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## **CHAPTER 2: THE CONTEXTS THAT INFORM THE TEACHING OF UNDER-GRADUATE SOCIAL RESEARCH METHODOLOGY**

### **2.1 Introduction**

As the topic of this study focuses on how under-graduate research methodology courses are constructed, the different ways in which this knowledge production takes place in the social sciences, and specifically the discipline of psychology, need to be explored. Psychology (and its wider context of all social sciences) made its appearance at the time when science reigned supreme and was on the verge of answering pre-eminent questions about the nature of reality (Robertson, 1995). The Enlightenment era generated the tradition that applying scientific principles would lead to continuous progress in knowledge. Natural science methodology was to be faithfully used in the search for absolute truth. Once a certain threshold of knowledge was reached “the vision of the heavenly kingdom would become an earthly reality” (Polkinghorne, 1992, p. 227). The methods used in this pursuit were developed to examine physical reality. This was the context in which the social sciences developed, and which shaped its concepts, methods and approaches (Hollinger, 1994).

This chapter consists of two sections. The first of these sections begins with an outline of the birth of psychology within a discussion of positivism and idealism. This follows with an examination of some of the concepts that developed and upheld the assumptions of positivism and idealism within this time period. More importantly for this study, the influence of each of these movements on the nature of social research is portrayed. This part concludes with a brief review of the way in which modernism inspires the teaching of social research. Following this, alternative voices to the modernist position are presented in the form of the naturalistic-ethnographic, phenomenological and cybernetic paradigms. Post-modernism is also discussed as an element of these alternatives. The influence of these paradigms on the nature of social research is consequently discussed. The reader may form the impression that the type of paradigm that informs the way in which social research is taught is direct and causal. Rather, it is argued, according to Porter (2002), that there would be a tendency to act in a specific direction (structure a course in a certain way), that is, there are no general, fixed laws that govern the way in which a research course is constructed and taught. Willig (1999) refers to these tendencies as potentialities or current structures that enable or constrain our future behaviour. The discussion of the various paradigms is centred on the view of quantitative research that has been popularised by some under-graduate textbooks and critics of this type of research, namely that it is based on positivist tenets and equated with empiricism and experimental designs. This is placed in direct opposition to paradigms that “describe and illuminate the meaningful social world” (Silverman, 1993, p. 21) such as interpretivism.

The second section of this chapter profiles the current educational paradigm, policies and practices in South Africa. The paradigm shift that has taken place in education, and specifically higher education, has consequences for the way in which not only the transmission of knowledge, but also the fundamental structure of institutions of learning is being changed. National and international literature describes the

arrival of the post-Fordist era in the economic arena and also extrapolates its characteristics to a movement in academic circles called 'Mode 2 learning' (which is different from Mode 1 learning). This new paradigm seems to directly address the needs expressed by organisations for workers who can maximise the functioning of the workplace. A brief discussion about knowledge and the influence of modernist assumptions on education precedes a portrayal of this shift and its implications for and influences on South African higher education. This section, and the chapter, is concluded with a description of the structures (such as the National Qualifications Framework) and the teaching approaches (outcomes-based education) that have been put in place by government to redress the imbalances of former education systems in the country as well as to address new ways of thinking about learning.

## **2.2 *The birth of psychology as a science***

Two dominant philosophical movements, positivism and idealism, can be distinguished in the history that informed and still informs the way in which research is carried out in the social sciences (Sciarrà, 1999). A brief description of each of these philosophies is provided below, focusing on their influence on different research methodologies.

### **2.2.1 *Positivism and its influence on social science research***

When Isaac Newton was born in 1642, science was not as advanced and well-known as it is today. Newton became instrumental in changing the status of science and when he died in 1727, science was the dominant force in human thought. His influence on this change is reflected in the words of poet Alexander Pope: "Nature and Nature's laws lay hid at night; God said, Let Newton be! And all was light" (as quoted in Gamow, 1961, p. 51). This era marked the beginning of the transformation of traditional or pre-modern to modern societies over the next two centuries (Hollinger, 1994). Although the earliest signs of the modern society are found from the 16th century, it was only from about the end of the 19th century that this society's ideas dominated. This domination continued until the 1930s (Jordaan & Jordaan, 1998). The image of the world became defined by classical science and was characterised by terms such as linear, independent and closed. Newtonian principles defined the world as regular, predictable, controllable, completely knowable, passive, directionless, and incapable of spontaneously producing order (Goerner, 1995).

The growing influence of science (especially Newton's work) in all areas of life and the modernisation of society could not be understood solely through discussions on modernity<sup>1</sup> by philosophers such as Rousseau, Kant and Hegel. The need arose for understanding modernisation and for predicting its outcome as this implied some sort of stability and control in rapidly changing times (Hollinger, 1994). Europe transformed itself from a rural to an industrial society during the 18th and 19th centuries and the success of science in studying matter (body) - as made distinct from the spirit or soul by Descartes - prompted a summons to investigate human beings (these investigations having been done only in the realms of theology and philosophy) with the same scientific methods (Polkinghorne, 1992). Thus originated the social sciences (and its various academic disciplines such as psychology) that offered a more specific and empirical<sup>2</sup> approach than the philosophers did to promote the understanding and control of modern society (Hollinger, 1994).

The core principles and values of the modernist approach to psychology that developed in this era were (Liu & Liu, 1997):

- the valuing of numbers and verification of experience, or empiricism<sup>3</sup>

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<sup>1</sup> Modernism refers to the constellation of intellectual and artistic movements that emerged around the middle of the nineteenth century. It refers to the basic assumptions, beliefs and values that arose in the Enlightenment era (Neuman, 2000). The Enlightenment project was based on the assumption that ignorance is the basic source of human misery or suffering. Human progress can only be brought about through eliminating ignorance and replacing it with scientific knowledge (Hollinger, 1994). According to Burr (1995, p. 12), "[t]he Enlightenment project was to search for truth, to understand the true nature of reality, through the application of reason and rationality". The individual became responsible for searching for reality, a position that was contrary to the medieval period where the church was the discoverer and illuminator of the path to truth. Individuals could now make judgements about reality; these judgements were based on objective scientific evidence. By the beginning of the nineteenth century, modernist doctrines came to dominate and define the landscape of art and literature. Modernism holds a belief in (1) the inevitability of progress in all areas of human endeavour (2) the power of logical reasoning (3) a commitment to originality in both thought and artistic expression (4) the superiority of present civilisation in the extent of its knowledge and the sophistication of its techniques and (5) humanist values, i.e. evaluating ideas according to the effect they have on human welfare. Modernism is characterised by the hope of solving the problems of modernity and sees itself as the 'final solution' to these problems (Sim, 1998). A distinction needs to be made between *modernism* and *modernity* as they are not synonymous. Modernity refers to a broad period in history that encompasses the rise of capitalism, science and technology. Each new expression of these forces represented a challenge to a traditional and relatively settled way of life. The traditional authority of the Christian church and the legitimacy of political power were challenged. It was a struggle between the ancients and the moderns (Hollinger, 1994). Within modernity, the modern state emerged with a more efficient (sometimes more ruthless) exercise of political power (Sim, 1998). The *Zeitgeist* – referring to "the dominant spirit or mentality of a particular era" (Jordaan & Jordaan, 1998, p. 62) – of modernity was a belief in the autonomous individual who should be empowered to perfect his or her individuality. According to Hollinger (1994, p. 40) "modernism is the entire culture of modernity".

<sup>2</sup> In empirical research (based on the philosophy of empiricism described below) facts can only be accepted as true if evidence is corroborated through sensory experiences. Knowledge thus needs to be observed and then measured with some kind of mechanism. In order to achieve this it is necessary for researchers to interact with the world and have an instrument with which to measure their observations so that findings can be verified by other researchers (Dyer, 1995; Giere, 1985).

<sup>3</sup> Empiricism holds that the source of all knowledge is found in experience. Therefore observation (above ideas or essences) and measurement are given the key roles in inquiry (Reese, 1980; Trochim, 2001). Empiricism is characterised by the expression *nihil in intellectu nisi prius in sensu* – nothing in the intellect that was not previously in the senses (Blackburn, 1994). Logical empiricist philosophy advocated finding rules that would advance knowledge, similar to those rules used in the natural sciences. The assumptions of the 'received view' outlined above is, according to Gergen (1994, p. 7), "a view that continues to the present to furnish the rationale for psychological research, hope for its future, and existential sustenance to scientists wishing to leave their imprint on the future". Empiricists make a distinction between facts and theories. Facts are part of the empirical world; they are observable and uncontaminated by theories or ideas. As theories belong to the 'soft' world they can contain values, dreams, imagination and misconceptions. Theories must thus be tested against the hard empirical facts of reality. Researchers are burdened with improving any measures of human behaviour until they gets an accurate picture of a person that is not contaminated by speculation or any other soft images (Neuman, 2000).

- the emphasis on hypothesis testing and factual confirmation of theory, or positivism<sup>4</sup>
- the isolation of parts of a system to ascribe causality to theoretical elements at a certain level of description, or reductionism<sup>5</sup>.

These virtues mirror those held by the physical sciences at the time. Hesse (1980) summarised the language and philosophy of natural science as follows:

- experience is objective, testable and independent of theoretical explanation
- theories are artificial constructions or models that are framed to provide hypothetico-deductive explanations (see footnote 7): *if* external nature is like this, *then* data and experience would reflect this
- law-like relations affirmed by experience are external both to the objects being correlated and to the investigator
- the language of science is exact, formalisable and literal; problems of meaning occur only when applying universal categories to particular cases
- meanings are separate to facts.

Once the natural world had been successfully described using scientific study, the examination of the human and social world began (Polkinghorne, 1983). As described in Denzin and Lincoln (1994), John Stuart Mill (1843-1906) was the first person to urge social scientists to imitate the ways of the natural scientists. He promised that there would be rapid maturation of the social fields and emancipation from

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<sup>4</sup> Positivism is based on the empiricist thinking outlined above. The term was first used by Henri, comte de Saint Simon to designate scientific method and its extension to philosophy. It was adopted by Auguste Comte to signify a great philosophical movement which became powerful in the Western world from the second half of the nineteenth century and into the first decades of the twentieth (Edwards, 1967). According to positivists, science is the only valid knowledge and facts the only possible objects of knowledge. Philosophy does not possess a method different from science and its task is to find general principles common to all the sciences. These principles are to be used as guides to human conduct and as the basis of social organisation. Positivism rejects any procedure of investigation that cannot be reduced to scientific method (Edwards, 1967). According to Blackburn (1994), positivism holds that "the highest form of knowledge is the description of sensory phenomena" (p. 294). Positivism confines itself to what is positively given, avoiding speculation. Positivists aspire to objective truth (Eriksson, 1997). Halfpenny (1982) defined at least 12 different types of positivism. The two types of positivism defined for purposes of illumination in this study are empirical and logical positivism. From the above descriptions it then follows that empirical positivism is the scientific description of sensory observation. It views science as objective, value-free, emphasises the independence of researcher and subject, and seeks universal truth, and its findings can be replicated (Peplau & Conrad, 1989). Logical positivism's contentions that there is an external world independent of human experience and that objective knowledge about this world is obtained through sensory experience is embedded in the framework of the experimental scientific method. The criteria that should be met by an experiment are the following (Fishman, 1991) (1) an experiment arises from psychological theory in which some of its concepts are linked to operational variables (2) an experiment tests a hypothesis or hypotheses that are derived logically within the experimental situation (3) an experiment must control the variables that could interfere with the results (4) an experiment must be replicated with similar results and (5) the results of an experiment must be generalisable to a variety of situations so that the general psychological laws that are implied in the hypotheses can be verified or falsified. According to positivism, social science is "an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity" (Neuman, 2000, p. 66).

<sup>5</sup> Reductionism has been defined by Reese (1980, p. 483) as "the attempt to reduce one science to another by demonstrating that the key terms of the one are definable in the language of the other, and that the conclusions of the one are derivable from the propositions of the other". Some claim that psychology is reducible to physiology. Harmon (1989) referred to reduction as the same phenomenon being explained at different levels of abstraction. Therefore a researcher and a practitioner could look at a problem such as depression from different perspectives. Neither perspective is wrong, it depends on what your needs are in the situation: developing theory about depression or treating a client for depression. Another way of defining reductionism is that it seeks to understand a system in terms of its parts, "by reducing it to its material, externally observable components" (Bale, 1995, p. 29). This is opposed to holism where systems are studied as functional wholes (Tryon, 1995). Harmon (1989) described experimental research designs as reductionistic as they leave unique individuals "as no more than the sum of the observations or measures that are made by the psychologist" (p. 87). Reductionism in research takes place when the researcher uses data based on individual behaviour and generalises the findings to the macro-level, i.e. a larger group of people such as a social institution. In this way, an individual may be credited for changing race relations when in fact changes in attitudes towards other races are a result of an entire civil rights movement (Neuman, 2000). Reductionism also proposes the separation of the object and the subject when doing research (Hoshmand, 1989).

the limitations placed on these fields by philosophy and theology. Social scientists seized this opportunity and were pioneers in doing so. If they could fulfil Mill's promise by focusing on quantification, they would accrue status and political advantage that would lead to both greater acceptance in the scientific community and more valid knowledge.

The assumptions held by those in the social sciences were developed by logical empiricist philosophers (see footnote 3) (Polkinghorne, 1992; Gergen, 1994). The view of proper scientific action that arose from these assumptions became the 'received view' in the socio-behavioural sciences (Rennie, 1997/8). This view "supplies the methodological underpinnings for most of the contemporary behavioral and social sciences committed to Mill's thesis" (Polkinghorne, 1983, p. 59). The assumptions of the received view are briefly sketched in three points (Gergen, 1994):

- Science should establish general laws that enable us to understand known events and predict unknown events.
- Systematic observation is the way in which scientific knowledge is established<sup>6</sup>.
- Scientific research should strive towards understanding, predicting and controlling through continued empirical evaluation of theoretical propositions<sup>7</sup>.

According to Gergen, contemporary socio-behavioural science is founded on the positivist-empiricist programme (see footnote 4) (this type of research will further be referred to as 'traditional research'). It was held that the natural and social sciences are similar as they share a 'common logic of justification' and apply systematic observation to accept or reject theories. The notion of a unified science was thus embraced: "there is only one approach to develop sure knowledge and that approach is the same for all subjects of scientific inquiry" (Polkinghorne, 1992, p. 221). The natural science approach gained the upperhand in the debate over using two different approaches: one for studying the natural world and another for studying human phenomena.

As Gergen (1994) further pointed out, the field of psychology committed itself to 'the traditional programme for scientific conduct' perhaps more than other sciences related to it. The belief was held that psychologists could make use of the methods of scientific investigation that had been developed and used with success in the natural sciences (Rennie, 1997/8). Psychology could employ these methods to develop a scientific approach to understanding and predicting human behaviour and experience

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<sup>6</sup> Associated with this assumption is the distinction between inductive and deductive scientific activity. If scientists use their observations to develop a general theory, inductive reasoning is used. If scientists use theory to make deductions about individual cases, they are making use of deductive reasoning. Using inductive reasoning for theory generation has been widely challenged and specifically, Popper (cited in Gergen, 1994) argued convincingly that a theory's justification is not in its verification, but in its resistance to falsification. One cannot say all swans are white by continuously observing white swans since the universal statement that all swans are white can be falsified by the discovery of a black swan. Also, it is argued that when identifying observations from which general theories are drawn, a theoretical orientation is already presupposed. Observation is thus 'contaminated' from the start.

<sup>7</sup> The hypothetical-deductive conception of science signifies that on the basis of certain suppositions, hypotheses should be formulated concerning the state of nature that is as yet unknown. On examining the state of nature, one's suppositions can either receive or not receive support. If empirical verification is forthcoming, the validity of the suppositions is increased and the theory it generates can be accepted. The theory could also be adjusted or elaborated on or discarded if negative evidence is accumulated. Science thus undergoes continuous improvement as valid theories are retained or developed and those not in line with the observed facts are rejected (Gergen, 1994).

(Fishman, 1991) and indeed was a leader in doing so, particularly on the American front (Rennie, 1997/8). According to Polkinghorne (1992, p. 223), "[p]sychology had prized itself on taking its place in the American universities as a science among sciences". The fact that psychology turned to science, however, and not to philosophy for its foundation was advantageous from the viewpoint that it was able to emerge as a separate science in the 19th century (Robertson, 1995). Basing itself, however, on scientific principles about the nature of reality resulted in psychology ignoring some critical aspects about human behaviour<sup>8</sup>. This problem was identified at the same time that the positivistic movement took root in the social sciences, and in opposition to positivism, the idealist philosophy was born.

### **2.2.2 Idealism and its influence on social science research**

Even before the beginning of the 20th century philosophers such as Dilthey (1833-1911) argued that using methods from the natural sciences to explore human phenomena was inappropriate (Polkinghorne, 1983; Wachterhauser, 1986; West, 1996). This movement (which has many different versions) is known as idealism (Sciarrà, 1999) and developed in the time when it was argued that any phenomena that could not be studied by natural science methods should be excluded from investigation. Conscious experience, for example, was excluded as a subject that psychology could study, as were concepts such as purpose, reason and aspiration. Only data that were publicly observable could be admitted. Internal conditions such as the psyche were studied only through their behavioural manifestations, making methods such as introspection and self-report suspect. All this led to psychology narrowly restricting the subject matter it could examine (Polkinghorne, 1992).

As an alternative, Dilthey distinguished between *Geisteswissenschaften* (a science that could interpret the meanings expressed and acted out by humans) and *Naturwissenschaften* (methods that are appropriate to studying the physical realm). Within psychology, Wundt equated physiological psychology with *Naturwissenschaften* and cultural psychology with *Geisteswissenschaften* (Danziger, 1979). Dilthey and Wundt thus recognised that there were two different worlds - one natural and the other social - and that they needed to be approached in distinct ways. Instead of modelling social scientific research methods on that of the natural sciences, alternative methods would need to be developed. Dilthey suggested that humans should be studied using hermeneutic or interpretive methods<sup>9</sup> to understand

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<sup>8</sup> Not all academics embraced a strict modernist approach (cf. Hollinger, 1994; Liu & Liu, 1997; Mourad, 1997). More recently, historians have been cautious to ascribe the methods developed in the social sciences solely to the influence of the natural sciences (Rennie, 1997/8). It is, however, not the aim of this study to give a detailed historical perspective of the development of psychology as a science. Only the background relevant to understanding the epistemological grounding of research methodology in the social sciences and the consequent development of teaching this discipline is discussed.

<sup>9</sup> 'Hermeneutics', defined as "the practice of interpreting the meaning of text" (Rennie, 1999, p. 5), is an example of the interpretive methods expounded by Dilthey and Husserl (who was greatly influenced by Dilthey's work). The hermeneutic process allows the researcher to understand a text in terms of its underlying assumptions and put arguments forward for this understanding. Although hermeneutics had its beginnings in interpreting religious texts, especially during the Reformation (Teigas, 1995), it soon turned into a topic for epistemological debates for philosophers such as Dilthey, Husserl, Heidegger and Gadamer (see section 2.3.4).

