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What is action research?

This chapter focuses on:

- the nature of action research;
- the development of action research;
- what is involved in action research;
- models and definitions of action research proposed by experts in the field;
- examples of action research carried out by a range of practitioners;
- the theoretical underpinnings of action research.

Introduction

Research is a form of disciplined enquiry leading to the generation of knowledge. The knowledge that your research generates is derived from a range of approaches. Your approach to research may vary according to the context of your study, your beliefs, the strategies you employ, and the methods you use. The paradigm (a collection of assumptions and beliefs which guide you along the path to conducting research and interpreting findings) you select will be guided by your subject discipline and beliefs. Action research is a specific method of conducting research by professionals and practitioners with the ultimate aim of improving practice. Throughout this book, where it is appropriate, references are made as to how epistemological and ontological views may influence your research and the research methods you use. Further readings are also provided at the end of the chapter for those who wish to delve deeper into these issues.

What is the purpose of conducting action research? In the context of this book, action research supports practitioners to seek ways in which they can provide good quality education by transforming the quality of teaching-related activities, thereby enhancing students' learning. With this purpose in mind the following features of the methodology of action research are worthy of consideration:

- Action research is a method used for improving educational practice. It involves action, evaluation and reflection and, based on gathered evidence, changes in practice are implemented.

- Action research is participative and collaborative; it is undertaken by individuals, with a common purpose.
- It is situation-based.
- It develops reflection based on the interpretations made by participants.
- Knowledge is created through action, and at the point of application.
- Action research can involve problem-solving, if the solution to the problem leads to the improvement of practice.
- In action research findings emerge as action develops, but they are not conclusive or absolute.

The following extract, included by Reason and Bradbury (2001: 1) in the intro-duction to their *Handbook of Action Research*, is helpful to us in trying to locate action research as a unique paradigm:

> For me it is really a quest for life, to understand life and to create what I call living knowledge – knowledge which is valid for the people with whom I work and for myself.
>
> (Marja Liisa Swantz)

So, what is this living knowledge? As the above authors explain, the purpose of action research is to produce practical knowledge that is useful to people in the everyday conduct of their lives and to see that action research is about working towards practical outcomes, and also about

> creating new forms of understanding, since action without reflection and understanding is blind, just as theory without action is meaningless. The participatory nature of action research/makes it only possible *with*, *for* and *by* persons and communities, ideally involving all stakeholders both in the questioning and sense making that informs the research, and in the action which is its focus.
>
> (Reason and Bradbury, 2001: 2)

During my first meetings with teachers and trainee teachers who are about to undertake action research, I share with them a strong belief that I hold. And here it is. I believe that ultimately the quality of educational experiences provided to children will depend on the ability of a teacher to stand back, question and reflect on his or her practice, and continually strive to make the necessary changes. This is true of any practitioner. These processes of reflection and self-evaluation do not happen by accident and I believe that carrying out action research provides practitioners with an opportunity to be engaged in such processes in a meaningful way. With the above statements in mind, I define action research as an enquiry, undertaken with rigour and understand-ing so as to constantly refine practice; the emerging evidence-based outcomes will then contribute to the researching practitioner's continuing professional development.

In this chapter I will trace the development of action research as a methodology over the past few decades and then consider the different perspectives and models provided by experts in the field. Different models of action research are explored and an attempt is made to identify the unique features of action research which should make it an attractive mode of research for practitioners. An understanding of different interpretations and viewpoints of action research should be useful to readers whether they are about to start a project or are in the process of doing one. Researchers who are carrying out action research as part of an accredited course are usually expected to demonstrate their understanding of the processes involved. Those who are involved in action research following personal interests, or as part of their institutional change, will also need to gain insights into the processes involved, so that they can engage in action research with greater confidence and understanding. Examples of action research projects undertaken by practitioners in a range of situations are provided. In the final section of this chapter, we examine the philosophies and theoretical underpinnings relating to action research.

The development of action research: a brief background

Whether you are a novice or progressing with an action research project, it would be useful for you to be aware of how action research developed as a method for carrying out research over the past few decades. Zeichner (2001) and Hopkins (2002) provide us with an overview of how action research developed as a research tradition. The work of Kurt Lewin (1946), who researched into social issues, is often described as a major landmark in the development of action research as a mzethodology. Lewin's work was followed by that of Stephen Corey and others in the USA, who applied this methodology for researching into educational issues.

In Britain, according to Hopkins (2002), the origins of action research can be traced back to the Schools Council's Humanities Curriculum Project (1967–72) with its emphasis on an experimental curriculum and the reconceptualization of curriculum development. Following on this project, Elliot and Adelman (1976) used action research in their Teaching Project when examining classroom practice.

The most well-known proponent of action research in the UK has been Lawrence Stenhouse whose seminal (1975) work, *An Introduction to Curriculum and Research and Development*, added to the appeal of action research for studying the theory and practice of teaching and the curriculum. For Stenhouse (1983), action research was about emancipation and intellectual, moral and spiritual autonomy. There was also the participatory research movement supported by Stephen Kemmis and Robert McTaggart, as reported by Hopkins (2002), at Deakin University in Australia.

In the past two decades action research has been growing in popularity in the United States where it has often been supported by universities. Zeichner (2001) points out that most of the action research carried out in the past involved university academics and teachers and represented the rejection of a standards- or objective-based approach to curriculum development, in favour of one that was based on a pedagogy-driven conception of curriculum change as a process dependent on teachers' capacities for reflection. According to this view, Zeichner maintains, the act of curriculum theorizing is not so much the application of classroom theory learned in the university as it is the generation of theory from attempts to change curriculum practice in schools.

In the past decade there has been growing interest in action research as a methodology across the world. Educationists in different roles – teachers, policy makers and administrators – see the potential of action research in producing applied knowledge in a number of applied contexts which can be of practical use. An increasing number of papers based on practitioner research are being presented at international research conferences. There are several websites and practical networks, such as CARN (see the websites mentioned at the end of this chapter) which provide forums for those interested in action research as a methodology, as well as the existence of international journals, such as *Educational Action Research* (once again, see the relevant website at the end of this chapter).

What is involved in action research?

