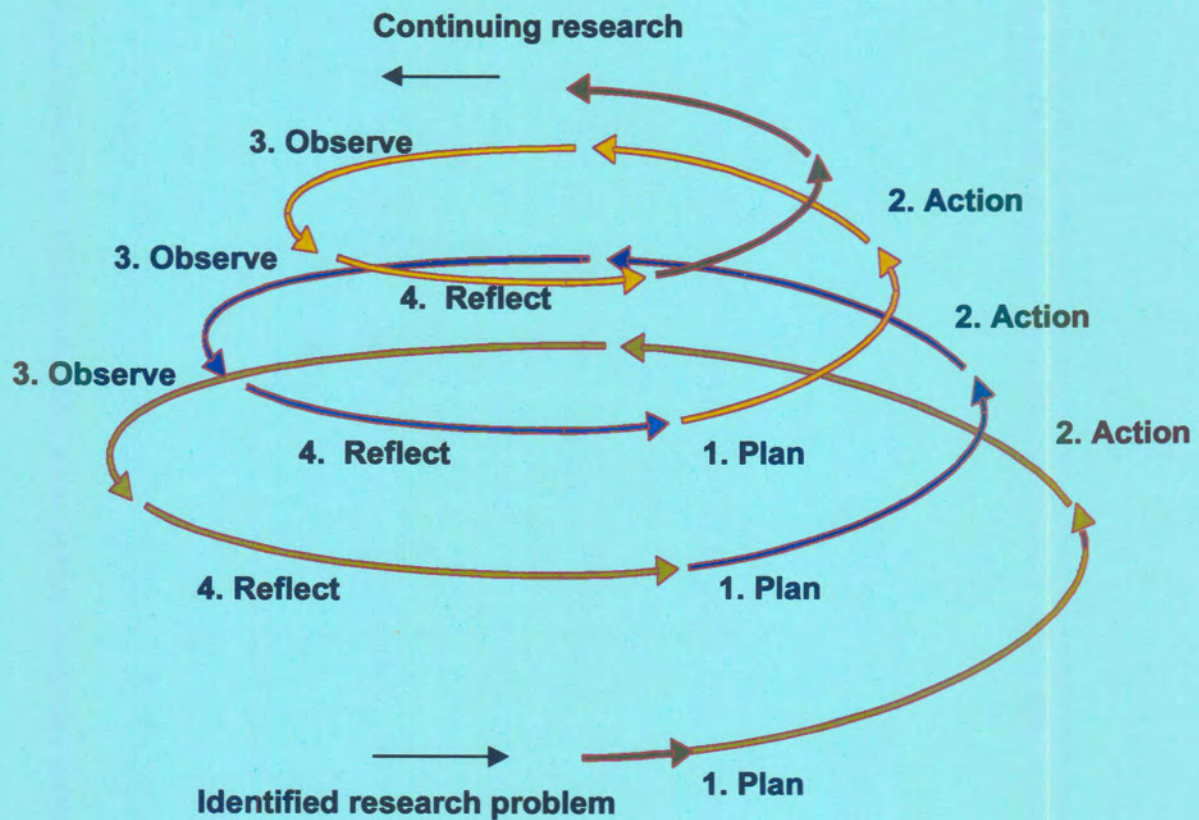


Chapter 3

Research methods



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

3 RESEARCH METHODS

The clever man will tell you what he knows; he may even try to explain it to you. The wise man encourages you to discover it for yourself, even though he knows it inside out (Revans, 1980).

3.1 INTRODUCTION TO ACTION RESEARCH

In this chapter the researcher will discuss the following:

- What is action research?
- Definitions of action research
- Background to and application of action research

The term action research refers to efforts by the practitioner to better understand what is happening in the learning environment and is undertaken by practitioners who are encouraged and supported in the study of their own instruction.

3.2 WHAT IS ACTION RESEARCH?

A variety of forms of action research have evolved over the last few decades (Carr & Kemmis, 1986), but most adopt a methodical, iterative approach embracing problem identification, action planning, implementation, evaluation and reflection. The insights gained from the initial cycle feed into the planning of the next cycle, with the action plan being modified and the research process repeated.