(*verstehen*<sup>10</sup>) human expressions and actions in terms of their meaning and reasons. These methods were based on the assumption that individual consciousness (and not societal structures) plays the greatest role in human action. Research thus has to be focused on the meanings or subjective interpretations of individuals. Habermas (1971, p. 189) pointed out, however, that “the self-reflection of the natural and cultural sciences only interrupted the victorious march of positivism and did not stop it”. Also, the influence of wider social forces was underplayed (Porter, 2002). Nonetheless, some of the specific concepts developed during these times are discussed below.

### **2.3 Realism, relativism, objectivity, subjectivity and value neutrality**

The founding of the social sciences (and specifically psychology) on scientific principles, and at that time specifically on Newtonian science, produced certain ideas about the way in which a researcher should approach what was termed ‘objects of inquiry’. As mentioned above, during the time of positivism countermovements such as idealism, arose. Debates ensued about how social knowledge was and should be produced. The role of subjectivity in research was discussed not as something that should be avoided, but as an essential part of the research process. Each of these ideas will be elaborated on below. Later in the chapter critical theory’s stance on these concepts will be discussed.

#### **2.3.1 Relativism as opposed to realism**

Realism (or as it is sometimes also termed, objectivism) makes a clear distinction between the subject and the object and as Rennie (1997/8, p. 171) stated: “... the legitimacy of objectivism rests precisely with the *assumption* that the subject-object dichotomy is tenable”. The idea is that a world of objective reality exists ‘out there’ - this world is independent of us (the subjects) - that has a determinate nature that can be known by us. The belief that this reality that can be objectively known to us through applying reason is known as the epistemological position of foundationalism (Rennie, 1997/8). Knowledge is attained when the subject accurately mirrors or represents this objective reality (Bernstein, 1983).

In contrast, relativists rejected the positive claims made by realists. They went further by recognising that any concept must be understood “as relative to a specific conceptual scheme, theoretical framework, paradigm, form of life, society, or culture...there is no substantive overarching framework or single metalanguage by which we can rationally adjudicate or univocally evaluate competing claims of alternative paradigms” (Bernstein, 1983, p. 8). A Sophist (wise man) named Protagoras made the first classical statement regarding relativism: ‘man is the measure of all things’. Relativism posits that truth is relative to the viewpoint of the judging subject hence the saying ‘beauty lies in the eye of the beholder’. A

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<sup>10</sup> *Verstehen* originated in the sociology of Max Weber where individuals were placed in the central position of sociological studies (Porter, 2002). *Verstehen* means more than ‘understanding’ what the author intended with a specific text. It includes the understanding of the author’s socio-historical and linguistic context. The personal and societal contexts that surround the author’s creation of a text are used to ‘recontextualise’ the text by placing it back into its context and understanding it there (Terre Blanche & Kelly, 1999). Terre Blanche and Kelly refer to *verstehen* as ‘empathic reliving’ or more simply ‘empathy’ “which in general means to imagine and try to understand texts in their context” (p. 125).

person determines his or her own truth (Blackburn, 1994). According to Trochim (2001), relativism holds that different perspectives are incommensurate, in other words we can never understand each other because of our different experiences and cultures. Relativists would thus reject the notion that research methodologies have universal validity and that they are suitable across cultural contexts (Padilla & Lindholm, 1995).

The type of relativism referred to in this section is therefore the modernist definition that 'anything goes', the statement popularised in modern philosophy by Paul Feyerabend (Kołakowski, 1996; Laudan, 1996). Bernstein (1983) described the relativist as follows:

... his or her essential claim is that there can be no higher appeal than to a given conceptual scheme, language game, set of social practices, or historical epoch. There is a nonreducible plurality of such schemes, paradigms, and practices; there is no substantive overarching framework in which radically different and alternative schemes are commensurable - no universal standards that somehow stand outside of and above these competing alternatives (p. 11-12).

What this position means for social research is that there are no standards that can be used to judge which position is more true than another. All positions are thus held to be equal, for example the researcher's perspective cannot be placed in a superior position to the perspectives of the research participants; relations of power are neutralised. Also, no determination can be made about whether or not the research that has been conducted fulfils any criteria of what good research might be. As a proposed alternative to realism, relativism has not been left unscathed by wide-ranged criticism (see for example Nightingale & Cromby, 1999 and Scheurich, 1997). Some attempts have also been made to reconcile realism and relativism (see for example Bernstein, 1983 and Rennie, 1999). A conclusion to this debate will not be presented here, but its implications for this study will be addressed in the final chapter. The position taken in the research conducted for this study will be described in later sections.

### **2.3.2 Objectivity**

Descartes coined the term 'objective' in the language of mathematical physics. Quantifiable data of physical reality are what signifies objective reality. Objective means disinterested, not contaminated by values, interpretations, perspectives or other factors such as psychological ones. Thus perceptions, values, interpretations, perspectives and so on cannot describe objective reality (Hollinger, 1994). Von Foerster (1992) goes so far as to say that "[i]t is the principle of objectivity: The properties of the observer shall not enter the description of his observations" (p. 10), thus rendering knowledge independent of the observer.

It was believed that if nature could be reduced to mathematical terminology and if objective knowledge and truth existed then the only reality was physical reality. This is aptly illustrated by this lengthy, *albeit* relevant description provided by Smith (1990):

As long as this line of thinking is applied to the observable, physical world in particular, it appears to be quite in order. The physical world does seem to have a certain independence, permanence, and “coerciveness” about it that makes it a solid referent point for judgments about objectivity, truth, and validity. There is clearly little mileage to be made by advancing the claims that the belief that the world is flat has an effect on the actual shape of the earth and that, if two inquirers disagree over the shape of the earth, further open and honest inquiry will not help resolve this dispute (p. 172).

Human choice and freedom were an illusion and human behaviour was predictable and definable by complex mechanics (Polkinghorne, 1992). To generate an objective account of these mechanics, objective rules were needed and were found in method where “[v]alid research was distinguished from invalid research in terms of the extent to which the proper procedures were properly applied” (Smith, 1990, p. 169). Bauman (cited in Smith, 1990) aptly stated that according to the founders of modern social science,

[s]ocial facts are “things” like all others, i.e. that they exist in their own right as real entities “out there,” outside the realm of individual experience. They naturally concluded, first, that one can study social realities without necessarily looking at the process of their social production and, second, that whoever does this study with proper method and diligence will certainly arrive at the same results ... they regarded true knowledge as, above all (if not solely), the question of method and of its systematic application (p. 169).

The use of impartial and analytical methods was thus encouraged (Liu & Liu, 1997). Anything outside of facts was referred to as subjective or a result of individual reaction to the world. This subjective reaction could prevent us from discovering objective truth and thus had to be purged from any method(s). Subjective reactions included such things as values, judgements, opinions and emotions (Hollinger, 1994). Thus research methods became synonymous with truth and objectivity.

Modelling itself on the natural sciences, psychological research translated variables into objective measurements, tested hypotheses deduced from theory and employed universal explanations (or laws). This is an understanding of science that is commonly shared by some philosophers of science and is referred to as the hypothetico-deductive model (see footnote 7). In this model, knowledge is advanced through a process of falsification where correct theories stand for truth by way of rejection - on the basis of empirical evidence – of incorrect theories. Scientific research can be described as an objective, logical and empirical activity (Terre Blanche & Durrheim, 1999b). According to Terre Blanche and Durrheim,

[t]he beauty of this model is that it is a kind of machine. Provided we go on rigorously framing hypotheses derived from theory and subjecting them to empirical test, we are assured of moving closer and closer to the truth. Over time, all false theories will be rejected (p. 4).

They went on to say “although this has been the dominant model of science during the twentieth century, it is now widely accepted that there is more to social science than this”. For example, the humanistic<sup>11</sup> movement accused colleagues aligned to the logical positivist movement of placing methodological correctness before an understanding of human beings. It appeared that psychology defined itself by a particular methodology rather than its subject matter (Polkinghorne, 1992).

Changes in the philosophy of science brought about a change in the philosophy that psychology was based on, loosening its attachment to positivism. Polkinghorne (1992) suggested three reasons for this change:

- The development of cognitive psychology that served to include mental processes as the subject matter of psychology (although cognitive psychologists retained features of logical positivism and natural science methodology).
- The emergence of qualitative methods in the field of developmental psychology (based on the work of Piaget who observed and interacted with his own children).
- The failure of behavioural psychology to discover the universal laws that it believed would explain all human behaviour; also it did not serve the needs of psychotherapists well or solve America's social problems.

According to the Principia Cybernetica Web Dictionary<sup>12</sup> (1993) there is an 'old' definition for objectivity: an observation is considered objective if the characteristics of the observer do not appear in the observation. The 'new' definition is that objectivity is shared subjectivity. It is through this notion of objectivity that Sciarra (1999) argued that objectivity could be attained in research that follows an idealist viewpoint. The new definition probably holds the meaning that comes closest to the viewpoint of critical theory and will be expanded on at a later stage.

### **2.3.3 Value neutrality**

In order to attain the objectivity described above, researchers needed to remain neutral in the research setting by ignoring the influence of values on the position they took in the research process. Values were seen as the result of individual reaction to the objective world. According to Wilkinson (1988, p. 494), "within a positivist epistemology, with its emphasis on objectivity, such values are considered sources of bias and obstacles to determining 'the facts' ". This world was characterised by objective knowledge, independent and absolute truth, the ability to reduce nature to mathematical language and universal reality. An objective account of this world was guided by objective rules or method. As values are subjective interpretations of facts they were to be excluded from any method. Any search for truth was

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<sup>11</sup> The humanistic movement organised itself after the early 1960s in America. It developed in reaction to the received view of human inquiry (as described above) insisting on including unique human attributes that differentiate human existence from other life forms and physical objects. Humanistic psychology maintains that it is the subject matter of psychology - the person - that should dictate which methods of inquiry are most suitable and not only what is methodologically correct (Polkinghorne, 1992).

<sup>12</sup> Heinz Von Foerster (1970) formulated these definitions which are included in this web dictionary of cybernetics and systems.

thus to be value free and the searchers were value neutral in their search for the truth (Hollinger, 1994; Mertens, 1998). The personal characteristics and life circumstances of researchers did not affect how they did research (Wilkinson, 1988). Some attempts were made by modernists to reduce values to facts, thereby making them another type of objective element (Hollinger, 1994).

### **2.3.4 Subjectivism and subjectivity**

In reaction to the adaptation of natural science methods to study human existence, approaches such as subjectivism<sup>13</sup> and relativism (see above) developed. These approaches are contained in what Polkinghorne (1992) referred to as the second tradition (the Enlightenment being the first) and can be traced back to an Italian thinker called Vico. Writing at the beginning of the eighteenth century, Vico postulated that, as humans were observers of nature, creators of society, art and self, they were different to inanimate objects and therefore the method by which they were studied should be different. Masses of technical information about humans was not sufficient to improve the human condition; what was required was a deeper understanding of human beings (West, 1996).

Thus, as scepticism of the existence of absolute truth became greater, there came a shift from attempting to establish sure knowledge to carefully describing human experience (Polkinghorne, 1990b). The alternative viewpoint declared that individuals are unique in their contribution towards what it is to be human. Although there may be similarities between individuals or cultures, these similitudes cannot be reduced to an abstract model that ignores the peculiarities. Research methods that were not concerned with capturing an objective truth and that could illustrate the differences between individuals then had to be developed. An example of this is discourse analysis that rejects the use of quantified measures and statistical tests (Liu & Liu, 1997). Thus began the emphasis of subjectivity and consciousness over objectivity (Hollinger, 1994).

Some of the first work in systematising this emphasis probably came from the advocates of the hermeneutic and phenomenological approaches, such as Dilthey and Husserl. They, however, still placed importance on the necessity of objective perception in research by offering an alternative solution to the positivist notion of objectivity. Dilthey proposed that hermeneutics could be used to study meaning (excluded from positivist projects) objectively and empirically and developed approaches to achieve this. Husserl expanded on these ideas from a different perspective, believing firstly that the perceptual basis of positivism places limitations on it as the senses are only one part of perceiving, and secondly that there are 'psychological influences' that colour perception such as what we expect or the frame of reference that we take into a situation. Husserl coined the term 'bracketing' to refer to the process by which researchers become aware of apparent influences that play a role in their perception and then disregard

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<sup>13</sup> From a subjectivist epistemology knower and subject create understandings: "[t]he investigator and the investigated object are assumed to be interactively linked, with the values of the investigator (and of situated 'others') inevitably influencing the inquiry" (Denzin & Lincoln, 1994, p. 110). Findings thus emanate from the interaction between a specific investigator and a specific object or group. Bernstein (1983) described subjectivism in its 'common and mundane sense' as "whatever is 'merely' a matter of personal opinion, taste or bias, and consequently idiosyncratic" (p. 11). Although this might sound reminiscent of the description of relativism (see below) he argued that "[a] relativist need not be a subjectivist, and a subjectivist is not necessarily a relativist" (p. 11). Unlike the subjectivist, the relativist does not necessarily claim subjective constructions in these schemes, paradigms or practices.

these influences. This allows the researcher to examine a phenomenon from all viewpoints and then to describe the essence of a phenomenon based on the things that the different cases have in common. The description is objective as researchers have been able to bracket their influences in order to see reality from other contexts (Rennie, 1999). Although this conception of objectivity surpassed that of the positivists, philosophers such as Heidegger and Gadamer were strongly opposed to it as they did not believe that anyone could be indifferent towards the social, cultural and historical context in which they exist and participate. For example, Heidegger's alternative was to propose that people are not separate from their environments, but part of them.

The humanistic psychology movement initiated specific research programmes to establish a philosophical basis and methods of inquiry that would be appropriate for studying human experience (Polkinghorne, 1992). In their research approach, humanistic psychologists used terms distinct from those traditionally used by American psychologists. Some examples of these opposite terms are: human science in contrast to natural science, soft versus hard sciences, practical versus theoretical knowledge, professional as opposed to academic knowledge. One of the tasks of the humanistic research programmes remained the understanding of any relationship between theoretical knowledge (generated by systematic research) and practical knowledge (generated by professional experience and reflection). Before the implications of these different concepts for teaching research methodology are considered, the post-positivist trend will briefly be discussed.

### **2.3.5 *Post-positivism and its influence on social science research***

The types of positivism described in the section above did not remain eternally dominant and a new paradigm in the social sciences, post-positivism, came into being. Some theorists (see Guba & Lincoln, 1994; Lather, 1992) place post-positivism in the same category of paradigms as positivism whereas others (see Reichardt & Rallis, 1994b; Trochim, 2001) describe post-positivism as a definite rejection of all that is positivist. As Reichardt and Rallis pointed out, quantitative research is usually linked to the positivist paradigm, but that this label does not clearly discern logical positivism from post-positivism. Consequently "this blurring helps perpetuate the myth that logical positivism rather than post-positivism characterizes contemporary quantitative inquiry" (Reichardt & Rallis, 1994b, p. 86). Post-positivism is not linked to positivism in its beliefs; it is named as such as it followed from the positivist paradigm that was pervasive before the Second World War.

According to Cook and Campbell (1979), post-positivists accept that "observations are theory-laden ... the construction of sophisticated scientific apparatus and procedures for data presentation usually involve the explicit or implicit acceptance of well-developed scientific theories over ... the theories being tested" (p. 24). Thus the kind of objectivity that positivists strive for is not possible as researchers are influenced by their individual social and cultural contexts that play a role in the inquiries that they undertake. There is always an element of bias in research findings as we do not see the world as it really is, but from a certain perspective. This does not mean to say that all post-positivists are relativists: "post-positivism

rejects the relativist idea of the incommensurability of different perspectives, the idea that we can never understand each other because we come from different experiences and cultures" (Trochim, 2001, p. 19).

Critical realism is an accepted form of post-positivism referred to by research methodologists such as Reichardt and Rallis (1994b) and Trochim (2001) and is the basis of the ontological claims made in this study. As critical realism is discussed at greater length in chapter 3 it will merely be mentioned here that critical realists accept that there is a reality independent of our knowledge of it that can systematically be studied by science. Research is thus a search for this reality although it can never be fully known because humans do not have full access to all knowledge about the world (Polkinghorne, 1983). A juxtaposition of as many perspectives on phenomena as possible are encouraged in a post-positivist paradigm, which translates into research techniques such as triangulation where multiple methods are used to attempt to obtain as complete a picture of reality as possible. Also, post-positivists recognise that strict experimental designs adopted from the natural sciences are not always relevant for investigating the human realm and thus adapt their methods to better suit this context (Cook & Campbell, 1979; Trochim, 2001).

#### ***2.4 Implications of modernist thinking for the nature of research methodology, methods and the teaching thereof***

The viewpoints held by modernists concerning research methodology and methods translated into a specific framework for how research should be conducted and also how it should be taught. The term 'method' originated from the same Greek root as 'mathematics' which means 'to measure'. The modernist view of methods describes it as context-free and resulting in truth, knowledge and objectivity (Hollinger, 1994). A synonym for methods is techniques. Both these terms refer to the 'tools' used by social scientists, for example, surveys, case studies, experiments and the like (Mouton & Muller, 1998). A distinction needs to be made between methods and methodology. According to the Principia Cybernetica Web Dictionary, methodology is

[t]he systematic analysis and organization of the rational and experimental principles and processes which must guide a scientific inquiry, or which constitute the structure of the sciences more particularly. Methodology is a generic term exemplified in the specific method of each discipline and its full significance can be understood only by analyzing the structure of each discipline (<http://pespmc1.vub.ac.be/ASC/INDEXASC.html>).

Methodology is a branch of the philosophy of science that is concerned with methods and techniques of scientific inquiry, the way they are composed and their ability to yield knowledge that is valid. 'Methodology' is often confused with 'methods'. They are related just as biology is related to living organisms or as sociology is related to society. Methods are thus one of the components of methodology.

As its aim, methodology describes and analyses not the objects or the products, but the processes of scientific inquiry. Methodology investigates a technique's potential and limitations so as to reveal its presuppositions and epistemological consequences. It suggests structural reasons for successes and failures, and develops, tests and offers generalisations about scientific procedures. Krippendorff (1986) also added that

[m]ethodology is the discourse about methods of scientific inquiry and enables decisions on whether, by which data and by which methods, a scientific problem is solvable and when a proposed solution is acceptable as such ... Methodology turns out to be the medium for a paradigm to permeate scientific practice (p. 124).

A discussion of the way in which modernism views methodology and methods follows.

