group settings.

A further dialectic process, though not usually described in those terms, is conflict management or mediation. This is a process, or rather a family of processes, whose purpose is to reach agreement in situations characterised by disagreement. You can therefore regard conflict management as a set of processes for data collection and interpretation. One of the clearest process descriptions is in Cornelius and Faire (1989).

A further technique which can be turned easily into a dialectic process is group feedback analysis. Heller, who devised it, has described it in a number of papers (for example 1970, 1976). For other specific techniques you might consult McCracken (1988) on the long interview, and Morgan (1988) on focus groups. You have to build your own dialectic into these methods. Heller's approach sacrifices responsiveness to standardisation, to some extent. It is not difficult to modify it to give it whatever emphasis you desire.

There are a number of recent general accounts of qualitative methods. Miles and Huberman (1984) focus primarily on methods for analysing qualitative data. Walker (1985), Van Maanen (1983), and Rutman (1984) present collections of papers, many of which are helpful in choosing methods. Market research techniques, for example as described by Kress (1988) can often be pressed into serv-

ice. Gummesson (1991) takes a more macro approach with a particular emphasis on managerial settings.

Practical works on group facilitation can also be helpful. For example you might try Heron (1989), or Corey and Corey (1987). My book entitled *Helping groups to be effective* (Dick, 1991) is also relevant. It has quite a lot on methods of collecting and collating data in group settings.

Carrying out your research project

In this section I provide a description of the major phases of an action research project.

In doing this I don't want to give the wrong impression. So please note that it isn't going to be as simple in practice as my description may imply. You are likely to find that the steps overlap, and on occasion you may have to revisit early steps to take account of later data collection and literature. Think of it as consisting of cycles within cycles.

However, there are some broad stages. They are described immediately below...

1 Do some preliminary reading

Reading about action research continues throughout the study, but it's useful to have some idea of action research before you actually approach a client. If you have no idea what you are going to do, you may find it hard to explain to others.

If you choose the reading carefully, it can also be preparation for the introduction to your thesis. In fact, it's a good idea to start writing your introduction. In that way you can check that you can provide an adequate justification. It would be a

shame if you decided after it was all over that you didn't choose an appropriate approach.

At this stage, most of your reading is in the methodological literature. The content literature comes later, as you collect and interpret some of your data. If you are definitely researching a particular content area you will need to scan the more important literature in the field. For the most part, however, reading in the content literature at this stage can be wasted if the research takes off in a different direction.

In approaching the methodological literature, look for arguments you can use to justify your approach. At the same time, notice any approaches which seem to suit your intended research situation.

To begin to access the literature, you might begin with the first half of Checkland's (1981) book on soft systems methodology. It provides a clear justification for using an action research approach in language which won't distress people from a more traditional research background. Some of the chapters in Van Maanen (1983) are also appropriate.

To give you some background on the use of qualitative data, you will probably find Patton (1990) valuable. So is Kirk and Miller (1986). *Rigour without numbers* (Dick, 1990a) is useful and presents a somewhat different view.

For a general overview, Kemmis and McTaggart (1988) is valuable. Beware, though, that they have narrow ideas about what is acceptable as action research. Altrichter (1991) argues that action research has strong similarities to conventional research. This may help you to make your research approach less alienating for an examiner. For general background it may also be worth your while to skim Guba (1990). But be careful about using the arguments from this book, as they tend to be polemical. Phillips (1992) identifies some of the weaknesses in Guba's arguments.

Action research, as I've said, is action *and* research. The literature on intervention is therefore relevant. A good starting point is Guba and Lincoln's (1989) book on evaluation. Their "fourth generation evaluation", as they call it, is an evaluation technique which is clearly similar to action research. It integrates research and intervention systematically and well. Again, the arguments are somewhat polemical. French and Bell (1990) write on organisational change from an explicit action research perspective. Dunphy (1981) deals well with change techniques, in a book written specifically to integrate concepts and practice. It has the added advantage that it was written for Australian conditions. However (in my mind narrowly) it criticises general systems theory as a basis for theorising about change. Cummings and Huse (1989) describe organisational change in a way which relates it more directly to the academic research literature. This can be useful.

If your interest is more in community change try Cox, Erlich, Rothman, and Tropman (1987). Don't overlook Rogers (1983) and his collation of a massive literature on change and innovation. Although directed primarily towards rural innovation it draws on a wider literature than that, and has wider application. It is a very good resource. I hope a new edition appears soon.

You will eventually want to read about specific methods. For the most part, however, this can probably wait until you are a little further into the actual study. The reading I've suggested in this section will get you started. You can then return to the earlier sections of this paper or the appended bibliography for further reading.

In addition, Miles and Huberman (1984) may help you to gain some idea of the possibilities for collecting and analysing data. A general text on action research or qualitative research may be worth skimming. You can choose from Crabtree and Miller (1992), van Maanen (1983), Whyte (1991), Strauss and Corbin (1990), Walker (1985), or Reason (1988), among others. Have a look at their titles (and for some the annotations) in the bibliography below, to help you choose.

It is important not to limit your reading to those people whose ideas you agree with. Some examiners will judge your final thesis from within their own paradigm. To address their concerns you have to understand their ideology as well as your own. Presumably most of you already have some exposure to this literature from your prior study of the social sciences. However, it won't hurt to refresh your memory. You will find Campbell and Stanley (1963) useful reading on the threats to validity you have to deal with. Cook and Campbell (1979) can then provide a valuable supplement to this. Black and Champion (1976) also provide a traditional view. For a more recent view, try Stone (1986).

If you are a bookworm, you will develop some useful background understanding by exploring some philosophy of science. Kuhn (1970) is vintage. Lakatos (1972) and Feyerabend (1981) will help you develop an understanding of the way all research paradigms have their Achilles' heel. If you don't want to read them in the original, Chalmers (1982, 1990) provides a critical but fair overview together with an account of other views. I find him one of the most readable of philosophers.

Phillips (1992), in an eclectic, reasoned and often entertaining book, points out the weaknesses in several approaches. He also provides a summary of current views in the philosophy of science. Even if you don't read anything else on the philosophy of science his chapter on qualitative research is well worth studying.

To prepare for the eventual thesis, look beyond the differences to the underlying issues. If you can phrase your justification of action research in terms of different trade-offs in different paradigms you may find it easier to support your research processes without appearing to criticise other approaches. There is more on this below.

2 Negotiate entry to the client system

As well as the general reading on action research, you will find it useful to read something on entry and contracting before you actually enter the client system. You might choose from the following. Dougherty (1990) is a general introduction to organisation development which has a section on entry. Glidewell (1989) focuses on entry issues. In another paper in the same book Schatzman and Strauss (1989) deal with the important topic of creating relationships in consulting. My favoured book in the area is Hermann and Korenich (1977), despite its age. Argyris' work is relevant too, for instance his 1990 book; but it's not something to try to understand in just a day or two.

A collection of papers which focus on field research has been compiled by Shaffir and Stebbins (1991). The first of four parts is on entry. Each of the other parts gives attention to the importance of forming relationships. The approach is mostly ethnographic, but many of the practices translate easily enough into the type of research I'm discussing here.

Obviously enough, your intention during the entry phase is to negotiate something which is mutually beneficial for you and the client system. What may be less obvious, and certainly more difficult, is to negotiate a fair amount of flexibility in what you do, and your role. Without flexibility you sacrifice some of the advantages of the action research methodology.

3 Create a structure for participation

In much action research the intention of the researcher is to create a partnership between herself [1] and the client group. That can increase the honesty with which the clients report information—it's in their benefit, too, to have accurate information. It almost always increases the commitment of the client group to the changes which emerge from the research.

1. Please treat "herself" as a unisex term.

In some situations you may be able to involve all of those who have an interest in the situation—the "stakeholders", as they are usually called. In other situations you may have to be satisfied with a sample. And occasionally it may only be feasible to use the stakeholders as informants, without involving them any more directly in the process.

Choosing an appropriate sample is not always easy. You may find a "maximum diversity" sample, in which you try to include as much diversity as you can, will give you better information for a given size. In random samples, especially small ones, the extreme views tend to be under-represented. You are less likely to miss important information if you include as many views as possible. In addition, dialectic works better if there is adequate variety in the information analysed.

You can often achieve a real partnership with the client group even when you have to work with a sample. A convenient practice is to set up a steering committee with a small sample. They become directly involved with you. They can also help you to choose others as informants, and to interpret the information you get. However, before you actually start on this, give some attention to your relationship with them, and their and your roles. Also agree on the processes you will use together. Remember to be flexible and to negotiate for ample continuing flexibility.

There is some literature on the value of participation in action research. It is often less explicit about how you would actually do it. A commendable exception is Oja and Smulyan (1989). For the most part you will have to make do with the literature mentioned in step 2, previously.

4 Data collection

If this were a conventional piece of research you would expect to collect all the data first. Only when data collection was complete would you do your analysis. Then would follow in turn interpretation and reporting.

In action research you can improve the rigour of your study substantially by combining collection, interpretation, library research, and perhaps reporting. Developing an interpretation right from the start gives you more time and more cycles to test it thoroughly. In this respect, a single action research study bears some resemblance to a large program of conventional research. Or, to put it differently, a single cycle resembles a whole experiment. In action research each cycle is smaller because there are multiple cycles in one study.

A further advantage in recording your interpretation as you proceed is that you spare yourself the mountain of data which qualitative research too often accumulates. You need only record your interpretation and the data relevant to its confirmation and disconfirmation. Further, because of the convergent nature of the process, the more detailed information collected in the later cycles supersedes the earlier data.

Your reading can also be more targeted to your results. You *will* have to range widely in your reading to find the relevant papers and books. And you will find it very useful to develop some library search skills and to learn how to phrase research questions in language librarians can understand. The result will be a literature review which is determined by relevance not by discipline or sub-discipline.

During this phase, too, plans for change will be developed. This may or many not be of interest for your thesis. You won't get much credit for it from some examiners. It is clearly relevant to practitioners, and to the clients. Developing plans during data collection also allows those plans to be refined as the study proceeds.

Writing the thesis

There are authors who discuss the difficult task of writing up qualitative research, for example Wolcott (1990) or Richardson (1990). There are many more, especially when you include those on report writing in general. It is worth your while to read one or two. However, for thesis purposes I am going to suggest a format which allows you sufficient brevity, and capitalises on the use of dialectic during the research process. I have discussed this elsewhere (Dick, 1992b). My argument is that building a process around dialectic leads to economy in both conduct and reporting of action research. At the same time it increases rigour.

There are some general principles to keep in mind as you write the thesis. Above all, what you do is less important than how well you make a case for doing it. Secondly, it is important that you present your methods and findings in such a way that the *precision of your work and the adequacy of your interpretation are at all times very evident*. Unless you specifically explain that your study is rigorous, and why, a few examiners may assume it isn't.

The final thesis won't look all that much like a conventional thesis, so again you have to explain and justify what you have done. I suggest therefore that where APA or other appropriate conventions are relevant you follow them. Where they are not, explain what you have done.

Any writing is easier for being adequately organised around a theme. My suggestion is that you organise your thesis around the specific contributions that your thesis makes to the body of knowledge.