Research is about generating knowledge. Action research creates knowledge based on enquiries conducted within specific and often practical contexts. As articulated earlier, the purpose of action research is to learn through action leading to personal or professional development. It is participatory in nature which led Kemmis and McTaggart (2000: 595) to describe it as *participatory research*. These authors maintain that action research involves a spiral of self-contained cycles of:

- planning a change;
- acting and observing the process and consequences of the change;
- reflecting on these processes and consequences and then replanning;
- acting and observing;
- reflecting;
- and so on …

Figure 1.1 illustrates this spiral model of action research proposed by Kemmis and McTaggart, although the authors advise us against using this as a rigid structure. They maintain that in reality the process may not be as neat as the spiral suggests. The stages defined above, they maintain, *overlap,* and initial
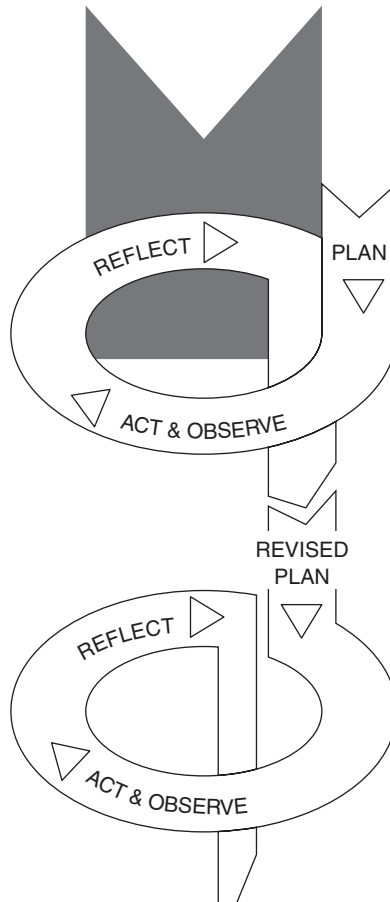
Figure 1.1   The action research spiral

plans quickly become obsolete in the light of learning from experience. *In reality the process is likely to be more fluid, open and responsive*.

I find the spiral model appealing because it offers the opportunity to visit a phenomenon at a higher level each time, and thus to progress towards greater overall understanding. By carrying out action research using this model, one can understand a particular issue within an educational context and make informed decisions through enhanced understanding. It is fundamentally about empowerment.

Several other models have also been put forward by those who have studied different aspects of action research and I will present some of these here. My purpose in so doing is to enable you as the reader to analyse the principles involved in these models which should, in turn, lead to a deeper understanding of the processes involved in action research. No single model is being recommended and, as you may notice, they do have many similarities. An action researcher should adopt the models which suit his or her purpose most or adapt them to fit that purpose.
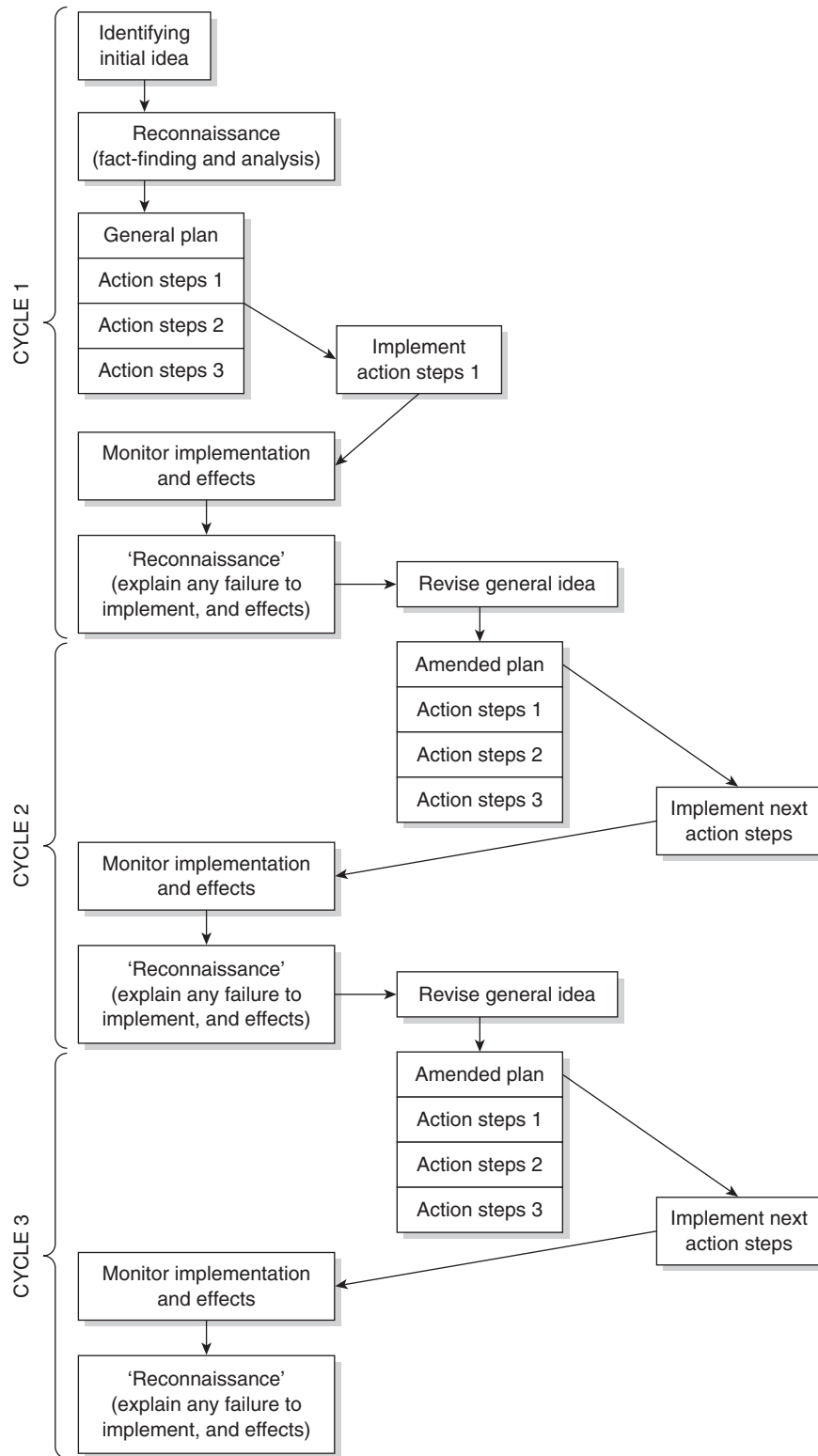
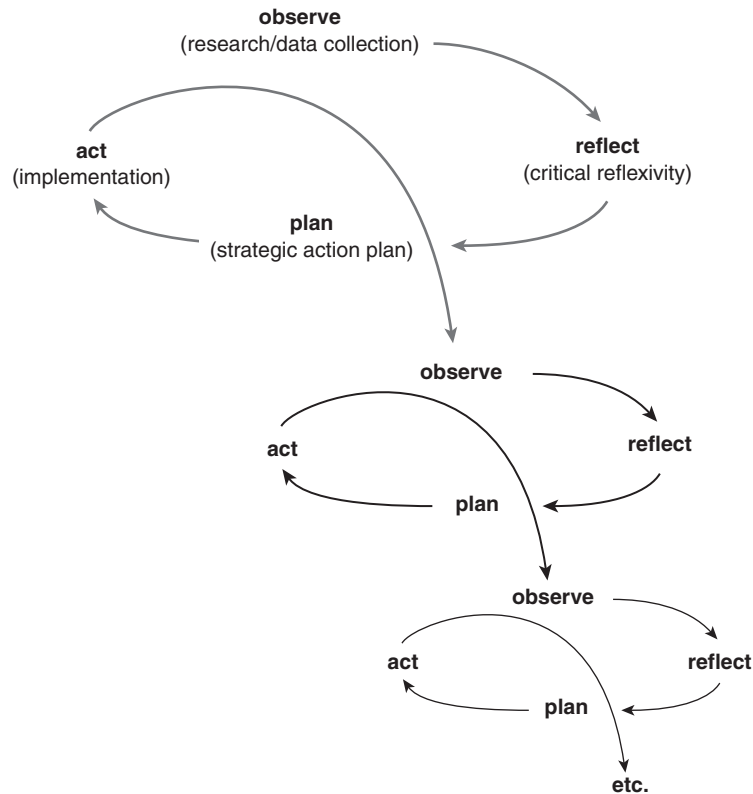Figure 1.2   Elliot's action research model