#### **2.4.1 What is the modernist nature of research methodology and methods?**

The notions of objectivity and subjectivity proposed by Galileo were modernised by Descartes (Hollinger, 1994). The modernist approach to knowledge and the generation thereof advanced a separation of objectivity and subjectivity. The search was for truth and to understand the true nature of reality (Burr, 1995); method was seen as the road to truth (Hollinger, 1994). Wallston (1981, p. 602) stated that "methods are only tools to try to answer questions. Methods may be more or less appropriate depending on the question". Scientific method was seen as objective; thus researchers could claim truthfulness for their findings in using these methods. If working from a traditional scientific paradigm, experimenters<sup>14</sup> could distance themselves from the object being studied and objectively describe phenomena without contaminating the results with any personal involvement (Burr, 1995). Thus the role of researchers in constructing the research process was understood to be as accurate recorders of the facts of the life-world of the community they were studying, independent of themselves as observers (Gergen & Gergen, 1991; May, 1998). According to de Groot (1969, p. 163)

an activity or its results may be called 'objective' if, in accordance with the purpose envisaged, the object itself is done full justice – is allowed to speak for itself, as distinct from that which the observer, judge, interpreter, theoretician reads into it 'subjectively'.<sup>15</sup>

If we as social scientists view our research methods as an objective body of knowledge that, if practised 'correctly', will give us accurate results about our subject's life-world, May (1998) argued that we are missing the point. He maintained that observing only the actions of members of a community under social investigation in constructing social reality - including the way in which the social scientists construct their topics of inquiry and conduct their investigations - does not consider the consequences for the

<sup>14</sup> Bhaskar and Lawson (1998) warned against seeing the natural sciences as exclusively experimental in nature. Geology, for example, is a non-experimental natural science and as such could be open to the same types of philosophical arguments currently being advocated in the social sciences.

<sup>15</sup> De Groot (1969) qualifies his meaning of subjectivity as "subjectivity which contaminates the object of study or disturbing subjectivity" (p. 163).

relationship between social science and social life. We may seek to strive for 'objectivity' in the social sciences through this type of reflexivity (termed endogenous reflexivity, see also chapter 3). It is, however, important to note whether our reflexive actions are only revealing something about ourselves as social scientists or if they are actually telling us something about the people we are studying.

Subjectivism and relativism have also been extensively criticised (Bernstein, 1983) especially the idea that if there are no longer any objective truths or universal values that can be pursued, all knowledge and values are then equally valid and relative (Kvale, 1992; Vinden, 1999) and anything is "merely a matter of personal opinion, taste, or bias, and consequently idiosyncratic" (Bernstein, 1983, p. 11). The criticism from objectivists was thus: how could any inferences be made about human behaviour in social inquiry when everything is relative?

According to Polkinghorne (1992), neither the claim of absolute truth nor the claim that all knowledge assertions are equal is acceptable. A choice must be made by students and professionals alike between alternatives; actions must be decided on that influence people's lives. Polkinghorne (1992) stated succinctly that

[w]e need to learn how to make judgments without being able to depend on the surety of our knowledge. We need to develop pragmatic procedures for developing knowledge claims and providing psychological services "in-between" certainty and relativism (p. 235).

Rejecting traditional science implies the demise of the quantitative methods developed in this framework. If these methods are rejected, an alternative to studying human psychological processes needs to be put in place and the call to reject science - and therefore to declare psychology not a science - has been made by some (Vinden, 1999). Traditional scientists have labelled the alternative to traditional science and its methods, qualitative research as 'soft'. How can we move away from the modernist ideas of objectivism versus subjectivism and theory versus practice, particularly in the research situation? As asked by Gergen and Gergen (1991, p. 77):

Are we to dismantle the scientific apparatus, declaring all attempts at 'objective', 'authoritative' knowledge to be fatuous? Are we to conclude that because we are locked into our subjectivities we cannot even be certain that there is a 'world out there', or that we are truly communicating with other persons?

The aim of this study is not to answer these questions, but to describe how these debates have filtered through to the research methodology curricula that were examined in the current research. Shifts in the epistemological basis of inquiry into human experience and behaviour that have been alluded to in previous sections of this chapter will be discussed in section 5 where so-called 'alternative paradigms' are detailed.

### **2.4.2 What does this mean for teaching research methodology?**

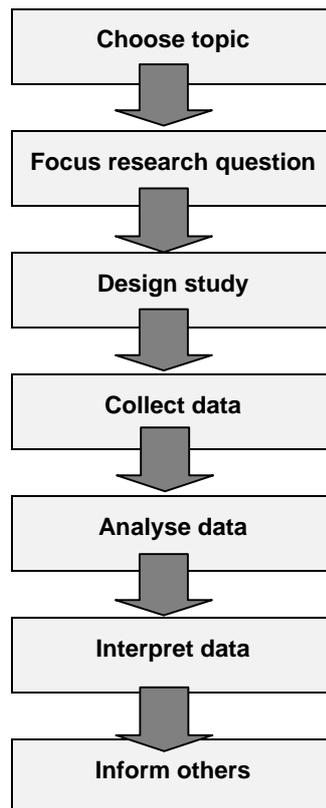
The way in which we do research is dependent on our way of knowing or epistemology (Hoshmand, 1989; Mertens, 1998). Furthermore Brew (2003) argued that there is a link between an academic's concept of research and what and how we teach our students about research. Chin and Russo (1997, p. 105) emphasised that

[w]hen designing and conducting research, developing lesson plans for our courses, or carrying out other professional activities, we must reflect on how our values and perspectives influence our understanding and thinking and how our views may differ from those of others.

Kincheloe and McLaren (2000) attribute the origin and nature of our beliefs to discursive practices (implicit linguistic practices that control our speech and behaviour):

[i]n an educational context, ..., legitimated discourses of power insidiously tell educators what books may be read by students, what instructional methods may be utilized, and what belief systems and views of success may be taught (p. 284).

Extrapolating this idea to the topic of this research, it could be suggested that one paradigm (and the research methods it uses) is chosen over others and students are taught that this is the 'correct' way of thinking. One such message may be that research is a step-by-step procedure to problem-solving and that parts of a whole need to be manipulated in order to understand a particular object (Torre, 1995, describes this as analytic, linear and rational). If students are taught that the research process begins with the formulation of a problem and ends with some type of feedback about the discoveries of the investigation, with specific steps in-between, then they could be left with the perception that research is conducted as illustrated in figure 1:



**Figure 1** A linear view of the research process

Some of the books we use to teach research methodology set out research in this manner (see chapter 5 for a brief discussion of this). This denies the dynamic interaction between the components in the research process: "...the very nature of a system is immanent in the combined interaction of the system as a whole, and hence, the system's true character is lost from view when its distinguishable components are investigated independently of each other" (Bale, 1995, p. 31).

Research methodology as an academic discipline is often limited to modernist assumptions (Hoshmand, 1989; Popkewitz, 1990) that see the world as linear and rational. Quantitative methods are seen as being able to map universal and objective overarching truths. The researcher aims to discover this reality (Mertens, 1998). In contrast, qualitative methods map the context through, for example, language that is a constructed medium of communication and thus relative to the historical period it was developed in. Such methods are therefore subjective. Feminists have even gone so far as to recommend "greater reliance on qualitative data techniques as a way to correct the biases of traditional quantitative methods" (Peplau & Conrad, 1989, p. 387). Patton (1996) cited Cook's pronouncement at the 1995 International Evaluation Conference that "[q]ualitative researchers have won the qualitative-quantitative debate" (p. xviii). Qualitative methods have 'won' in the sense that they have been accepted and gained equal respectability with quantitative methods, "but the victory has been won on its merits, on the basis of grounded theoretical insights and significant intellectual contributions" (Patton, 1996, p. xviii). Kelly (1999) and Polkinghorne (1992) agreed that qualitative research has achieved validity in the social

sciences. They also stated that academic journals have become more accepting towards research based on a qualitative approach and the status awarded to qualitative researchers has encouraged a vast number of publications in this field.

This is part of the age-old debate over objectivity versus subjectivity (see Bernstein, 1983), positivism versus relativism (see Laudan, 1996) and quantitative versus qualitative (see Fiedeldej-Van Dijk, 1997; Reichardt & Rallis, 1994a who summarised and added to some of the issues concerned). That there still is a debate is contested by academics such as Newman and Benz (1998). Patton (1996), for example, said that the once 'great paradigms debate' (quantitative versus qualitative) has "run out of intellectual steam and is now relegated to comedy on the Internet" (xviii). He related the following story sent to him by a former student who had received it via e-mail:

Once upon a time, not so very long ago, a group of statisticians and a group of qualitative researchers found themselves together on a train traveling to the same professional meeting. The quals, all of whom had tickets, observed that the quants had only one ticket for their whole group.

"How can you all travel on one ticket?" asked a qual.

"We have our methods," replied a quant.

Later, when the conductor came to punch tickets, all the quants slipped quickly behind the door of the toilet. When the conductor knocked on the door, the head quant slipped their one ticket under the door, thoroughly fooling the conductor.

On their return from the conference, the two groups again found themselves on the same train. The qualitative researchers, having learned from the quants, had schemed to share a single ticket. They were chagrined, therefore, to learn that, this time, the statisticians had boarded with no tickets.

"We know how you traveled together with one ticket," revealed a qual, "but how can you possibly get away with no tickets?"

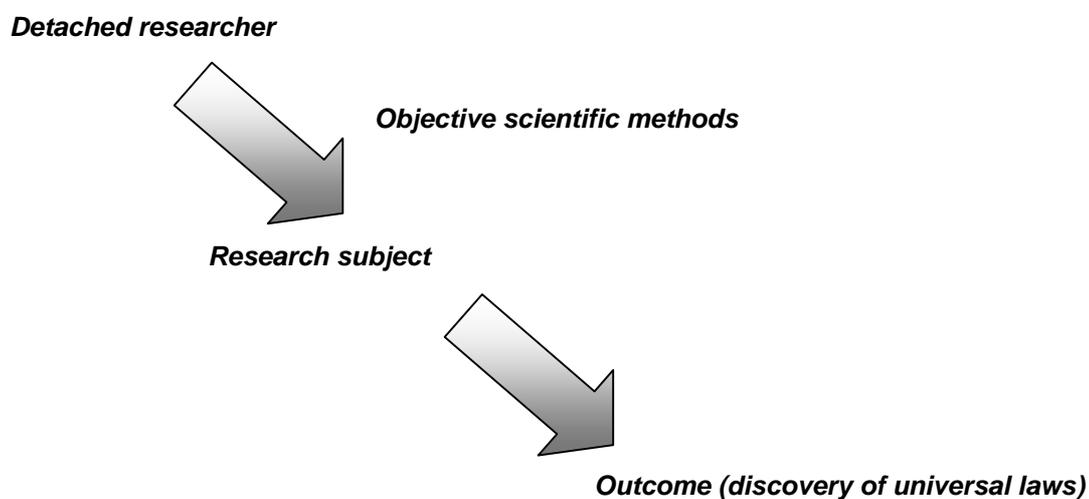
"We have new methods," replied a quant.

Later, when the conductor approached, all the quals crowded into the toilet. The head statistician followed them and knocked authoritatively on the toilet door. The quals slipped their one and only ticket under the door. The head quant took the ticket and joined the other quants in a different toilet. The quals were subsequently discovered without tickets, publicly humiliated, and tossed off the train at the next stop (Patton, 1996, p. xvii).

Although Patton is of the opinion that the quantitative-qualitative debate has been diluted, a number of research methodology courses still maintain the separation between quantitative or qualitative methods. For example, Tashakkorri and Teddlie (2003) published an article about research courses in the US describing them as "either qualitative or quantitative" (p. 61). They furthermore reported that "graduate students are often encouraged to choose a 'track' early on in their education". Alternatively, when quantitative and qualitative approaches are taught in one course they are presented as separate entities that have no relationship with each other. Teaching (and consequently learning) a curriculum that separates each method according to quantitative (objective) or qualitative (subjective) research is

perpetuated by the way in which textbooks are presented. Some texts aimed at under-graduate courses have, however, moved away from this separation (e.g. see Neuman, 2000). One of the questions that will be asked in this study pertains to how the quantitative/qualitative divide has been transformed, ignored or is still maintained in the teaching of under-graduate research courses.

Accounts written by psychologists also contribute towards the upholding of the type of objectivity that is fundamental in the traditional view of psychology as a science, as Squire's (1990) study on the passive language of psychological reports found. The researcher is 'absent' from the process as described by the language of the report: 'an experiment was performed' or 'subjects were exposed to stimulus material'. Researchers thus separate themselves from that which is researched. This approach is illustrated in figure 2 below:



**Figure 2** The involvement of the researcher in the traditional research paradigm

Wilkinson (1988) viewed the involvement of the researcher as follows: "[i]n the positivist research paradigm, the relationship between researcher and researched is an impersonal one: involving 'prediction' and 'control' by the former of the latter" (p. 495). The detached researcher uses objective scientific methods to observe a subject and through this observation discovers universal laws. Students are taught how to master these objective scientific methods in order to do objective scientific research. Brew (2003) established the link between this approach and the way in which teaching takes place when she argued that

If knowledge which is generated through research is viewed as objective and separate from knowers, it would seem consistent to think that it requires transmission and absorption through a separately conceptualised teaching process (p. 9).

Teaching and research are thus not integrated in the curriculum. Brew advocated the norm that this should be the case and elaborated on new ways of achieving this. This will be discussed in the final

chapter. More will be said about the relationship between teaching and research in the second part of this chapter. The section that follows examines alternative paradigms and the implications for teaching from these worldviews.

## **2.5 *Alternative voices to traditional social scientific research: implications for the nature of research methodology, methods and the teaching thereof***

According to Terre Blanche and Durrheim (1999b), professing that social sciences research can be limited to only one paradigm results in a methodolatory<sup>16</sup> position. The researcher focuses on technical issues that emphasise accurate measurement and correct research design while ignoring the context in which this knowledge is formed. Terre Blanche and Durrheim thus stated that

... we take the view that the hypothetico-deductive model, and the various technologies of knowledge production that flow from it, are useful tools for the social science researcher, and that it is worth the effort to learn how to use them properly. However, to be more than mere technicians, social science researchers also need to have a good grasp of the wider social and political forces that continually produce new knowledge of all kinds (p. 5).

Some alternative voices to positivism, such as idealism and its approach to research, were discussed in the first part of this chapter. In this section a comparison is made of specific paradigms, namely naturalistic-ethnographic, phenomenological and cybernetic<sup>17</sup>, according to Denzin and Lincoln's (1994) ontological, epistemological and methodological questions. These specific paradigms were chosen to give the reader a broad overview of possible alternatives to positivism that might be adhered to in undergraduate research methodology courses. Thereafter, another alternative approach, post-modernism, is briefly described because of its unique contribution to debates on knowledge production. Before discussing some alternate paradigms and their application to the research context, their characteristics will be listed.

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<sup>16</sup> Danziger (1986) coined the term methodolatory to mean that some researchers apply rules of method by focusing exclusively on "technical issues such as accurate measurement and proper research design with no concern for the wider context within which knowledge is produced" (Terre Blanche & Durrheim, 1999b, p. 5). One aspect that alternative paradigms have in common is that "[a]ny inquiry process should begin with a purpose and with locating a setting in which the purpose is available to be observed or accomplished" (Green & Chandler, 1990, p. 204) before moving into other contexts.

<sup>17</sup> The term cybernetics was coined by Norbert Wiener (Bale, 1995); its principles were first established in mathematics, communication theory and information theory. Cybernetics offered a more solid theoretical foundation for systems theory where concepts such as negative and positive feedback and circular causal systems were developed. The difference between general systems theory and cybernetics lies in their perspective on holism. Whereas general systems theory is committed to holism, cybernetics is committed to an epistemological perspective where material wholes are analysable without loss (in terms of a set of components plus their organisation). Organisation is described as the way in which components of a system interact with one another, and how this interaction determines and changes its structure. It explains the difference between parts and wholes without referring to their material forms. Due to its disinterest in material implications, cybernetics separates itself from all sciences that are divided into empirical domains by subject matters such as physics, biology, sociology, engineering and general systems theory. Focusing on organisation, pattern and communication, cybernetics has generated methodologies, a logic, laws, theories and insights that are unique to cybernetics, but that have wide-ranging implications in other fields of inquiry (Principia Cybernetica Web Dictionary, 1993). Cybernetics focuses on communication and control *in* the system and not *of* the system as is mistakenly implied in some cases. Circular causal feedback mechanisms and how these concepts are applied in a system formed part of the early work in this field (Steier, 1995).

### 2.5.1 *Characteristics of alternate paradigms*<sup>18</sup>

Alternate paradigms are characterised by (Hoshmand, 1989):

- a personal and passionate commitment by the researcher to discover the meaning and essence of human experience; inquiry is a personal and social process
- an emphasis on description and discovery versus only theory testing and verification
- an open, reflexive (sometimes atheoretical) attitude
- an emphasis on the researcher as an instrument
- the researcher in participative and dialogical interaction with the subject
- subjects being treated as a co-investigator where they are consulted by the researcher in a relationship of collaboration and reciprocity
- the research not being controlled by the researcher only
- the research process as being 'organic and emergent' where unplanned events can change the course of decisions.

These descriptions are commensurate with the interpretive paradigm as the researcher is interacting with people in a naturalistic setting to determine the way in which these people subjectively experience their life-world. In this case, the researcher is the instrument for collecting data and requires specific skills (listening, looking, questioning, interpreting), which are not easy to master; this requires that the researcher undergo some personal change in order to 'become' an interpretive researcher (Terre Blanche & Kelly, 1999). In contrast, Terre Blanche and Kelly (1999) asserted that the positivist researcher simply follows instructions relying on the verified assessment instruments and statistical techniques that they have at their disposal to collect data.

### 2.5.2 *A structure for describing paradigms*

Denzin and Lincoln (1994) provide a structure of three fundamental questions that describe what a paradigm entails and what falls within and outside of its limits of legitimate inquiry. This structure can be put to each of the paradigms outlined below:

- The *ontological* question. What is the form and nature of reality? What can be known about reality?
- The *epistemological* question. What is the relationship between the knower and what can be known?
- The *methodological* question. How can the knower (inquirer) find out whatever he or she believes can be known?

