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CHAPTER 3

Selecting a research approach: paradigm, methodology and methods

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Barbara Kawulich

Once you have a topic in mind to study, you must consider how you want to go about investigating it. Your approach will depend upon how you think about the problem and how it can be studied, such that the findings are credible to you and others in your discipline. Every researcher has his/her own view of what constitutes truth and knowledge. These views guide our thinking, our beliefs, and our assumptions about society and ourselves, and they frame how we view the world around us, which is what social scientists call a paradigm (Schwandt, 2001). In his monograph *The Structure of Scientific Revolutions* (1962), Thomas Kuhn used the term 'paradigm' in two ways:

1. to represent a particular way of thinking that is shared by a community of scientists in solving problems in their field and
2. to represent the "commitments, beliefs, values, methods, outlooks and so forth shared across a discipline" (Schwandt, 2001, p. 183-4).

A **paradigm** is a shared world view that represents the beliefs and values in a discipline and that guides how problems are solved (Schwandt, 2001).

A paradigm is a way of describing a world view that is informed by philosophical assumptions about the nature of social reality (known as **ontology** – that is, what do we believe about the nature of reality?), ways of knowing (known as **epistemology** – that is, how do we know what we know?), and ethics and value systems (known as **axiology** – that is, what do we believe is true?) (Patton, 2002). A paradigm thus leads us to ask certain questions and use appropriate approaches to systematic inquiry (known as **methodology** – that is, how should we study the world?). Ontology relates to whether we believe there is one verifiable reality or whether there exist multiple, socially constructed realities (Patton, 2002). Epistemology inquires into the nature of knowledge and truth. It asks the following questions: What are the sources of knowledge? How reliable are these sources? What can one know? How does one know if something is true? For instance, consider that some people think that

the notion that witches exist is just a belief. Epistemology asks further questions: Is a belief true knowledge? Or is knowledge only that which can be proven using concrete data? For example, if you say witches exist, what is the source of your evidence? What methods can you use to find out about their existence? Together, these paradigmatic aspects help to determine the assumptions and beliefs that frame a researcher's view of a research problem, how he/she goes about investigating it, and the methods he/she uses to answer the research questions.

The objectives of this chapter are to:

1. Describe the following paradigms: positivism/post-positivism, constructivism/interpretativism, transformative/emancipatory and postcolonial indigenous research paradigm.
2. Describe philosophical assumptions about perceptions of reality, what counts as truth and value systems in each of the paradigms.
3. Demonstrate the relationship between paradigm and methodology.

PARADIGM, METHODOLOGY AND METHODS

Particular paradigms may be associated with certain methodologies. For example, as will be discussed in more detail later in this chapter, a positivistic paradigm typically assumes a quantitative methodology, while a constructivist or interpretative paradigm typically utilizes a qualitative methodology. This is not universally the case, however; there are instances in which one may pursue an interpretative study using a quantitative methodology. No one paradigmatic or theoretical framework is 'correct' and it is your choice to determine your own paradigmatic view and how that informs your research design to best answer the question under study. How you view what is real, what you know and how you know it, along with the theoretical perspective(s) you have about the topic under study, the literature that exists on the subject, and your own value system work together to help you select the paradigm most appropriate for you to use (See Figure 3.1).