Figure 1.3   O'Leary's cycles of research

The model suggested by Elliot (1991: 71) includes reconnaissance – namely fact-finding and analysis – within each stage of the action research, as can be seen in Figure 1.2. Other models, such as O'Leary's (2004: 141) cycles of action research shown in Figure 1.3, portray action research as a cyclic process which takes shape as knowledge emerges. In O'Leary's model, it is stressed that 'cycles converge towards better situation understanding and improved action implementation; and are based in evaluative practice that alters between action and critical reflection' (2004: 140). The author sees action research as an experiential learning approach to change the goal of which is to continually refine the methods, data and interpretation in the light of the understanding developed in the earlier cycles. And finally, in Macintyre's (2000: 1) representation of the stages in action research, the processes involved are signposted as shown in Figure 1.4.

Although it is useful to consider different models, I need to include a word of caution here. Excessive reliance on a particular model, or following the stages or cycles of a particular model too rigidly, could adversely affect the unique opportunity offered by the emerging nature and flexibility which are the hallmarks of action research. Models of practice presented in this chapter are not intended to offer straitjackets to fit an enquiry. It would be useful for you to construct your own model describing the particular paths of the enquiry you will be making.
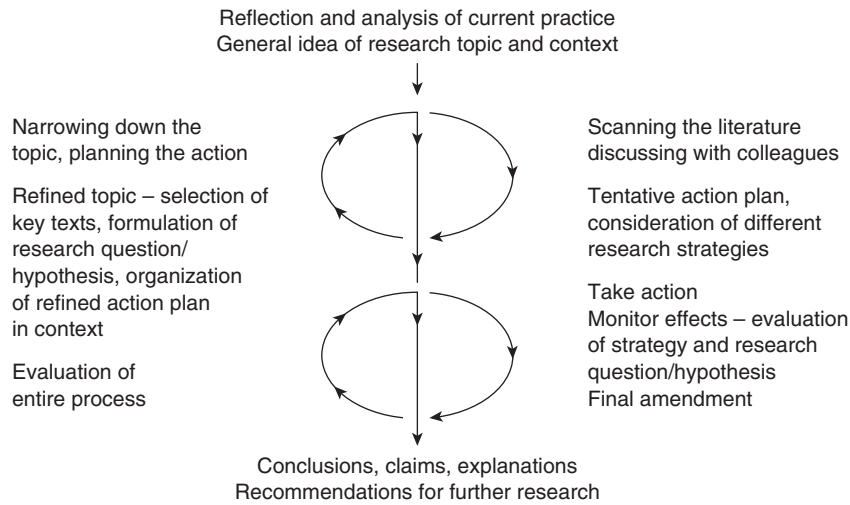
Reflection and analysis of current practice
General idea of research topic and context

Narrowing down the
topic, planning the action

Scanning the literature
discussing with colleagues

Refined topic – selection of
key texts, formulation of
research question/
hypothesis, organization
of refined action plan
in context

Tentative action plan,
consideration of different
research strategies

Take action
Monitor effects – evaluation
of strategy and research
question/hypothesis
Final amendment

Evaluation of
entire process

Conclusions, claims, explanations
Recommendations for further research

Figure 1.4   An action research cycle

Some definitions of action research

At this point, I feel it may be useful to explore some of the definitions and observations on action research as a methodology offered by different authors. Bassey (1998: 93) describes 'action research as an enquiry which is carried out in order to understand, to evaluate and then to change, in order to improve educational practice'. Hopkins (2002: 41) maintains that 'action research combines a substantive act with a research procedure; it is action disciplined by enquiry, a personal attempt at understanding while engaged in a process of improvement and reform'. Cohen and Manion (1994: 192) describe the emergent nature of action research in their definition. They explain action research as

> essentially an on-the-spot procedure designed to deal with a concrete problem located in an immediate situation. This means that ideally, the step-by-step process is constantly monitored over varying periods of time and by a variety of mechanisms (questionnaires, diaries, interviews and case studies, for example) so that the ensuing feedback may be translated into modifications, adjustment, directional changes, redefinitions, as necessary, so as to bring about lasting benefit to the ongoing process itself rather than to some future occasion.

Bell (1999) comments on the practical, problem-solving nature of action research which she believes makes this approach attractive to practitioner-researchers. She also highlights the fact that action research is directed towards greater understanding and the improvement of practice over a period of time.

A careful study of the definitions and viewpoints I have presented in this section should help us to highlight some unique features of action research.

The key words include *better understanding*, *improvement*, *reform*, *problem-solving*, *step-by-step process* and *modification*. These words also perhaps demonstrate the reasons for the popularity of action research as a mode of study for practitioners.

Much of the literature on action research emphasizes the practical nature of this type of research. It deals with the practices of various people, quite often within their settings. Its main purpose is to improve practice – either one's own practice or the effectiveness of an institution. I consider action research as a constructive enquiry, during which the researcher constructs his or her knowledge of specific issues through planning, acting, evaluating, refining and learning from the experience. It is a continuous learning process in which the researcher learns and also shares the newly generated knowledge with those who may benefit from it.