Additional to these three questions, table 1 contains information on other aspects of the three paradigms chosen which the researcher found appropriate to this discussion. A brief outline of and comparison between the three alternate research paradigms (adapted from Hoshmand, 1989) is presented in the

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<sup>18</sup> I would not like to insinuate that alternate paradigms are free from focusing on the technicalities of research and thus also become guilty of taking a methodolatory position. This debate is, however, expanded on in chapter 4.

table. Each paradigm answers the ontological question under 'assumptions', the epistemological question under 'emphasis' and 'context of data collection', and the methodological question under 'data'. The remaining descriptors, namely aim, data collection techniques, data analysis, useful applications, strengths and limitations, serve to further describe each paradigm's approach to research. These paradigms are: naturalistic-ethnographic, phenomenological and cybernetic.<sup>19</sup>

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<sup>19</sup> This refers to second-order cybernetics. The development from first-order (the term for the initial formulation of cybernetic concepts as described above) to second-order cybernetics brought about a change in the role of the researcher in the research context. First-order cybernetics is concerned with circular causal processes, e.g., control, negative feedback, computing, adaptation (*Principia cybernetica* web dictionary, 1993). In studying systems, a first order cybernetician assumed that the system could be observed separately from the observer (Sluzki, 1985), i.e. the observer's involvement in the observation did not influence its results. In his paper 'Cybernetics of Cybernetics', Mead (as cited in Steier, 1995) called for cybernetic understanding to develop a new 'language' to transcend disciplines and allow for cyberneticians to examine their organisation in itself. In second-order cybernetics (or the cybernetics of cybernetics) the principles of cybernetics are applied to the understanding and language of cybernetics itself (Steier, 1991). The focus thus shifts from observing a system to the inclusion of and focus on the observer. It emphasises that the observer is inseparable from what he or she is observing (Atkinson & Heath, 1987), i.e. the observer plays a role in constructing the reality that is observed (Sluzki, 1985). The concern with observing circular feedback mechanisms and mutual relationships include the observing process and how our observations are realised. With the acknowledgement of our role in the observation process comes a responsibility for our observations, descriptions and explanations. We need to recognise the context of mutually defining relationships that punctuate our knowing activities; how the observer punctuates and develops a system of knowing and acting is important (Steier, 1995).

**Table 1** A contrast of alternate research paradigms

	<b><i>Naturalistic-ethnographic paradigm</i></b>	<b><i>Phenomenological paradigm</i></b>	<b><i>Cybernetic paradigm</i></b>
<i>Ontology</i>	Social reality is created by participants in a particular social context; it is a construction based on the 'actor's' frame of reference	Reality has many different perspectives. Consciousness is complex and always changing. It is lived together with experience	A system is not definable by exact measure, but by the interaction between variables engaged in constant interaction. Thus the understanding of human behaviour cannot be measured and represented by one fixed value
<i>Emphasis</i>	The worldview and constructs of participants in research as they are expressed during the interactions between the researcher and the participant	<i>Verstehen</i> (understanding) of another person's experience through the lived world of individuals and the structure of consciousness	Interaction between and interdependency of a part of a system to the whole system and between all the parts of the system. Much emphasis is placed on the context in which interaction takes place
<i>Aim</i>	To holistically describe total phenomena in context, to describe complex relationships of factors that influence behaviour about phenomena	To describe the meanings of human experience, and to illuminate these meanings as they form part of human consciousness	To discover and know patterns that organise events
<i>Epistemology</i>	Behaviour is studied in its natural context as the setting is important in the meanings of constructions. The participant's point of view is preserved by seeking emic (or native) perspectives	The researcher is a 'participant-observer' with an open attitude towards the subject being researched; pre-conceptions and biases (called bracketing) are suspended. All perspectives are treated with equal value; information is not placed on a hierarchy. The researcher is the co-creator of the information generated through interviewing	The researcher is included as part of the research process, the researcher co-influences the method, and the method co-influences the researcher. Research instruments do not remain static as participants may change over time. The larger context in which the research takes place must be taken into consideration. A process-in-context approach allows the researcher to look for criteria that indicate certain processes taking place in specific contexts
<i>Methodological focus</i>	Intersubjectively shared experiences, personal meanings and perceptions of actors and participants	Primarily linguistic focus	Detailed documentation of the contributions of the research and all participants including the influence they have on each other

... / continued

	<b><i>Naturalistic-ethnographic paradigm</i></b>	<b><i>Phenomenological paradigm</i></b>	<b><i>Cybernetic paradigm</i></b>
<i>Data gathering techniques</i>	Archival research, ethnographic observation, oral history, qualitative interviews and so forth	Primarily qualitative interviews	Action research where plans are changed in the context in which they are implemented. Intensive observation of interactions from an observer and participant perspective is one of the methods that might be employed
<i>Data analysis</i>	Data is transcribed verbatim. It is then repeatedly read to identify key phrases and constructs. These meaning categories are collected into themes. The interpretations can be shared with participants to verify analysis	The researcher examines the data from different perspectives, for example, by asking questions of the data. Analysis can be done in a hermeneutic circle by examining the meaning of the different parts in relation to the meaning of the whole to determine any change in the original interpretation. This process is repeated back and forth until a pattern can be established	A commonality is sought by focusing on any similarities that may occur within and across participants. Model building and theory testing is preceded by observation and discovery
<i>Useful applications</i>	Addressing questions related to native experiences of unfamiliar groups especially ones from difference cultural backgrounds. Less researched populations	Especially useful in describing and understanding important human qualities and experiences of participants	Especially useful in counselling and therapy where change in a client needs to be anchored in specific events. The process-in-context approach allows for the identification of such events through research
<i>Strengths</i>	Descriptive power, richness of data, access to 'deep structure' as opposed to surface meanings	The researcher's intentional aim for doing research is given attention, i.e. the perceptual and cognitive process of the researcher is made explicit	Studying humans in context including the researcher's role in the inquiry event. Making the structure of research explicit by accurate description
<i>Limitations</i>	Difficult to replicate due to uniqueness of style of research and context at the time of research. Potential threats to reliability and validity exist in the way that participants are selected and events are sampled. Data analysis is possibly subjective	Questions arise concerning the validity of the approach, the possibility of leading questions, the subjectivity of interpretations, the small number of subjects and possibility of the researcher influencing the data generated	Can be criticised as reductionistic in that data is anchored in a specific behavioural event

### 2.5.3 *The post-modern turn*

Post-modernism originated in art, architecture, literature and cultural studies. It questions and rejects the basic assumptions of modernism, creating much argument and debate about the existence of both movements (Burr, 1995). Post-modernism rejects:

- the idea that there is an ultimate truth that can be discovered. "Almost all postmodernists reject truth as even a goal or ideal because it is the very epitome of modernity... Truth makes reference to order, rules, and values; depends on logic, rationality and reason, all of which the postmodernists question" (Rosenau, 1992, p. 77)
- the idea that this one universal truth defines an independent reality
- that a 'grand' theory can be applied to discover and change underlying structures of social life.

Philosophers such as Heidegger, Nietzsche, Sartre and Wittgenstein influenced post-modern ideas in the humanities. Current streams of post-modern thought aim to demystify the social world, but empirical systematic observations and generalisable knowledge are distrusted: "[t]he modernist search for natural laws and unified theory using impartial methods is undermined by the postmodernist critique that reality is socially constructed" (Lui & Lui, 1997, p. 159). A researcher's description of a phenomenon is no more valid than anyone else's description of a life event. Research results are not presented in a detached or neutral way; the researcher's presence is made known throughout a report. Post-modernism is anti-elitist and postmodernists "oppose those who use positivist science to reinforce power relations and bureaucratic forms of control over people" (Neuman, 1997, p. 82).

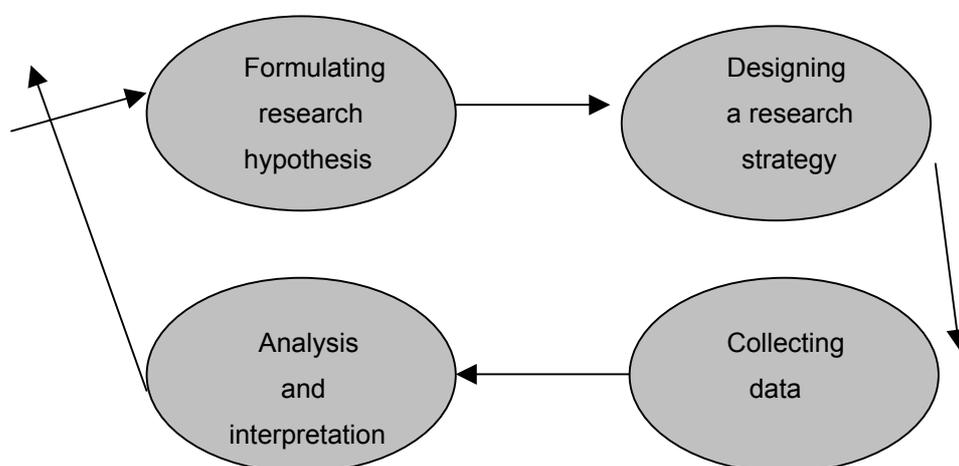
Post-modern thinking has fundamentally challenged the prevailing modernist paradigms of objectivism and subjectivism. While objectivism claims that there is "a world of objective reality that exists independently of us and that has a determinate nature or essence that we can know" (Bernstein, 1983, p. 9), subjectivism claims that "there is a self-contained, individuated self who can know the one truth" (Masterpasqua & Perna, 1997, p. 6). Post-modern thinking, in contrast, asserts that "persons exist in a state of continuous construction and reconstruction; it is a world where anything goes that can be negotiated" (Gergen, 1991, p. 7). An infinity and multiplicity of demands are made on the individual while living in a time of unpredictability and uncertainty (Masterpasqua & Perna, 1997). As the social sciences arose in the context of modernity, its concepts and approaches are no longer relevant and need to be changed (Hollinger, 1994).

In order to understand the post-modern individual, it is necessary to go in search of new models that view systems as evolving dynamically and as being in continuous interaction with their contexts. There are various paradigms that undercut traditional approaches to understanding the world and that view individuals in the light of the two aspects mentioned in the previous sentence. Writers about paradigms have different ways in which they classify or name ways of knowing and their consequent methods of inquiry. Jürgen Habermas - who Schubert (1986) claimed "is one of the most widely cited contemporary philosophers who deals with the theory of knowledge and its cultural implications" (p. 180) - classified

paradigms as empirical-analytic, hermeneutic or critical (this classification will be elaborated on in chapter 3). Two texts aimed at research courses teach students that approaches can be classified as positivist, interpretivist or critical, based on the re-evaluation of social sciences since the 1960s (Neuman, 2000), and positivist, interpretive or constructionist (Terre Blanche & Durrheim, 1999a). The next section will review how alternative paradigms have informed the teaching of research methodology.

#### 2.5.4 What is the alternative view on research methodology and methods and the teaching thereof?

If it is accepted that the research process is non-linear and interdependent<sup>20</sup> by nature, the process can be illustrated in figure 3 as the following (see also Jordaan & Jordaan (1998) who termed this conceptualisation of the research process 'an evolving spiral of knowledge acquisition'):



**Figure 3** The deductive empirical cycle in the scientific expansion of knowledge (Welman & Kruger, 1999)

Thus, the illustration of a recursive research process in figure 3 shows the beginning of a research project where a research problem is identified. The measures needed to address the problem are followed (although not necessarily in a specific sequence each time). The researcher then returns to the original problem to identify if any further work needs to be done: the arrow flowing out from the analysis and interpretation shows that the process does not end there. In figure 3 output from one of the steps in the research process can become input in other steps, for example, you state the focus of the research project and then while you are collecting data you realise your sample is not representative. Your aims in

<sup>20</sup> Non-linear refers to the fact that the events do not take place in a straight line. Goerner (1995, p. 22) stated that "the nonlinear revolution creates a very non-Newtonian image of the world". Linearity is an assumption that underlies traditional approaches to understanding our world. In this worldview it is believed that the size of the input determines the size of the output (West, 1997). Keeney (1983) stated that a 'more is better' policy has had disastrous effects in a variety of geophysical, biological, and economic domains. Non-linearity, in contrast, is based on proportionality. A non-linear system is any system where the input is not directly proportional to the output. In other words, if  $x$  increases it does not mean a predictable increase or decrease in  $y$ . If something works well it does not necessarily mean that more of it should be implemented and vice versa. Traditional worldviews assumed that "[f]or a linear system containing many factors the total response of the system is proportional to the sum of the individual responses of each of the separate factors" (West, 1997, p. 106), thus assuming a system to be independent. The concept of interdependence also, however, has a role to play. Interdependence "means mutual reliance and signifies that change in one component brings about change in others" (Banathy, 1992, p. 188). The non-linear revolution explores the nature of non-linear interdependency.

terms of the generalisation of your results will have to be revised. The process is also interdependent as a change in the representativeness of your sample may change the project as a whole, which impacts on the initial aims of the research. This interdependence is not necessarily linear though: a big sample does not ensure better results than a smaller but more representative one.

The move towards accepting non-linear alternate research methods<sup>21</sup> in doing and teaching research has been documented by authors such as Hoshmand (1989). This move coincided with paradigm shifts in the social sciences combined with concerns about the discipline of psychology. Many of the problems with traditional psychology where positivism and reductionism are strongly represented have been addressed and rectified. More than a decade ago the *American Psychologist* contained an article by Sperry (1988) that suggested reform in the science of psychology. Borgen (1989) thus stated that "[t]o me this is prima facie evidence that to imply that psychology is pervasively positivistic, deterministic, and reductionistic is to create a straw argument" (p. 94). More recently, however, authors such as Willig (1999) still maintain that psychology is based on reductionist techniques for understanding and explaining human behaviour. The failure of psychology to adequately move in the direction of alternate paradigms and methods can be seen as a rejection of these alternatives *per se*. This is reflected in the lack of their inclusion in the teaching of research methodology (Hoshmand, 1989).

The importance of considering alternate research paradigms when teaching research methodology is emphasised by Bozalek and Sunde (1993/4, p. 79): "[t]he purpose of exposing students to differing approaches is to lead them to the consciousness that knowledge production and legitimation are historically structured and situated". Certain socio-historical contexts thus lead to the development of particular ways of viewing and researching the social world. Mouton and Muller (1997) argued that qualitative approaches such as naturalistic evaluation were taken up by NGOs and other grantmakers in South Africa, in keeping with international developments on the production of knowledge, to structure funding decisions. Although no specific issues are offered, they also suggested that alternate methodologies became popular due to difficulties experienced in the closing period of the Apartheid era. These authors also point to the paradox that is contained in the movement to 'new methodologies': "a too-ready willingness to take over ideas and practices now made much easier by the new networks may replicate, however unintentionally, global relations of dominance" (Mouton & Muller, 1997, p. 16). Yet the literature that is cited below does not confirm that the unquestioning acceptance of alternate paradigms implies abandoning established methods. There may be different rewards for different groups of people in the new dispensation, but the argument below is for an open attitude towards all methods.

A third view on methodology, in psychology in particular, is for qualitative research to augment quantitative research in a paradigm of diversity (Polkinghorne, 1991). This approach, which is still under discussion in the current literature, is referred to as mixed methods research following Tashakkori and Teddlie's (2003, p. 62) definition as "the type of research in which a qualitative and quantitative data collection procedure ... or research method ... is used to answer the research questions". It can be

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<sup>21</sup> The linking of the words 'non-linear' and 'alternate' is not to suggest to the reader that teaching alternate paradigms automatically means that the approach would be non-linear. Once again, Porter's (2002) idea of tendencies is used to argue that learning about alternate paradigms would potentially result in learning in about research as a non-linear process.

argued, however, that this is a new type of hegemony which can be termed 'pluralism' and which is advocated to satisfy different socio-political needs. Be that as it may, the researcher needs to take a position of some sort for this study (which may be based on her own socio-political interests).

As was mentioned above, teaching of alternate paradigms does not imply that traditional more established methods should be excluded. Lui and Lui (1997) stated that

[f]rom every paradigm we reject the contention that some aspects of human thought, action, feeling, or society are the proper topics of study in psychology and others not. From every paradigm we reject the argument that one method is uniquely capable of gleaning insight into the human condition (p. 175).

Researchers using alternate paradigms may not insist on subjectivism "nor is there a total rejection of the traditional standards of knowledge claims; only that concepts of validity are expanded to include additional criteria consistent with the epistemic values of the alternate paradigms" (Hoshmand, 1989, p. 39). Students could thus be taught that there are alternate paradigms to the traditional ones and the importance of the role of the researcher as co-constructor of the knowledge generated is emphasised. Power relations in research are addressed as different from traditional research. In their research reports feminist researchers will, for example, acknowledge their subjective response to the research process by providing some comment of their role therein. Contrary to the traditional convention of using the third person when writing, feminist researchers will make comments such as 'I observed this' or 'in my analysis' to explicitly admit their role in studying the phenomenon (Eagle, Hayes & Sibanda, 1999). This is, however, just one conceptualisation of alternative paradigms that not all researchers may agree with. Post-modernists, Marxists and feminists, for example, may argue that none of the traditional conventions for doing research apply to them (Sarantakos, 2000) and thus reject all of the above. Due to lack of space this idealisation of alternate paradigms is the only one presented. The point that is being made is that each researcher (consciously or unconsciously) selects a paradigm and that the characteristics of this paradigm have specific implications for the way in which research methodology is taught to undergraduate social science students. Certain assumptions that can be related back to these paradigms are thus manifested in the curriculum (Brew, 2003).

### **2.5.5 From which paradigm should we teach?**

Given the contention that different viewpoints about researching human behaviour manifest in differences between curricula, one may ask if one particular paradigm is better than another. This question also has a corollary; will training in one paradigm or another deliver better researchers? Or should training in both paradigms be the norm? Or should students be trained in an entirely new approach such a post-modernism? What would a post-modern methodology look like if there are no rules to such an approach? Some thoughts on these questions are presented in this section, although the issue is addressed more fully in the last chapter.

Banathy (1992) warned that changes in current paradigms are not just necessary, but essential to the future success of societies in her statement that

Societal systems, such as our educational activity systems, that still operate based on the design of the bygone era, and use the world view lens of the industrial machine age, are losing their viability. They operate in a continuous crisis mode, and eventually face termination unless they frame a new mind set, learn to use the new lens of the new era, and acquire new thinking that is based on the new world view (p. 4).

It is argued here though that following a 'new world view' does not imply erasing all past traditions and starting from a void. Goerner (1995) said in this regard:

Newton-bashing has been a favorite theme of new age writers and chaos writers also often play this game. By way of correction then it is important to note that Newton does not go away. The findings of classical physics remain, they are just seen in a very different context. The systems that succumbed to the classical paradigm were a more limited case than was previously appreciated ... We must remove assumptions based on them from our collective unconscious. Nevertheless, Newtonian findings remain quite intact (p. 22).

Sacrificing everything pertaining to modernist thoughts is thus not advocated by researchers such as Collins (1999, p. 4): "[t]raditional research methods are very important to all researchers, as these methods have been used for years and have served to build a foundation of robust knowledge". Dick (1997) said the following about developing new research methods:

While it is difficult to see how researchers supportive of the alternative approach can truly move away from positivist methods (as they wish to do) given its implicit realist epistemology, it is doubtful whether positivism needs to be rejected altogether. What is needed is an openness to methodological experimentation that avoids new orthodoxies. We need to be able to develop accounts of society which help us understand it whether in terms of phenomenological ideas or scientific methods (p. 505).

There seems to be a move from 'method-centredness' to discursive practice where the research process does not map an objective social reality, but is a process that involves negotiation and interaction with the subjects of social inquiry (Kvale, 1992).