In doing this you may find that a "Chapter" format will serve your purposes better than the more conventional introduction-method-results-discussion-conclu-

sion. The structure may be: an introductory chapter; a chapter on the methodology; separate chapters on each of the findings; a conclusion.

Introductory chapter

The introductory chapter sets the scene by describing the field situation and the reason for doing the study. It then provides a brief overview of the study, the methodology, and probably the conclusions. (If you don't want to spoil the surprise you can state the conclusions as issues to be resolved.) If you mention anything which might be contentious, also state where reasons will be given.

A little historical context is sometimes useful, to the extent that it helps to explain why the study was done. There may be some content literature, depending on the nature of your psychological contract with the client group and the focus of the study. Often, however, the best place for most of the content literature is in the later chapters. This will become clearer shortly. You would be well advised to explain the structure of the thesis, and your reasons for adopting this structure, very near the beginning.

By the end of this chapter, aim to have identified the *need for responsiveness* in your research design. Your argument will then flow logically into the second chapter, on methodology.

Chapter on methodology

A major chapter then outlines *and justifies* your approach. As discussed earlier, there is the overall action research paradigm, the particular methodology, and the specific methods used. Each has to be described and justified. The use of qualitative methods will also have to be explained and justified as part of the discussion of the action research paradigm.

In providing your justification, the frame of mind I suggest you adopt is as follows. There is nothing wrong with more traditional research methods: when

they fit the situation they are often the most appropriate. However, in *this* particular setting action research is more suitable.

Don't be defensive about action research in your justification. The effect to aim for is naturalness. Try to convey that this is a normal and natural research paradigm with adequate rigour and a long tradition. It is suitable for some research projects which are not as amenable to being researched using other methods. In particular, it allows practitioners to achieve better research outcomes from their practice without undermining the changes their practice is intended to achieve.

In presenting your justification it is often useful to write about the trade-offs involved. For example, replicability and responsiveness are hard to achieve at one time: you trade off one for the other. Conventional research sacrifices responsiveness in the interests of achieving replicability. That is what often makes it unsuitable as a change technique. Action research values responsiveness over replicability, because otherwise it is very difficult to achieve action as part of the research.

Note too that, all else being equal, responsiveness and rigour are both virtues. In a change program you *need* responsiveness. If you can achieve it in ways which allow some replicability, so much the better. Aim for best-of-both-world processes when you can.

A more telling trade-off is between local relevance and global relevance. It will also serve as an example of how you can support a counter-cultural approach without explicitly criticising the dominant culture. To do this, you identify the issue on which the usual ideology depends and discuss that issue. It is then unnecessary to attack the conventional methodology. The following discussion may help to clarify this.

A common criticism of action research is its lack of generalisability (see Heller, 1986), sometimes called external validity. To some extent this is true. The harder you try to find an explanation which fits a specific situation, the more likely it is

to differ from what would suit a different situation. By defining the debate in terms of generalisability, however, you disguise the trade-off.

Some literature (for instance Kirk and Miller, 1986) reverses the argument. Qualitative research, Kirk and Miller argue, has an ecological validity which quantitative research lacks. However, I don't think you change people's minds about an ideology by stating its opposite as an assertion. However, Kirk and Miller *do* acknowledge a trade-off between reliability and validity. At least an issue underlying the generally-held principle is revealed.

As I said a few paragraphs earlier, the trade-off can be described as one between local relevance and global relevance. (There are other trade-offs here too, which I won't address.) You can be responsive to the local situation, and sacrifice global relevance if necessary. Alternatively you can pursue global relevance at all costs, even at the expense of denying opportunities for local change. You explain your choice in these terms, and do what you can to compensate for the disadvantages your choice contains.

Justification is thus provided without defensiveness, and with less danger of arousing defensiveness. The best argued case in the world will avail you little if you tread on ideological toes. It seems to me that Argyris (1970, 1976, 1980) has presented cogent arguments against conventional research. It hasn't produced much reaction or led to much change. I suspect this is because it is presented in such a challenging way that people find it easier to ignore than to address.

The ideal is for the examiner to be led by your argument to the same conclusions about methodology that you reached. One way to do this is—

- explain the topic in such a way that it is clearly justified as an important and timely topic;
- identify the methodological issues which you face in doing such a study; do this in such a way that by the time you draw your conclusions about the

most appropriate methodology you have led the reader to the same conclusions.

To take a related example... I suggest you resist the temptation to point out the general shortcomings of other approaches. For instance you could argue that truly-experimental research achieves generalisability by limiting its focus very severely. At best its conclusions can be applied to the world at large. But it is able to consider so few variables at once that it is not the world of people and organisations as they exist in practice.

There is another trade-off involved here. It might be described as between universality of principles and universality of application. In one instance you can say: Yes, this is a universal or near-universal principle; it is hard to apply on its own, because it considers only a limited set of variables. In the other instance, the statement becomes: Yes, you have to treat this flexibly if you translate it into other settings. But it does consider the situation as it is, and not a small portion of the situation.

The essence of this approach to justification is simple. Acknowledge the conventional view. Explain the nature of the choice in terms of *underlying* principles. Present your own choice as fitting your methodology to the situation.

If you have followed the research approach recommended here, there are key features which it is usually appropriate to mention. The need for *responsiveness* is important. It usually provides the justification for qualitative action research. The intention to produce change, and the importance of the commitment of the participants, are good reasons for using participation.

Above all, the procedures used to achieve rigour are crucial. They may include the following...

- use brief cycles to provide adequate iteration;
- strive always to access multiple data sources to provide a dialectic;

- develop interpretations as part of data collection;
- access the relevant literature as part of interpretation, to widen the dialectic; and
- continuously test your assumptions sceptically and rigorously: actively seek exceptions to apparent agreement and explanations for apparent disagreement; be willing to challenge your own ideas from evidence and literature; do this in both your field work and your reading.

A word about the content literature. In many studies you don't know the relevant literature until data collection and interpretation are under way. This is an important part of being responsive to the situation. As you reach a tentative interpretation of your data, go to the library and search out *disconfirming* evidence and argument. You can then reach your conclusions with more confidence, and any resulting action can be better informed.

Chapters on the thesis' contribution to knowledge

Most of the remaining thesis can be organised around the major findings which your study has made. You might give the most important of these a chapter each. Subsidiary findings might then be grouped together in a further chapter. To decide what to include, you might ask yourself: what is the *contribution to knowledge* of this thesis? What is now understood that was less well understood before?

These contributions are likely to fall into one or more of the following categories...

- to action research methodologies or methods;
- to the client system, and perhaps (with extreme caution) to other similar systems; and

- to possible changes to the client system, and perhaps (with extreme caution) to changes in other settings.

If your conclusions fall into several of these categories, the logical order is probably as given above. Methodological findings also have implications for system findings, and so precede them. System findings have implications for findings about change, which therefore come last. If there are no methodological findings you may still find it advantageous to include a chapter on the methodological problems you faced, and the implications they have for the conclusions which follow. It is important that you are critical about the shortcomings of your methodology without making too much a tale of woe out of it.

Each of the chapters on your conclusions might, as an example, have a structure something like this...

- As an introduction, a one-sentence summary of the finding.
- A more extended discussion of the finding.
- A summary of the dialectic informing the finding—that is, the evidence from your study for and against. If there is no contrary evidence, explicitly say so, and reiterate what you did to seek it out.
- A summary of the relevant literature, for and against. Again, if you are unable to find any disconfirming literature, say so and explain how you attempted to find it. Don't confine yourself to literature from the same field, but try to access relevant literature from other fields.
- Any qualifications or implications of the finding, taking evidence and literature into account.
- A *very* cautious paragraph or three on the wider implications of what you have found.

This final point can be problematic. As I have argued, action research often emphasises local relevance (that is, responsiveness) at the cost of global relevance (that is, generalisation). When change is one of the intended outcomes this

is a sensible trade. However, a few examiners may not see it that way. Some people (not all) judge any piece of research according to the criteria and ideology of their preferred paradigm.

You have to make a case according to the rules of their game, not of your own, or find a wider set of rules that let both of you appear correct. Perhaps it isn't fair but it happens to be one of the costs of working within a paradigm that isn't yet part of the mainstream.

Style and fluency

The prior description provides the bare bones. In addition it is important to pay attention to the way in which you say what you have to say. This is partly a matter of structure, and partly a matter of the "tone of voice" in which you write.

Structure applies to the thesis as a whole, to the major sections within it, and to the sentence by sentence expression. An effective thesis flows from chapter to chapter, so that there are no unpleasant surprises for a reader. It is useful for each chapter to begin with a sentence or two which previews what is to come. At the end of each chapter a brief summary, in one or two sentences, can restate the chapter's contents. The thesis as a whole is best preceded by an abstract and followed by a summary of conclusions.

At the level of sentences and paragraphs, it is worth remembering that your purpose is to be understood. This will be most effectively achieved if you use simple language in short, simple sentences. If the spell-checker on your computer gives readability scores, experiment with trying to achieve the clarity of Hemingway or the Bible. (I offer this with some misgivings, as I suspect some examiners are actually impressed by material which is highly technical and difficult to read.)

The tone to aim for, I think, is one of intelligent and careful reason coupled with tolerance for other approaches. Unless you are planning to upset your examiners you will not criticise conventional research methodology at all. You will not

even say anything which *implies* criticism. Conventional research is fine (as indeed it is). Quantification is excellent (as indeed it is). It is just that the research situation demanded responsiveness, and action research provided that responsiveness. In your choice of methodology and method you have built as much rigour as possible into a qualitative action research methodology. When you argue for your approach it is less risky to use other people's arguments rather than your own wherever possible. But present those arguments in ways which demonstrate your own scholarship and insight.

If you are quoting people like Argyris or Guba or Kemmis, paraphrase them to remove the polemics or evangelism. It is perfectly correct for mainstream researchers to pick your methodology to bits if you leave them an opening; it is a serious faux pas for you even to suggest that their ideology is at all questionable. Use the large and growing literature which is critical of mainstream research to understand the issues. Avoid it in your own thesis.

This is an exercise in explaining why action research is appropriate. It is not an attempt to attack other research methods or change the attitudes of examiners. In fact, sometimes you are safer quoting authors who, like Chalmers (1982, 1990) and Phillips (1992), are critical of much current qualitative research.

Avoid the pernicious habit of sticking a name and a date at the end of each sentence. This style of referencing doesn't give the reader much information. Does it mean that this is a paraphrase of what the cited author said? Or is there some phrase or word in your sentence which the author used? Or is it merely relevant in some indirect way? Explain what the author said, and on what basis—research, experience, opinion... Distinguish between your ideas and those of the author, and be sure to provide evidence or argument to support your own ideas. Be *analytical* of the author's evidence and argument. Most examiners approve of originality and creativity and critical insight, but only if it is well argued for.

Somewhere, perhaps in each of the chapters on your contribution to knowledge, identify the methodological factors and evidence which are inconsistent with your interpretations. Allow for alternative explanations of your data. Admit any shortcomings, preferably in a way which also explains why they were a reasonable choice at the time. If the study has been carefully conducted this need not be a substantial section. Don't overdo it.