Examples of action research projects

In the next section, I have included some examples of action research projects carried out by practitioners in a number of settings. They are deliberately kept brief and only used as examples. As you read these examples, as told by the researchers themselves in a summary form and style selected by them, try to consider how their experiences relate to the different models and definitions presented earlier in this chapter. You may ask yourself whether these examples have elements in common with your own situation and needs.

Example 1

Introducing the principles of 'Assessment for Learning' in my class (Christine, a teacher)

Context and background

I teach 10 year olds in an inner city school. I am keen to keep up-to-date with developments in education. It was a talk on assessment which I attended at the local teachers' centre that provided the spark for what was to become a year-long action research project. I have responsibility for assessment in my school and, for some time, I was feeling uneasy about the closed nature of the assessment procedures we used. I could not articulate what I wished to change, but after the speaker told us about a study by Black and William on 'Assessment for Learning' (1998) I felt I could do something about changing things.

'Assessment for Learning' emphasizes the importance of formative assessment in enhancing children's learning. The speaker talked about some research carried out by the above authors which suggests that if teachers involved children in their own assessment it would lead to higher attainment. After the talk, I thought about it and

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wondered why formative assessment is so powerful and came up with two possible reasons for that. One must be the increased motivation of the students as a result of continuous feedback; the other is the effect it has on more powerful 'personalized learning' through their involvement in the process of learning and assessment. Then it dawned on me that I could undertake a study as part of a practical project for a Master's module on 'Teaching and Learning' which I was studying at the local university. I had not heard of action research before I started.

What did I do?

The first step
The first step was to take a good look at what was happening in our school. Children had regular class tests in mathematics and spellings; their work was marked and graded and all the children took standardized tests at the end of every year. My colleagues at the university, who were also registered for a module in action research, suggested that I keep diary entries of my journey through the project as it would help me not only to make modifications to my actions but also when writing up the project. As I reflected on what was happening, I recorded '*A world full of tests, to what end?*' as my first reaction. Now I had to consider what I wanted to do. Introducing self-assessment as part of everyday learning seemed a good starting point. This was the more challenging part. I felt both excited and nervous.

At the beginning, I was not sure how I was going to conduct a study. Soon I realized I had to ask myself some questions. What was I going to do? What was the purpose? What did I expect to get from the study? Who is going to be involved in the study? What did it entail? Could I approach my colleagues who teach parallel classes to be involved? The last question was particularly challenging as it caused me some anxiety as to whether there would be opposition from my colleagues who may have perceived my ideas as adding to their workload. Finally, I decided to study the outcomes of my ideas with my class and just another class teacher of 10 year olds, with whom I worked closely anyway. She was pleased that I had asked her to be a research partner.

My colleague Alison and I made an initial plan for the study. We listed a sequence of activities such as reading Black and William's paper outlining the benefits of self-assessment and listing the benefits. We drew up a schedule to take a close look at what involvement, if any, pupils had in their own assessment at the start of the project. We were horrified by what we found. There was hardly any stage in the day where we asked children to comment on what they had learnt or how, or even how they thought they had done. Assessment in our school seemed to be a mechanical exercise of ticks, grades and marks.

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Moving on

The next step was deciding what to do. We decided to introduce three activities based on our readings. The first was to make children more aware of what the learning intentions of a lesson were. This, we felt, would focus children's learning so they would be more aware of what they were expected to learn and hence would take more responsibility for their learning. The second was to introduce a weekly diary in which children recorded what they had learnt and how they thought they had learnt and understood new ideas. Another change involved following up what had been said at the session at the teachers' centre; instead of giving a grade for a piece of work, we decided to write a comment. The third activity was to organize a time at the end of the week to discuss, with the children, the best lessons in the week and let children speak freely about why they thought some lessons had been better than others.

Monitoring progress

We knew we needed to monitor what happened with each of the activities. We felt we needed to be realistic and select the kind of data we could manage both in terms of data gathering and analysis. With this in mind, we decided to establish a baseline first.

   At the end of two lessons, we asked children what they thought they were supposed to have learnt and to write down their responses. We also kept notes on what they thought they had learnt from the two lessons. And, finally, we wrote a comment underneath the marks awarded for a piece of work and asked the children afterwards what they thought of the comments. While analysing the data we found out that in spite of sharing the learning outcomes with the children they had not taken much notice of these and could not articulate what these were. For the second part, when asked what they had learnt, the responses ranged from two- or three-line vague scribbles to 'don't knows', to one case of 'nothing really', and 'I already knew what she [the teacher] was going to teach anyway'. The third set of data was the most revealing. Most of the children had taken note of their marks and could tell us what these were as well as those for some of their friends also. But they had not read our comments. This was not surprising to us, as I had read about this tendency in the literature.

Revising the plans

The intervention activities we had planned were revised in light of our observations. We decided to photocopy the learning intentions and give copies to the children to stick in their notebooks, so that they would constantly be aware of what they were expected to learn. The second intervention – keeping a learning diary – was found

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difficult by most children as they were not used to reflecting on their learning. The initial idea of keeping a general learning diary for all subjects was abandoned as impractical and we concentrated on mathematics lessons only. The third change was to award marks only for some pieces of work and to write a set of comments for the others.

What happened?

The project lasted for two terms. We collected evidence of what was happening by discussions between us, through reading our own diaries of significant events and by making our interpretations of them. Evidence of children being able to articulate their learning intentions and to take note of their teacher's comments in workbooks was generated. What we found out from the project outcomes was very useful to us and there was also enough evidence for us to see that our activities had yielded some success in achieving more involvement of children with the assessment of their learning.

We were aware that what we had done and found out were useful only to us initially, but during a staff meeting we shared our project with the whole staff and teaching assistants who were very interested in our findings. At a later stage we gave a presentation to our cluster of neighbouring schools; the participants were interested especially because we were drawing on practical activities and highlighting what could be achieved within our classes. Of course, I also wrote a report of what we did for my course assignment.

What did I learn from this project?

Although the project only lasted six months, the level of my personal engagement was high. Before and during the project I had read about the action research cycle I could use for the project; but in reality the cycle had to be broken many times when things didn't go according to plan. Even small things, such as delays in getting replies from parents giving permission for the children to take part in the project, created difficulties. Sharing our findings, as they emerged, with the head teacher and other colleagues also caused some anxiety. The children were very enthusiastic about the project (as part of the ethical procedure, we had also asked them if they were happy for us to collect their work and discuss them with others). The outcomes of the project may have been influenced by the children's initial keenness; we decided to keep a watch on this after the project had concluded. One of the features of practitioner research in their own setting is that the personal learning continues long after the formal work is concluded.