Liu and Liu's (1997) view of post-modernism is different to that described above. According to these authors, post-modernism as a discipline recognises no universal truths and post-modernists, for example, avoid the use of tests of statistical significance in their papers. Science, these authors said, is a problem in post-modernism. They also stated that although modernism and post-modernism have "radical differences in value orientation" (p. 169), these two approaches could be viewed as thesis and anti-thesis where the other generation's work is dismissed as invalid. These authors thus refute the possibility of

synthesis. If past events can be used as an indication, then there will be a division between the two approaches in the psychology of the twenty-first century. Like all the paradigms discussed thus far, post-modernism has also been criticised, specifically for its relativistic view of knowledge where there is “little or no confidence to assume that one interpretation of the social world can claim epistemological superiority over any other” (Porter, 2002, p. 59). Thus Porter questions the use of research where the results cannot be declared as more adequate than any other interpretation of events.

Although Liu and Liu’s argument may be a valid, this study concentrates on the positive contribution that post-modern thought has made to alert us to the realisation that we have based our knowledge solely on linear assumptions. A move towards uncovering the hidden scientific knowledge in the non-linear realm is needed. For instance, Peplau and Conrad (1989) argued in this regard that in challenging psychology from a feminist perspective, “[o]ur goals must be more radical and far-reaching, seeking not only to question our research methods, but more fundamentally to rethink the aims of science, the models we use to understand human experience, and the philosophical underpinnings of scientific activities” (p. 396).

In summary, a few points can be made about teaching research methodology from a paradigm that accepts alternative approaches, but that does not reject traditional ideas:

- Students should be made aware of the context in which the social sciences (and specifically psychology) developed and how this context influenced the way that social phenomena were and are currently researched.
- Students should learn that although it is necessary to master the technological skills needed to produce knowledge within the hypothetico-deductive model, this model has severe limitations for understanding the context in which knowledge production takes place.
- As possible future researchers, students should be made aware of the epistemological assumptions underpinning various paradigms or ways of knowing which include the so-called alternate paradigms.
- Students should be made aware of how these assumptions influence the way in which they do research and also the methods that they use.
- Students should be made aware of how their personal characteristics and life experiences influence the focus of their research (unless they are contracted to do specific research) and how they undertake research.
- Students should be made aware of their role in the research process and taught how to become reflexive researchers.

From the discussion about teaching research methodology that has been presented in the last few sections, it is clear that another view is being raised in current debates about doing and teaching research, that of pragmatism. For example, Patton (1996, p. xxii) stated that “[t]he methodological present acknowledges the value of different methods for different kinds of questions, and judges designs on the appropriateness of the match, i.e., the extent to which a particular method fits a specific problem”.

Patton thus advocates a pluralistic approach and identifies the fit between the method and the research problem as the key element in deciding on an appropriate approach for a social study. More recently, Tashakkori and Teddlie (2003) have argued that research practice is dictating that, instead of being expected to indulge in paradigmatic debates, students should be enabled to implement pragmatic solutions to social problems, for example by using combinations of quantitative and qualitative methods, whichever best suits the research question. This may point to the new hegemony termed pluralism mentioned earlier. The move towards pragmatism in research practice and the need to mirror this trend in academic instruction will form the basis of one of the discussions on methodology in chapter 4.

The first section of this chapter dealt with the influences that various worldviews had on research methodology in the social sciences and specifically within the discipline of psychology. The further possible effects of these paradigms on the way in which research courses are structured was briefly illustrated. The following section of the chapter deals with the higher education context in which teaching takes place and how this brings another perspective on how research courses should be constructed and taught.

## ***2.6 Teaching research methodology in the context of South African higher education policy***

“Who decides what knowledge is, and who knows what needs to be decided?” are questions posed by Lyotard (1984) when he stated that “knowledge and power are simply two sides of the same question” (p. 9). The recent paradigm shift in South African education has brought about a new way in which we think about what knowledge is and how it should be taught. The aim of this section of the chapter is not to present a detailed analysis of curriculum theory and practice<sup>22</sup>, but to discuss the different ways in which knowledge is viewed and to look at where current ideas on the topic are centred. Therefore, expertise in the field of education is not claimed; the aim is rather to place approaches towards teaching research methodology in the context of the current educational paradigm in South Africa.

As outcomes-based education (OBE) is the new approach to education in South Africa, its application to teaching research methodology is explored. In order to commit itself fully to OBE, the government established the National Qualifications Framework and the South African Qualifications Authority to oversee the implementation of the new system. There are, however, critics of the system and their opinions of OBE are presented. OBE is defined and discussed, including some of its most important terms such as critical cross-field outcomes, learning area outcomes, specific outcomes and unit standards. Government’s policy on higher education has also been influenced by so-called ‘Mode 2’ knowledge production, which in turn has been driven by trends such as democratisation (also known as massification) and globalisation. These concepts will be explained and elaborated on in the sections that follow.

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<sup>22</sup> For detailed reading on the development of curriculum practice and theory from the pre-twentieth century see Schubert (1986).

### 2.6.1 *The nature of knowledge*

The nature of knowledge and the knowing process (defined as epistemology earlier in this chapter) is a branch of philosophy that has important implications for education. Some of the questions that epistemology deals with (regarding the nature of knowledge), according to Schubert (1986), are: Does knowledge have a structure? Do different kinds of knowledge have different structures? By what methods can knowledge be acquired and validated? To what extent is knowledge generalisable, and to what extent does it depend on particular circumstances?

Several ways of answering these and other questions regarding the nature of knowledge have developed over the centuries. Each way has implications for the way in which we see curriculum development and implementation. Below are some of the ways of knowing and their impact on the way in which we transmit knowledge in society (Schubert, 1986):

- *Authority.* One of the oldest ways of gathering information is from a person in a position of authority. The tribal leader, the poet, the priest, the ruler of a kingdom can be compared to the textbook, the encyclopaedia, the teacher or the administrator as custodians of authoritative knowledge.
- *Revelation.* Several deities in human history have been revered as the ultimate source of knowledge. Sacred scriptures, interpretations by prophets and personal contact have had a major impact on education throughout history. Major religions are accepted as truth; one such 'religion' is science, which is asserted by some as the most profound source of knowledge today.
- *Empiricism.* This source of knowledge is said to be older than that of authority or revelation. Empiricism claims that knowledge is gained through the senses we experience. If students cannot gather knowledge from all their senses then they do not have equal access to this knowledge and are therefore excluded from so-called 'mainstream' schools. *A posteriori* knowledge is gained from experience and observation while *a priori* knowledge comes from sources such as theory, revelation and intuition.
- *Reason.* This has played a central role in knowledge acquisition since ancient times. If something can survive rational or logical analysis, its credibility is established. Learners are encouraged to reason logically, for example, they must differentiate fact from opinion, draw inferences from data or identify assumptions.
- *Scientific method.* This is a hybrid of reason and empiricism. The hypothetical-deductive procedure of scientific method is used in both the natural and social sciences. If someone uses it in the course of everyday activities, it is seen as a practical problem-solving method.
- *Intuition.* Sometimes an individual immediately grasps certain aspects of nature or the social world. Intuition seems to play an important role in decision-making and taking action in everyday life. Some teachers develop and teach a curriculum intuitively while not allowing students that same method of knowledge acquisition: "... they attempt to instill in their students mechanistic, recipelike strategies of teaching and curriculum planning" (Schubert, 1986, p. 123).

These different ways of knowing involve positions that are rooted in epistemological assumptions. Curriculum developers act on the epistemological assumptions at the root of positions set forth by education theory developers and policy makers. It is important to examine the assumptions on which curriculum development is based in order to be aware of and attempt to constantly improve on the positions we take in what we base the transmission of knowledge on (Brew, 2003; Chin & Russo, 1997).

### **2.6.2 The transmission of knowledge in society**

Lyotard (1984) asked these fundamental questions of the transmission of knowledge (which he termed 'education') from a pragmatic point of view: Who transmits learning? What is transmitted? To whom? Through what medium? In what form? With what effect? According to Lyotard, the fundamental reason for transmitting knowledge is to prevent the inevitable ending of necessary debate between scientist and partner (the partner being someone who is able to verify or falsify the truth of statements made by the scientist). The truth of the statement made by scientists as well as their competence is at stake in this process as one's competence is never a given fact. The evaluation of scientists' competence is made by their peers: "The truth of the statement made and the competence of its sender are thus subject to the collective approval of a group of persons who are competent on an equal basis. Equals are needed and must be created" (Lyotard, 1984, p. 24).

Didactics<sup>23</sup> enables this process to take place and presupposes three things: (1) students do not know what the teacher knows and that is why they have come to learn, (2) students are able to learn what the teacher knows and in doing so become an expert with competence equal to that of the teacher, and (3) there are statements that are indisputably true as they have been subjected to the exchange of arguments and rigorous research, and can therefore be taught as the truth. As Lyotard (1984, p. 25) summarised: "[i]n other words you teach what you know: such is the expert". Collins (1999) echoed this statement by saying that "[t]raditional education uses approaches and practices which are believed to influence people's thinking to the extent that they may be exploited and oppressed by the ideas of the educators" (p. 7). Teachers are expert knowers and prescribe the thinking of not-experts, the learners (Spady & Schlebusch, 1999). Hargreaves (1982) described the role of the teacher as follows:

Teachers are qualified in their subjects; they *know*, and they are not satisfied until they have told their pupils what they know. In the jargon of the educationists this is the 'transmission' model of teaching: the function of the teacher is to impart knowledge to (in this respect) ignorant pupils, and the most obvious way in which to achieve this is by telling (p. 200).

To emphasise this point again: the primary concern of this style of teaching is "the transmission of knowledge and skills from the expert-teacher to the apprentice-pupil" (Brandes & Ginnis, 1986, p. 2). The emphasis is on the cognitive and practical domains with little recognition of the affective. The teacher has

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<sup>23</sup> Didactics is defined as "the art or science of teaching" by the Collins English Dictionary (1979).

the authority to make and carry out decisions; learning is passive. Obedience, reward and punishment mark the relationship between the teacher and learner with a common acceptance of mistrust, conflict and fear as being part of the system. As the teaching process progresses, however, and students improve their skills, the teacher – as the expert – can confide to the student what the teacher does not know but is trying to learn. In this way, the student is introduced to the game of producing scientific knowledge, which Lyotard (1984) calls research.

If higher education is seen one of the sub-systems of the social system that forms our societies, the goal it will strive to achieve is to support that society. One way of doing this is to create skills that the system will find indispensable. According to Lyotard (1984), there are two kinds of skills: the first type is designed to supply to the demand that the world market has. The second type is designed to fulfil society's needs: "... universities and the institutions of higher learning are called upon to create skills, and no longer ideals – so many doctors, so many teachers in a given discipline, so many engineers, so many administrators, etc." (Lyotard, 1984, p. 48). He stated further that "[t]he transmission of knowledge is no longer designed to train an elite capable of guiding the nation towards its emancipation, but to supply the system with players capable of acceptably fulfilling their roles at the pragmatic posts required by its institutions". This is how the principle of performativity<sup>24</sup> plays itself out in higher education.

More recently, George (1997) suggested that the role of education is to develop human resources such that our workforce is equipped with the skills and qualities that they will need to cope in a technological world that is ever changing. According to Curriculum 2005: Lifelong Learning For The 21<sup>st</sup> Century (1997, p. 3):

... successful modern economies and societies require citizens with a strong foundation of general education, the desire and ability to continue to learn to adapt to, and develop new knowledge, skills and technologies, to move flexibly between occupations, to take responsibility for personal performance, to set and achieve high standards, and to work cooperatively.

According to Spady and Schlebusch (1999), key new formal sector jobs are going to the type of individual described above:

[t]o remain 'nimble' in the global marketplace, organisations need and rely on capable, self-starting, innovative and adept employees who can do 'smart work', 'think outside the box', want to learn continuously and improve how they operate, and perform on the cutting edge to help their organisations flourish (p. 18).

Individuals who achieve these strengths may also become an invaluable asset to their organisation (Schwahn & Spady, 1998). Also, technology and information technology jobs in South Africa are most

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<sup>24</sup> Performativity refers to the relationship between input and output in a system where the goal is to maximise efficiency, i.e. putting in minimal effort to gain maximum outcomes (Lyotard, 1984).

prevalent in the vacancies listed in the media (Spady & Schlebusch, 1999) and individuals need to be prepared in such a way that they can cope with these trends.

It is further assumed that through education we can bestow these skills and qualities on our citizens to not only put them on par with other developed countries, but also to equip them to cope in the international arena. South Africa needs to transform its society into a prosperous one and the state has the responsibility to ensure that the curriculum in schools reflects the goals of this transformation (Potenza, 2000). Political leaders and educators have decided that the current system of education is not good enough and have identified outcomes-based education as a better system. This suggests that the *status quo* (the current system) "has failed the masses and benefited only the elite of society, the so called 'educated' " (George, 1997, p. 1).

### **2.6.3 The influence of modernist assumptions on education and contrasting exogenic and endogenic worldviews**

As has been outlined in section one of this chapter, alternative worldviews and their outlook on social science research abound. According to Banathy (1992, p. 10), however, "we have failed to implement the massive scientific 'paradigm shift' that has occurred in the course of the last several decades", especially in the educational context. The traditional or classical scientific worldview is still being used as the basis of the approaches being applied to educational reform. Recommendations from commissioned investigations into the school system have insisted on doing 'more of the same': more classroom instruction, more of the 'basics' and science, more discipline, more teacher training, more control, more parent participation and more pay for teachers.

The rise of positivism in the modernist era (see Lui & Lui, 1997) had a profound impact on education and has been criticised for the way it has impacted on the construction of curricula by treating children as objects instead of subjects of education, thereby encouraging manipulation of pupils. The pre-ordained content that is presented to children stifles their creativity (Young, 1990). Educationists who adhere to positivist notions assume that:

- they can predict and control the behaviour of learners in the educational process
- there is a single reality independent of those who manipulate or are affected by it during the educational process
- human beings are predictable in their behaviours when subject to defined stimuli (Fielding, 1996).

This gave rise to the notion that objectivity and control can be applied to the teaching process. Jonassen (1991) described the link between objectivity and the learning process as follows:

Objectivists believe in the existence of reliable knowledge about the world. As learners, the goal is to gain this knowledge; as educators, to transmit it ... The role of educators is to help students learn about the real world. The goal of instructional designers or teachers is to

interpret events for them. Learners are told about the world and are expected to replicate its content and structure in their thinking (p. 8).

Gergen (1994) termed this theory of knowledge the exogenic worldview. In the sections that follow this worldview will be contrasted with another, the endogenic worldview.

### **2.6.3.1 The exogenic versus endogenic worldviews: implications for education**

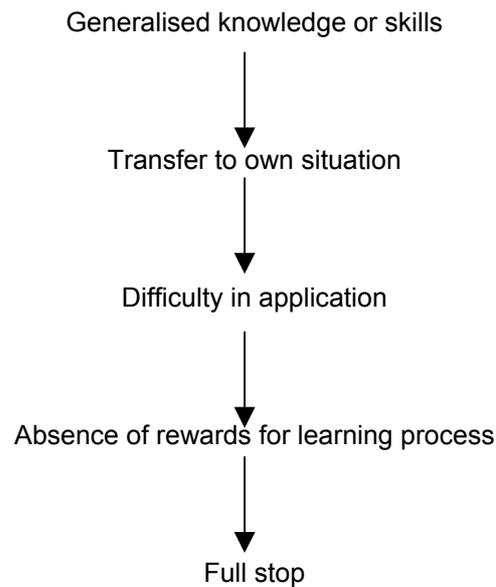
The exogenic worldview is a world or environmentally-centred theory where “human knowledge in ideal form may be viewed as a reflection of the real world or a map of nature’s contours” (Gergen, 1994, p. 175). The human mind is thus susceptible to influences from the environment. The exogenic worldview embraces a dualism where an external world (such as a material reality) is contrasted with a psychological world (which is cognitive, subjective, symbolic or phenomenological). Knowledge is achieved when individuals accurately portray the state of the external world, when their mind mirrors nature.

In the exogenic tradition, keen observation in the acquisition of knowledge is strongly emphasised; emotion and motivation are contaminants of the neutrality needed to accurately record nature. Knowledge (in the form of an internal map) of the environment is important for the individual to cope in complex surroundings. For the exogenicist, the world is a given and when a person’s mind accurately reflects this world it is able to function at its best (Gergen, 1994).

It could be said that the description of an exogenic way of knowing has characterised the quality of the learning journey for many South Africans. Cosser (1998) summarised this journey as follows:

- information is memorised and repeated in examinations
- learners are coached expressly for examinations
- the approach towards learning is superficial
- knowledge is received passively and the educator is not questioned
- learners are not able to apply information or knowledge in new (or any) situations
- learners look for one right answer to questions and problems
- learners do not take responsibility for own learning
- learners do not learn from their mistakes.

By following this method of instruction and learning the student gets caught in a ‘vicious learning cycle’ (Mumford in Dennison & Kirk, 1990). In this cycle, the teacher begins by defining the area of knowledge or skills that need to be learned. This knowledge is then transferred to the students and they are left to translate what they have learned to other situations. Many students may have difficulty in transferring ideas to their own situations, as they do not see the relevance of the topic or are not motivated enough. The learners thus do not receive rewards from the learning process and may not be motivated to progress. This cycle can be illustrated as follows:



**Figure 4** The vicious cycle (Dennison & Kirk, 1990, p. 17)

In contrast to the exogenic worldview, Gergen (1994) placed the endogenic or person-centred theory of knowledge. This worldview asserts that “the human mind can be viewed as the origin of knowledge, a fount of conceptual construction, or a source of thought forms that frame both the questions that may be put to nature and the answers derived therefrom” (p. 175). Although both the endogenic and exogenic traditions agree that mind and world are independent and that knowledge is a mental state, the endogenicists view the mind as a primary given. As such, questions are raised about how the mind operates in order to function successfully in nature. Emphasis is placed on a person’s innate capacities for reason, logic or conceptual processing (Gergen, 1994).

Gergen (1994) further contrasts the exogenic and endogenic worldviews in six points. This contrast is presented in table 2 below:

**Table 2** The contrast between the exogenic and endogenic worldviews (Gergen, 1994)

<i>Attribute</i>	<i>Exogenic</i>	<i>Endogenic</i>
<b>Nature of knowledge</b>	Objective knowledge about the environment is possible as the environment drives the senses in predictable ways.	Knowledge is a product of the individuals who process it, thus traditional criteria of objectivity are suspect.
<b>Nature of reality</b>	Consensus can be reached between practitioners of science as there are objectively correct and incorrect answers about the world.	Conflict between opposing views is superior to consensus; multiple interpretations of experience exist and are both legitimate and acceptable.
<b>Position of the observer</b>	Reality is independent of the observer, thus scientific neutrality is attainable. Scientists must avoid using their values to guide the course of observation as this may lead to an inaccurate recording of the state of nature.	The observer cannot be neutral as recordings of reality are psychologically generated. Any findings can therefore not be independent of the observer.
<b>Locus of control of behaviour</b>	Due to the empirical world impinging on human senses there is an external locus of control for human action; behaviour is dependent on or determined by environmental events.	Individuals have the free will to construct or interpret information from the environment or the memory. The locus of control is thus internal.
<b>Fact and value</b>	The separation of fact and value, due to environmental determinism, implies that moral value is not in the scope of the discipline.	Moral issues are inescapable as people personally construct reality; fact and value are inseparable.
<b>Research methods</b>	Methods of measurement and control are strongly emphasised. These methods deliver unbiased assessments of the facts.	Empirical methods give rhetorical and not ontological support for the scientist. Rhetorical support is seen as sustaining existing, accepted theoretical positions which remain supported by the methods that investigate the theories.