There are four basic elements evident in the definitions and descriptions of action research:

- Empowerment of participants (learner and practitioner)
- Collaboration through participation
- Acquisition of knowledge
- Social change

Zuber-Skerrit (1991) describes four processes through which a researcher goes in pursuit of these elements as a spiral of action research cycles consisting of four major phases:

- Planning
- Acting
- Observing
- Reflecting

Zuber-Skerritt (1982) describes a number of further distinctive features of action research. For her the characteristics of action research are:

- Critical collaborative enquiry
- Reflective practitioners
- Accountability in practitioners making the results of their enquiries public
- Practitioners who are self-evaluative in their practice
- Participative problem-solving and continuing professional development

According to this view, action research is critical in the sense that practitioners not only look for ways to improve their practice within the various constraints of the situation in which they are working, but are also critical agents of change for those constraints and for themselves. It is reflective in that participants analyse and develop concepts and theories about their

experiences. Action researchers are accountable in that they aim to make their learning process and its results public.

Their practice is self-evaluating in that the reflective and analytical insights of the researcher and practitioners themselves form the basis of the developmental process. In addition, action research is participative in that those involved contribute equally to the inquiry and collaborative in that the researcher is not an expert doing research from an external perspective – the researcher and practitioners act as partners working with and for those affected by the problem and its solution (Stinger, 1996).

Kemmis & McTaggart (1988) state that there are three requirements for action research to incorporate the goals of improvement and involvement that characterise any action research project:

- The project takes as its subject matter a social practice, regarding it as a strategic action requiring improvement.
- The project proceeds through a spiral of cycles that include planning, action, observing and reflecting, each being systematically and self-critically implemented and interrelated.
- The project involves those responsible for each step of the activity, widening participation in the project gradually to include others affected by the practice but with the researcher maintaining collective control of the process.

Action research can be seen as a combination of actions taken and implemented to address a problem situation identified in the workplace in order to improve it in terms of:

- the researcher's own social and educational practices
- understanding of these practices

- understanding of the situation in which these practices are carried out

This framework of action research is most appropriate for participants who recognise the existence of shortcomings in their educational activities and who would like to adopt some initial stance in regard to the problem. Action research involves formulating a plan, carrying out the intended intervention, evaluating the outcomes and developing further strategies in an iterative trend (Hopkins, 1993). In short, action research is characterised by the constraints and strengths of a research methodology environment and is intended to provide a workable technique for practical implementation and problem-solving in the training and development situation.

3.3 DEFINITIONS OF ACTION RESEARCH

Various leaders in this research methodology have defined action research in the following ways over the past few decades:

- "A systematic inquiry that is collective, collaborative, self-reflective, critical and undertaken by participants in the inquiry" (McCutcheon & Jung, 1990:148).
- A form of "collective self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out" (Kemmis & McTaggart, 1990:5).
- An effort to "contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport, 1970:499).
- "A participatory collective, self-reflective enquiry undertaken by participants in social situations in order to improve the rationality

and justice of their own social practices" (Kemmis & McTaggart, 1990:5).

3.4 BACKGROUND TO AND APPLICATION OF ACTION RESEARCH

Action research has been extensively utilised by various researchers in specific applications and approaches in the areas described below. Action research can therefore be classified in the following fields of practice:

Action research in organisations

Action research is used extensively in the field of organisational behaviour and organisational development in industry and business organisations by management embracing human resource theories, specifically those associated with the socio-technical systems perspective, which has focused on the fit between technical and social systems (Lewin, 1946; Whyte, 1964).

Many techniques have been developed for engaging members of organisations and groups in collectively identifying concerns and problems, including the search conference process, which has been used to focus commitment leading to action research. The underlying assumptions in action research include (Stinger, 1996):

- systems theories
- humanistic values and the development

of human potential

- democratic decision-making

***Participatory action
research in community
development***

This has been considered a process of combining education, research and collective action on the part of oppressed groups working with popular educators and community organisers (Hall, 1979). The knowledge that is generated is intended to help solve practical problems within a community and ultimately to contribute to a fairer and more just society.

It assumes that knowledge generates power and that people's knowledge is central to social change. In this way it promotes a collective process of inquiry, as opposed to the individualistic nature of classical research methodology (Stinger, 1996). This tradition emphasises full and active participation by powerless people, and stresses ideological, political and economic dimensions.