Somewhere, perhaps again in the chapters on contribution, discuss the wider implications of your findings. Most examiners value generalisation highly. Action research sacrifices generalisation (which is global relevance) to local relevance. It cannot otherwise be sufficiently responsive. Apart from methodological findings, which probably do generalise well, treat any generalisation with extreme caution. But, to the extent that you can, it is worth defining the generalised implications.

Finally, don't assume that I have provided a complete description of the thesis. Leave nothing out. Craft your thesis into a logical, fluent, carefully-argued work. It is better to do a little, and do it superbly, than to do a lot and do it at a standard which is merely very good.

In summary...

Let me try to summarise the main points I have tried to make...

- Action research is more applicable than mainstream research methods in situations requiring responsiveness and flexibility and action. It may be more relevant for practitioners. It is more difficult and it is riskier. The best reason for choosing it is that it fits the research setting, suits your preferences and your career aspirations, you are willing if necessary to risk a lower mark, and you know that it is demanding.
- It is, above all, a method for yielding simultaneous action and research outcomes. It is able to do this because it adapts to the situation. To achieve adequate rigour it does this within a reflective spiral. Each turn of the spiral

integrates theory and practice, understanding and action, and informs the next turn.

- Because it is intervention *and* research, it draws upon intervention procedures and research procedures. It is usually (though not necessarily) participative. Entry and contracting are important.
- It is a counter-cultural research paradigm. That is where the risk arises. To reduce the risk, justify its use carefully. In your justification, explain...
    - the need for the study;
    - the paradigm (action research);
    - the use of qualitative data;
    - the methodology (for example, participative action research, action science, soft systems methodology, or evaluation); and
    - the actual methods used to collect and interpret data.
- At all times attend to the rigour of your methods. This can be done by...
    - using a cyclic approach, with each cycle involving data collection, interpretation, and literature search;
    - as far as possible working at any time with two or more sources of information ("dialectic"); and
    - testing your interpretations stringently by searching out exceptions to the explanations, and explanations of the ambiguities.
- The thesis may be most effectively and economically presented in a non-traditional format. Therefore, justify the format used. An effective approach is to organise the thesis around the contribution to knowledge which the study provides. This may include methodological contributions, understanding of the system, and practical implications. A possible format might include the following.
    - An introductory chapter provides some context. It explains the need for the study, for example by identifying urgent needs for action or shortcomings in existing theory or practice. It previews the original contribu-

tion which the thesis makes. If there is relevant content literature it may be summarised here.

- A methodology chapter explains the approach taken. It carefully sets out the reason for each step and clearly describes how rigour is achieved.
- A separate chapter presents each major finding. In each of these chapters, clearly present the conclusions you have reached, the dialectic from which they were derived, the relevant confirming and disconfirming literature, and the status of your conclusions.

This is not intended to be a complete description.

- Finally, the appropriate literature is whatever proves to be relevant as the study proceeds. However, I have tried to provide a guide to the most relevant literature on action research, and included with it a partly-annotated bibliography on the same topic.

I sincerely thank Wendy Baruksopulo, Karyn Healy, Pam Swepson, Paul Wildman and Ortrun Zuber-Skerritt for their helpful comments on earlier drafts of this paper.

References and bibliography:

including a partly-annotated beginner's guide to reading in qualitative action research

A number of works are listed, about half of them with brief annotations. I am also slowly adding call numbers for those in the University of Queensland library (and some others). When I have known of several suitable works I have favoured books and articles available in the University of Queensland library when I have known of them. All of the works cited in the paper are included in this bibliography. In addition I have also listed some other useful literature on qualitative research, action research, evaluation, and methodology and philosophy of applied social research generally.

I have mentioned some theses in the text, and these are referenced below. They aren't necessarily intended to be taken as good models. Many of them were done quite well, but very few are written up as clearly and economically as they might have been.

I have marked with "••" some works which I think provide a good starting point, and with "•" those that might provide a follow-up to these. The preceding paper also gives guidance—I suggest you take it, and your own situation and skills and experiences and preferences, into account

Adelman, C., Kemmis, S. and Jenkins, D. (1983) Rethinking case study, in Bartlett, L., Kemmis, S. and Gillard, G., eds., *Case study on overview.* Victoria: Deakin University.

Agar, Michael H. (1986) *Speaking of ethnography.* Beverly Hills: Sage.

Altrichter, Herbert (1991) Do we need an alternative methodology for doing alternative research? In Ortrun Zuber-Skerritt, ed., *Action research for change and development*. Aldershot: Gower.

Argues that the differences between traditional and alternative research have been overestimated The process of validating any study is itself a second research study and subject to challenges to its validity.

Anders, D.J. (1966) Action research. In S. Kemmis and R. McTaggart, eds., *The action research reader*, third ed [pp 317-321]. Victoria: Deakin University.

A brief overview

Anderson, Liane (1993) *Espoused theories and theories in use: bridging the gap. (Breaking through defensive routines with organisation development consultants).* Unpublished MPsychOrg dissertation, Department of Psychology, The University of Queensland.

Antaki, C., ed. (1988) *Analysing everyday explanation: a casebook of methods*. Newbury Park: Sage.

Many qualitative techniques depend upon some form of discourse analysis (the analysis of written or spoken language). This book discusses some of the methods.

Argyris, Chris (1970) *Intervention theory and method: a behavioural science view.* Reading, Mass.: Addison-Wesley.

Argyris, Chris (1976) Problems and new directions in industrial psychology. In Dunnette, Marvin M., *Handbook of industrial and organisational psychology.* Chicago: Rand McNally.

- Argyris, Chris (1980) *Inner contradictions of rigorous research*. New York: Academic Press.

Some of the features of traditional empirical research are taken for granted, and their disadvantages not recognised. Argyris argues, here and elsewhere, that traditional research has its own threats to rigour.

Argyris, Chris (1983) Action science and intervention. *Journal of Applied Behavioural Science*, 19, 115-140.

Argyris, Chris (1985), *Strategy, change and defensive routines*. Boston: Pitman.

Argyris, Chris (1990), *Overcoming organisational defences: facilitating organisational learning*. Boston: Allyn & Bacon.

•• Argyris, Chris; Putnam, Robert and Smith, Diana McLain (1985) *Action science: concepts, methods and skills for research and intervention*. San Francisco, Ca.: Jossey-Bass.

Offers a methodology for researching social systems in ways which gain more valid data while treating those researched as mature and responsible adults. In effect it is equivalent to a form of participative action research, with particular attention given to generating more valid information.

Argyris, Chris & Schön, Donald A. (1974), *Theory in practice: increasing professional effectiveness*. San Francisco, Ca.: Jossey-Bass.

Argyris, Chris & Schön, Donald A. (1978), *Organisational learning: a theory of action perspective*, New York: McGraw-Hill.

Argyris, C.hris, and Schön, Donald A. (1989) Participative action research and action science compared: a commentary. *American Behavioural Scientist*, 32, 612-623.

Most social research, including most action research, the authors argue, is fundamentally flawed because the researcher cannot guarantee the validity of the information provided. The unspoken rules which govern social interaction prevent some issues being discussed. Action science, by creating a more open relationship between researcher and researched, and by surfacing and confronting the rules, enables valid data to be collected.

Argyris, Chris and Schön, Donald A. (1991), Participative action research and action science compared: a commentary. In W.F. Whyte, ed., *Participatory action research*. Newbury Park: Sage [85-96].

Armeratus, A., Bederan, A. and Pond, S. (1983) Research issues in OD evaluation: past present and future. *Academy of Management Review*, 8, 320-325.

• Armstrong, J. Scott (1985) *Long-range forecasting: from crystal ball to computer*, second edition. New York: Wiley

A readable and informative overview of group processes and techniques, most of which can be used for purposes in addition to forecasting. Summarises the research on many of the techniques. Apart from that, it is worth getting for the annotated bibliography.

Bannister, D. and Fransella, F. (1986) *Inquiring man: the psychology of personal constructs*, 3rd edition. London: Croom Helm.

There is a complex theory (personal construct theory) and methodology (repertory grid) for investigating people's perceptions. This is one of a number of books by these authors which discuss personal construct theory. Unlike most individual-centred techniques, it is reasonably well regarded in academic circles.

Barlow, D.H., Hayes, S.C., and Nelson, R.O. (1984), *The scientist practitioner: research and accountability in clinical and educational settings*. New York: Pergamon.

Reports an empirical study of practitioner training for psychologists in the USA. Most schools continue to use a scientist practitioner model despite evidence that most psychological practitioners don't do research, and don't even read all that much.

Bartlett, L., Kemmis, S. and Gillard, G., eds. (1983) *Case study on overview.* Victoria: Deakin University.

Bass, M. (1985) Issues involved in relations between methodological rigour and reported outcomes in evaluations of organisation development. *Journal of Applied Psychology*, 6, 197-199.

Bawden, Richard (1991) Towards action researching systems. In O. Zuber-Skerrit, ed., *Action research for change and development*. Aldershot: Gower.

A well-illustrated account of some of the models Bawden uses in his extensive practice of action research. Readable, and with depth.

Beer, Michael; and Walton, Anna Elise (1987) Organisation change and development. *Annual Review of Psychology*, 38, 339-367.

An account of the difficulties of researching social systems, this especially questions the use of causal rather than systems models, the sacrifice of relevance for precision, the ignoring of the environmental context, and the tendency to ignore the needs of users. "Change is not brought about by following a grand plan but by continually readjusting directions and goals".

Bell, G. (1990), *An evaluation of a public welfare organisation using Snyder's 1986 "Evaluation as action research" model*. Unpublished MPsychOrg thesis. St Lucia: University of Queensland, Department of Psychology.

Bellenger, Danny, Bernhardt, Kenneth L., and Goldstucker, Jac L. (1976) *Qualitative research in marketing*. Chicago: American Marketing Association.

Many marketing research techniques can be pressed into service for action research generally.

Berg, Bruce L. (1988) *Qualitative research methods for the social sciences*. Hemel Hempstead, England: Allyn & Bacon.

Bish, A.J. (1992), *An action research evaluation of mechanisms for reflection in a postgraduate psychology course*. St Lucia: Department of Psychology, unpublished MPsychOrg thesis.

An evaluation of an experiential course in fourth year psychology, using a general action research framework to guide the approach. The most important finding was that it was useful to have a variety of reflective mechanisms, because they enhanced one another, and allowed for individual differences.

Black, James A. and Champion, Dean J. (1976) *Methods and issues in social research*. New York: Wiley.

A traditional approach to social research.

Borman, K., LeCompte, M.N., and Goetz, J. (1986) Ethnographic and qualitative research design and why it doesn't work. *American Behavioural Scientist*, 30, 42-57.

Brewer, John & Hunter, Albert (1989) *Multimethod research: a synthesis of styles*. Newbury Park: Sage.

The purpose of multimethod research is to increase the rigour of research. It is assumed that some of the systematic biases of different methods cancel each other out. See also "triangulation".

Brown, A. and Heller, F. (1981) Usefulness of group feedback analysis as a research method: its application to a questionnaire study. *Human Relations*, 34, 141-156.

Group feedback analysis is in effect a small-group method for survey feedback. It therefore lends itself to research which achieves change through working directly with small groups; but can be used with several such groups to allow results to be collated over larger numbers. Heller is the person who devised group feedback analysis, and has written in several papers on its use for combined research and intervention.