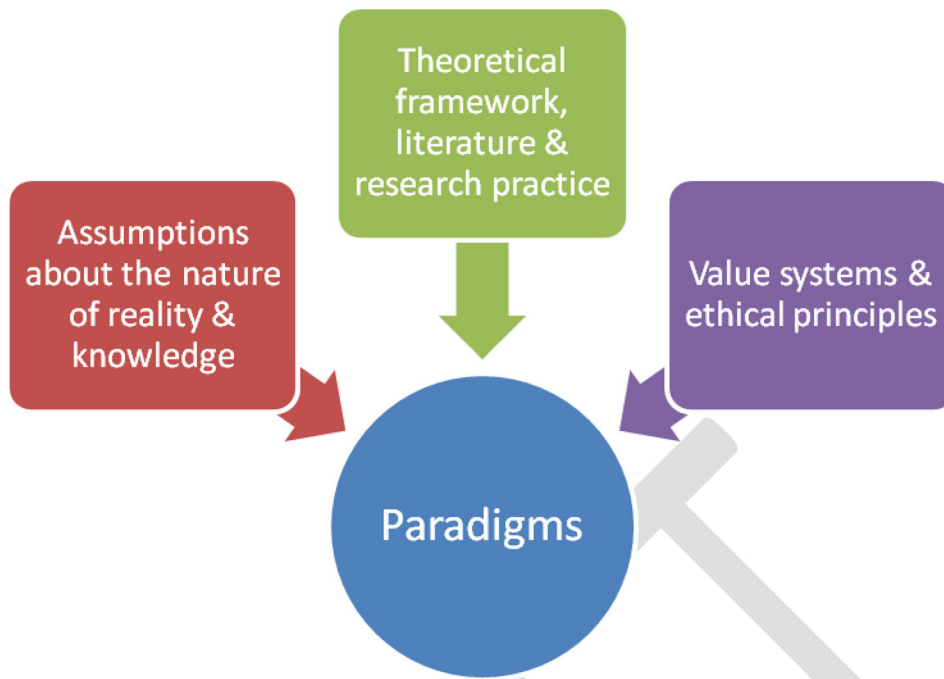


Figure 3.1 Factors influencing the choice of a paradigm

The methodology summarizes the research process, that is, how the research will proceed. Deciding on a methodology starts with a choice of the research paradigm that informs the study. The methodological process, therefore, is guided by philosophical beliefs about the nature of reality, knowledge, and values and by the theoretical framework that informs comprehension, interpretation, choice of literature and research practice on a given topic of study (see Figure 3.2). Methodology is where assumptions about the nature of reality and knowledge, values, and theory and practice on a given topic come together. Figure 3.2 illustrates the relationship. Methods are the means used for gathering data and are an important part of the methodology.

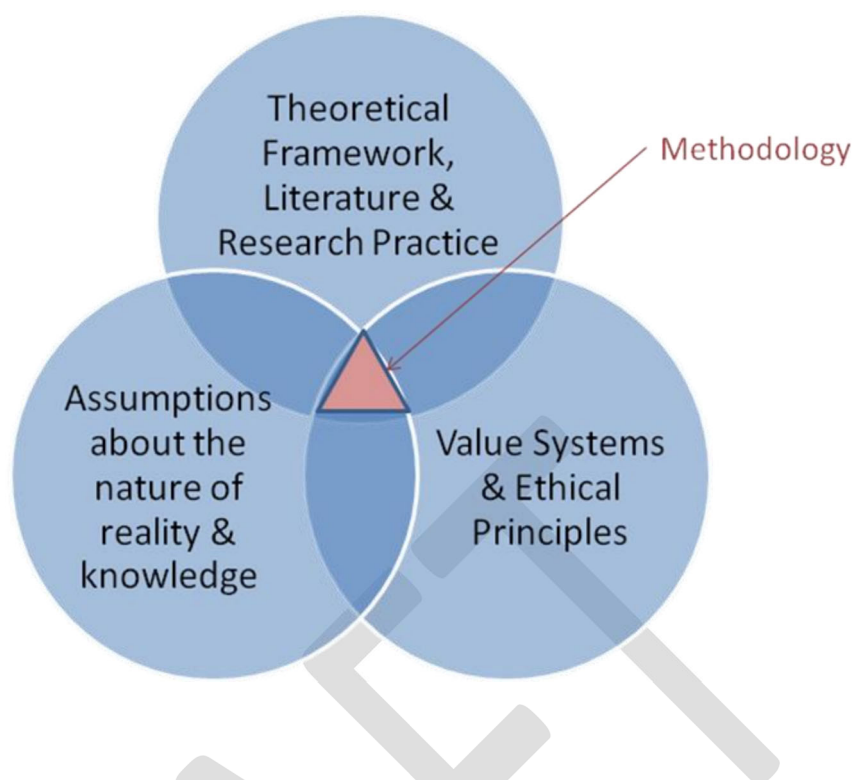


Figure 3.2 Methodology as convergence of three parts

Building the methodology of a study begins with a standpoint on the following questions:

Paradigm: What paradigm informs your methodology? To help you determine which paradigms may fit your beliefs about truth, we will discuss some prevalent paradigms later in this chapter.