I believe my questioning and analytical skills improved as a result of carrying out an action research project. Throughout the project, my research partner and myself constantly asked ourselves: 'What is happening here?' Through such questioning, interpreting what happened in the classroom and reflection I know that my practice has improved. The process of sharing my project with colleagues also enhanced my professional confidence.

Example 2

Responding to the needs of mature students enrolling for teacher training courses (Lisa, a lecturer in higher education)

Context and background

I believe in the principle of lifelong learning. I feel it is important that we encourage mature students who have worked, or have spent a number of years doing other things, to join teacher-training courses and complete them. These situations include women who may have had a break in their career to bring up families and those who have followed other careers and now wish to become teachers later in life. A third group consists of people who have not had the opportunity to obtain a degree when they left school, but have instead followed other methods of study to get a qualification to prepare them to enroll for a teacher-training course. The beginning of the project I am about to describe can be traced back to an after-lecture conversation I had with a group of mature teacher trainees in my university who told me that before they joined the course they had felt anxious about joining the course and studying with younger members. They also told me that they still felt anxious during sessions and were worried that their lack of confidence could affect their teaching during their initial placements in schools. A group of my colleagues, who felt the same way as I did, were keen to develop methods to encourage these students and provide a positive learning environment for them. With this mind, we set up an action research project with support funding from staff research funds at the university. We started with a small questionnaire survey to explore how mature students felt as members of the course. The responses suggested that a significant number of mature students felt uneasy about returning to study. They felt anxious in the company of younger students, who they thought had better skills with technology and writing essays and appeared more confident. They also felt uneasy about participating in discussions and having a general lack of confidence. The next step was to plan an intervention. We believed that our contribution to knowledge would be two-fold. First, we would develop a set of strategies which would help our mature students and these would also be useful to other practitioners in similar situations. Second, the general lessons learnt from our project could be shared with those who have responsibility for encouraging the widening participation of adult learners in higher education.

Preparation and planning

The team read all the available literature, obtained through our manual and web-search, and highlighted those aspects that had been identified as barriers to mature students who shied away from joining universities to acquire qualifications,

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with special attention given to teacher-trainees. Some of the aspects which were identified in our own previous survey with our students, as reasons for causing anxiety amongst mature students, were also highlighted in other literature. We made a summary of these. We selected an action research approach, as we felt it would enable the teaching team to be part of the process of change at both stages – both for the identification of what needed to be done and for the implementation of strategies in response to these. We decided to work closely with the students after explaining the purpose of the project to them and the response was overwhelmingly positive. We took note of the features of action research which made it a suitable method for our project. The project was located within our working context and it provided us with opportunities for collaborating with our students. The emerging nature of the interpretations and findings made it necessary to use iterative cycles in our model of action research.

What did we do?

Although it is not possible here to describe fully what we did during a one-year project, I will include what we felt were the most useful parts of the project. Our first cycle of action was designed to find out, in detail, the experiences and views of both the lecturers and students. Data collection included finding out the total numbers of mature students enrolled on our courses, their backgrounds as written on their initial application forms and their gender distribution to look for possible trends. Both individual and group interviews were carried out with the mature students and the data were analysed and compared with the perceptions of the tutors. We found a good match in the two sets of data. In order to validate the evidence generated a group of tutors who were not involved in teaching the students in our project at that time were recruited, as Critical Friends, to read through transcripts, notes of our meetings and our needs-analysis of what action was required. Students were asked to comment on all the interventions which were designed to address the needs – such as small group discussions where mature students worked with other students, extra ICT sessions, having specialist tutors to support them with structuring assignments, peer group marking and reading drafts of their work. We had found that many of the mature students were fearful of all forms of assessment. They felt they lacked both study skills and the skills required read to academic papers. Many of them felt insecure and anxious about participating in group discussions. Other areas identified by many as requiring support were information technology skills together with skills of time management.

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What did I learn from the project?

The collaborative learning experience was very rewarding. The knowledge we created was based on the collaborative effort of all the participants – lecturers and students. Interventions were informed by the on-going data gathering. For us – the tutors – it was an opportunity to stand back and reflect, whilst addressing a real problem within a real context. Action research provided a methodology which enabled us to make revisions to our plans and to respond to needs as they arose while at the same time maintaining rigour in the quality of data collection, analysis and interpretation. Our dissemination took the form of published descriptive case studies which captured the reality of the situations; these made a contribution to the literature on widening participation and lifelong learning.

How did the action cycles work?

The first cycle
  Our concern was raised
  Research question was set up: How can we improve provision for mature students joining our teacher training course?
  Explored views and problems through questionnaires, surveys, interviews, existing literature and discussions
  Analysed the data and reflected on the initial findings
  Shared the findings and discussed these with students and tutors
  Validated the data and findings with critical friends
  Carried out a needs analysis

Second cycle – organize action
  Design activities: for example, IT sessions, small discussion groups, assignment support, mature students sharing their skills – from previous employment and experience – with new students
  Set up structures for students and tutors to evaluate activities
  Second set of interviews
  Validation meeting
  Wrote up interim report including suggestions for changes

Third cycle – further planning
  Refined actions
  Prepared the internal evaluation of methods and findings
  Presented this to colleagues
  Newsletter on website
  National dissemination – two conferences and two published papers

Example 3

Christine – a teacher working within a national network of action researchers

Background

It all started when, as part of the government's initiative to enhance provision for gifted and talented students, the Department for Education and Skills in the UK invited proposals for funding to be awarded to individual schools or groups of practitioners to carry out action research into aspects of nurturing talents in younger children – specifically children aged 4–7. Brunel University tutors, who had carried out a number of studies into early giftedness and its development, were invited to guide the action researchers. The purpose of commissioning the project was to generate a knowledge base in gifted education with a particular emphasis on children within the first years of schooling. Fourteen groups of practitioners (across the country) were awarded funding to carry out action research into selected topics. The project provided an opportunity for a group of researchers to work with university academics to explore the best ways of developing talent in younger children. One of the requirements for providing funding was that the action researchers had to produce case studies of their project and that their findings would be published on the government website. Researchers were also invited to present at national conferences.