Bryant, Fred B.; Edwards, John; Tindale, R. Scott; Posavac, Emil J.; Heath, Linda; Henderson, Eaaron; and Suarez-Balcazar, Yolanda, eds. (1992) *Methodological issues in applied social psychology*. New York: Plenum.

A collection of papers on methods, methodologies and issues in social research. Qualitative and quantitative methods are addressed, and current developments receive attention.

Burrell, Gibson, and Morgan, Gareth (1985) *Sociological paradigms and organisational analysis: elements of the sociology of corporate life*. London: Heinemann.

Cameron, Deborah; Frazer, Elizabeth; Harvey, Penelope; Rampton, M.B.H.; and Richardson, Kay (1992) *Researching language: issues of power and method*. London: Routledge.

This book, written from a number of different disciplinary perspectives, focuses on the relationship between researcher and researched. It discusses some of the ways in which the usual power difference can be minimised, with particular attention to the researching of language and the language of research.

•• Campbell, Donald T. and Stanley, Julian C. (1966) *Experimental and quasi-experimental designs for research*. Chicago: Rand McNally.

The positivist bible for field research and an important contribution to the practical literature on methodology. Positivist research is seen as the ideal. Research designs which fall short of true experiments are subject to various threats to validity which must be addressed in one way or another. The approach may sell qualitative research short, but the issues are issues which require addressing in one way or another.

Carey, Martha Ann and Smith, Mickey W. (1992) Enhancement of validity through qualitative approaches: incorporating the patient's perspective. *Evaluation and the Health Professions*, 15(1), 107-114.

Qualitative and participative methods are used to refine a research program into HIV. A number of participative methods are described. The authors conclude that the participative methods were of value in designing the program.

•• Carr, Wilfred and Kemmis, Stephen (1986) *Becoming critical: education knowledge and action research.* London: Falmer Press. [Available from Deakin UP]

A strongly-put case for a particular approach to research, using participative action research methods. The form of action research advocated is cyclic, is done by those researched, and incorporates the philosophy of the Frankfurt school. The cycle used is: plan, act, observe, reflect. Valuable.

Cavallo, Roger (1982) *Systems methodology in social science research: recent developments*. Boston: Kluwer/Nijhoff.

Centre for the Study of Evaluation, UCLA (1987) *Program evaluation kit*, 2nd edition. Newbury Park: Sage.

Contents: v.1 Evaluator's handbook. - v.2 How to focus an evaluation. - v.3 How to design a program evaluation. v.4 How to use qualitative methods in evaluation. - v.5 How to assess program implementation. - v.6. How to measure attitudes. - v.7 How to measure performance and use tests. - v.8 How to analyse data. - v.9 How to communicate evaluation findings

• Chalmers, Alan F. (1982) *What is this thing called science?: an assessment of the nature and status of science and its methods*, 2nd edition. St. Lucia, Qld.: University of Queensland Press.

A critical but understanding discussion of current views in the philosophy of science. This is a readable account from an author who has the capacity to review sympathetically the work of people with whom he disagrees. He argues against a single scientific method, but claims that there are some best practices which nevertheless allow a scientific method to be defended or criticised. There is a readable summary of the important views of philosophers Lakatos and Feyerabend.

•• Chalmers, Alan F. (1990) *Science and its fabrication*. Milton Keynes: Open University Press.

An expansion and clarification of the arguments he put forward in Chalmers (1982). He restates his position that any particular scientific methodology is to be evaluated against the aims of that form of science. His argument is mainly about the physical sciences but appears to allow extension to the social sciences.

Chambers, Robert (1981) Rapid rural appraisal: rationale and repertoire. *Public Administration and Development*, 1, 95-106.

Rapid rural appraisal is a participative and qualitative diagnostic technique used frequently in rural settings, especially agricultural extension.

•• Checkland, Peter (1981) *Systems thinking, systems practice*. Chichester: Wiley.

An important book on a methodology for analysing and intervening in social systems. Systems concepts are used qualitatively to understand a social system, devise more effective ways of achieving its outcomes, and planning improvement. The first half of the book presents one of the most closely argued defences of action research as a legitimate research paradigm.

Checkland, Peter (1992) From framework through experience to learning: the essential nature of action research. In C.S. Bruce and A.M. Russell, *Transforming tomorrow today* (2nd World Congr. on Action Learning). Brisbane: Action Learning Action Research & Process Management Assn

In this conference paper Checkland identifies soft systems methodology as action research. He criticises most action research for lacking an adequate, well argued methodological framework.

Checkland, Peter and Scholes, Jim (1990) *Soft systems methodology in action*. Chichester: Wiley.

An account, liberally illustrated with specific examples, of soft systems methodology.

• Chen, Huey-Tsyh (1990) *Theory-driven evaluations*. Newbury Park, Ca.: Sage.

Chen, Huey-Tsyh and Rossi, Peter H., eds. (1992) *Using theory to improve program and policy evaluations*. New York: Greenwood Press.

Clark, Alf W., ed. (1976) *Experimenting with organisational life: the action research approach*. New York: Plenum.

Papers on action research in organisations.

Clark, Peter A. (1972) *Action research and organisational change*. London: Harper and Row.

This useful book includes, among other things, a discussion of different consulting styles and their advantages and disadvantages.

Cohen, L. and Manion, L. (1989), *Research methods in education*, 3rd edition. London: Croom Helm.

• Cook, Thomas D. and Campbell, Donald T. (1979) *Quasi-experimentation: design and analysis issues for field settings*. Chicago, Ill.: Rand McNally.

Ways of improving the rigour of field research when "true experiments" can not be conducted.

Cook, Thomas D. and Reichardt, Charles S. (1979) *Qualitative and quantitative methods in evaluation research*. Beverly Hills, Ca.: Sage.

•• Cook, Thomas D. and Shadish, W.R. (1986) Program evaluation: the worldly science. *Annual Review of Psychology*, 37, 193-232.

A review of current issues in evaluation, and an acknowledgment that dealing with a complex and demanding reality has required the abandonment of positivist and reductionist approaches.

Corey, Marianne Schneider; and Corey, Gerald (1987) *Groups: process and practice, third edition*. Belmont, Ca.: Brooks/Cole.

Group dynamics and group facilitation, with special attention to therapeutic groups.

Cornelius, Helena, and Faire, Shoshana (1989) *Everyone can win: how to resolve conflict*. Brookvale, NSW: Simon and Schuster.

It is worth reading this book for the material on "Mapping conflicts" alone. The integrated and systematic approach to conflict management described here is that of the Conflict Resolution Network. One of the most easily learned, and easily taught, packages on conflict management.

Coulthard, Malcolm (1985) *An introduction to discourse analysis*, new edition. London: Longman

An account of ways of analysing qualitative data in the form of language.

Cox, Fred M.; Erlich, John L.; Rothman, Jack; and Tropman, John E., eds. (1987) Strategies for community organisation: a book of readings, 4th edition. Itasca: Peacock.

An informative collection of papers on community organising and community development by some of the leading writers in the field. A mix of theory and practice.

Crabtree, Benjamin F. and Miller, William L., eds. (1992) *Doing qualitative research*. Newbury Park: Sage.

The papers in this book cover the stages of the research process using qualitative methods, including some case studies. Although the emphasis is on medical research (especially primary health care), it provides a convenient and readable overview of qualitative research methods.

Craig, Dorothy (1978) *Hip pocket guide to planning and evaluation*. San Diego: University Associates.

Intended for the lay reader, this is a clear exposition of a change-oriented approach to evaluation. Don't be put off by its age -- it's good. In workbook format, it is readable and systematic enough to follow in step-by-step fashion if necessary. You can use it as a general introduction to evaluation for practitioners. The "hip pocket" of the title must refer to the price, as it certainly doesn't fit in my hip (or overcoat) pocket.

- Cronbach, Lee J.; Ambron, Sueann R.; Dornbusch, Sanford M.; Hess, Robert D.; Hornik, Robert C.; Phillips, D.C.; Walker, Decker F.; and Weiner, Stephen S. (1980) *Toward reform of program evaluation: aims, methods and institutional arrangements*. San Francisco: Jossey-Bass.

A wide-ranging account of current issues in program evaluation.

Cummings, Thomas G. and Huse, Edgar (1989) *Organisation development and change*, 4th edition. St Paul: West.

The fourth edition of one of the "bibles" (previous editions by Huse, or Huse and Cummings). More research oriented than most OD books, it draws heavily on research (especially North American) on organisational behaviour and similar topics. If you want a general handbook on OD, you could do worse than this.

•• Davies, Lynda and Ledington, Paul (1991) *Information in action: soft systems methodology*. Basingstoke, Hampshire: Macmillan.

How to apply Checkland's soft systems methodology in practice, written by people who did their doctoral research under Checkland. Easier to follow, and more practical, than Checkland's own writing. And the authors are local academics, so you can always ask them directly if you don't understand something.

• Delbecq, A.L., Van de Ven, A.H. and Gustafson, D.H. (1986) *Group techniques for program planning*. Middleton, Wis.: Greenbriar.

Detailed descriptions of nominal group technique, which collects information from each person in turn in a group, and delphi, a mail technique for pooling data from a number of experts.

Denham, D. (1989), *An action research approach to planning a staff development program for a group of secondary school counsellors*. Unpublished Masters of Applied Psychology Dissertation, Department of Psychology, The University of Queensland.

This study used a series of very brief action research based processes to conduct research on training needs as part of a series of brief seminars.

•• Dick, Bob (1990a) *Rigour without numbers: the potential of dialectical processes as qualitative research tools*. Brisbane: Interchange.

On the use of processes for data collection and interpretation within an action research framework. The monograph argues that qualitative research methods need not surrender rigour, if carefully designed.

Dick, Bob (1990b) *Convergent interviewing*, version 3. Brisbane: Interchange.

An interviewing method which uses structured process, unstructured content, and a procedure for increasing the rigour of qualitative information. It provides more precise and detailed information than can usually be expected from unstructured interviewing methods.

Dick, Bob (1991) *Helping groups to be effective: skills, processes and concepts for group facilitation*, 2nd edition. Chapel Hill, Qld.: Interchange.

A balance of concept and practice for the novice or experienced group facilitator or consultant. Covers preliminary activities such as team-building and climate setting, problem-solving, and dealing with emergent problems in group process. There are some

detailed "recipes", though with enough conceptual material to aid understanding. Some of the processes can be used by ordinary group members as well as by facilitators.

Dick, B. (1992a), Qualitative evaluation for program improvement. In *Managing program evaluation*, conference proceedings. Sydney: Institute of International Research. [pp.109-128]

Dick, B. (1992b), Qualitative action research: improving the rigour and economy. In Christine S. Bruce and Anne L. Russell, eds., *Transforming tomorrow today: 2nd World Congress on Action Learning*. Brisbane: Action Learning, Action Research and Process Management Association. [432-435]

Dick, B. and Dalmau, T. (1990), *Values in action: applying the ideas of Argyris and Schön*. Chapel Hill, Qld.: Interchange.