Theoretical Framework: What theories inform the choice of your research topic, the research questions you ask, the literature reviewed, data collection methods, analysis and interpretation?

Research Approach: What research approach is called for, based on the research questions developed from the theoretical framework?

Data collection: What types and sources of data might you be able to use to help answer your research questions? What are the best ways to collect data for your study? What assumptions guide the choice of selection of participants in the study (sampling), the setting of the study, and the techniques of data collection?

Data Analysis: How does theory inform your approach to data analysis and interpretation?

Ethics: What are the ethical considerations for your study, based on the paradigm, theoretical framework, research approach, data collection and analysis?

Validity: By what and whose standards are the design, data collection, analysis and interpretation of research findings deemed valid and reliable?

PARADIGMS AND PHILOSOPHICAL UNDERPINNINGS

What follows is a discussion of the positivism, post-positivism, constructivism, transformative, and postcolonial indigenous paradigms, along with the philosophical assumptions about perceptions of reality, what counts as truth, and the value systems in each of these paradigms. It is important to note that a number of philosophers working over a long period of time contributed towards the thinking, knowledge, and worldviews embodied in each paradigm.

See Table 3.1 for a summary of the paradigms selected for comparison; the list is not exhaustive. The paradigms chosen for discussion in this chapter are simply some of the most frequently used frameworks of assumptions.

Table 3.1 Comparison of selected paradigms (Chilisa, 2011)

	POSITIVIST/ POST- POSITIVIST PARADIGM	CONSTRUCTIVIST/ INTERPRETATIVE PARADIGM	TRANSFORMATIVE/ EMANCIPATORY PARADIGM	POSTCOLONIAL/ INDIGENOUS RESEARCH PARADIGM
Reason for doing the research	To discover laws that are generalizable and govern the universe	To understand and describe human nature	To destroy myths and empower people to change society radically	To challenge deficit thinking and pathological descriptions of the former colonized and reconstruct a body of knowledge that carries hope and promotes transformation and social change among the historically oppressed
Philosophical underpinnings	Informed mainly by realism, idealism and critical realism	Informed by hermeneutics and phenomenology	Informed by critical theory, postcolonial discourses, feminist theories, race-specific theories and neo-Marxist theories	Informed by indigenous knowledge systems, critical theory, postcolonial discourses, feminist theories, critical race-

				specific theories and neo-Marxist theories
Ontological assumptions	One reality, knowable within probability	Multiple socially constructed realities	Multiple realities shaped by social, political, cultural, economic, race, ethnic, gender and disability values	Socially constructed multiple realities shaped by the set of multiple connections that human beings have with the environment, the cosmos, the living and the non-living
Place of values in the research process	Science is value free, and values have no place except when choosing a topic	Values are an integral part of social life; no group's values are wrong, only different	All science must begin with a value position; some positions are right, some are wrong.	All research must be guided by a relational accountability that promotes respectful representation, reciprocity and rights of the researched
Nature of knowledge	Objective	Subjective; idiographic	Dialectical understanding aimed at critical praxis	Knowledge is relational and is all the indigenous knowledge systems built on relations
What counts as truth	Based on precise observation and measurement that is verifiable	Truth is context dependent	It is informed by a theory that unveils illusions	It is informed by the set of multiple relations that one has with the universe
Methodology	Quantitative; correlational; quasi-experimental; experimental; causal comparative; survey	Qualitative; phenomenology; ethnographic; symbolic interaction; naturalistic	Combination of quantitative and qualitative action research; participatory research	Participatory, liberating, and transformative research approaches and methodologies that draw from indigenous knowledge systems
Techniques of gathering data	Mainly questionnaires, observations, tests and experiments	Mainly interviews, participant observation, pictures, photographs, diaries and documents	A combination of techniques in the other two paradigms	Techniques based on philosophic sagacity, ethno philosophy, language frameworks, indigenous knowledge systems and talk stories and talk circles