As can be seen from the table above, Gergen's link between the exogenic tradition and positivism is portrayed in the traits that the two approaches have in common such as a belief in an independent reality,

value neutrality of the observer, determinism playing the only role in human behaviour, the exclusion of the study of morals and values, and specific methods that meet requirements of scientific (positivistic) research. The attributes of the endogenic and exogenic worldviews translate into certain forms of educational practice. The differences between these forms will be briefly presented below.

### **2.6.3.2 The link between the endogenic and exogenic traditions and educational practice**

The exogenic perspective views the student as a *tabula rasa*<sup>25</sup>, it being the duty of the educational process to inscribe the fundamental features of the world thereon. Students are encouraged to make direct observations or attain enrichment of experience. Books and lectures are favoured as the person can acquire great amounts of information that cannot always be achieved through direct observation. The primary emphasis in assessment is placed on individual knowledge acquisition. The use of media such as multiple-choice questions, test standardisation and statistical normalisation helps to determine to what degree the student's mind (or slate) has been filled (Gergen, 1994). According to Brew (2003), the person teaching the students is central to this view, which focuses on the transmission of information by the teacher.

In the educational system, the endogenic perspective focuses on the rational capacities of the individual. The way in which information is pondered on is more important than the quantity of information in one's mind. The fields of mathematics, philosophy and foreign languages are emphasised as subjects that will enhance the capacity for thought. Lectures are replaced by class discussions, as it is through active engagement that cognitive skills are maximised. Assessment is done via essay examinations and assignments as it is argued that rationality is best trained through these means. Evaluation is also seen in terms of quality rather than quantity (Gergen, 1994). In contrast with the exogenic view, students thus take responsibility for their own learning and become the focus of the classroom practice.

### **2.6.4 International trends in higher education**

The change in political dispensation in South Africa has been accompanied by new policies concerning education and training. Legislation has been developed to effect transformation on a large scale in order to counteract the debilitating effects of so-called Bantu education and second-rate opportunities that were available to black scholars and academics during the years of Apartheid. Accompanying the actions to change education, new social, political and economic arrangements are being developed to ensure South Africa's successful interaction in the world market. Some of the new structures driving these changes will be referred to section 2.6.5. In this part of the chapter some of the theory that has informed international policy changes will be discussed such as the adoption of a different mode of knowledge production, globalisation, the knowledge economy and massification of education.

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<sup>25</sup> *Tabula rasa* comes from the Latin meaning 'blank slate'. The British empiricist philosopher, John Locke, shared the value placed by Aristotle on empirical observation and believed that life and experience 'write' knowledge on our slates. The proponents of nurture accept this view, i.e. learning is influenced by our environment (Sternberg, 1998).

#### 2.6.4.1 Globalisation and massification: moving from Mode 1 to Mode 2 systems of learning

Debates within South African academic circles have not remained untouched by international theorising on the changing nature of knowledge production and the causes for these trends. Authors such as Kraak (2000) have outlined the current position that South African higher education finds itself in, largely due to the impact of the thoughts around events such as globalisation and the massification of learning on government's education policies. Globalisation signifies the increased interaction that is taking place between communities across the world, which is opening channels for debate and the interchange of knowledge. One of the implications of this global interaction is that sets of values common to homogenous groups are being challenged in order to address the plurality of cultural values that occurs within the global village. Globalisation is thus intensifying the need to re-examine the link between theory and practice so that the international community can face the challenges of addressing differences in values and the way in which each community perceives knowledge (McNair, 1997).

Yet globalisation has seen economically developing regions such as Africa marginalised from the mainstream of new societies that base their capital on information. As Castells (1998) pointed out, "[g]lobalization proceeds selectively, including and excluding segments of economies and societies in and out of the networks of information, wealth and power, that characterize the new, dominant system" (p. 161). Being in the embryonic stage of joining the global economy, South Africa will need to ensure that it can successfully integrate into this village and not be sidelined in the process. Accompanying the pressure that globalisation is placing on higher education is the international trend to make higher education more accessible to various marginalised communities such as the working class (thus referred to as massification or democratisation). Economic and social demands that workforces need to be more educated and trained than in the past implies that knowledge is no longer dominated by 'élite academic cultures' and higher education institutions must look towards an integration of knowledge generated in partnerships with industry and the state (Kraak, 1997).

This opposition to transcendental knowledge claims (universal truths that apply to all people) and the dominance of elitist academic positions on knowledge production have led to major changes in how higher education programmes are structured and delivered (Kraak, 2000). Lyotard (1984) recognised this trend decades ago: "Higher education has become increasingly defined by its capacity to create and produce skills indispensable to competition in world markets and the efficient maintenance of internal social cohesion" (p. 48) (see the discussion of performativity in higher education in section 2.6.2). Yet, universities are losing their monopoly over knowledge and need to reconsider their position vis-à-vis the way they organise the qualifications they offer. This step is necessary to ensure that universities are able to deliver a different type of worker: "[i]nnovation is at the heart of this new system – the ability to continuously reinvent products and add value to existing designs ..." (Kraak, 2000, p. 3). This implies that education systems will be required to produce such individuals, that is, employees who can function in these learning organisations.

Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow (1994) coined the terms 'Mode 1' and 'Mode 2' knowledge production to distinguish between past and present ways of doing research and the

subsequent learning that takes place. Questions that would illuminate the differences between Mode 1 and Mode 2 could be, for example: Who generates information? Where is the information generated? How is the information structured? Who has access to this information? How is the information presented to people? What impact does this information have on society? The answers to these questions are summarised concisely by Kraak (2000) in his comparison between elitist and mass, open higher education institutions. Accordingly, elite systems tend to be discipline-based, closed in terms of the diversity of the people and structures who participate in them and hierarchical in management, while delivery of education takes place via face-to-face contact. In contrast, the latter type of institution is more open to different groups of people, encourages partnerships with government, the private sector and other major economic or social role-players, and offers many types of modes of delivery. Most importantly, the organisation of learning is not limited to interaction within a discipline, but occurs across fields and even institutions. This makes knowledge trans-disciplinary as it includes elements from all disciplines into a type of hybridised science that cannot be fitted back into the separate subjects of Mode 1 learning.

This trans-disciplinary and trans-institutional nature of Mode 2 is, according to Gibbons et al. (1994) and Scott (1995), what characterises the new way in which organisations will function. Knowledge is not something held within elite academic circles for the sake of academia, but it is generated within the context of real-world problems that need to be solved in industry. Hence, Kraak (2000) refers to these solutions as 'socially accountable knowledge' because of their meaningful contribution to society or their applications in industry. The solutions are also characterised by heterogeneity in that different processes are used in innovative ways to find answers. The implication of the above discussion is that learners who enter higher education systems should exit as trans-disciplinary problem solvers and innovative knowledge producers.

According to Kraak (2000), the various policies mentioned imply that Mode 2 research is more useful to address the demands of the current world economy and thus should be ranked above Mode 1 research. This position has, however, been questioned by some individuals and a critique is set out below.

#### **2.6.4.2 Should Mode 2 learning and research be afforded a privileged place in higher education?**

The heading of this section asks the important question of whether Mode 2 should supplant Mode 1 education and research in tertiary institutions. Should educators uncritically accept a different way of structuring learning and change curricula by developing programmes that are flexible, transdisciplinary, focused on problem-solving, interdependent, relevant to a specific context, funded from many sources and so on (issues that will be elaborated on below)? In other words, this position accepts that Mode 2 knowledge production has profound implications for the way in which we teach students and the knowledge they will need to compete in a society that demands specific kinds of skills. Another assumption that is made, for example, is that there are vast differences between the current curriculum and the type of syllabus that proponents of Mode 2 would put forward. Muller (2000, p. 50) warned that "[academics] may for convenience simply teach their Mode 2 involvements instead of what the curriculum requires" and that academics will be less involved with students as a result of commitments to their own

research agendas. An academic's position as a research consultant to various sectors of society may thus be afforded a privileged place and affect the kind of teaching that they do (Brew, 2003). An advantage of this may be that students will receive more up-to-date content in the curriculum and thus be better prepared for the types of positions they will occupy in the real world of work (Muller, 2000).

On a higher level than curriculum design, Robins and Webster (1999) identified a crucial point regarding the future of the university within the context of a post-Fordist society (this type of society is described in chapter one). It is Robins and Webster's contention that the characteristics of this economically driven era (constant change, for example) are defining the learning that is taking place at some universities. Learning programmes are thus being adjusted to suit an economic agenda. Also, universities have been influenced by international trends of societies which hold institutions accountable for how they spend their money. In this environment, business traditions are mimicked in order to generate non-governmental income and the marketisation (or commercialisation) of higher education takes place to avoid the criticism that "universities have not managed to supply appropriate outputs, that graduates have most conspicuously lacked the 'transferable personal skills'<sup>26</sup> that would make them useful to employers" (Robins & Webster, 1999, p. 196). In South Africa "governments and employers are calling on education providers to develop generic transferable skills in learners" (Department of Education, 2002). To facilitate this, the Department of Education (DoE) has written generic level descriptors<sup>27</sup> to describe these skills so that they can be developed and integrated into specific curricula. Mode 2 subscribes to this marketisation agenda as it focuses strongly on partnerships with industry and delivering students with skills that will fulfil industrial needs. Critics of this trend, such as Slaughter and Leslie (1997), have pointed out what they believe the consequence will be of the wholesale adoption of Mode 2: the destruction of traditional academic goals, what Robins and Webster (1999) referred to as 'narratives of decline'. For example, research for its own sake will be replaced by research that can serve the purposes of industry.

An added dimension to this phenomenon is the freedom that post-Fordism affords adherents of post-modernism to advocate the post-modern university. If society is 'flexible', 'constantly changing', 'plural', 'reflexive' and 'diverse' then these traits should be reflected in the institutions of education that serve this society. The DoE (2002) has identified this trend by providing generic level descriptors that "can act as a starting point for curriculum planning and quality assurance for providers within and without formal education e.g. for employers offering work-based modules/unit standards". The problem with this approach is aptly illustrated in the citation below:

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<sup>26</sup> Transferable skills could be defined as competencies that students should be able to demonstrate which, although they are not directly related to a specific discipline, will allow them to market themselves across different markets. They are "general cognitive abilities [that] can be transferred from one context to another" (Smith, 1984, p. 87).

<sup>27</sup> Level descriptors attempt to describe the nature of generic learning achievement, its complexity and relative demand at each level of a qualifications framework. In summary, they are:

- broad generic qualitative statements against which more specific learning outcomes can be compared and located
- used to determine the pegging of qualification types on a framework
- general and indicative of more specific curriculum decisions, which means that they can never be prescriptive or fully comprehensive
- a shared understanding of the education and training advancement achieved at each level (DoE, 2002).

Thus the university can no longer be identified by virtue of its separation from the outside world, while simultaneously big companies ... are becoming more conscious of their roles as creators, disseminators, and users of knowledge – a definition not altogether different from that of a university (Robins & Webster, 1999, p. 214).

The question that can consequently be asked is: What right does the university therefore have, above other sectors in society, to be the sole distributor of knowledge? Also, how will the university distinguish itself from other role-players such as industry? These questions are difficult to answer. Although Robins and Webster (1999) made a case for people to remain loyal to the university based on its sentimental ideals of “disinterestedness, critical inquiry, open debate, rigorous examination of evidence ...” (p. 217), this idea seems to be a rather emotional appeal to nostalgia; is it enough to ensure the future of the university in a rapidly changing society?

Another role that the university needs to focus on, according to current debates, is its contribution to social change. The emphasis in this area moves away from serving the economy to addressing the social needs of people. Subotzky (2000) suggested that the university should view itself as a partner for communities in order to bring about social change. In the past the knowledge that has been pursued at university has become separated from the personal lives of academics. Bradley (1998) has identified this trend in the training of under-graduate psychology students:

Hence among the compost of facts to which the typical degree course introduces students of psychology, there will be little to worry them about fighting social inequality or ending social and psychological repression. Students may learn much about personality, the nervous system, statistical analysis, the simplest kind of visual illusion, and infant communication. However, they are unlikely to learn anything that obliges them to think seriously about poverty, alienation, domestic violence, war, starvation, and ecological destruction. Such facts may concern them as private citizens. But they will hear that, “as scientists, ... [psychologists] have no special obligation to solve social problems (Miller, 1969: 1063)” (p. 70).

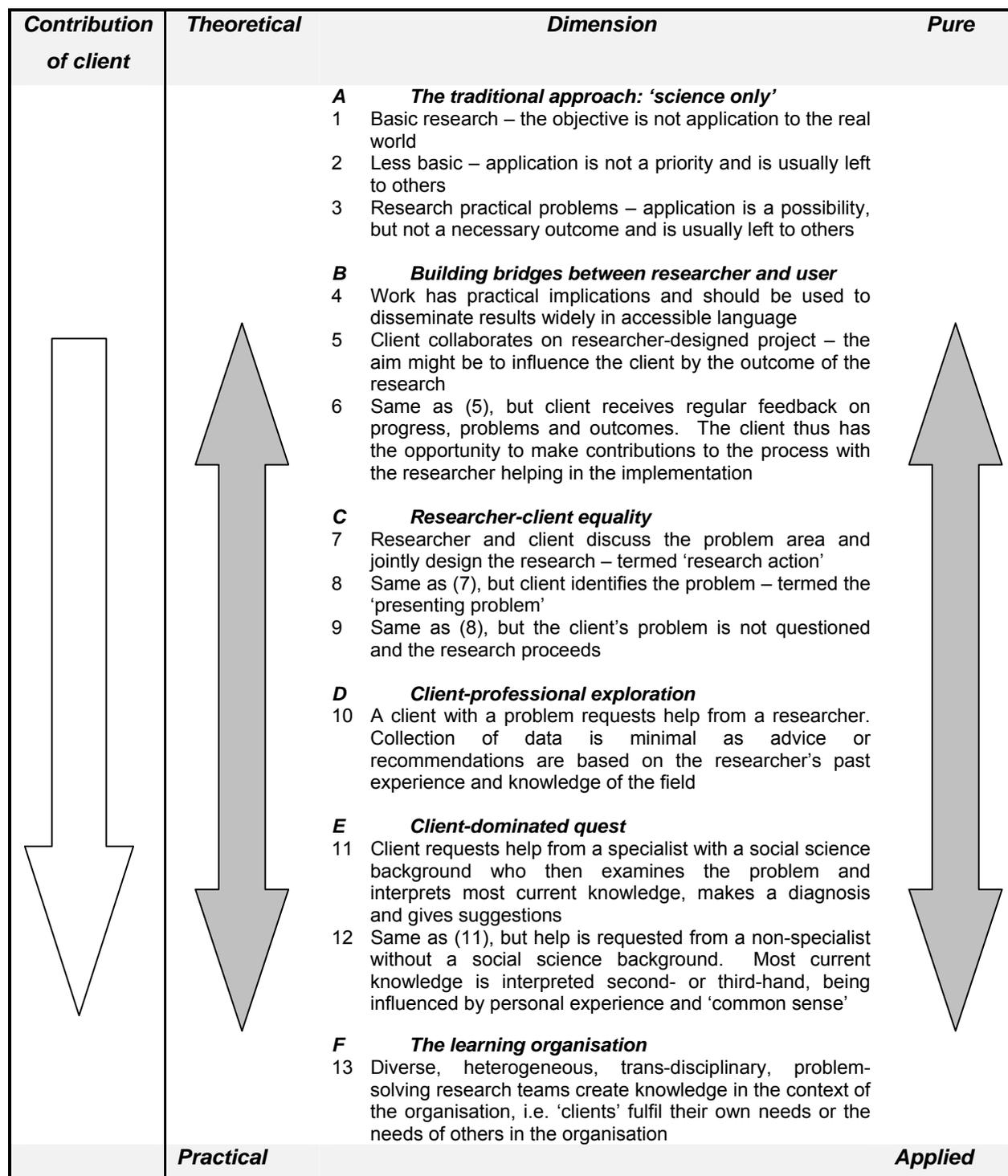
The way we respond to social problems is thus another agenda that some academics pursue. Subotzky (2000), for example, described these intellectuals, who are prevalent in the USA, as black, female or young people “who wish to integrate social concerns into their personal and professional lives and to establish the social utility of research” (p. 116). He further stated that they believe that “truth should not be separated from personal experience” (Subotzky, 2000, p. 116). It could thus be argued that as academics we need to protect our interests, while at the same time remaining relevant to the needs of society. We should create an identity for ourselves that is not only at the mercy of changing trends in the economy, but that also pursues knowledge for its own sake to ensure that we have a stake in the universal act of knowledge production. It is thus Muller’s (2000) standpoint that this study chooses to identify with: “to adopt a radically disjunctive replacement thesis for Mode 2, a celebratory post-modern view, would lead us at best to conundrums and perhaps outright contradictions” (p. 52). The view that

Muller (2000) takes is that Mode 2 should not replace Mode 1, but that a complementary relationship should be allowed to develop between the two modes. This is especially relevant to South Africa where we need to enlarge our pool of disciplinary experts that are produced through Mode 1 teaching and research, yet remain relevant within international trends in higher education (Bawa, 1997).

In practice this would mean that students must receive a good foundation in content (Mode 1) before being expected to demonstrate competencies such as problem-solving, ability to work productively in a team and critical thinking. It may be wise, therefore, to heed Kraak's (2000) opinion that Mode 2 will bring about constructive changes and his call to view Mode 2 as an intensification of processes that have always taken place between universities and the commercial sector (e.g. delivering students who can play a positive role in a capitalist system). Perhaps we could also include Subotzky's (2000) idea of transforming problematic structures in societies in our curricula or Bradley's (1998) critical, political 'psychology as a practice of emancipation'. Although there is much theorising about what tertiary education looks like currently and why, there are few suggestions on how to develop an approach that allows complementary Mode 1 and 2 knowledge production in a specific curriculum. Although curriculum development is outside the scope of this study, it is a relevant topic to be explored in future research projects.