An overview of the key ideas of Argyris and Schön is followed by a series of structured processes inspired by Argyris' ideas. Some of the processes can be used for action research purposes, reducing the need for the highly skilled facilitation that Argyris' approach usually requires.

Dougherty, A.M. (1990), *Consultation: practice and perspectives*. Pacific Grove, Ca.: Brooks/Cole.

A readable yet adequately thorough overview of the consulting process. Easy to follow, and systematic enough to be valuable for novices. It gives more than the usual amount of attention to the important entry and contracting phases.

Dubin, Robert (1978) *Theory building*, revised edition. New York: Free Press.

How to construct theories.

Dunn, J.C. (1991), *Social impact assessment - its role, effective use and future in Australia: a practitioner's viewpoint*. Unpublished Master of Social Planning and Development thesis, Dept of Anthropology and Sociology, University of Queensland.

This study used a mail delphi process to research attitudes of practitioners to social impact assessment, and to collect their predictions for the future.

Dunphy, D. (1981), *Organisational change by choice*. Sydney: McGraw-Hill.

An Australian account which achieves a good balance between theory and practice, between big-picture processes and detail. Hasn't dated.

Elliott, John (1991) *Action research for educational change*. Milton Keynes: Open University Press.

Action research in educational settings.

Ely, Margot; with Margaret Anzul, Teri Friedman, Diane Garner, and Ann McCormack Steinmetz (1991) *Doing qualitative research: circles within circles*. London: Falmer Press.

A warm, personal account by a number of people of their approach to a number of forms of qualitative research.

Fay, Brian (1987) *Critical social science: liberation and its limits*. Cambridge: Polity Press.

A series of methodologies have been informed by the philosophy of Habermas and the Frankfurt school of philosophy, including Kemmis' critical action research and Jackson's critical systems thinking. In this account Fay sets out the nature of critical theory. This is a more reasoned account than Fay's earlier work, which was somewhat evangelical.

Feyerabend, P. (1981), *Problems of empiricism*. Cambridge: Cambridge University Press.

Feyerabend argues for an "anarchistic" approach to the choice of scientific paradigm. The bases of our scientific methodology and philosophy are ideologically rather than empirically based. Each of us should therefore choose deliberately, and deliberately argue for, the paradigm which we adopt.

- Fielding, Nigel G. and Fielding, Jane L. (1986) *Linking data: The articulation of qualitative and quantitative methods in social research*. Beverly Hills, Ca.: Sage.

A well-argued and practical account of how to build triangulation into data collection in social research. Four forms of triangulation are discussed: different data sets (different times or samples), researchers, theories and methods.

Flood, Robert L., and Jackson, Michael C. (1991) *Creative problem solving: total systems intervention*. Chichester: Wiley.

Flood and Jackson are systems theorists with an interest in organisational applications. This book describes a particular form of systems approach known as total systems intervention or TSI. It can be regarded as a form of systems-based action research which also builds on the theories of the German "critical theorists".

Fonow, Mary M. and Cook, Judith A. (1991) *Beyond methodology: feminist scholarship as lived research*. Bloomington: Indiana University Press.

A collection of papers on the philosophies and methodologies of feminist research. Readable, and raises some key issues for consideration in all research.

Foster, Michael (1972) The theory and practice of action research in work organisations. *Human Relations*, 25, 529-556.

Fransella, Fay and Dalton, Peggy (1990) Personal construct counselling in action. London: Sage.

Counselling applications of personal construct theory and repertory grid.

Fransella, Fay, and Bannister, Don (1977) *A manual for repertory grid technique*. London: Academic Press.

A theory and method for applying personal construct theory and repertory grid in research.

Fransella, Fay, and Thomas, Laurie F., eds. (1988) *Experimenting with personal construct psychology.* Proceedings of the sixth international congress held at Churchill College, Cambridge, England, Aug. 5-9, 1985. London: Routledge and Kegan Paul.

• French, Wendell, and Bell, Cecil H. (1990) *Organisation development: behavioural science interventions for organisational improvement*, fourth edition. Englewood Cliffs, NJ: Prentice-Hall.

Probably the bible in its field. Set firmly within an action research framework, it gives a good mix of history, theory and practice.

Frost, Peter J. and Stablein, Ralph E., eds. (1992) *Doing exemplary research*. Newbury Park: Sage.

Gepson, J., Martinko, M., and Belina, J. (1981) Nominal group techniques. *Training and Development Journal*, Sept., 78-81.

Nominal group technique or NGT or nominal group process is a small group data collection method. People are first allowed individual thinking time, and then each person is asked for a contribution. The contributed items are usually written down, for example on butcher paper, for subsequent use. Can be used within an action research study as a participative data collection process.

Geuss, R. (1981) *The idea of a critical theory: Habermas and the Frankfurt school. Cambridge*. England: Cambridge University Press.

•• Glaser, Barney G. and Strauss, Anselm L. (1967) *The discovery of grounded theory: strategies for qualitative research*. Chicago.: Aldine

An important seminal work.

Glass, G.V. and Ellet, F.S., Jr. (1980) Evaluation research. *Annual Review of Psychology*, 31, 211-228.

The Annual Review carries reviews of evaluation every few years. You can amuse yourself by noting how much fashions change.

Glidewell, J.C. (1989), The entry problem in consultation. In McLennan, R., ed., *Managing organisational change*. Englewood Cliffs, NJ: Prentice Hall.

Golembiewski, R.T., Proehl, C.W. and Sink, D. (1982) Estimating the success of OD applications. *Training and Development Journal*, 36, 86-95.

A successful attempt to change culture, using an approach in the general style of action research.

Gonzales Casanova, Pablo, tr. Susan Beth Kapilian and Georganne Weller (1981) *The fallacy of social science research: a critical examination and new qualitative model*. New York: Pergamon Press.

Goodall, H.L. Jr. (1984) The status of communication studies in organisational contexts: one rhetorician's lament after a year-long odyssey. *Communication Quarterly*, 32(2), 133-147.

"Traditional research methods ...tend to encourage simplistic, reductionist assumptions and explanations ... usually at the expense of more complex interpretive possibilities" [p135]

Greene, J., and McClintock, C. (1985) Triangulation in evaluation: design and analysis issues. *Evaluation Review*, 9(5), 523-545.

Triangulation is the use of multiple research methods simultaneously to increase rigour.

Grundy, Shirley (1982) Three modes of action research. *Curriculum Perspectives*, 2(3), 23-24.

The three forms Shirley Grundy describes are technical (a research-centred approach), practical (similar to process consultancy), and emancipatory (which removes the distinction between researcher and participant).

Grundy, S. (1987), *Curriculum: product or praxis*? London: Falmer Press.

- Guba, Egon G., ed. (1990) *The paradigm dialog*. Newbury Park: Sage.

  Although it is not apparent in much undergraduate psychology teaching, the positivist research paradigm is being challenged by a variety of other approaches, including in the hard sciences which academic psychology often tries to emulate. This book of readings

identifies some of the alternatives and addresses some of the issues. The writers are, generally, anti-positivist in their approaches.

Guba, E. and Lincoln, Y. (1981), *Effective evaluation: improving the usefulness of evaluation results through responsive and naturalistic approaches*. San Francisco: Jossey-Bass.

A precursor to the evaluation methodology later names "fourth generation evaluation".

•• Guba, Egon G. and Lincoln, Yvonna S. (1989) *Fourth generation evaluation*. Newbury Park, Ca.: Sage

A detailed description and justification for an approach to evaluation which is very similar to participatory action research.

• Gummesson, Evert (1991) *Qualitative methods in management research*. Newbury Park: Sage.

A wide-ranging examination of qualitative research, its philosophy and practice, with reference to management research.

Heller, F.A. (1970), Group feedback analysis as a change agent. *Human Relations*, 23, 319-333.

Group feedback analysis or GFA is a structured action research method which provides a small-group substitute for survey feedback. Heller's approach is focussed more on research than action, and isn't particularly cyclic, but does involve the participants directly in interpreting the data they provide. It is not difficult to convert it to a more action-oriented method without surrendering the research outcomes.

Heller, F.A. (1976), Group feedback analysis as a method of action research. In A.W. Clark, *Experimenting with organisational life*. New York: Plenum.

An account of the practical use of group feedback analysis, which Heller devised. The joint pursuit of action and research outcomes is evident in this report.

Herman, Joan L.; Morris, Lynn Lyons; and Fitz-Gibbons, Carol Taylor (1987) *Evaluator's handbook*, 2nd edition. Newbury Park: Sage.

Hermann, S.M. and Korenich, M. (1977), *Authentic management: a gestalt orientation to organisations and their development*. Reading, Mass.: Addison-Wesley.

If a consultant can adopt the openness and directness in relationships that Gestalt psychology recommends, this provides a firm foundation for effective consultancy. A refreshing account, as timely now as when it was written.

Heron, J. (1989) *The facilitators' handbook*, London: Kogan Page.

A readable account of the theory and practice of group facilitation, it also includes a useful overview of stages of group development. Material on experiential learning, and facilitating learning groups, is also covered.

House, Ernest R. (1980) *Evaluating with validity.* Beverly Hills: Sage.

House, Ernest R. (1990) An ethics of qualitative field studies. In Egon S. Guba, ed., *The paradigm dialog*. Newbury Park, Ca.: Sage.

Huck, S.W. and Sandler, H.M. (1979) *Rival hypotheses: alternative interpretations of data-based conclusions*. New York: Harper and Row.

A large collection of published studies for which alternative interpretations can be offered.

- Jackson, Michael C. (1991) *Systems methodology for the management sciences*. New York: Plenum.

  Presents and critiques a number of systems-based intervention methods: systems theory, soft systems methodology, cybernetics, critical systems, operational research, and creative problem solving.

- Jick, Todd D. (1979) Mixing qualitative and quantitative methods: triangulation in action. *Administrative Science Quarterly*, 24, 602-611.

  An important paper on the virtues of combining several research methods within a single study to increase rigour.

Jick, Todd D. (1983) Mixing qualitative and quantitative methods: triangulation in action, Van Maanen, J., ed. *Qualitative methodology.* Beverly Hills, Ca.: Sage.

Kemmis, Stephen (1991) Improving education through action research. In O. Zuber-Skerritt, *Action research for change and development*. Aldershot: Gower. [pp 57-75]

Kemmis, Stephen; and McTaggart, Robin, eds. (1988) *The action research planner*, third edition. Victoria: Deakin University.

Stephen Kemmis and Robin McTaggart teach action research to educators at Deakin University. Their approach is participative and critical. They are also probably one of the important reasons why education is one of the more active disciplines in the use of action research in Australia. They tend not to be accepting of approaches other than their own, and you will find it useful to supplement this valuable resource with other reading in the area.

•• Kirk, Jerome and Miller, Marc L. (1986) *Reliability and validity in qualitative research*. Beverly Hills, Ca.: Sage.

A discussion of the issues of reliability and validity as they apply in qualitative research. Advances the argument that qualitative research often achieves greater validity (especially ecological validity) at the cost of reduced reliability. A highly recommended overview of rigour in qualitative research methods.

Kolb, D. (1984), *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ.: Prentice-Hall.

A research-based account of the experiential learning cycle, and its history. Integrates the work of many of the key early names in learning theory. More academic than practical, but nevertheless useful for practical understanding.