Positivism/Post-positivism paradigm

Positivism (also known as logical positivism) holds that the scientific method is the only way to establish truth and objective reality. Can you imagine using scientific methods to carry out research on witches? The positivists would conclude that, since the scientific method does not yield any tangible results on the nature of witches, then witches do not exist. Positivism is based upon the view that science is the only foundation for true knowledge. It holds that the methods, techniques and procedures used in the natural sciences offer the best framework for investigating the social world. The term 'positivism' was coined by Auguste Comte to reflect a strict empirical approach in which claims about knowledge are based directly on experience; it emphasizes facts and the causes of behaviour (Bogdan & Biklen, 2003). Comte sought to distinguish between empirical knowledge and knowledge derived from metaphysics or theology; he proposed that scientific knowledge was more representative of truth than that derived from metaphysical speculation (Schwandt, 2001, p. 199). Positivism typically applies the scientific method to the study of human action. Positivism today is viewed as being objectivist – that is, objects around us have existence and meaning, independent of our consciousness of them (Crotty, 1998). The middle part of the 20th century saw a shift from positivism to post-positivism.

Post-positivism

Physicists Werner Heisenberg and Niels Bohr chipped away at the dogmatic view of positivism, turning the emphasis from absolute certainty to probability; they portrayed the scientist as one who constructs knowledge, instead of just passively noting the laws of nature (Crotty, 1998). Their argument is that “no matter how faithfully the scientist adheres to scientific method research, research outcomes are neither totally objective, nor unquestionably certain” (Crotty, 1998, p. 40). This view is known as post-positivism (or logical empiricism); it describes a less strict form of positivism. Logical empiricists (or post-positivists) support the idea that social scientists and natural scientists share the same goals for research and employ similar methods of investigation.

Post-positivism is influenced by a philosophy called critical realism (Trochim, 2002). It can be distinguished from positivism according to whether the focus is on theory verification (positivism) or on

theory falsification (postpositivism) (Ponterotto, 2005). Guba and Lincoln (1994) share an example to explain this difference in which, as they put it, a million white swans cannot prove that all swans are white, but one black swan can disprove this contention. The post-positivists, like the positivists, believe that there is a reality independent of our thinking that can be studied through the scientific method. Critical realism, however, recognizes that observations may involve error and that theories can be modified (Trochim, 2002). Reality cannot be known with certainty. Observations are theory-laden and influenced by the observer's biases and worldview. For example, two people may observe the same event and understand it differently, based upon their own experiences and beliefs. Objectivity can nevertheless be achieved by using multiple measures and observations and triangulating the data to gain a clearer understanding of what is happening in reality. It is important to note that the post-positivists share a lot in common with positivists, but most of the research approaches and practices in social science today fit better into the post-positivist category. In the discussion below, the two are treated as belonging to the same family.

Assumptions about the Nature of Reality, Knowledge and Values

Let us look closely at the positivist/post-positivist assumptions about the nature of reality (ontology), knowledge (epistemology) and values (axiology).

Ontology: On the question of what is the nature of reality, positivists hold that there is a single, tangible reality that is relatively constant across time and setting (known as naïve realism). Part of the researcher's duty is to discover this reality. Positivists believe that reality is objective and independent of the researcher's interest in it. It is measurable and can be broken into variables. Post-positivists concur that reality does exist but maintain that it can be known only imperfectly because of the researcher's human limitations (known as critical realism). The researcher can discover reality within a certain realm of probability (Mertens, 2009; Ponterotto, 2005).

Epistemology: For the positivist, the nature of knowledge is inherent in the natural science paradigm. Positivists view knowledge as those statements of belief or fact that can be tested empirically, can be confirmed and verified or disconfirmed, and are stable and can be generalized (Eichelberger, 1989). Knowledge constitutes hard data, is objective and, therefore, independent of the values, interest and feelings of the researcher. Positivists believe that researchers only need the right data gathering instrument or tools to produce absolute truth for a given inquiry. The research approaches are

quantitative and include experimental, quasi-experimental, correlational, causal comparative, and survey designs. The techniques of gathering data are mainly questionnaires, observations, tests and experiments. Within this context, the purpose of research is to discover laws and principles that govern the universe and to predict behaviours and situations. Post-positivists believe that perfect objectivity cannot be achieved but is approachable.