***Action research in
education***

Since the 1970s action research has been practised as central to organisational development activities to improve higher education (Kemmis, 1982). One form of organisational development was introduced to many campuses by the Society for Values in Higher Education when the value audit approach was adopted (Smith, 1985). Underlying assumptions in action research in

schools include the following (Stinger, 1996):

- Practice can be improved through problem-solving
- Teachers and educational practitioners are central to the research process
- Theory and practice can be linked through action research
- Reflection and action can be linked
- Research is focused on a single unique situation
- Methods are innovative in specific situations

Farmer participatory research and technology generation

Farmer participatory action research is also known as participatory technical development. This approach was developed over time by agricultural researchers and other international rural development workers as an alternative to the traditional transfer of technology or top-down approach to agricultural research and extension.

It emerged from farming systems research and emphasises the participation of farmers in technology generation, testing and evaluation to increase or promote sustainable agricultural production and natural resource management (Selener, 1992). Underlying assumptions of technology development include:

- An emphasis on farmers' indigenous



knowledge

- Farmers' capacity for experimentation
- Appreciation of interdisciplinary collaboration between researchers and farmers

Participatory evaluation

- Participatory evaluation emerged in response to concerns that programme evaluations were being underutilised and a feeling that participation on the part of stakeholders could increase their use (Patton, 1978; Brunner & Guzman, 1988; House, 1978).

3.5 BRIEF HISTORY OF ACTION RESEARCH

The researcher will review the history of action research and will report on the following:

- The early years of action research
- The progression of action research in five stages

3.5.1 The early years

The origins of action research are not very clear and in the literature authors such as Kemmis and McTaggart (1988) and Zuber-Skerrit (1992) state that action research originated with Kurt Lewin, an American psychologist.

McKernan (1988) states that action research as a method of inquiry has evolved over the last century and careful study of the literature shows clearly and convincingly that action research is a root derivative of the scientific method reaching back to the science education movement of the late

nineteenth century. McKernan (1988) also states that evidence indicates the use of action research by a number of social reformists prior to Kurt Lewin, such as Collier in 1945 and Lippitt & Radke in 1946.

3.5.2 The progression of action research in five stages

Various historical interventions influenced and help to form action research over the decades, as indicated in Table 3.1 (McKernan, 1991):

	<i>Type</i>	<i>Contribution</i>	<i>Date</i>	<i>Leaders</i>
1	Science in education movement	Scientific methods were applied to education	Late 19 th and early 20 th centuries	Boone (1904) Buckingham (1926)
2	Experimentalist and progressive educational work	Applied the inductive scientific method of problem-solving as a form of logic for the solution of problems	19 th century	John Dewey (1929)
3	Group dynamics movement	Focused on social psychology and human relations training	19 th century	Kurt Lewin (1945)
4	Post-war reconstructionist curriculum development	Action research was used as a general strategy for designing curricula and attacking complex problems	Post-1945	Corey (1953) Taba (1949) Brady and Robinson (1952)
5	Teacher research movement	All teaching should be based on action research. Curriculum development resides with the teachers.	Post-1975	Stenhouse (1971, 1975)

Table 3.1 – Historical development of action research

Table 3.1 indicates the different action research interventions together with the various key role-players in those eras and a brief overview of the focus of the development and theory they practised.

3.6 TYPES OF ACTION RESEARCH

The researcher will discuss the following types and elements of action research:

- Technical, technical-collaborative and scientific-technical positivist action research
- Mutual-collaborative, practical-deliberative-interpretive perspective
- Enhancement approach, critical-emancipatory action research, the critical science perspective
- Participatory action research
- Participatory action research values

Various groupings and classifications of action research were stipulated by the researchers and can be viewed as follows (Table 3.2):

Researcher	1	2	3
Grundy (1988)	• <i>Technical</i>	• <i>Practical</i>	• <i>Emancipatory</i>
McCutcheon & Jurg (1990)	• A positivist perspective	• An interpretive perspective	• A critical science perspective
Kemmis & McTaggart (1990)	• Collective	• Self-reflective	• Enquiry
McKernan (1991)	• The scientific-technical view of problem-solving	• Practical-deliberative action research	• Critical-emancipatory action research
Holter & Schwartz-Barcott (1993)	• Technical collaborative approach	• Mutual-collaborative approach	• Enhancement approach