Kress, George (1988) Marketing research (third edition). Prentice-Hall, London.

This book describes various techniques used in marketing research to collect and analyse data. Many of the techniques can be used for other qualitative research purposes.

Krueger, Richard A. (1988) *Focus groups: a practical guide for applied research*. Newbury Park: Sage.

•• Kuhn, T.S. (1970) *The structure of scientific revolutions*, 2nd edition. Chicago: University of Chicago Press.

A scientific paradigm isn't abandoned because it has holes in it. Only when a better alternative appears to be available is a paradigm abandoned.

Lakatos, I. (1972), Falsification and the methodology of scientific research programs. in Lakatos, I. and Musgrave, A., eds., *Criticism and the growth of knowledge*, London: Cambridge University Press.

Scientific ideologies consist of a foundation, which will be defended vigorously, and peripheral beliefs which can be changed in the light of disconfirming evidence. The foundation beliefs are often not testable.

Lakatos, Imre; and Musgrave, A., eds. (1972) *Criticism and the growth of knowledge*. London: Cambridge University Press.

Papers on the epistemology of science, with some emphasis on post-positivist and related approaches.

Lave, Charles A., and March, James G. (1975) *An introduction to models in the social sciences*. New York: Harper & Row.

If you are interested in marrying conceptual and empirical analysis, this book is worth reading.

Lawler, E.E. (1985), Challenging traditional research assumptions. In E.E. Lawler, A.M. Mohrman, S.A. Mohrman, G.E. Ledford, and T.G. Cummings, eds., *Doing research that is useful for theory and practice*. San Francisco: Jossey-Bass [1-17].

•• Lawler, Edward E., III; Mohrman, A.M. Jr.; Mohrman, S.A.; Ledford, G.E. Jr.; and Cummings, T.G., eds. (1985) *Doing research that is useful for theory and practice*. San Francisco: Jossey-Bass.

Some of the leading qualitative researchers in North America identify the issues and compare notes on their experience. Underlying many of the papers is a concern that many of the research methods that are required in the field have still to establish their legitimacy in the eyes of mainstream research.

Lewin, Kurt (1946) Action research and minority problems. *Journal of Social Issues*, 2, 34-46.

Kurt Lewin is the person usually credited with the development of action research as a participative, cyclic research approach directed towards both research and action.

Lewin, K. (1948), *Resolving social conflicts: selected papers on group dynamics*. New York: Harper.

Lewin wrote surprisingly little, but was very influential on the whole social and organisational change movement with what he wrote. He advocated a group-based, participative approach to change, and is credited (with some others) of developing action research as a research paradigm. This is a collection of some of his papers.

Lincoln, Yvonna S. and Guba, Egon G. (1985) *Naturalistic inquiry.* Beverly Hills, Ca.: Sage.

Linn, Robert L. and Erickson, Frederick (1990) *Qualitative methods*. London: Collier Macmillan.

• Lofland, John and Lofland, Lyn H. (1984) *Analysing social settings: a guide to qualitative observation and analysis*, 2nd edition. Wadsworth, Belmont, Ca.

Probably the most widely known and used introductory text on qualitative research approaches using participant observation. I don't think I would risk using participant observation as a prominent part of a psychological thesis, but it's a technique which can be a useful adjunct to other qualitative methods.

Lynch, K.B. (1983) Qualitative and quantitative evaluation: two terms in search of meaning. *Educational Evaluation and Policy Analysis*, 5, 461-464.

Manning, Kathleen (1992) A rationale for using qualitative research in student affairs. *Journal of College Student Development*, 33(2), 132-136.

Qualitative methods are used to research student affairs. The paper discusses reasons for using qualitative methods, and addresses some issues of concern. It concludes that qualitative research methodology reflects and parallels the complexity and richness of the field studied.

• Marshall, Catherine, and Rossman, Gretchen B. (1989) *Designing qualitative research*. Newbury Park: Sage.

An introductory overview, sufficiently detailed for use as a guide during the design of research.

Martin, Paul & Bateson, Patrick (1986) *Measuring behaviour: an introductory guide*. Cambridge University Press.

About measuring animal behaviour, though it has other applications.

Martin, P.R. (1989), The scientist practitioner model and clinical psychology: time for change? *Australian Psychologist*, 24(1), 71-92.

English and Australian university psychology departments are still committed to the scientist-practitioner model of professional training. It does not appear to lead to practitioners reading or doing much research. An empirical study (cf. Barlow et al, 1984, for similar US findings).

•• McCracken, Grant (1988) *The long interview*. Newbury Park: Sage.

In depth interviewing is a common initial data-collection technique in qualitative research, and in field research and intervention generally. This discusses how, and also relates it to issues in qualitative research generally. It is worth reading both for its discussion of the long interview, and for the overview it provides of key issues in qualitative research.

McDonald, Geoffrey T. (1974) *Factorial ecology of the Brisbane urban area, report* submitted to the Dept. of Urban and Regional Development. St Lucia: Department of Geography, University of Queensland.

A method for putting together a random sample in Brisbane by choosing a proportion of subjects from various suburbs and then selecting at random within those suburbs.

McKernan, J. (1991), *Curriculum action research: a handbook of methods and measures for the reflective practitioner*. London: Kogan Page.

McTaggart, Robin (1991) *Action research: a short modern history*. Geelong, Vic: Deakin University.

As the title says, a short modern history. The emphasis is on action research within education.

McTaggart, Robin (1992) *Study a graduate course in participatory action research: an initiative in interactive global pedagogy.* Posted from rmct@deakin.oz.au to list EDAD-L <EDAD-L@wvnvm.bitnet> 2 Oct 1992. [Also available as topic 133, *Deakin online course*, on the conference *ed.online* on the Pegasus network <peg.apc.org>.]

This electronic document, posted to a mailing list and on electronic conferences (newsgroups, in the AARNet world) describes an online course in action research first offered in February 1993 by Deakin University.

Merriam, Sharan B. (1988) *Case study research in education: a qualitative approach*. San Francisco: Jossey-Bass.

Miles, M. (1979) Qualitative data as an attractive nuisance: the problem of analysis. *Administrative Science Quarterly*, 24, 590-595.

•• Miles, Matthew B. and A. Michael Huberman (1984) *Qualitative data analysis: a sourcebook of new methods*. Newbury Park: Sage.

A convenient handbook which gathers together in one place a number of methods for qualitative data analysis. The descriptions are detailed and practical.

• Miller, Delbert Charles (1991) *Handbook of research design and social measurement*, 5th edition. Newbury Park: Sage.

• Morgan, David L. (1988) *Focus groups as qualitative research*. Newbury Park: Sage.

Focus groups (= focussed group interviews) are a regular tool for market research. They are one of a series of techniques which can begin in open-ended fashion and the become more focussed as they progress. They can be used for qualitative research generally, as this practical account demonstrates. In some respects they combine some of the advantages of interviewing in focussing the discussion, while collecting information in a social situation rather than from an individual informant.

Morgan, Gareth, ed. (1983) *Beyond method: strategies for social research*. Beverly Hills: Sage.

Moustakas, Clark (1990) *Heuristic research: design, methodology, and applications*. Newbury Park: Sage.

Moustakas describes a very reflective, self-oriented form of research in which illumination arises from self-dialogue. He offers a six-stage process: initial engagement,

immersion, incubation, illumination, explication, and creative synthesis. This process bears some resemblance to other non-positivist research methodologies.

Neimeyer, Robert A. (1985) *The development of personal construct psychology.* Lincoln: University of Nebraska Press.

Neuman, William Lawrence (1991) *Social research methods: qualitative and quantitative approaches*. Boston: Allyn and Bacon.

Noblit, George W. and Hare, R. Dwight (1988) *Meta-ethnography: synthesising qualitative studies*. Newbury Park: Sage.

Describes a qualitative equivalent of meta-analysis, techniques for combining the results of several studies.

• Oja, Sharon Nodie and Smulyan, Lisa (1989) *Collaborative action research: a developmental approach*. London: Falmer Press.

Deals with methods and techniques for collaboration in action research. It provides more attention to ways of involving stakeholders than many books in the field.

• Patching, David (1990) *Practical soft systems analysis*. London: Pitman.

Written more from a practitioner than academic viewpoint, this is a step-by-step account of each of the 7 stages of Checkland's model, and some hints which appear to be based on experience in the field. Some other systems models are also described. If you were going to carry out a soft systems analysis without knowing much about it, this would provide you with an easy-to-follow guide.

Patton, M.Q. (1986), *Utilisation-focussed evaluation*, 2nd edition. Beverly Hills: Sage.

The first edition (1978) of this book was probably what made Patton a household name in qualitative evaluation. All of his work is readable, and much of it is interesting and even entertaining.

Patton, M.Q. (1982), *Practical evaluation*. Beverly Hills: Sage.

Patton, Michael Q. (1986) *How to use qualitative methods in evaluation*. Beverly Hills, Ca.: Sage.

•• Patton, Michael Q. (1990) *Qualitative evaluation and research methods*, second edition. Newbury Park, Ca.: Sage.

An entertaining and practical account of qualitative research methods in general, and qualitative evaluation in particular. Although somewhat polemical in tone, the book nevertheless presents a compelling defence of the use of qualitative data in some circumstances.

Peters, M., and Robinson, V. (1984) The origins and status of action research. *Journal of Applied Behavioural Science*, 20(2), 113-124.

Phillips, Denis C. (1987) *Philosophy, science, and social inquiry: contemporary methodological controversies in social science and related applied fields of research*. Oxford: Pergamon Press.

Taking into account the work of recent leading philosophers, this book canvasses the issues which are being addressed when the scientific status of social research is debated. The views of Feyerabend and Lakatos are considered, as well as Winch, Kuhn and Popper.

Phillips, Denis C. (1992) *The social scientist's bestiary: a guide to fabled threats to, and defences of, naturalistic social science*. Oxford: Pergamon.

A critical and carefully argued examination of hermeneutics, qualitative research, and other current isms in science. A balanced examination, mostly readable and almost always interesting. Chapter 4, "New philosophy of science", is especially worth reading: p51: "... it can no longer be claimed that there are any absolute authoritative foundations upon which scientific knowledge is based".

Phillips, Derek L. (1971) *Knowledge from what?: theories and methods in social research*. Chicago: Rand McNally.

A critique, sometimes savage, of the methods typically used in social research, including surveys and interviews.

- Reason, Peter, ed. (1988) *Human inquiry in action: developments in new paradigm research*. Newbury Park: Sage.

Papers on a variety of collaborative research methods. Between them they identify the issues, discuss some of the problems, and provide examples of participative research.

Reville, M. (1989), *An evaluation of the Australian Traineeship System Clothing Machinist program: a new application of systems methodology,* Unpublished dissertation, University of Queensland Department of Psychology.

Richardson, Laurel (1990) *Writing strategies: reaching diverse audiences*. Newbury Park: Sage.

How to write up qualitative reports.

Riley, Judith (1990) *Getting the most from your data: a handbook of practical ideas on how to analyse qualitative data*. Bristol, UK: Technical and Educational Services.