Axiology: For the positivist, all inquiries should be value-free. The researchers should use the scientific methods of gathering data to achieve objectivity and neutrality during the inquiry process. Post-positivists, however, modified the belief that the researcher and the subject of study were independent by recognizing that the theories, hypothesis and background knowledge held by the investigator can strongly influence what is observed, how it is observed and the outcome of what is observed.

Methodology: In the positivism/post-positivism paradigm, the purpose of research is to predict results, test a theory, or find the strength of relationships between variables or a cause and effect relationship. Quantitative researchers begin with ideas, theories or concepts that are defined as they are used in the study to point to the variables of interest. The problem statement at minimum specifies the variables to be studied and the relationship among them. Variables also are operationally defined to enable others to replicate, verify and confirm the results. Operationally defining a variable means that the trait to be measured is defined according to the way it is used or measured or observed in the study. Typical methodologies include designs that are experimental, quasi-experimental, correlational, causal comparative, quantitative and randomized control trials research. Data gathering instruments include questionnaires, observations, experiments and tests. Chapter 8 discusses quantitative designs in more detail.

The Constructivist/Interpretativist paradigm

Constructivism and interpretativism are related concepts that address understanding the world as others experience it. Constructivists differ from the positivists on assumptions about the nature of reality, what counts as knowledge and its sources, values and their role in the research process. The constructivist approach can be traced back to Edmund Husserl's philosophy of phenomenology (the study of human consciousness and self-awareness; see chapters 9 and 15) and to the German philosopher Wilhem Dilthey's philosophy of hermeneutics (hermeneutics is the study of interpretation and was elaborated upon in later years by Martin Heidegger and Max Weber) (Eichelberger, 1989;

Neuman, 1997). Let us examine these, and the related assumptions on ontology, epistemology, axiology and methodologies used in the constructivist paradigm.

Ontology: On the question of what is reality, the interpretativists believe that it is socially constructed (Creswell, 2003; Mertens, 2009) and that there are as many intangible realities as there are people constructing them. Reality is, therefore, mind dependent and a personal or social construct. Do you believe, for instance, that witches exist? If you do, it is your personal reality, a way in which you try to make sense of the world around you. Reality is, in this sense, limited to context, space, time and individuals or group in a given situation and cannot be generalized into one common reality. These assumptions are a direct challenge to the positivist's assumption about the existence of a tangible external reality. The assumptions legitimize conceptions of realities from all cultures. There are individual realities as well as group-shared realities. Of interest is how these assumptions about the nature of reality are built into the research process.

Epistemology: Constructivists believe that knowledge is subjective, because it is socially constructed and mind dependent. Truth lies within the human experience. Statements on what is true or false are, therefore, culture bound, historically and context dependent, although some may be universal. Within this context, communities' stories, belief systems and claims of spiritual and earth connections find space as legitimate knowledge.

Axiology: Constructivists assert that, since reality is mind constructed and mind dependent and knowledge subjective, social inquiry is in turn value-bound and value-laden. You are inevitably influenced by your values, which inform the paradigm you choose for inquiry, the choice of topic you study, the methods you choose to collect and analyse data, how you interpret the findings and the way you report the findings. As a constructivist researcher, you admit the value-laden nature of the study and report your values and biases related to the topic under study that may interfere with neutrality.

Methodology: The purpose of interpretative research is to understand people's experiences. The research takes place in a natural setting where the participants make their living. The purpose of the study expresses the assumptions of the interpretativist researcher in attempting to understand human experiences. Assumptions about the multiplicity of realities also inform the research process. For instance, the research questions may not be established before the study begins but rather may evolve as the study progresses (Mertens, 2009). The research questions are generally open-ended,

descriptive and non-directional (Creswell, 2003). A typical model includes a “grand tour” question followed by a small number of sub-questions (Spradley, 1979). The grand tour question is a statement of the problem that is examined in the study in its broadest form, posed as a general issue, so as not to limit the inquiry (Creswell, 2003). The sub-questions are used as guides for the methodology and methods used to enable the researcher to answer the broad-based grand tour question.