Table 3.2 – Types of action research

3.6.1 Technical, technical-collaborative and scientific-technical positivist action research

According to McKernan (1991), the underlying goal of the researcher in this approach is to test a particular intervention based on a pre-specified theoretical framework. The nature of the collaboration between the researcher and the practitioner is technical and based on facilitation. The researcher identifies the problem and a specific intervention, then the practitioner is involved and agrees to facilitate the implementation of the intervention. The flow of communication and interaction in this type of action research is mainly between the facilitator and the group (Grundy, 1982). An action research project that uses this technical approach can be identified by the following characteristics:

- The project is initiated by a particular person or group whose experience or qualifications classify them as subject matter experts or figures of authority on these specific issues (Grundy, 1987)
- Technical action research promotes more efficient and effective practice (Grundy, 1987)
- Technical action research promotes personal participation by the practitioners in the process of improvement (Grundy, 1987)
- Technical action research results in the accumulation of predictive knowledge (Grundy, 1987)
- The major thrust of technical action research is based on the validation and refinement of existing theories and is essentially deductive (Holter & Schwartz-Barcott, 1993)

In technical action research it is the idea that is the source of power for action and since the idea often resides with the facilitator it is the facilitator who controls the power in the project (Grundy, 1982).

3.6.2 Mutual-collaborative, practical-deliberative-interpretive perspective

With this type of action research project the researcher and practitioners as a team together identify the problem, the underlying reasons for the problem and possible interventions to resolve the problem (Holter & Schwartz-Barcott, 1993). The problem is defined after negotiations between the researcher and practitioner and a mutual understanding of the problem and solution is reached.

As Grundy put it, "practical action research seeks to improve practice through the application of the personal wisdom of the participants" (Grundy, 1982:357). However, McKernan (1991) feels that the practical model of action research trades some measurement and control off against human interpretation, interactive communication, deliberation, negotiation and detailed description (McKernan, 1991:20). According to Grundy (1987), practical action research "fosters the development of professionalism by emphasising the part played by personal judgement in decisions to act for the good of the client" (Grundy, 1987:154).

After all, this form of action research allows for a more flexible approach not evident in the other two types of action research and "indicative of this flexibility is the frequent use of 'interpretive' as an umbrella term that comfortably accommodates interactive and phenomenological perspectives" (McCutcheon & Jung, 1990:146). In practical action research power is shared between a group of equal participants, but the emphasis is upon individual power for action (Grundy, 1982).

3.6.3 Enhancement approach, critical-emancipatory action research, critical science perspective

Emancipatory action research promotes emancipatory "praxis in the participating practitioners; that is, it promotes a critical consciousness which

exhibits itself in political as well as practical action to promote change" (Grundy, 1987:154). According to Holter & Schwartz-Barcott (1993) there are two main objectives to this type of action research:

- To increase the closeness between the actual problems encountered by practitioners in a specific setting and the theory used to explain and resolve the problem.
- To assist practitioners in identifying and making explicit fundamental problems by raising their collective consciousness.

Emancipated strategic action follows from the disposition of critical intent to motivate action and interaction at all stages of an emancipatory action research project. It is particularly important with such a research project that the theory, explanation and action are evident in the development of the theoretical perspective that informs and underpins the project's critical phases. This mode of emancipatory action research does not begin with theory and end with practice, but is informed by theory, and it is often confrontation with the theory that provides the initiative to undertake the practice. The dynamic relationship between theory and practice in emancipatory action research entails the expansion of both the theory and the practice during the project (Grundy, 1982).

In emancipatory action research the power resides within the group, not with the facilitator and not with the individuals in the group. It is often a change of power relationships within the group that causes a shift from one mode to another (Grundy, 1982).

3.6.4 Participatory action research

Participatory action research can be seen as a method of research where bringing about positive social change is the predominant driving force.

Participatory action research emerges from a social and educational

background and exists as one of the few research methods that embraces principles of participation, reflection, empowerment and emancipation of groups seeking to improve their social situation (Holter & Schwartz-Barcott, 1993). The term *action* indicates that the research is intended to contribute directly to efforts towards change on the part of the participants in specific situations. The term *research* indicates a systematic effort to generate knowledge.