Rogers, Everett M. (1983) *Diffusion of innovations*, third edition. New York: Collier-Macmillan.

A compendious account of the diffusion of new farming practices, collated from a massive literature review. It draws on a wider literature than just rural innovation, and is a valuable resource for all change agents. It also presents a summary of the likely progress of attempts at innovation, summarised in a five-stage process: awareness → interest → trial → evaluation → action. The second edition is by Rogers and Shoemaker.

Rossi, Peter Henry, and Freeman, Howard E. (1989) *Evaluation: a systematic approach*. Newbury Park, Ca.: Sage.

Rutman, L. (ed.) (1984) *Evaluation research methods: a basic guide*, second edition. Beverly Hills: Sage.

A collection of papers on evaluation methods.

Sackman, Harold (1975) *Delphi critique: expert opinion, forecasting and group process*. Lexington, Mass.: Heath

A brief, well-documented, highly-critical review of delphi, which is a group decision making method which has promise for qualitative research. This book also had the unfortunate effect that it killed delphi as a method for decades. It is only now that delphi is beginning to be used once again (and that perhaps partly because many people don't read material over a decade old).

Sanford, N. (1981) A model for action research, in Reason, P. and Rowan, J., eds., *Human inquiry: a source book of new paradigm research*, New York: Wiley.

Schatzman, L. and Strauss, A.L. (1989), Entering into relationships. In McLennan, R., ed., *Managing organisational change*. Englewood Cliffs, NJ: Prentice Hall.

- Schein, Edgar H. (1988) *Process consultation: its role in organisation development, Volume 1*, Second edition, Reading, Mass.: Addison-Wesley.

  A highly recommended account of the process-consultation approach to change, this clear and readable account integrates a lot of complex material in understandable and applicable form.

- Scholtes, Peter R. and other contributors (1988) *The team handbook: how to use teams to improve quality.* Madison, Wis.: Joiner Associates, PO Box 5445, Madison WI 53705-0445)

A very team- and people-oriented account, also very readable, of techniques for total quality management or TQM. One of the best books of its kind, it has wider application.

Schön, Donald A. (1983) *The reflective practitioner: how professionals think in action*, New York: Basic Books.

•• Schön, Donald A. (1987) *Educating the reflective practitioner: towards a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.

How do practitioners best learn? Through reflection, Schön argues on the basis of much experience. This is valuable reading for any professional, or anyone involved in educating other professionals. Its readability is a bonus.

Scriven, M. (1972), Pros and cons about goal-free evaluation. *Evaluation Comment*, 13, 1-7.

There has been some debate about the appropriateness of goal-based evaluation, led by Scriven. Compare this to Stufflebeam (1972) and Scriven (1991) on the same topic.

• Scriven, Michael (1991) *Evaluation thesaurus*, fourth edition. Newbury Park: Sage.

If you want to know just about anything about evaluation you can probably find it somewhere here. It is written encyclopedia style, with a long series of alphabetical entries. It contains introductory and more advanced material, and much of it is interesting and readable despite the format.

• Sechrest, Lee and Figueredo, A.J. (1993) Program evaluation. In L.W. Porter and M.R. Rosenzweig, eds., *Annual Review of Psychology,* vol 44. Palo Alto: Annual Reviews Inc. [645-674]

This review of program evaluation attributes many of the current changes in evaluation methodology to the pressures of social change. It lists five fundamental issues in program evaluation: how programs develop; how researchers learn about social science; how programs can be valued; how social science knowledge is used; and the practice of evaluation.

Senge, Peter M. (1990) *The fifth discipline: the art and practice of the learning organisation*. New York: Doubleday.

A beautiful application of systems concepts to explain why social systems are so hard to change and why they develop their peculiar dynamics. Uses systems concepts to develop an explanation of organisational dynamics based on nests of self-fulfilling prophecies. Organisational in orientation, but with wider application.

Shadish, William R., Jr., Cook, Thomas D., and Leviton, Laura C. (1991) *Foundations of program evaluation: theories of practice*. Newbury Park: Sage.

Within a broader discussion this book presents the views of some of the key theorists in the field of program evaluation. Included are Michael Scriven, Donald Campbell, Carol Weiss, Joseph Wholey, Robert Stake, Lee Cronbach, and Peter Rossi.

Shaffir, William B. and Stebbins, Robert A. (1991) *Experiencing fieldwork: an inside view of qualitative research*. Newbury Park: Sage.

A collection of papers, mostly interesting and information, on fieldwork. They are grouped under the four phases of getting in, learning the ropes, maintaining relationships, and leaving and staying in touch. In most instances the assumption seems to be that ethnographic methods will be used: that is, that writing-up occurs after the data collection is over. Allowing for that, it is a practical collection which does not overlook the importance of the relationships formed.

Snyder, C.W. (personal communication). Lectures in PY801: Methodology and evaluative skills, The University of Queensland, 1976{?].

Stainback, Susan, and Stainback, William (1988) *Understanding and conducting qualitative research*. Reston, Va.: Council for Exceptional Children.

An introduction to qualitative research, fairly systematic in its approach. A sufficiently-detailed guide to be useful for those relatively unfamiliar with qualitative research methods.

Steckler, Allan, et. al (1992) Toward integrating qualitative and quantitative methods: an introduction. *Health Education Quarterly*, 19(1), 1-8.

Compares qualitative and quantitative approaches, identifies their strengths, and discusses several ways of integrating them.

Steers, R.M. (1975) Problems in the measurement of organisational effectiveness. *Administrative Science Quarterly*, 20, 546-558.

Steier, Frederick, ed. (1991) *Research and reflexivity*. London: Sage

There is a body of opinion in social research that knowledge is a social construction. Researchers therefore are partners with their informants in discovering what they discover. It follows, then, that the researcher and her/his research process require investigation as part of the study. This collection of papers explores reflexivity, mostly from a practical and methodological viewpoint.

Stewart, David W. and Shamdasani, Prem N. (1990) *Focus groups: theory and practice*. Newbury Park: Sage.

Stewart, Valerie and Stewart, Andrew, with Fonda, Nickie (1981) *Business applications of repertory grid*. London: McGraw-Hill.

A description of applications of personal construct theory and repertory grid methodology in corporate settings.

Stone, Eugene F. (1986) Research methods in industrial and organisational psychology: selected issues and trends. In C.L. Cooper and I.T. Robertson, *International review of industrial and organisational psychology 1986*. New York: Wiley.

A strong advocate of quantitative and experimental approaches to research in industrial and organisational psychology.

Strauss, Anselm (1987) *Qualitative analysis for social scientists*. Cambridge: Cambridge University Press.

The emphasis is on how to analyse and interpret qualitative data.

- Strauss, Anselm, and Corbin, Juliet (1990) *Basics of qualitative research: grounded theory procedures and techniques*. Newbury Park: Sage.

This books presents a reasonably detailed description of a particular approach to data collection. It particularly emphasises interpretation and theory building. Grounded theory is theory closely related to field data: without using their particular method, you may find that the issues they discuss have relevance to your own research.

Stufflebeam, D.L. (1972) Should or can evaluation be goal free? *Evaluation Comment*, 13, 4-5.

Compare Scriven (1972, 1991).

Suchman, E.A. (1967), *Evaluative research: principles and practice in public service and social action programs* . New York: Russell Sage Foundation.

As with most of the early accounts of evaluation, it was seen as research rather than intervention. The title "evaluation research" was common at the time, and reveals the orientation. Compare this, for instance, to the more recent review article by Cook and Shadish (1986).

Susman, G. (1983) Action research: a sociotechnical systems perspective. In G. Morgan, ed., *Beyond method*. Beverly Hills, Ca.: Sage.

Susman, G., and Evered, R. (1978) An assessment of the scientific merit of action research. *Administrative Science Quarterly*, 23(4), 582-603.

Argues for the legitimacy of action research as science by locating its philosophical bases in praxis (e.g. Habermas), hermeneutics (i.e. alternating between whole and

parts in a dialectic process), existentialism (choice and values as part of action), process philosophies, and phenomenology (subjective experience as the basis of knowledge).

Taylor, Steven J. (1984) *Introduction to qualitative research methods: the search for meanings*, 2nd edition. New York: Wiley.

Tesch, Renata (1990) *Qualitative research: analysis types and software tools*. London: Falmer Press.

Thompson, Briony M., Donohue, K.J., and Waters-Marsh, T.F. (1992) *Qualitative and quantitative approaches to understanding managers' perceptions of organisational environments*. Paper presented at the 27th Australian Psychological Society Annual Conference, Armidale, September 1992.

A study in which quantitative and qualitative techniques complemented each other. The qualitative technique was convergent interviewing, which added to the data available from quantitative approaches.

Ulrich, W. (1983) *Critical heuristics of social planning: a new approach to practical philosophy*. Bern: Haupt.

van Beek, P.G.H. (1989), *Managing knowledge systems involving QDPI: an application of soft system analysis to three case studies within the Queensland Department of Primary Industries*. University of Queensland. Dept. of Agriculture, Thesis, MAgrSt.

Van Maanen, John, ed. (1983) *Qualitative methodology*. Beverly Hills, Ca.: Sage.

A collection of papers, updated from a special edition of Administrative Science Quarterly, on different aspects and applications of qualitative methods. Almost all are readable; some present a carefully-argued case for using their particular form of qualitative methodologies. Van Maanen's final epilogue is well worth reading.

Van Maanen, John; Dabbs, James M.; and Faulkner, Robert R. (1982) *Varieties of qualitative research*. Beverly Hills, Ca.: Sage.

Van Maanen, John; Manning, Peter K.; and Miller, Marc L. (1986) Qualitative research methods series. Newbury Park: Sage.

This isn't a book or journal. It's an extremely valuable series of monographs on qualitative research. Those that I have read combine attention to practicability with theoretical soundness and readability. For example, see Fielding and Fielding (1986), Kirk and Miller (1986), McCracken (1988), Richardson (1990), Weller and Romney (1988), and Wolcott (1990).

Wadsworth, Yoland (1984) *Do it yourself social research*. Melbourne: Victorian Council of Social Service and Melbourne Family Care Association.

An easy-to-read account written primarily for lay researchers.

Wadsworth, Yoland (1991) *Everyday evaluation on the run*. Melbourne: Action Research Issues Assn. Inc.

A very practical account which says a lot in few pages.

• Walker, Robert, ed. (1985) *Applied qualitative research*. Gower, Aldershot.

As well as presenting some general principles of qualitative research, this collection of papers describes some particular techniques. Those addressed include depth interviews, group interviews, participant observation, and projective techniques in market research. There is a final paper on evaluation qualitative research.

Warren, Carol A.B. (1988) *Gender issues in field research*. Newbury Park: Sage.

Watson, Richard B. (1992) The nature and construction of conceptual models in soft systems methodology. In C.S. Bruce and A.M. Russell, *Transforming tomorrow today* (2nd World Congr. on Action Learning). Brisbane: ALARPMA. [423-426]

Soft systems methodology requires developing an ideal model to achieve the same functions that the studied systems intends to achieve. This is, in my view, the least robust stage in Checkland's process. This paper offers some guidelines on how to go about it.

Weber, Robert Philip (1990) *Basic content analysis*. Newbury Park: Sage.