My context

In response to the invitation to participate in a set of projects, our local district adviser (Joy) applied for funding to set up a 'pull out' group of exceptionally able pupils whose educational needs, we felt, were not being met within their schools. Schools usually have only one or two of the type of child we had in mind and, within a busy classroom, teachers did not always have the time to devote to them. Some of the children who had been referred to the gifted and talented adviser, Joy, had been showing disruptive behaviour and she felt this may have been due to their frustration caused by having to work on tasks which were cognitively undemanding. Following a successful application for funding, Joy invited me to set up an enrichment cluster. Initially I was nervous when I was told we had to attend some sessions at the university, as my track record of higher education was not all that successful.

   Meeting others who were also conducting action research was very useful. The fact that the project was funded by external sources and its findings had to be shared with others across the country caused some anxiety, but it also highlighted the importance of having a robust structure and set of outcomes. During the university sessions we discussed action research as a methodology for generating principles based on practice and were reassured by the flexibility it allows.

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Outcomes

The first challenge was to identify a focus and decide on what we were hoping to achieve. The outcomes would have been useful to colleagues within my own education authority and they should also have been of interest to colleagues who may have read my case study and listened to my story. Right from the start, I had to remind myself, reinforced by the university staff, that the purpose of the research was not just to help a group of children but also to extract principles and models from the project which could be useful to other practitioners.

A group of 20 children, aged 5–6, were selected by their class teachers from a number of schools and sent to the enrichment class run by myself and two assistants from a local school. The group attended a programme of enrichment activities once a week – on Thursday afternoons. The first challenge was to establish a system for the selection of the pupils and this was not easy. My own feeling was that teachers' close observation of children's achievement or potential would be a good starting point. One could always revise this. As it happened, the children who were selected also scored high on a standardized test that we used, suggesting that teachers' judgements were quite accurate.

As it was a new area of exploration for me, I read some research papers on Renzulli's [an expert on enrichment work in schools] enrichment activities which are very popular in the USA. I also received guidance from the tutors at the university on setting up enrichment activities. In addition, I conducted a web search for other related literature.

A set of activities was planned, taking into account the context of the children's backgrounds and the Early Years policy of the local education district. A local university was involved in providing expertise in some areas of advanced concepts. The project was running smoothly when, during our second meeting, the whole question of how we could evaluate the project came up. This part was quite demanding for me and I needed guidance. The first set of questionnaires I designed for parents and teachers needed substantial revision. Triangulation was achieved by seeking perspectives from the various persons involved in the project. Photographs were taken and some children were interviewed before, during and at the conclusion of the project. Teachers' views were also gathered.

What did I learn?

Our action research project was disseminated at national conferences as paper displays were organized at exhibitions of 'best practices' in education. Project findings were shared with colleagues in the local teachers' professional development centre. In this project the university researchers worked with practitioners co-creating knowledge. Case studies and research papers were written and

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published. The dissemination of the processes we adopted for the action research projects and the outcomes of the project have added to the knowledge base of nurturing talent in the early years of schooling, which is an area where very little research has been done internationally. It was a valuable professional development exercise for me. The personal theories I have constructed during the project have enhanced my confidence and I no longer feel that research is something which is done *on* children and teachers by academics, but that it can be done *by teachers*.

My personal learning includes the development of systematic work and higher order questioning, analysing data and generating evidence. I have also become aware of the benefits of belonging to a collaborative network of action researchers who have contributed to my professional and personal knowledge. I learnt that the anxiety I felt during different stages of the project and the temptation to give up are part of the action research process.

Example 4

Julian – class teacher of 8 year old children

Background

Like most people in my profession, I was excited when a national initiative for improving mathematics teaching was introduced. The training which was organized and the documentation accompanying the initiative recommended a three-part structure for the daily mathematics lesson: start with mental mathematics, follow with the main lesson, and then a 'conclusion' session with a discussion of what children had learnt and how they had learnt, which was to last for about ten minutes. I was broadly happy with this structure at first, but later I became unhappy about my 'conclusion' sessions. Those sessions seemed to be unproductive because my children did not actively participate in this part of the lesson. I studied the main purpose of the 'conclusion' part in the documentation; it was to assess children's level of understanding of what had been taught, rectify any misconceptions, help them to make connections with previously taught ideas and highlight what progress had been made. I believe in the 'constructivist' philosophy of learning where children actively construct their own learning. A discussion with children on how they learn mathematics is well within my philosophy of learning and teaching. So why didn't it work? How could I improve the session?

What was the problem?

It was clear that I was not meeting the objectives of the concluding part of my maths lesson, as my children were not actively participating in the discussion. Either they

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provided one-word answers to my questions or just kept quiet. At first I was not sure how I would encourage children to participate in the discussion which is integral to this part of the lesson. I was unhappy about the problem, but did not really know how to solve it.

An opportunity

I felt that an opportunity had arisen here; I could choose this topic for investigation in my MA dissertation. Action research, or participatory research, would enable me to work flexibly without a tight and pre-determined structure. It would also allow me the freedom to plan, act, evaluate and reflect on my ideas before putting them into practice. As I was embarking on the action research project for the purpose of accreditation for a Master's degree, I knew I had to follow some academic guidelines. I had to undertake a review of the literature relating to the teaching and learning of mathematics. I also had to demonstrate my understanding of action research and justify why I had chosen it as a method to conduct my research.

My research question was: How can I make the children in my class take a more active part in the 'conclusion' of a lesson, discussing what they had learnt and how? Working with my own class to explore strategies made the planning easier. I still had to have a sharp focus on what I wanted to achieve. It took about four weeks of reading and discussion, both with colleagues and the local mathematics adviser, before I finally made a firm plan. At the planning stage, I needed to set out my aims and objectives. Why was I doing this? What made me want to research into this topic? What evidence should I present in justifying the need to carry out this piece of research?

What did I do?

As it was a new initiative, no evaluative literature was available for me to read. So I had to justify why I thought there was a problem with the concluding part of my lesson by using my own observations. However, I used literature I had found on 'teaching and learning' to assess the effectiveness of the sessions in terms of students' motivation and interest; clearly these were missing from my lessons. I constructed a 'To do' list.

- Refer to the objectives of the three-part lesson in the documentation provided in the government policy document, especially with reference to the discussion in the concluding part of the lesson, which is expected to take place.
- Collect information about how the objectives are being met in my sessions. Are my concerns borne out by the data?
- Analyse my concerns.
- Plan strategies to encourage active participation. Look at what mathematics educators have suggested as strategies to promote discussion in mathematics lessons and construct a work plan.

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- Implement the plan.
- Gather data through observations and a personal diary of any changes in children's attitudes and responses.
- Analyse the data for any changes and indicators of an enhanced understanding of concepts involved in the main lesson (make changes as necessary).
- Evaluate the effectiveness of my intervention strategies.