However, the nature and format of participatory action research has changed considerably since researchers such as Kemmis & McTaggart (1990), Grundy (1986, 1987), Zuber-Skerritt (1991) and McKernan (1991) joined the ranks of earlier researchers such as Kurt Lewin in the 1940s (Holter & Schwartz-Barcott, 1993). Participatory action research can thus be seen as a "collective, self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social practice" (Kemmis & McTaggart, 1990:5). Participatory action research also functions in four phases, namely:

- reflection;
- planning;
- action;
- observation.

Kemmis & McTaggart (1990) have stated in addition that within participatory action research the "approach is only action research when it is collaborative, though it is important to realise that the action research of the group is achieved through the critically examined action of the individual group members" (Kemmis & McTaggart, 1990:5). One of the obvious intentions and differences with participatory action research is that the action or change is happening in reality and not as an experiment or to see if the proposed or implemented solution is working.

The term *participation* represents a thrust towards democratisation in research, especially in social science practice, that recognises the value of including practitioners, community members, citizens, employees and volunteers as essential to the generation of useful knowledge regarding major social, political, economic, technical, cultural and organisational problems.

Therefore participatory action research is a process of systematic inquiry, in which those who are experiencing a problematic situation in a community or workplace participate. The researcher and practitioner team up and participate in deciding the focus of knowledge generation, in collecting and analysing information and in taking action to manage, improve or solve the problem.

3.6.5 Participatory action research values

The following assumptions are drawn from the various traditions of participatory action research:

- The democratisation of knowledge production
- The ethnical fairness in the benefits of the knowledge generation process
- An ecological stance toward society and nature
- Appreciation of the capacity of humans to reflect, learn and change
- A commitment to non-violent social change

The community's interests are identified and defined as the starting point, rather than beginning with the interests of external researchers. The need for inquiry may come from several sources, including external persons or groups. However, the community's ownership of the focus of the research is essential and central to the problem identified (Stinger, 1996).

3.7 ACTION RESEARCH MODEL

In this section the researcher will focus on:

- Action research design
- Action research model
- Action research spirals
- Action research cycles

The action research design and model can be identified by the following essential characteristic cycles as described by Elliott (as cited in Hopkins, 1993; Figure 3.1):

Reconnaissance and general plan

- An initial exploratory stance is adopted. An understanding of the problem is developed and plans are made for some form of intervention and problem-solving strategy.

Action

- The interventions selected and developed are implemented and carried out in the work situation.

Observation

- During the implementation stage accurate monitoring of the results of the intervention is carried out in various formats.

Reflection and revision

- New intervention strategies are implemented. The cyclic process is repeated, continuing until sufficient understanding and improvement of the solution implemented has been achieved.