#### **2.6.4.3 A more varied approach to categorising research**

Research may, however, be even more varied than suggested by the dichotomous Mode 1 and Mode 2 debate presented above. As Muller (2000, p. 47) stated, "[i]t over-homogenises the evolution of a phenomenon that probably happened much earlier, and it over-dichotomises it, presenting it as two discrete ideal types that probably never exist in their pure form in the real world". The various bodies governing higher education policy in South Africa have recognised the variation in approaches with their categorisation of research into four areas: traditional, applications-driven, strategic and participation-based, but clearly position these areas in Mode 2 learning. The *White Paper on Science and Technology: Preparing for the Twenty-First Century* published by the Department of Arts, Culture, Science and Technology (DACST, 1996) "explicitly encourages problem-solving research through the formation of societal partnerships and cross-sectoral government policy co-ordination" (Kraak, 2000, 30). Robson (1993) also emphasised that research - or enquiry as he terms it - can be viewed as a way of solving problems. The difference, however, between the distinction of Mode 1 and Mode 2 knowledge production and the four areas identified by government on the one hand, and Robson's perspective on the other hand, is that research is placed on a wider continuum. Solving problems ranges from purely theoretical to entirely practical as illustrated in figure 5. The dimensions also move from pure to applied research and according to increasing contribution from the client. No value judgement is attached to the dimensions; where a particular study lies on the continuum depends on the circumstances of an individual project.



**Figure 5** Approaches to solving research problems (adapted from Robson, 1993)

Robson's five dimensions do not adequately represent the characteristics of Mode 2 knowledge production as outlined in the previous section. A sixth dimension has therefore been added, namely the learning organisation. This portrays the type of research that takes place in a real world setting where the answer can be applied to a problem experienced by the organisation or other sectors of society. This is also referred to as a 'networked' mode of knowledge production, diversity within the organisation that

“arises because Mode 2 is the outcome of teams of knowledge workers with diverse backgrounds, who in most cases are employed in pursuit of innovation by networking firms” (Kraak, 2000, p. 14). Muller (2000) would not place this type of research within the framework that has been provided above, as he views knowledge production of this kind as positioned outside of pure and applied research conventions. Similar to Kraak’s intended meaning cited above, Muller characterises the learning organisation as a place where interaction on a social level provides the necessary route to the kind of Mode 2 research described in this chapter. To provide a clear picture to the reader of the contrasts and developments in the dimensions of research, however, the addition has been placed in figure 5.

Higher education and training institutions are thus faced with the challenges of engaging in the debate and positioning themselves in terms of Mode 1 and Mode 2 knowledge production. How these debates have been transformed into concrete measures to address the situation of South African education will be discussed in the following section. One of the aims of this study is to examine how research methodology courses have portrayed the policies of government in their curricula. Furthermore, any signs of the impact of the changing research environment will also be sought.

### **2.6.5 The effects of Mode 2 learning on higher education policy and research in South Africa**

Notwithstanding the reservations of certain academics and alternative views on the merits of Mode 2 learning, new higher education policies have been implemented (to lesser or greater degrees) in South African tertiary institutions. The South African government has recognised and integrated the trends of globalisation and massification in its policies affecting higher education. Indeed, Kraak (2000) identifies clear signs of Gibbons et al.’s (1994) and Scott’s (1995) work in the documents released by government, such as the National Commission on Higher Education’s (NCHE) final report, *A Framework for Transformation*, released in 1996, the DoE’s *Green Paper on Higher Education Transformation* released in 1996, the *Education White Paper 3: A Programme for the Transformation of Higher Education*, also released by the DoE in 1997, and the 1997 *Higher Education Act*. Kraak (2000) categorises the NCHE report into five areas of recommendations regarding the transformation of higher education<sup>28</sup>. These recommendations loosely overlap with the characteristics of Mode 2 learning institutions as set out briefly above. The implementation of the new policy in South African higher education would have the following consequences:

- Massification - by increasing student numbers. Other effects would include an increase in diversity in terms of the type of student and flexibility in the structure of how qualifications are presented
- Interdependence – by forming new relationships between tertiary institutions and key stakeholders in society such as government, the private sector, NGOs and other bodies where knowledge production also takes place. This could add value to traditionally exclusive academic arenas

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<sup>28</sup> Kraak focuses on the NCHE report as he argued that many of the recommendations made in the report have been carried through to the Green and White Papers and the Act already mentioned.

- Social accountability – by responding more actively to social and economic concerns and providing the labour market with people who are attuned to solving problems facing our society
- Centralisation of planning – by putting a National Higher Education Plan in place to ensure a systematic approach to preparing South Africans, across all institutions, for suitable roles in the global economy
- Preservation of institutional identity – by allowing institutions to initially retain their own identities and niche in the education market within a national planning framework for the structure of higher education in South Africa
- Providing programmes instead of courses and qualifications – by integrating and transforming isolated courses into broad programmes with a specific focus that also allow students to transfer and accumulate credits over time and at different institutions.

Besides the implications of new policy for higher education described above, an essential aspect of the recommendations for transformation that is relevant to this study deals with the changes that are touted by policy for research practice. The NCHE (1996) accepts the changing dynamic of knowledge creation, which encapsulates the themes of globalisation, massification, trans-disciplinarity and the practical contribution of research to societal problems. The financial support made available for research projects also reflects these changes: “[f]unding is almost always from more than one source requiring different forms of interaction, accountability and management. Knowledge is increasingly trans-disciplinary and trans-institutional (a widened social base participating in its construction) ...” (NCHE, 1996, p. 126). Besides the new types of general skills that students must have to cope in the knowledge economy, under-graduate courses in research methodology should reflect the different way in which research is practiced in this environment. A module in research methodology will thus form part of and needs to fit into a broader programme. Students should be able to demonstrate certain skills on completion of a course that reflect the competencies they have acquired (Robins & Webster, 1999). More specifically, students should be equipped to secure funding (depending on the context they practice in) for research that is relevant and accountable, that is based on partnerships across various sectors of society and that makes use of different disciplinary fields. This section describes the types of structures that have been established to monitor or guide this implementation.

#### **2.6.5.1 SAQA and the NQF**

The South African Qualifications Authority (SAQA) was established by the South African Qualifications Authority Act of 1995 (RSA, 1995) due to "the profound, virtually universal discontent with the nature and quality of education and training in South Africa" (South African Qualifications Authority Bulletin, 1997, p. 2). The most important functions of SAQA are to:

- oversee the development of the NQF
- oversee the implementation of the NQF
- advise the Minister of Education and Labour
- consult with all affected parties.

SAQA's members come from a wide range of stakeholders that include business and labour. The structures responsible for the curriculum framework are similarly organised. Two sub-structures of SAQA are responsible for establishing national standards for education and training. The National Standards Bodies (NSBs) are responsible for delimiting the scope of an education field, establishing Standard Generating Bodies (SGBs) and general management of standards. The SGBs in turn generate the standards and manage the processes linked to this such as recommending criteria for assessment and so on (South African Qualifications Authority, 2000). This is to ensure the development of an integrated approach to education and training which in turn contributes to the overall aim of developing human resources in South Africa (Curriculum 2005: Lifelong Learning For The 21<sup>st</sup> Century, 1997).

In addition to SAQA, the National Qualifications Framework (NQF) came about as a result of two major imbalances in the past system: racial inequalities and an explicit academic bias. The demand for national standards for education and training in South Africa grew in the late 1980s. The idea of a National Qualifications Framework arose in the early 1990s and was established in agreement with all major stakeholders. National standards for particular areas of learning were housed within a qualifications framework. This framework is characterised by the promotion of lifelong learning, the integration of education and training, the recognition of learning gained outside of formal institutions and allowance for flexible, portable credits and qualifications. The NQF was officially endorsed in 1994 in the RDP White Paper and the Education and Training White Paper of 1995 and the NQF Bill passed into law as the SAQA Act (4 October, 1995, Gazette No. 16725). Faasen (1997) said the following of the NQF: “[t]he NQF could possibly be seen as one of the strongest instruments for development in the country. The opportunities afforded by the NQF will affect the lives of millions of our people in a very positive way” (p. 2). This certainly provides a standard structure for all educational purposes, but it should probably be viewed as a work in progress that might need future refinement as it is put into practice. Parts of the framework have recently been revised, as will be pointed out shortly.

The chief responsibility of the NQF is to oversee the construction of a framework that incorporates qualifications, credits and unit standards that can be applied to the education framework in South Africa (Olivier, 1998). The specific functions of the NQF are to:

- create an integrated national framework for learning achievements
- facilitate access to, and mobility and progression within education, training and career paths
- enhance the quality of education and training
- accelerate the redress of past unfair discrimination in education, training and employment opportunities
- contribute to the full personal development of each learner and the social and economic development of the nation at large (South African Qualifications Authority, 2000).

The NQF consists of eight levels which provide for general, further and higher education and training bands. These levels are presented below in table 3 (Olivier, 1998):

**Table 3** The eight NQF levels

<i>NQF level</i>	<i>Band</i>	<i>Types of qualifications and certificates</i>	
8	Higher	Doctorates and further research degrees	
7	Education	Higher degrees	
6	And	First degrees and higher diplomas	
5	Training Band	Diplomas and occupational certificates	
4	Further Education	School/College/NGO certificates (Grade 12)	
3	And	School/College/NGO certificates	
2	Training Band	School/College/NGO certificates	
1	General	Senior Phase	ABET Level 4
		Grades 7-9	
	Education	Intermediate Phase	ABET Level 3
		Grades 4-6	
	And	Foundation Phase	ABET Level 2
Grades 1-3			
Training	Pre-school	ABET Level 1	
Band			

In the table above NQF level 1 refers to the basic levels of schooling (up to grade 9) that a child receives. The ABET – an acronym for Adult Basic Education and Training – levels correspond (though not exactly) with the phases of this first level. The Further Education and Training Band includes school levels from grades 10 and 12 as well as college and other certificates that are equivalent to these grades (NQF level 2 – 4). Tertiary education and qualifications equivalent to NQF levels 5 – 9 are incorporated in the Higher Education and Training Band. Levels 1 and 8 are open-ended so that low level entrants can be accommodated and a ceiling effect at the highest level can be avoided.

The DoE (2002) has since reviewed this framework and first degrees now fall into NQF level 7. Specifically, students who complete an under-graduate degree need to demonstrate the following competencies:

- a well-rounded and systematic knowledge base of the field of study and a detailed knowledge of some specialist areas
- a coherent and critical understanding of the terms, rules, concepts, principles and theories in the field of study. An ability to map new knowledge onto a given body of theory. An acceptance of a multiplicity of 'right' answers

- effective selection and application of the essential procedures, operations and techniques of the field of study. An understanding of the central methods of enquiry and research in the field of study. Knowledge of at least one other mode of enquiry
- an ability to deal with unfamiliar concrete and abstract problems and issues using evidence-based solutions and theory-driven arguments
- well-developed information retrieval skills. Critical analysis and synthesis of quantitative and/or qualitative data. Presentation skill following prescribed formats, using IT skills appropriately
- an ability to present and communicate information and their own ideas and opinions in well-structured arguments, showing an awareness of audience and using academic/professional discourse appropriately
- a capacity to operate in variable and unfamiliar learning contexts, requiring responsibility and initiative; a capacity to self-evaluate and identify and address own learning needs; an ability to interact effectively in a learning group.

From the points above it seems that Mode 1 learning is still maintained insofar as students are given a knowledge base to work from. Mode 2 is evident, however, as Robins and Webster (1999, p. 198) described it: “[j]ust about everywhere the expressed intent to stimulate ‘critical thinking’ abounds ...”. They posited that training in critical thinking is emphasised internationally in the new model of education in order to create ‘reflective practitioners’ of students “the better to allow them to choose their own future options, as well as to learn more effectively from their past and ongoing experiences” (Robins & Webster, 1999, p. 198). This is further reflected in the DoE’s threefold approach to the competencies students must display: foundational, practical and reflexive. In foundational learning students must demonstrate their comprehension of the knowledge that grounds the discipline. Practical competence is the demonstrated ability, in an authentic context, to consider a range of possibilities for action, make considered decisions about which possibility to follow, and to perform the chosen action. In reflexive learning students must show their ability to integrate or connect performances and decision-making with understanding. They should be able to adapt to change and unforeseen circumstances and to explain the reasons behind these adaptations. Learning is thus connected to a real-world setting where students are coached to take responsibility for their actions. Not all under-graduate courses in research methodology will display these aspects as these are the skills that students must possess on completion of the degree. Courses on first and second-year levels should thus build up to these competencies.

Furthermore, the DoE stated the following about the implementation of level descriptors:

Following the ‘nested approach’ to standard-setting, level descriptors should be understood as guides, indicating a broadly acceptable level of learning, skills and learner autonomy for a particular level on the NQF. Generic level descriptors are not standards or qualifications and should not be used directly as learning outcomes or assessment criteria. They operate at a more abstract level, with an advisory rather than prescriptive status. They should therefore be used as a conceptualising and organising tool to frame the description and specification of qualification types and their variants and specialisations, and to guide the writing of

specific learning outcomes and assessment criteria at the qualification, programme and modular level (where the teaching and learning takes place). But we should not expect a particular qualification (and certainly not a single unit standard) to deliver the precise capabilities described for the level at which it is registered in a manner that can be directly linked to its particular learning outcomes and assessment criteria. Instead the capabilities described for a level should be understood as an abstracted, broad threshold of learning which only applies in a re-contextualised form to the particular qualification specialisations registered at that level. It will always require professional and curriculum expertise to interpret and contextualise generic level descriptors in particular educational, training and/or disciplinary contexts ([http://education.pwv.gov.za/DoE\\_Sites/Higher\\_Education/Academic\\_Policy/chapter%205.htm](http://education.pwv.gov.za/DoE_Sites/Higher_Education/Academic_Policy/chapter%205.htm)).

This statement thus provides for a degree of institutional and disciplinary autonomy as pointed out earlier by Kraak (2000).

#### **2.6.5.2 Outcomes-based education**

One of the key terms defining the new paradigm for teaching in South Africa is 'outcomes-based education' (OBE). According to Kraak (1999) there are three historical antecedents to the rise of OBE. Firstly, competency-based education and training became popular in South African industry after 1985. Secondly, the ANC and COSATU adopted the Australian and British outcomes models in their policy development work in the early 1990s. The third antecedent was the "resurrection of the radical rhetoric of People's Education" (Kraak, 1999, p. 38) that had first emerged during the political struggles against Apartheid in South Africa in the mid-1980s. These three components merged together to form a "hybrid educational methodology ... which politically has sought to go beyond the narrow cognitive confines of competency models by incorporating the progressive pedagogic principles of People's Education" (Kraak, 1999, p. 38), that is a more democratic approach to education.

Spady (1993) defined the term 'outcomes-based' by describing an outcome as "a culminating demonstration of the entire range of learning experiences and capabilities that underlie it" (p. 5). He defined the word 'based' as "to direct, define, derive, determine, focus and organise what we do according to the substance and nature of the learning result that we want to have happen at the end" (Spady, 1993, p. 5). Thus, when the two words are used together they imply that the design and organisation of any learning will take place around the final intended learning demonstration. When designing in an outcomes-based paradigm, one begins with a framework and a set of expectations about the desired learning results. The curriculum is then organised around what is needed to achieve these results.

*i A definition of OBE*

Some definitions of OBE are provided below:

*"Outcome-based education is billed as a 'new way of doing business' or a 'paradigm shift'" (Studying outcome-based education as a reform example, n.d., p. 1).*

*"Outcomes-based education (OBE) describes an educational process which is based on trying to achieve certain specified outcomes in terms of individual student learning. Thus, having decided what are the key things students should understand and be able to do or the qualities they should develop, both structures and curricula are designed to achieve those capabilities or qualities. Educational structures and curriculum are regarded as means not ends. If they do not do the job they are rethought" (Willis & Kissane, 1995, p. 1).*

*"OBE is a term used to imply that everything (curriculum design, planning, teaching, assessing, writing support materials) will be designed and organised around (based on) the intended learning outcomes at the end of a learning programme" (What Is An Outcome?, n.d., p. 1).*

*"Outcomes-based education focuses curriculum, instruction and measurement/assessment on the desired student outcomes; the knowledge, competencies, and qualities students should be able to demonstrate when they finish school" (Forte & Schurr, 1993, p. 10).*

From the above definitions it is clear that OBE is education that is geared towards students being able to exhibit signs of having mastered valuable skills, knowledge or attitudes. The learning content is thus not structured around prescribed subject matter that students 'should learn' (Gultig, 1997).

Additional important principles of OBE are (Gultig, 1997):

- understanding the role of motivation in learning
- assessing and using a learner's prior learning
- considering learners' different learning styles
- understanding the nature of learning processes and developing a teaching-learning fit
- using collaborative / co-operative learning
- using problem-based learning
- assessing course and learner outcomes
- knowing how to use instructional technologies.

George (1997) described the implications of outcomes-based education as follows:

These commitments mean that a significant consequence of curriculum development using 'outcomes' would have to be that of adopting a paradigm shift in the way we view education;

in what we value in education, and rethinking our beliefs and practices in teaching, learning and assessment (p. 5).

Brandes and Ginnis (1986) claimed that student-centred methods have existed for at least two thousand years. An extensive paradigm shift in South Africa from a teacher-centred to learner-centred approach has only been made recently, according to the Department of Education (Lubisi, Parker & Wedekind, 1998). This shift in ideas requires significant changes in the way we think about education as well as the way we practice education. William G. Spady applied and extended the work of John Carroll (a scholar at Harvard University in the 1960s) and Benjamin Bloom (an American education researcher who worked from the late 1960s to the middle 1980s) to develop OBE into what it is known today. According to Spady (1993), these are the principles of OBE:

- *Ensure clarity of focus on outcomes of significance.* The starting point, focal point and ultimate goal of curriculum design and instruction is the outcome of significance that a learner must demonstrate. The curriculum, instruction, assessment and credentials must be well-aligned with and very clear about the criteria or intended learning result that the student must accomplish.
- *Provide expanded opportunity and support for learning success.* As student learning and aptitude rates differ between individuals, time should be used as a flexible resource. Students should thus be offered the opportunity to receive the necessary instruction and demonstrate their successful learning more than once.
- *Emphasise high expectations for all to succeed.* Students should be challenged by outcomes that are on a high level. All students should be expected to achieve these high performance level outcomes and be given credit when the achievement occurs; thus fundamentally OBE is about all students achieving success.
- *Design down from ultimate outcomes.* The fourth principle is based on the belief that the curriculum process should begin with explicitly stating the outcomes expected of schooling. The curriculum content and structures should then be planned to expand students' opportunities to achieve the stated outcomes (George, 1997, p. 3).