You, the researcher, gather most of the data. In recognition of the assumption about the subjective nature of research, you will need to describe yourself, your values, ideological biases, relationship to the participants and closeness to the research topic. Access and entry to the study site are important and sensitive issues that need to be addressed (Kawulich, 2011). You also have to establish trust, rapport and authentic communication patterns with the participants so that you can capture the subtle nuances of meaning from their voices (Denzin & Lincoln, 1998). Ethics is an important issue that the researcher addresses throughout the study whenever it arises (cf Chapter 5). Common designs include ethnography, phenomenology, biography, case study and grounded theory (Creswell, 2003), several of which are discussed further in Chapter 10. Data gathering techniques are selected, depending on the choice of design, the nature of the respondents and the research problem. They include interviews, observations, visual aids, personal and official documents, photographs, drawings, informal conversations, and artifacts.

Transformative/Emancipatory paradigm

There are scholars who criticize both the positivist/post-positivist and the interpretative paradigms. Some scholars (i.e., Gillian, 1982) argue that most research studies that inform sociological and psychological theories were developed by white male intellectuals on the basis of studying male subjects. In the United States, African Americans argue that research-driven policies and projects have not benefited them, because they were racially biased (Mertens, 2009). In Africa, some scholars (e.g., Chambers, 1997; Escobar, 1995; Mshana, 1992) argue that the dominant research paradigms have marginalized African communities' ways of knowing and have thus led to the design of research-driven development projects that are irrelevant to the needs of the people, a sentiment echoed by indigenous scholars in the West (e.g., Fixico, 1998; Mihesuah, 2005). A third paradigm, transformative or emancipatory research, which includes critical social science research (Neuman, 1997), participatory action research (Mertler, 2005; Mills, 2007; Stringer & Dwyer, 2005) and feminist

designs (Merriam & Simpson, 2000) and research with the aim to emancipate (Lather, 1992), has emerged. The term *transformative paradigm* denotes a family of research designs influenced by various philosophies and theories with a common theme of emancipating and transforming communities through group action (Mertens, 2009). One of the influential theories is Marxism. The German philosopher Karl Marx believed that those who controlled the means of production, that is, the ruling class, also controlled the mental production of knowledge and ideas. Inevitably, the knowledge produced perpetuates the domination of other social classes by the ruling class. The theory also helps to explain the dominance of Western research paradigms and the marginalization of knowledge produced in other cultures. Other theories within this paradigm include critical theory, feminist theories, Freirian theory, race-specific theories and post-colonial theories.

Ontology: The transformative paradigm adopts the stance that social reality is historically bound and is constantly changing, depending on social, political, cultural and power based factors (Neuman, 1998). Like the positivists/post-positivists, scholars within this paradigm adopt the stance that reality is out there to be discovered. They differ from the positivists/post-positivists, however, in that they believe that social reality is constantly changing. Reality has multiple layers -- the surface reality that is visible and the deep structures that are unobservable. Theories and a historical orientation help to unmask the deep structures.

Epistemology: On the question of what is truth, the researchers within this paradigm maintain that knowledge is true, if it can be turned into practice that empowers and transforms the lives of the people. Theory is the basic tool that helps the researcher to find new facts. The facts are built into theory that is consistently improved by relating it to practice (Neuman, 1998). True knowledge in this context lies in the collective meaning-making by the people, which can inform individual and group action that improves the lives of the people. Knowledge is constructed from the participants' frame of reference. The relationship between the researcher and the researched is not based on a power hierarchy as it may be in the interpretative paradigm, but involves a transformation and emancipation of both participant and researcher.

Axiology: Researchers who adopt the transformative paradigm view research as a moral and political activity that requires them to choose and commit themselves to a value position. Researchers achieve objectivity by reflecting and examining their values to ensure that they are appropriate for carrying out

the research study. Unlike in the interpretative paradigm where every viewpoint is correct, some views will be wrong, while others will be right.