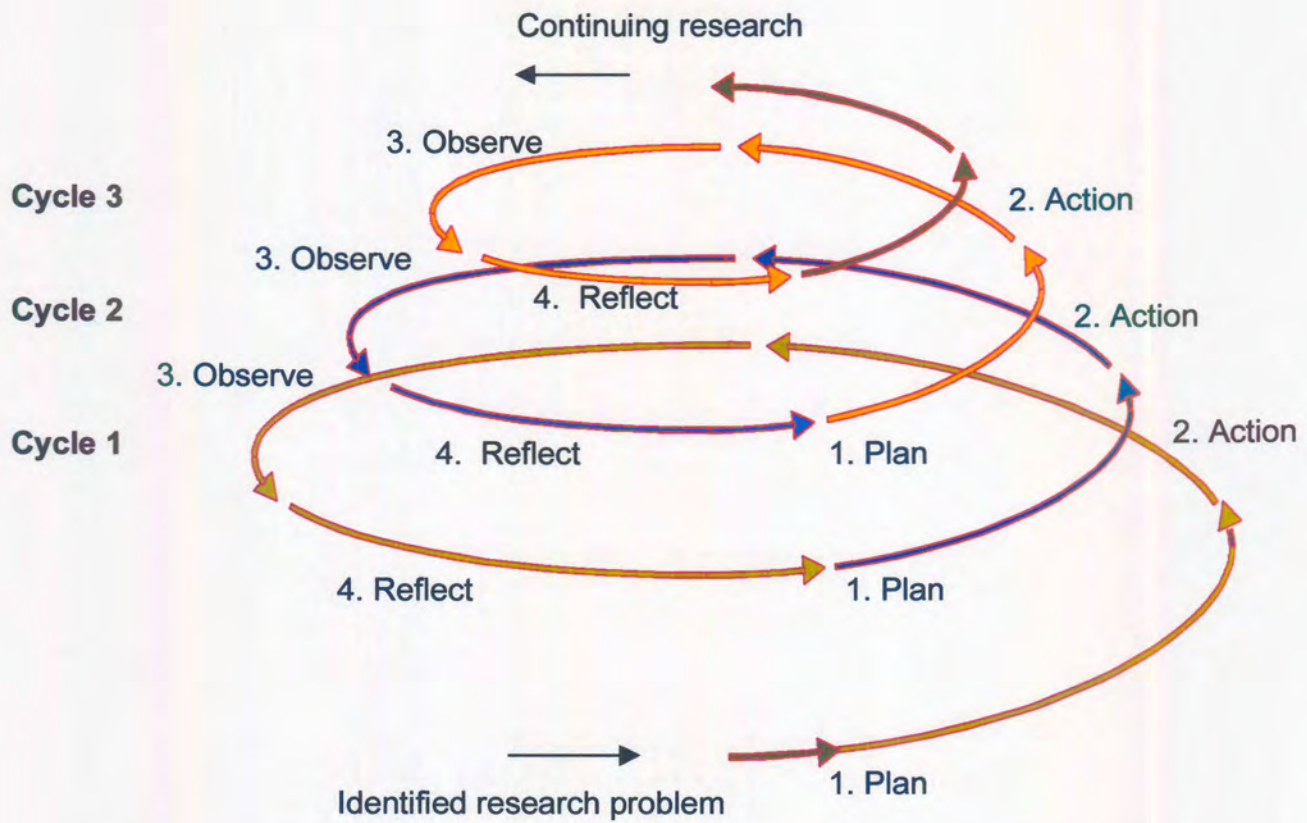


Figure 3.1 – Action research protocol (Hopkins, 1993)

Figure 3.1 illustrates the iterative nature of action research along with the major steps of planning, action, observation and reflection before the plan is revised.

Kolb (1984) extended this model to offer a view of the action research cycle as a learning process, where people learn and create knowledge by critically reflecting upon their own actions and experiences, forming abstract concepts and testing the implications of these concepts in new situations. Practitioners can create their own knowledge and understanding of a situation and act upon it, thereby improving practice and advancing knowledge in the work situation.

3.7.1 The action research spiral

The start of the action research spiral may be difficult to pinpoint and could conceivably begin with a casual discussion about a situation being experienced in the workplace (Stinger, 1996). Whatever the origins of the project, it will begin with a group acknowledging it as a shared concern. The group or individuals may not even be able to define their concern concretely, but the action research cycle has begun nonetheless (Figure 3.1).

- Planning phase**
- Planning in action research is constructive and arises during discussion by the participants (Kemmis & McTaggart, 1990:5). The plan must cover critically examined action by each of the participants and includes the methods of evaluating the changes implemented to solve the problem situation or concern.
- Action phase**
- Action is seen when the plan is put into practice and expectations regarding improvement to the situation occur. This action will be deliberate and strategic (Grundy, 1986:28).
- Observation phase**
- Observation of action research is the portion of action research where the changes outlined in the plan are observed to determine their effects on the contexts of the situation (Kemmis & McTaggart, 1990). In this phase the data gathering instruments such as questionnaires and observation methods can be utilised to ensure that proper scientific methods and triangulation of data were used and are implemented to provide meaningful results. Observation and action may occur simultaneously.
- Reflection phase**
- Within the reflection phase the research participants examine and construct, then evaluate and reconstruct

their concerns (Grundy, 1986). Reflection includes the pre-emptive discussions of participants where they identify a shared concern, problem or result and the outcomes of the solutions implemented.

The participants in action research identify a thematic concern through discussion and reflection and these concerns are integrated into a collective or common goal. The participants of the action research group are thus empowered to plan and act to bring about a change in the working environment. The changes in practice are effected and observed using an appropriate research validating and evaluation tool. The group critically evaluates the results and with this new knowledge theory and solutions may be developed and implemented (Stinger, 1996).