## ii *Forms of OBE*

According to Potenza (2000), South Africa is implementing transformational OBE. This form of OBE can be distinguished from traditional and transitional OBE as follows (Spady, 1993):

- *Traditional OBE.* The existing curriculum content and structure remains constant, but the focus shifts to outcomes that are synonymous with traditional, content-based categories. Real life events or everyday experiences are not included in the outcomes. The conventional nature of the context in which learning takes place is not challenged. Traditional OBE does not address the concept of a holistic person; the main concern is with students' success in individual units or small segments.
- *Transitional OBE.* The successful student is emphasised in this form where success is defined as what students need to be competent once they have graduated. Skills such as critical thinking, problem-solving, and effective communication are included in curriculum and assessment design in



Learners must be able to:

- identify and solve problems in which responses display that responsible decisions using critical and creative thinking have been made
- work effectively with others as a member of a team, group, organisation, community
- organise and manage oneself and one's activities responsibly and effectively
- collect, analyse, organise and critically evaluate information
- communicate effectively using visual, mathematical and/or language skills in the modes of oral and/or written presentation
- use science and technology effectively and critically, showing responsibility towards the environment and health of others
- demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation
- contributing to the full personal development of each learner and the social and economic development of the society at large, by making it the underlying intention of any programme of learning to make an individual aware of the importance of:
  - (a) reflecting on and exploring a variety of strategies to learn more effectively
  - (b) participating as responsible citizens in the life of local national and global economies
  - (c) being culturally and aesthetically sensitive across a range of social contexts
  - (d) exploring education and career opportunities
  - (e) developing entrepreneurial opportunities.

These outcomes are general and as such apply to all the learning areas (see below).

- Learning area outcomes

OBE endorses a holistic approach to learning content and as such replaces the traditional approach of teaching subjects in isolation from each other with an integration of learning content. Therefore, the new curriculum is developed on the basis of learning areas. Each learning area has broad outcomes (called learning area outcomes). They demonstrate the skills, abilities and values that a learner should demonstrate in the specific area. As this study is focused on the teaching of research methodology for the social sciences, the broad outcomes for the learning area 'human and social sciences' are listed below (Van der Horst & McDonald, 1997):

Students should be able to

- demonstrate a critical understanding of how South African society has changed and developed
- demonstrate a critical understanding of patterns of social development
- actively participate in promoting a just, democratic and equitable society
- make sound judgements about the development, utilisation and management of resources
- critically understand the role of technology in social development
- demonstrate an understanding of the interrelationships between society and the natural environment
- address social and environmental issues in order to promote development and social justice

- analyse forms and processes of organisations
- use a range of skills and techniques in the human and social sciences context.

- Specific outcomes

In contrast, specific outcomes express the results of more narrowly defined aspects of the education process, which are linked to a specific context. While they are informed by the critical cross-field outcomes they are formulated within the context they are needed in. The competence that learners should be able to demonstrate in specific contexts and particular areas of learning at certain levels are described. These are the outcomes that should form the basis of assessment of a learner's progress.

Specific outcomes are (Olivier, 1998):

- achievements that learners must demonstrate in a specific context in particular areas of learning at a specific level
- a comprehensive package of achievement that constitutes a learning programme that the learner must accomplish
- the basis for assessing how learners have progressed
- the basis for selecting subject matter that an outcome needs to be based on in order to be achieved
- the basis for choosing learning objectives and skills that will enable the learner to achieve the outcomes
- supportive towards the achievement of unit standards, credits and qualifications (together with assessment criteria).

It follows that if assessment is to be transparent, fair and effective, details concerning level of complexity, scope and learning context should be included in the formulation of specific outcomes.

### *iii Unit standards*

Standards - a generic term for qualifications, unit standards and other standards - are regarded as specific descriptions of learning achievements that have been agreed on by major stakeholders in the particular area of learning (South African Qualifications Authority, 2002). Standards are repositories of knowledge about quality practice or competence<sup>29</sup>. Legitimate criteria for assessing such competence are also implied by standards. In other words, unit standards are registered statements of the desired outcomes that a learner must be able to demonstrate an understanding of or must be able to apply. The standards are agreed upon on a national level and are comparable to international statements. The assessment criteria, administrative and other information should be included with unit standards. Qualifications are built on these standards.

Although attempts have been made to generate unit standards for research methodology in the social sciences – such as the workshop hosted on the fourth of February 2000 by the Technikon South Africa's (TSA) Central Research Committee to compile a draft learning matrix – no final standards have been developed. Two important aspects that could contribute to future development were raised at the

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<sup>29</sup> Competence is defined as the application of knowledge, skills and attitudes in a specific context.

workshop. Some of the participants felt that the standards should not situate the research process in the positivist paradigm that views the research process as linear. Ideological arguments against OBE as an education system were also made<sup>30</sup>. Another point of contention with generating standards is the lack of consensus among all stakeholders. At the workshop it seemed that there were as many opinions as participants and that at some point a negotiated and agreed-on document would need to be finalised for practical purposes. This process has, however, not been followed through. One of the further outcomes of this study could be a re-initiation of this task.

As OBE is a new methodology, course material and fields of study need to be rewritten on a large scale. At a tertiary level, there are difficulties facing this re-organisation of courses (Briston, 1998). According to Potenza (2000), curriculum reform discourse is usually framed in the language of radical political change. Any form of questioning the transformational system could be regarded as undermining the policies designed to transform education. Nonetheless, several academics and teachers in South Africa have raised concerns about OBE. These problems are discussed in the following section.

#### *iv Criticisms of OBE*

Some of the criticisms of implementing OBE at a tertiary level are the following (Briston, 1998):

- Many academics are of the opinion that OBE over-emphasises the process rather than the product. The assessment of a student at tertiary level should include subject knowledge as well as skills acquired.
- The majority of facilities at tertiary institutions are not physically suited to teach in from an OBE approach as they are geared for traditional lecture-style teaching.
- Some institutions are faced with the challenge of assisting with the implementation of OBE and they may feel obliged to teach in the same fashion to show loyalty.
- Some institutions argue that it is their duty to continue offering alternative schools of thought to their students.

Some general criticisms of (or limitations in) implementing new education policies in the form of OBE in South Africa have been outlined in Jansen (1997), Jansen (1998)<sup>31</sup>, Kraak (1999), Van der Horst and McDonald (1997) and Venter (1998).

- The most fundamental criticism of OBE, according to Kraak, is its heavy reliance on behaviourist principles. The certainty that all individuals will act in the same predictable way under the same

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<sup>30</sup> If the research process is seen as what it implies – a process – then separating the process into unit standards and determining individual outcomes for the standards defeats the purpose. This viewpoint is summarised by Ashworth and Saxton (1990) as follows:

A cyclist never learns separately to incline the body, to turn the wheel, to press the pedals, and to judge the fall of the bike from the vertical; all this happens in a coordinated whole. A complex skill entails elements none of which can ever be defined independently of the rest. Any behaviour is a 'meaningful Gestalt'; a whole in which the individual elements affect each other in a manner that changes their nature. The elements of skill are not recognisable or separable from the complex whole (p. 12).

Steps in the research process form a complex whole. Creating unit standards and outcomes creates a disjointed structure of any process, which is one of the fundamental criticisms against OBE's basis on behaviourist principles.

<sup>31</sup> For a critical response to Jansen's arguments see Rasool (1999).

circumstances negates positive attributes such as imagination, creativity and innovation. If 'competence' is defined as a complex unity made up of smaller items of ability then, as Ashworth and Saxton (1990) argued, knowledge is being atomised and in this manner the learning process is being distorted.

- The reason why education policies fail (in general) is because the state is driven by political imperatives when declaring education policy leading to the exclusion of practical considerations. For example, more than 100 syllabi from the apartheid era were reviewed within three months by the new dispensation in South Africa. Superficial changes were made to some syllabi - while most remained unchanged - with no intervention to support these minor changes in the classrooms.
- The new curriculum (also known as *Curriculum 2005*) is very sophisticated and based on first-world assumptions of classrooms that are well resourced and teachers that are highly qualified. This curriculum is being implemented without the introduction of the necessary training and resources. Van der Horst and McDonald (1997) commented, however, that in South Africa where basic human needs such as housing and health facilities still need to be addressed on a large scale, the financial implications of OBE will need to be prioritised in terms of all the financial needs of the country.
- Most of the ministerial advisers and policy makers have little experience as teachers in schools, not knowing enough about classroom practices. This brings about a naïve belief that merely promulgating policy will result in change.
- Policy decisions regarding personnel in schools have angered teachers and parents alike as the number of teachers have been reduced based on 'cold statistics' without insight into the unique circumstances of each institution.
- Educational officials are performing their duties under heavy political and logistical pressure while crisis management is the order of the day. Educational policies arising from this situation are questionable.
- No political mechanisms are in place to ensure that state employed teachers meet their obligations to teach.
- The authorities are not encouraging critical debate over OBE. This is ironic as OBE is supposed to stimulate debate.
- OBE has been met with mixed feelings internationally thus posing the question of whether it is wise to repeat policies that have not been absolutely successful. In reply to the criticism of OBE by the media, concerned educators and parents in South Africa, Van der Horst and McDonald (1997) commented that uncertainty about what OBE actually entails is the "ideal breeding-ground for criticism" (p. 16).
- Outcomes are vaguely worded in curriculum documents which may actually result in teachers maintaining the *status quo* (content-based instruction) as teachers are not always able to translate these indistinctly worded outcomes into the practical teaching-learning activities with a specific content.
- Many outcomes do not focus on core academic content although "[a] sound content base is naturally always a prerequisite for critical thinking and problem solving which have been indicated as the heart of Outcome-Based Education and Curriculum 2005" (Van der Horst & McDonald, 1997, p. 16).

- In OBE it is automatically assumed that all students will succeed compared to the old system where students that were not good enough dropped out and only successful students succeeded. Venter (1998) disagreed with this idea, commenting as follows: “[n]ot all who did not pass dropped out – many actually tried harder and succeeded later” (p. 4). He goes on to say that “many of those who did leave school because they failed learnt a lesson in life – that, in the real world, some succeed and some fail: and the amount of effort one puts into things is a great determiner” (p. 4). The real problem, suggested by Venter, is that success eventually means nothing if one does not set a minimum standard of some sorts. Success then becomes relative to whatever anyone wants it to be; you can be excellent without having to do much to justify it.
- A false assumption people make is that all students, by nature, are willing to apply themselves. Venter (1998) argued, however, that extrinsic motivation - in the form of passing assessment criteria for example – is necessary.
- The abolition of a (norm-based) grading system in favour of a criterion-based system where there are no failures or bad results - options for poor work are an ‘I’ for ‘incomplete’ or ‘insufficient’ or an ‘N’ for ‘not done yet’ or ‘not met standard’ – defuncts the idea that competition between learners can serve as a motivator and results in the lowering of standards. Venter (1998) argued for the use of both criterion and norm-based tests. According to Kraak (1999, p. 47) “[a]ll assessment is subjective, and criterion-referenced assessment does not escape this problem”.
- OBE allows for accessing individual learners on different days and in different ways in the assessment process. So-called common tests are thus abolished and replaced with individual tests for learners when teachers or learners think they are ready to be tested. This procedure does not take into account the administrative practicalities of individualised testing where learners are assessed at different times and in different ways.

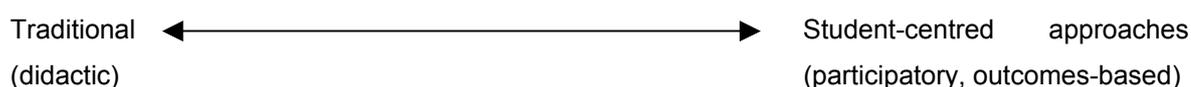
In summary, these authors agree that not everything about OBE is good. Traditional education also had positive aspects and although it was not perfectly effective, OBE will also not be totally successful. According to Venter (1998, p. 5) “[m]any of the positive aspects of OBE can be achieved in non-OBE ways”. Notwithstanding these challenges to implementing OBE, its principles of instruction need to be examined for the value they can add when integrated with course content to achieve the paradigm shift needed in the teaching of research methodology. Ignoring the previous paradigm of transmission of knowledge is not advocated. On this point Venter (1998) stated that:

[t]he simplistic ‘traditional is bad and OBE is good’ is reminiscent of the fatally simplistic chants of *Animal Farm*. The result is that we are not likely to learn from the mistakes of others, to modify OBE in the light of the many objections which have been voiced overseas so as to produce an eclectic mixture of the best of the traditional approach and the best of OBE (p. 4).

Van der Horst and McDonald (1997) echoed these sentiments:

Outcomes-Based Education should, however, not be regarded as a magical cure for all the educational ills of the present and past. Indeed, there is no perfect teaching strategy or method that is suitable to all teaching situations at all times ... The effectiveness of OBE depends mainly not on the underlying principles of the approach, but rather on the teachers' abilities to implement such an approach since it requires hard work, a lot of planning and sensitivity to the learning process (p. 16).

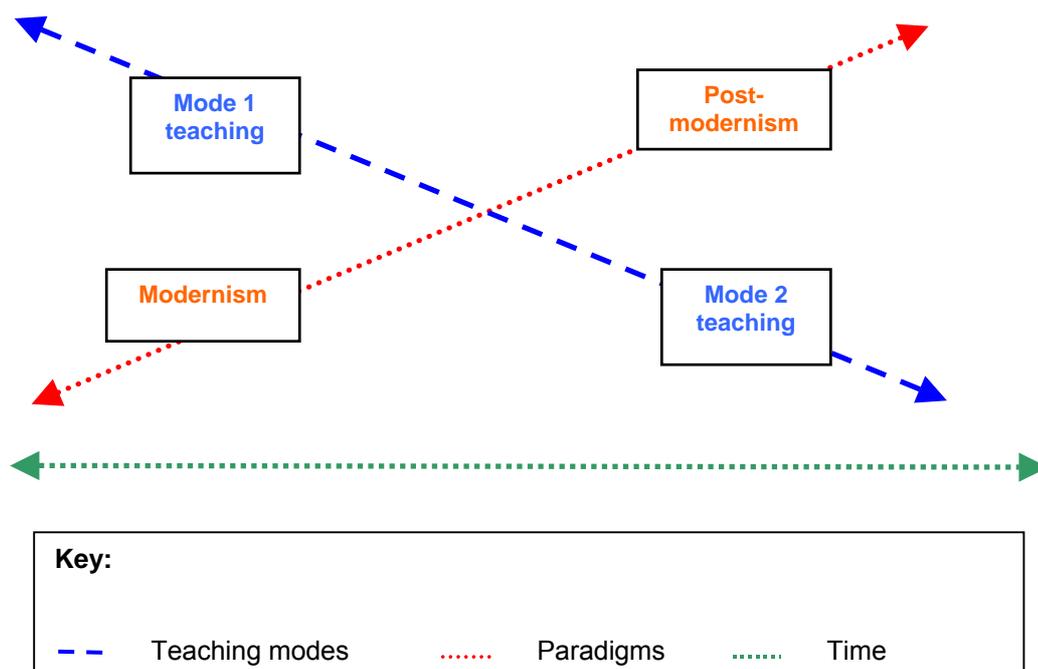
According to Van der Horst and McDonald (1997), good teachers have been practising the principles of OBE for many years. OBE will therefore not require all-encompassing changes to educational practices. They recommended that what was effective in the old system be retained while at the same time teachers should be helped to adapt to the paradigm shift in teaching and learning. For example, learning content is rated highly by these authors as they stated that learners need a good foundation in the content of a subject in order to develop higher order thinking skills or problem-solving skills. It is, however, necessary to move beyond content for success to be attained in a curriculum. Teaching styles can be viewed on a continuum ranging from (Brandes & Ginnis, 1986):



## 2.7 *A meeting of two contexts*

The two sections in this chapter are related in that they underline two different contexts in which undergraduate research methodology courses are constructed. The first context demonstrates different points of view about studying human behaviour that a course could communicate in relation to the various paradigms that the social sciences have progressed through in time. The researcher has thus argued that the beliefs held about research methodology by the individual who constructs the course are located in a specific framework and inform the content of the course. The second context describes current government policy concerning higher education in South Africa and the aspects of the approach of choice (outcomes-based education) that should inform the practices of academics when they construct research courses. The format of a research course is thus located in a double context consisting of the constructor of the course's own paradigm of research methodology and the policies governing the way in which this paradigm should be expressed as well as additional aspects that should be included in the curriculum.

This idea is illustrated in figure 7 where each context is placed on a continuum. Two distinct paradigms that were highlighted in this chapter, modernism and post-modernism, are placed on one continuum, but there are many more schools of thought that have been described and are assumed to be part of this context. Mode 1 and Mode 2 research and teaching are located on another continuum. Over time these two contexts have co-existed and may intersect at any point.



**Figure 7** The intersection of two contexts

The manifestation of academics' adherence to these two contexts will be discussed briefly in the final chapter. The main aim of this study should be considered at all times, that is, an exploration of the content of under-graduate research courses and the beliefs that inform this content.

## 2.8 Conclusion

This chapter was divided into two main parts. In the first section, an overview of various paradigms in the social sciences was presented beginning with a description of the context in which psychology became a discipline in its own right and how the movements of positivism and idealism shaped its methods of inquiry. Particularly, views held on objectivity, subjectivity and value neutrality during the era referred to as modernism were explored. Positivism is upheld as the traditional approach to studying human behaviour. It was pointed out, however, that there has been a "proliferation of radically divergent philosophies and techniques" (Terre Blanche & Durrheim, 1999a, p. v) that rejects the way in which the modern era constituted and researched social reality. Some of these 'new paradigms' (naturalistic-ethnographic, phenomenological and cybernetic as well as post-modernism) were discussed. Implications of modernist and alternative paradigm thinking on the nature of research methodology, methods and the teaching thereof were also discussed. It is assumed that how we think and know has a profound influence on the way that we teach research although this must be seen as tendencies to act and not as a causal relationship. It was argued that a different viewpoint of research would be taught depending on which paradigm the person that constructed and/or teaches adheres to. Teaching research methodology from a traditional scientific linear paradigm focuses on methods and non-involvement of the

researcher while teaching within alternate research paradigms promotes students' reflections on the epistemological assumptions of paradigms and on their role in the research process.

The second part of the chapter concerned the context of education in South Africa where new policies and practices influencing higher education were explored. These policies and their extrapolations are heavily influenced by the worldwide trends of globalisation and massification that are placing different demands on higher education than before. Knowledge production is now said to have moved from a Mode 1 to a Mode 2 approach in which curricula are characterised by flexibility, trans-disciplinarity, problem solution, interdependence, and relevance to a specific context, and where they are funded from many sources. It is claimed though that this type of learning suits an economic agenda and if organisational education programmes become replacements or supplements for university qualifications the future of the university is threatened. A more varied approach to categorising research based on the work of Robson (1993) was presented followed by a discussion on the effects of Mode 2 learning on higher education policy and research in South Africa, focusing on structures such as the NQF and SAQA. A detailed description of the outcomes-based approach was presented to illustrate the requirements that an under-graduate research methodology course must meet in order to comply with the new paradigm in education. Many criticisms against OBE raised by international and specifically South African educationalists results in some suspicion of the effectiveness of this paradigm. It was argued, however, that it would be simplistic to reject all ideas associated with the old system and that a more moderate approach should be followed where there is place for both old and new paradigms.

For a theoretical framework for this study the researcher turns to critical social theory and particularly to the ontological position of critical realism. A discussion of this theory takes place in the chapter that follows.