Methodology: In the transformative paradigm, the purpose of research is to destroy myth, illusions, and false knowledge and empower people to act to transform society. Quantitative as well as qualitative methods are used in the research process. Techniques of collecting data and sampling procedures used in quantitative and qualitative studies are employed. Participants are involved in identifying the problem, defining the problem, collecting and analysing the data, disseminating the findings and using the findings to inform practice. Common designs are the participatory rural appraisal approach and action research.

A Postcolonial Indigenous paradigm

Chilisa (2005) has discussed postcolonial indigenous research paradigm as a world view that focuses on the shared aspects of ontology, epistemology, axiology and research methodologies of disempowered or historically oppressed social groups. Postcolonial indigenous researchers have conducted research in former colonized societies in Africa, Asia, Latin America, and with indigenous peoples in Australia, Canada, the U.S.A. and other parts of the world. In his book *Research is Ceremony: Indigenous Research Methods*, Wilson (2008) describes a research paradigm shared by indigenous scholars in Canada and Australia as a paradigm informed by relational ontologies, relational epistemologies and relational accountability. The postcolonial indigenous paradigm has blossomed in recent years as a means for hearing non-Western voices and emancipating the voices of formerly oppressed generations from silence imposed by colonization (Denzin & Lincoln, 2005). It provides a means for valuing indigenous knowledge systems and philosophies (Chilisa, 2011; Chilisa & Preece, 2005; Smith, 1999).

Assumptions about the nature of reality, knowledge and values

Ontology: Ontology is that body of knowledge that deals with the essential characteristics of what it means to exist. In a relational ontology the social reality that is investigated can be understood in relation to the connections that human beings have with the living and the non-living. The thrust of the discussion is that, among the indigenous and former colonised societies, people are 'beings' with many relations and many connections. They have connections with the living and the non-living, with land, with earth, with animals and with other beings. There is an emphasis on I/We relationships as

opposed to the Western I/You relationship with its emphasis on the individual. Among the Bantu people of Southern Africa, for example, one of the views of 'being' is the conception that '*nthu, nthu ne banwe*' (Ikalanga/Shona version). An English translation that comes close to the principle is: "I am we; I am, because we are; we are, because I am" (Goduka, 2000); a person is because of others. Communalism, collectivism, social justice, human unity and pluralism are implicit in this principle. Reality implies a set of relationships.

Epistemology: A relational epistemology is all the 'systems of knowledge built on relationships' (Wilson, 2008, p.74). Wilson explains the difference between an indigenous and a dominant research paradigm thusly:

The major difference between those dominant paradigms and an Indigenous paradigm is that those dominant paradigms build on the fundamental belief that knowledge is an individual entity: the researcher is an individual in search of knowledge, knowledge is something that is gained and therefore knowledge may be owned by an individual. An indigenous paradigm comes from the fundamental belief that knowledge is relational. Knowledge is shared with all of creation. It is not just interpersonal relationships, or just with the research subjects I may be working with, but it is a relationship with all of creation. It is with the cosmos; it is with the animals, with plants, with the earth that we share this knowledge. It goes beyond the individual's knowledge to the concept of relational knowledge....you are answerable to all your relations when you are doing research (p. 56).

Some of the techniques of gathering data emanating from a relational epistemology include methods that are based on language frameworks, talk stories and talk circles and indigenous knowledge systems, in general.

Axiology: The postcolonial indigenous paradigm emphasizes respect for marginalized groups' belief systems and equality in the relationships between researcher and participants. It has much in common with the values of critical theory, which Jurgen Habermas promoted in his work at the Frankfurt School, where he focused his work on those societal forces that address domination and restrictions of freedom. Postcolonial researchers value cultural ways of understanding the world and emphasize the use of oral histories, social justice and healing methods, sharing circles, and songs as examples of useful methods (Chilisa and Ntseane, 2010, provide additional discussion about indigenous paradigms from a feminist theoretical perspective).