3.7.2 Action research cycles and phases

<i>Cycle</i>		<i>Phase</i>	<i>Actions</i>
One	1	<i>Reflection</i>	The group and problem are identified through discussion.
	2	<i>Plan</i>	The group plans to investigate the thematic concern and the social situation and implications in order to accurately define, describe and identify a solution to the problem.
	3 4	<i>Action and observation</i>	The proposed plan is put into action and the participants collect their observations and reconvene.
Two	1	<i>Reflection</i>	The group accurately reflects on their findings and defines their thematic concern. This reflection includes experiences encountered by the participants during the first cycle.
	2	<i>Plan</i>	The group plans changes in practice to improve the situation. These changes may include methods of critical examination to be utilized. Potential problems, approval and implementation plans are dealt with.



<i>Cycle</i>	<i>Phase</i>	<i>Actions</i>
3	<i>Action</i>	A change in practice is effected and the research is begun.
4	<i>Observation</i>	The consequences of the change in practice are observed by the use of the research method outlined in the plan for examining the results.
Three	1	<i>Reflection</i>
		The cycles continue until satisfactory outcomes are achieved. The possibility of the project not reaching an end is realistic. This does not mean the problem remains the same or the group never delivers satisfactory results. The changes implemented may result in different problems caused by other social and political influences.

Table 3.3 – Action research cycles

3.8 WHY ACTION RESEARCH IN THIS PROJECT?

This section considers:

- Why action research is used in this project
- The aim of this action research methodology
- The practitioner and action research
- Action research and professionalism

Action research has been used in many areas where an understanding of complex social situations has been sought in order to improve the quality of life and education, training and development in the workplace. Among these working environments are industrial, health and community work settings and requirements to adapt to social, political and employee demands. The belief is that an action research approach on this project can contribute extensively and positively to activities within the tertiary sector concerned with high quality training and development and with the national alignment of the National Qualifications Framework initiatives (South Africa, 1995a).

Zuber-Skerritt (1982) describes the action research approach as follows:

"Through systematic, controlled action research, higher education teachers can become more professional, more interested in pedagogical aspects of higher education and more motivated to integrate their research and teaching interests in a holistic way. This, in turn, can lead to greater job satisfaction, better academic programmes, improvement of student learning and practitioners' insights and contributions to the advancement of knowledge in higher education" (Zuber-Skerritt, 1982:15).

Despite the progress in understanding of the way in which people learn and the design of learning interventions and the learning environment, the methods of practitioners in tertiary and higher education often remain unaffected. We as reflective practitioners (Schon, 1993) need to achieve greater ownership of the training and development process and to evaluate the outcomes of the process systematically and in a self-assessing manner, feeding information into internal and external assessment processes.

Traditionally, practitioners have not been encouraged or developed to draw upon theoretical precepts as a means of improving curriculum design and the establishment of training and development interventions. However, more recently a number of initiatives at national and local levels have been implemented to create the conditions and climate for these training and development innovations. These innovations in training and development activities are being recognised as valid areas of enquiry for academics and practitioners across all disciplines, rather than as the unique preserve of specialists.

Action research methodology offers a systematic approach to introducing innovations in teaching and the learning environment. It seeks to do this by putting the practitioner in the dual role of producer of educational interventions and user of the theory and interventions he / she has designed and

developed. This is both a way of producing knowledge about educational theory and practices and a powerful way of improving learning and teaching in the workplace in practical applications. There is no need for separation between the design of a training and development process and the delivery of the training and development interventions on the one hand and the process of researching these activities on the other; the theory and practice can be brought together in the working environment.

3.8.1 Aim of this action research methodology

The aim of this research approach is to implement and apply the model offered by the action research cycle described by Kolb (1984) and Kemmis & McTaggart (1990). With this approach the intention is to achieve the following action research outcomes:

- An identified number of objectives and an initial working assumption about how to achieve them by providing an appropriate framework for experiential learning to encourage learner and practitioner ownership of the learning process.
- A planned curriculum model and identified learning materials and processes to support the learning interventions.
- On-the-job application of these newly acquired skills and competencies by the practitioner and the learner.
- Observations and evaluations of the effects of steps implemented by the participants in the research project. This feedback will include a range of on-going mechanisms for learner and practitioner feedback and debriefings.
- Reflection upon the results of the evaluation in preparation for modifying the practices planned for implementation in subsequent cycles.

The intention of these action research outcomes is to improve the quality of practitioners and learning interventions in further education, higher education and professional development within the constraints and practical considerations encountered during the research project and to seek solutions to the problems identified. Insights gained from the reflection on and analysis of practices will be fed back into practice. A consistent re-assessment of the learning interventions, frameworks and structures to assure continuous improvement in the workplace is maintained in the training and development process. In addition, systematic reflection on activities implemented in the process will support these assessments.