Weller, Susan C. & Romney, A. Kimball (1988) *Systematic data collection*. Newbury Park: Sage.

This document sits on the border between qualitative and quantitative research. That is, it is directed primarily to techniques which can be used to collect qualitative data and then categorise and interpret it, typically as frequencies.

• Whyte, William Foote (1991) *Participatory action research*. Newbury Park: Sage.

A collections of papers, some of them case studies, of research conducted using participatory action research. A complete section deals with research in agriculture.

•• Whyte, William Foote (1991) *Social theory for action: how individuals and organisations learn to change*. Newbury Park: Sage.

An account of an action research approach to the management of change, from one of the leading writers in the field. The emphasis is on participative action research in agricultural and organisational settings, using methods which integrate theory and practice.

Williams, David D., ed. (1986) *Naturalistic evaluation*. San Francisco: Jossey-Bass.

Winter, Richard (1989) *Learning from experience: principles and practice in action research*. London: Falmer Press.

Discusses the principles of action research, and then presents some examples to illustrate the approach. The main focus is on educational research, but the issues addressed have wider relevance.

•• Wolcott, Harry F. (1990) *Writing up qualitative research*. Newbury Park: Sage.

This is a well-crafted account of how to go about writing up qualitative research reports, including theses. It is full of practical hints and encouragement while recognising that good writing is usually the result of careful rewriting and rewriting and rewriting. Much good research is spoiled by being poorly written: this offers some ways of doing justice to the research.

Wortman, P.M. (1983) Evaluation research: a methodological perspective. *Annual Review of Psychology*, 34, 223-260.

Yeaton, William H., and Wortman, Paul M., eds. (1984) *Issues in data synthesis*. San Francisco: Jossey-Bass.

Yin, R. (1984) *Case study research: design and methods*. Beverly Hills: Sage.

Zuber-Skerritt, Ortrun, ed. (1991a) *Action research for change and development*. Aldershot: Gower.

Ortrun Zuber-Skerritt is the centre of a network of people developing action research methods in Queensland. She is a prolific writer in the field, and is currently [1993] attached to the Tertiary Education Institute at the University of Queensland, where she has originated a number of action research studies in higher education. Her approach is based on that of Kemmis and McTaggart (see above), supplemented by a substantial European literature. This is a collection of papers, preceded by Ortrun's own introduction.

Zuber-Skerritt, Ortrun, ed. (1991b) *Action learning for improved performance*. Brisbane: Aebis.

Zuber-Skerritt, Ortrun (1992a) *Action research in higher education: examples and reflections*. London: Kogan Page.

Drawing on the experience of many action research and action learning projects at the University of Queensland, the author demonstrates how learning and teaching can be improved by academics supported by professional development staff.

Zuber-Skerritt, Ortrun (1992b) *Professional development in higher education: a theoretical framework for action research*. London: Kogan Page.

Ortrun Zuber-Skerritt is currently at the Tertiary Education Institute at the University of Queensland. She here details her own theoretical model of action research as she applies it in higher education. She draws on Revan's theories of action learning, Kelly's Personal Construct theory, Kolb's theory of experiential learning, and the critical theory of the Frankfurt School of philosophy.

Afterword

My intention in this afterword is twofold. I wish to make my own biases more explicit. I also wish to identify some issues which I chose to omit from the body of the paper. In addition, this gives me the opportunity to provide some background.

The body of this document began as a brief account of how to do an action research thesis. It was triggered by a number of events happening in close proximity. Preparing a paper on qualitative evaluation led me to think about the sources of responsiveness in action research. Helping to start a series of action research case studies in monograph form built on this thinking. Then two events happened in close proximity. A number of fourth year theses I supervised received almost uniformly low marks although in my eyes their quality varied substantially. And I volunteered to provide some documentation for coursework masters dissertations using action research, to accompany a similar document for other forms of thesis which my colleague Phyllis Tharenou prepared.

This particular document originated as a document for people enrolled in the fourth year of a qualification in psychology. That was the urgent priority at the time. After completing it, I realised it was suitable for coursework masters dissertations too. By then it had become larger than intended; but perusing it persuaded me that the length was justified by the topic.

In its present form it is intended for anyone planning an action research study for thesis purposes. Its target audience consists of people enrolled at the University

of Queensland, but some readers convinced me that its application was wider than that too. I had some very encouraging responses from people outside psychology, and at other educational institutions. So here it is.

I enjoyed enormously the reading and thinking that accompanied it. Writing it was rather more painful. In particular I found myself being selective in the information I provided. I think the reasons for my selectivity have something important to say about the paradigm conflict between the dominant experimental and quasi-experimental scientific culture and the counter-cultures which include action research.

Within current philosophy of science it appears that positivism has been replaced by post-positivism (and a range of other philosophies). It is also clear that a large and growing literature in the social sciences is taking those alternative philosophies as a starting point for developing an alternative paradigm. I had caught glimpses of this at a conference on organisational culture during 1991. Some participants actually argued that there was no longer any objective grounds on which one research paradigm could be preferred over another. The only remaining criterion, they thought, was aesthetics. This seemed to me an inadequate basis on which to gauge a theory or explanation (though I prefer the aesthetic to the unaesthetic).

I experienced some difficulty in writing this document. Part of it was to do with the conclusions being drawn in some of the social science literature — conclusions which to my mind were not adequately supported by the arguments which accompanied them. The other was in deciding what to include in this paper. I can use both of them to illustrate my own position rather more fully than I have chosen to do in the body of this document. In other words, this afterword constitutes something of my own reflection on what preparing this paper has meant to me. To take them in turn ...

Although it would take a longer argument than I am prepared to present here, it is clear to me that positivist research is superb for some research settings and purposes, and clearly unsuited to others. It seems to me, further, that any research paradigm has to take some of its beliefs on trust. In other words, every research paradigm is instructed to some extent by ideology. For many researchers this ideology appears to be held in large part as a set of beliefs without reason. In saying this, I don't think I am really adding anything to views which appear as mainstream views in the current philosophical literature.

My experience suggests to me that social change requires a non-positivist approach. This was confirmed by my reading. It appears that many academics who find themselves in the role of change agents are led eventually towards a more flexible approach to research. However, while in sympathy with the actual processes they used in field settings, I thought their supporting arguments were sometimes inadequate.

Constructivism provides one example. The positivist view, or so it seems to me, depends upon reality being directly knowable. Many researchers are opposing this with a view that our theories and language inevitably colour what we see. From this starting point some of them seem almost to conclude that one view is therefore as good as another. Both of these opposing positions appear to me to be polarities which beg resolution.

It seems apparent to me that my mental frameworks colour what I observe. But just as apparent, reality has some influence on my perception. To phrase it differently, my frameworks and reality each account for some of the variance in what I perceive. What is needed, it seems to me, is a philosophy that allows both of these to have a role. I was encouraged to find such views expressed in the philosophical literature.

The disappointment is that, for the most part, these are not issues in the psychological literature. Presumably psychological researchers read and think and

observe. But it doesn't reveal itself often in their literature or, as far as I can tell, in their teaching. This was part of my difficulty. How was I to address this clearly and economically? Eventually I decided to omit it from this version of the paper.

More salient for me was the issue of how to address a counter-cultural paradigm at all. There are compelling reasons, I believe, to offer an alternative research paradigm *for some purposes*. Action research provides such a paradigm, and offers practical benefits to practitioners. (It is clear enough, as I explain in the body of this paper, that most practitioners don't do much formal research. The most likely reason is that they don't find the research methods they have been taught to be easily integrated into their practice.) But action research is counter-cultural. How was I to provide enough information for people doing action research theses without raising the defensiveness of some of my colleagues?

I eventually settled for a sort of dishonesty: a dishonesty, at least, of being selective in what I said. I have focussed on providing enough information for people to make an informed choice about their research methodology. If they decide to use action research, I think I have provided enough guidance for them to reduce the risk in so doing.

What I have chosen *not* to do is: to provide a sufficient challenge to some research paradigms for some purposes; to confront the unstated (and often inadequately-substantiated) ideology which many practitioners have been taught; to label the teaching of that ideology as the unintended indoctrination which I believe it is. For their survival, I think, people writing theses have to be dishonest in presenting their own views. To placate their examiners they have to make a weaker argument than logic allows.

To paraphrase the social psychologist Elliot Aronson, if someone *knows* something is true, without knowing the reasons, then evidence is irrelevant. Confronting such views with evidence and good argument is unproductive. By not

addressing the philosophical foundations of research, it seems to me that some methodological teaching inevitably has become something of an ideology.

However, in this afterword let me try to make my own views clearer than I chose to in the body of this document. It seems to me that to judge a research paradigm, it is reasonable to take into account the purpose of the research. To test precise causal hypotheses, fully experimental designs seem most appropriate. It then makes sense to conduct the research in a laboratory where you have sufficient control over the variables. On the other hand, traditional research methods seem ill-suited to achieving understanding and change simultaneously in the field. For these, it seems more appropriate to use a research paradigm which can cope with fuzziness and complexity.

These paradigms don't have equivalent status. You can still safely do positivist research (despite the belief of some contemporary philosophers of science that it is dead). You can have it judged on its merits, or even to some extent sympathetically. There are venues in which it can be published. It has high status.

Action research? It isn't understood. It's difficult to do well. It's not easily publishable. It just happens to be a far better paradigm *in some situations and for some purposes*, as other paradigms are in other situations and for other purposes.

Aronson, E. (1972) *The social animal*, New York: Freeman.

"...if research is to jointly contribute to theory and practice, it must be designed to accomplish this objective. It cannot simply be taken as a matter of faith that adhering to certain scientific research principles will lead to jointly useful research. Indeed, it may be that adhering to principles that were designed to produce research that contributes to scientific knowledge will make it certain that this research will not contribute to practice." [p 3]

E.E. Lawler (1985), Challenging traditional research assumptions. In E.E. Lawler, A.M. Mohrman, S.A. Mohrman, E.E. Ledford and T.G. Cummings, *Doing research that is useful for theory and practice*. San Francisco: Jossey-Bass.

"...scientific observation is theory-impregnated 1. in the choice of constructs, 2. in the way constructs are conceptually 'defined', 3. in the theoretical irrelevancies operational representations contain, 4. in the theory components particular operational instances fail to include, 5. in the weights implicitly assigned to factors in the multifactorial measures that social scientists invariably use." [p 219]

T.D. Cook and W.R. Shadish (1986), Program evaluation: the worldly science. *Annual Review of Psychology*, 193-232.

"External validity—that is, the validity of inferences that go beyond the data—is the crux. Increasing internal validity by elegant design often reduces relevance." [p 7]

Lee J. Cronbach and associates (1980), *Toward reform of program evaluation*. San Francisco: Jossey-Bass.

"...science also has many limitations. Within science there are problems of methodology as we move from the 'restricted' sciences (e.g. physics) to the 'unrestricted' sciences (e.g. biology]. [...] *Complexity, in general, and social phenomena, in particular both pose difficult problems for science; neither has it been able to tackle what we perceive as 'real world problems' (as opposed to the scientist-defined problems of the laboratory).* " [p 13]

P. Checkland (1981), *Systems thinking, systems practice*. Chichester: Wiley.