I implemented a set of strategies for increasing student participation. One was to reduce the number of closed questions which elicited short and vague answers. By asking open-ended questions and using probing techniques, students' responses became more full and their enthusiasm was greater. Another strategy I used was to give students a set of questions (earlier in the lesson, while they were working on tasks) which were to be discussed in the concluding session so that they had time to think about their own learning which, in turn, provided them with more opportunities to plan what to discuss. I implemented these strategies in every lesson for three months and collected a good deal of useful data which I analysed and evaluated against my objectives.

The final step

As part of the writing-up for my dissertation, I discussed my findings in relation to the aims and objectives for the study. I justified the selection of action research as a method in terms of its flexibility, and the opportunities it affords for locating the field-work in one's professional context. I found the methodology of action research highly suitable for my purpose. I was able to work on a topic of personal interest which was also part of my professional context. The structure allowed me to refine my strategies and directions as I progressed through the project. My personal learning and the influence the study had had on my practice were highlighted, as well as an acknowledgement of any shortcomings. The ways in which my findings could be useful to other practitioners were also stated.

Action research and its theoretical underpinnings

Several of the salient features of action research have been exemplified through the use of case studies in the previous section. The context of all the enquiries – the education system – may vary. And yet, always for the one or more action researchers involved, the ultimate objective of the research enquiry was the production of greater understanding of the selected groups within the education system, so as to produce practical principles and strategies for the improvement of that system. A possible common denominator of action research enquiries is the population of participants – children, teachers and other adults who work within the education system – engaged in a collaboration designed to benefit all of those involved.

The life courses of all of those who are part of the research process are enhanced. That enhancement may be explained with reference to two elements: a greater understanding of the role of the participants in the education system founded on more detailed and profound knowledge and a greater understanding of the self, due to informed negotiated meanings of activities shared with others and a developed capacity for construction and analysis.

To gain a somewhat global perspective of what constitutes action research, primary consideration must be given to the fact that it involves a social system – consisting of interacting humans – and not a physical system comprised of inert or inanimate objects. To supplement the following discussion on the theoretical underpinnings, I have included explanations of the terminology used in the glossary at the end of this book.

The quest for knowledge and understanding has a long history. Metaphysics launched the quest by analysing human experience of the environment so as to distinguish between knowledge of an immutable reality and the observed visible projection of that reality. The search for knowledge, the epistemological pursuit, created a hierarchy with knowledge of an immutable reality regarded as superior to the acquaintance with things humans could sense without the aid of artificial instruments.

For social systems a postmodernist approach seeks knowledge within a social system as opposed to the positivist approach which demands logical or scientific support for beliefs. Action research does not subscribe to a positivist viewpoint concerning evidence and conclusions inherent in a research exercise. It supports a postmodernist attitude to epistemology (theory of knowledge) – advocating questions and discussions within the research exercise – so that emerging beliefs, whilst not embedded in an immutable reality, are the product of a negotiated consensus contributing to the future harmony of the actions and elevations of life courses.

Conceptualizing action research

Research is concerned with the generation of knowledge. By carrying out action research practitioners are involved in exploring ways of improving their practice and the knowledge created is often context-specific. In this section we take a close look at the theoretical underpinnings of action research. In order to *conceptualize* action research, let us make a start with a consideration of what Levin and Greenwood (2001: 105) have to say.

- That action research is context bound and addresses real life problems.
- That action research is an enquiry where participants and researchers co-generate knowledge through collaborative communicative processes in which all participants' contributions are taken seriously.
- That the meanings constructed in the enquiry process lead to social action or these reflections and action lead to the construction of new meanings.

- That the credibility/validity of action research knowledge is measured according to whether the actions that arise from it solve problems (workability) and increase participants' control over their own situation.

As an action researcher the new knowledge you generate and the personal theories you develop will be based on your experiences. These theories are important to you and will impact on those working with you in your institution or community of researchers. During an interesting session I had with students studying for doctoral programmes at our university, we focused on the need for a researcher to articulate his or her theoretical stance or philosophical positioning whichever methodology they chose to select. During these discussions, students who intended to use action research as their methodology (following a plan-act-evaluate-reflect cycle) placed action research within a *constructivist* methodology as they felt they were constructing their own meanings and understandings throughout the period of the research and that these constructions would continue after their enquiry had been completed.

Action researchers constructing their own knowledge

So what is constructivism? According to von Glasersfeld (1987), there are important principles on which constructivism is based. First, knowledge is not passively received but actively built up by the cognising subject; and secondly, the function of cognition is adaptive and serves the organization of the experimental world, not the discovery of ontological reality (we discuss ontology in greater detail in the next section). A *constructivist* philosophy would reject absolutism in epistemology. Glasersfeld believes that both the above principles need to be adopted for the theory to be effective. He maintains that constructivism breaks with convention and develops a theory of knowledge in which knowledge does not reflect an 'objective' ontological reality, but exclusively builds an ordering and organization of a world constituted by our experience. In the construction of knowledge, communication, negotiation and the sharing of meaning play an important part. In the context of action research, Ernest's (1991) case for 'social constructivism' is a perspective which is worthy of consideration (social constructivism is discussed further in Chapter 6). He explains its features:

> First of all, there is the active construction of knowledge, typically concepts and hypotheses, on the basis of experiences and previous knowledge. These provide the basis for understanding and serve the purpose of guiding future actions. Secondly, there is the essential role played by experience and interaction with the physical and social worlds, in both physical and speech modes.

Action researchers are actively engaged in a process of *construction*. Their constructions are based on all the data they collect. They negotiate meanings which will emerge from their interpretations. This position makes them work within the *constructivist* perspective. They are active *'social constructivists'* (Ernest, 1991) because they develop their understandings from communicating with people in their educational settings. As constructivists, they will not be claiming that what they interpret and present are 'whole, absolute truths', but meanings of what they see and hear. Their constructions will be affected by their ideas and values and by the context they work in. In a very illuminating chapter in the *Handbook of Action Research*, Lincoln (2001: 130) states that there are several profound and sympathetic connections between constructivist inquiry and action research. She believes that:

> much of the epistemological, ontological and axiological belief systems is the same or similar, and methodologically , constructivists and action researchers work in similar ways, relying on qualitative methods in face-to-face work, while buttressing information, data and background with quantitative method work when necessary or useful.

Making your philosophical stance known

When selecting and making a decision about what methodology to use, researchers need to consider their ontological and epistemological stance. Whichever philosophical stance we take it is important to declare this and understand the implications of our chosen stance with regard to data collection and analysis. In order to do that we take closer look, in the next section, at what the different theoretical perspectives mean within the context of action research. Further readings on these topics are provided at the end of this chapter.