3.8.2 The practitioner and action research

The table below will briefly give the main features of practitioner involvement in action research and then spell out what this feature implies for the learning process.

<p><i>Practitioner action research development aim</i></p>	<ul style="list-style-type: none"> • Action research promotes a developmental aim that embodies a professional ideal and those who participate in the process are committed to actualising these aims in practice.
<p><i>Focus of development aim</i></p>	<ul style="list-style-type: none"> • Action research focuses on changing current and existing practices to align and make them more consistent with the developmental aim.
<p><i>Identified problem areas</i></p>	<ul style="list-style-type: none"> • Action research identifies and explains inconsistencies between aspiration and practice and enhances the assumptions,

theory and beliefs that tacitly underpin professional practice.

- Professional involvement**
- Action research involves professional practitioners in a process of generating and testing new forms of action for realising their aspirations and thereby enables them to reconstruct the theories that guide their practice.
- Developmental process**
- Action research is a developmental process characterised by reflexivity on the part of the practitioner. From an action research perspective, professional practice is a form of research and vice versa.

This main feature implies that good action research involves the practitioner and the administrator in the research project and is based on data that is grounded on the triangulation of data and such judgements.

3.8.3 Action research and professionalism

The action researcher is constantly involved in the training and development process and dealing with practitioners, learners, learning interventions and the product end users (clients). Nevertheless, researchers need to display a high level of professional values by initiating and supporting the integration of research and practice into the work situation. In addition, the action researcher must also develop and design the intended practices to enable the desired outcomes. In this process the researcher must also be reflective and reflexive in terms of the research results by making them public to the participants concerned and explaining the validation of data gathered during this process.

- **Action research and professional values**

Action research is informed by the values practitioners apply and realise in their practice. Professional values are ideas about what constitutes a professionally worthwhile process of working with learners and practitioners. They spell out and specify criteria for identifying appropriate modes of interaction and the relationship between the content of professional work, practitioners and their various product end users.

- **Integration of practice and research**

Action research integrates practice and research. These are not extrinsic tests, but ones that are continuously conducted within the process of the research itself by practitioners. Action research and practice are fused into a single activity that aims to realise values in practice by the generation of propositional knowledge in the search for practical and situational understanding.

- **Development and design of practices**

Action research is related to design and development practices in the workplace. The implied practices are never a set of statements about the content of activities; rather, action research always specifies a mode of interaction. Thus interaction will result in the deconstruction and reconstruction of both the content and form in specifying the content and will articulate general principles governing the form in which it is to be achieved.

- **Reflexive and reflective practice**

Action research implies reflexive practice and not simply reflective practice by the evidence about the mode of interaction. Evidence of action research results / outcomes does not in isolation constitute

evidence of practice quality. Outcomes need to be explained and the quality of immediate practice activities is only one possible explanation for success or failure. Other kinds of evidence need to be collected to triangulate and benchmark the outcomes measured.

- **Data gathering**

Action research involves the gathering of data about practices from different points of view. Evidence about the quality of practice can be gathered from a number of sources. This process of gathering data from multiple sources is called triangulation. There are three fundamental sources of evidence: the observers, the main participants and the product end users (clients). In a fully developed action research process, practitioners will be comparing and contrasting the accounts of the observers and clients and colleagues with their own.

- **Quality research indicators**

Action research defines rather than applies quality and performance indicators in the research project. These quality indicators are determined through action research and not in advance of it. Good action research acknowledges the fact that what constitutes quality in professional practice cannot be defined independently of the particular set of circumstances confronted by a practitioner and standardised responses may render the practitioner insensitive to context and lead to the substitution of standardised assessments of performance in place of action research.

3.9 SUMMARY

This chapter has investigated and reported on the research methodology and methods used in this study. It provided details on the history of action research and the perspective from which it is used for the project. The action

research spirals indicate the stages of planning, action, observation and reflection for each of the cycles involving the four focus areas for this research project. The chapter concluded with an overview of the practitioner's role and professionalism displayed during the process.

Chapter 4 focuses on the actual planning, development and implementation of the learning interventions and the way this was influenced by the literature review and the action research methods.