Ontological issues

Ontology (theory of being) refers to the claims or assumptions about the nature of *social reality* – about what exists, what it looks like, what units make it up and how these units interact with each other (Blaikie, 1993: 6). Within action research, researchers would consider this reality as socially constructed and not external and independent. Meaningful construction occurs both through interpretations of a researcher's experiences and through communication. The stories they tell will be based on subjective accounts from people who live within their environment. The methods of data collection they use will be consistent with their ontological stance. Action researchers must make their theoretical stance clear at the start and also at the dissemination stage.

At this point I will illustrate the challenge of addressing an ontological perspective in your research with an example. A teacher who was concerned with increasing her pupils' motivation and enthusiasm for learning decided to

introduce *learning diaries* which the children could take home. They were invited to record their reactions to the day's lessons and what they had learnt. The teacher reported in her field diary that the learning diaries stimulated the children's interest in her lessons, increased their capacity to learn and generally improved their level of participation in lessons. The challenge for the teacher here is in the analysis and interpretation of the multiplicity of factors accompanying the use of diaries. The diaries were taken home so the entries may have been influenced by discussions with parents. Another possibility is that children felt the need to please their teacher. Another possible influence was that their increased motivation was as a result of the difference in style of teaching which included more discussions in the classroom based on the entries in the dairies.

Unlike positivist researchers, this teacher can only claim the influence of introducing the learning diaries within her context, based on her interpretations and reflections. Her personal judgement will be tentative and awaiting further support from others. Your claims will need to take the other factors into account and you need to acknowledge these in your communications. Another challenge for you as an action researcher working in a social context is that your beliefs and values may conflict with those of others in the cultural settings and practices. I experienced this first-hand while working with a teacher who was trying to introduce an interactive style of teaching to a school in the Far East where, according to my student, they follow the principle that 'teachers teach and children learn' and so an interactive learning style was not encouraged. Although the teacher was involved in an individual enquiry, she had to face the fact that all learning takes place in a social context and in her reporting stage she acknowledged the tensions and conflicts she experienced in the pursuit of her enquiry and the success she attributed to her change of style in teaching.

Epistemological issues

Epistemology is the theory of knowledge and it presents a view and justification for what can be regarded as knowledge – what can be known and what criteria knowledge must satisfy in order to be called knowledge rather than beliefs (Blaikie, 1993: 7). For traditional researchers, knowledge is certain and it can be discovered through scientific means. For an action researcher, the nature of knowledge and what constitutes knowledge are different. The type of data collected is more subjective where experience and insights are of a unique and personal nature (Burrell and Morgan, 1979). What people say and how we interpret what they do and say are important for an action researcher for knowledge creation.

To illustrate the epistemological challenges within action research, I will use another example here. A teacher of 11 year old children decided to carry out an action research project which involved a change in style in teaching mathematics. Instead of giving children mathematical tasks displaying the subject as

abstract principles, she made links with other subjects which she believed would encourage children to see mathematics as a discipline that could improve their understanding of the environment and historic events. At the conclusion of the project, the teacher reported that applicable mathematics generated greater enthusiasm and understanding of the subject.

   Here the researcher was involved in a personal enquiry which was aimed at improving an aspect of her practice. She had generated new knowledge, which could then be shared with colleagues in her institution and others in the profession. The knowledge that had been generated about the extent to which mathematics learning had improved would be based on her personal interpretations and supported by the observed enthusiasm of her pupils and what her colleagues may have observed and interpreted. In this instance the action researcher is not like a positivist researcher who may have used scientific methods in the form of test results to make claims to generate knowledge which they consider to be certain. For an action researcher working within a social context the knowledge generated is not certain; it is based on the observation of behaviours and responses from participants – students, colleagues, Critical Friends and personal interpretations. Outcomes will need to be continually refined on the basis of experience, discussion and the negotiation of meanings. The results cannot be generalized, but other professionals may be able to replicate the project and generate similar outcomes. Your philosophical stance will have a bearing on the way you analyse and present your data and the knowledge you generate (see Chapter 6).

The advantages of using action research as a methodology

I conclude this chapter by considering the advantages of using action research as a methodology for researching into aspects of practice. I believe action research is a powerful and useful model for practitioner research because:

- research can be set within a specific context or situation;
- researchers can be participants – they don't have to be *distant* and *detached* from the situation;
- it involves continuous evaluation and modifications can be made as the project progresses;
- there are opportunities for theory to emerge from the research rather than always follow a previously formulated theory;
- the study can lead to open-ended outcomes;
- through action research, a researcher can bring a story to life.

Finally, are there any limitations and disadvantages to using this methodology? When you consider action research for the purposes of professional development or improving a situation, it is difficult to list that many disadvantages. However,

action research is sometimes described as a *soft option* by some, so you will need to define the parameters of your study at the start. Gaining insights and planning action are two of the main purposes of being engaged in action research. There is also the issue of ethical considerations which are of particular significance within action research. Such issues are discussed in Chapter 5.

▢ Summary

In this chapter I have tried to give the reader an overview of what doing action research entails. The presentation of models of action research can give but a hint of the flavour of the experience; to digest the nature of action research you need to be an active participant. The key academic researchers who have contributed to the development and more widespread acceptance of action research were indicated, their names and publications cited as landmarks in the progress of the methodology. A salient feature of action research is its cyclical structure and this was highlighted by the diagrammatic forms in which renowned researchers have portrayed their approach to action research. Different readers will, indeed, react to each diagram differently and use them as they see fit within their own action plans. The definitions emphasized the role of action research which is possible within the professional and institutional enhancement of the researchers; the attributes and advantages of action research supported the positive approach readers were encouraged to adopt. As for the four case studies of action research, these were provided as examples, enabling readers to become acquainted with the processes and stages prior to experiencing them personally. Some theoretical underpinnings associated with action research were briefly presented. The chapter concluded with a list of the advantages provided when using action research as a methodology.

📖 Further Reading

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⌐ **Websites**

- www.standards.dcsf.gov.uk/research – this UK government website provides summaries of the latest research and case studies.
- www.nfer.ac.uk – the National Foundation for Educational Research provides research summaries and reports of recent research projects. .
- www.triangle.co.uk – *Action Research*, an academic journal which publishes studies of interest to action researchers.
- www.actionresearch,net
- www.did.stu.mmu.ac.uk/carn – the Collaborative Action Research Network provides details of research publications and research conferences.
- www.tandf.co.uk/journals/titles – gives journal details of *Educational Action Research*.