Selecting a research paradigm and research methods

Designing research studies begins with selecting a topic and a paradigm that reflects the framework of beliefs and values for investigating that topic. Dash (2005, p. 4) provides several questions you should ask in selecting a paradigm and methodology:

1. What is the nature or essence of the social phenomena being investigated?
2. Are social phenomena objective in nature or created by the human mind?
3. What are the bases of knowledge corresponding to the social reality, and how can knowledge be acquired and disseminated?
4. What is the relationship of an individual with her environment? Is she conditioned by the environment or is the environment created by her?

From the answers to these questions, you can then determine which paradigm your questions fit into and select the methodology that is most appropriate. Refer back to table 4.1 for assistance in answering these questions. Once you determine the paradigm that most closely relates to your way of thinking about the topic, you can use the table to give you ideas about how to design your study.

Students will sometimes say, "I want to do a quantitative study, because I prefer numbers." This is the wrong way to determine an approach for your study. Each paradigm shown in table 4.1 illustrates different reasons why it would be appropriate. It may be that your research question calls for hypothesis testing – that is, you want to test the theory that something is generalizable to the rest of the world. This would call for a positivist approach to research. In a separate example, you may think to yourself that you want to understand some phenomenon from the perspectives of those who have experienced it; this would be appropriately answered within a constructivist/interpretivist paradigm. Let us say that you and other community members wish to work together to discover how local regulations may be instituted to impact the crime rate; this stance would call for a transformative/emancipatory paradigm. In another example, you may want to explore how elders' knowledge can be incorporated into public school curricula in South Africa; this would be in line with the postcolonial/indigenous research paradigm. Once you have identified the paradigm in which your research question fits, the other aspects of table 4.1 will assist you in determining what an appropriate research design would be.

A Note about Rhetoric

Researchers using a particular paradigm tend to describe the study and its findings in certain ways (known as **rhetoric** – that is, what language is employed to persuade or inform?) (Firestone, 1987).

The focus of your inquiry may be defined as either idiographic or nomothetic. Idiographic means that the study emphasises the individual as a complex entity, and the writing is very descriptive and detailed. Nomothetic relates to people in general, and focuses on prediction and explanation that relates to the general population (Ponterotto, 2005).

Since positivist paradigms focus on objectivity in data collection, the research design (typically quantitative) and related instruments used to collect data are chosen to alleviate potential bias and error. Interpretivist and constructivist paradigms lean more toward use of qualitative approaches and emphasize the existence of multiple realities. Findings in these studies typically rely on in-depth descriptions that help to explain the situation being studied. Some researchers describe quantitative studies as using numbers and qualitative studies as using words, though this is not always the case. Another difference in how you describe your study, depending upon the paradigm within which you are working, may include whether you refer to those people who participate in the study as subjects (quantitative) or participants (qualitative). Communication and literacy studies provide another way of differentiation in the presentation of your findings. Etic studies (from the word phonetic) focus on “universal laws and behaviors that transcend nations and cultures and apply to all humans,” while emic (from the word phonemic) refers to constructs that are unique to the individual and have a sociocultural basis (Ponterotto, 2005, p. 128). This may be further viewed in this way: an etic perspective would present the findings from the viewpoint of the researcher, while an emic perspective would present findings using the words of the participants themselves to illustrate their perspective. These and other differences in terminology and how you explain your study affect how the reader will interpret its quality.

Rhetoric also relates to how you persuade the reader that your findings are valid. In a quantitative/positivist study, you stress those things that you did to convince the reader that you used established procedures and did not simply rely on your own judgement (Firestone, 1987). This means including a full description of the sample, the methods used to collect data, the statistical procedures used to analyse them and the results of the study. Similarly, in a qualitative study, whether within the constructivist/interpretivist, transformative, or post-colonial indigenous framework, the emphasis is on persuading the reader that the findings resulted from the data and were not simply made up by the researcher. You will need to provide rich description of your procedures and resulting findings,

typically including quotes or other data to substantiate the veracity of your findings. Rhetoric stems from the particular paradigm within which you have chosen to work. “In the positivist and postpositivist positions, in which objectivity and a detached, emotionally neutral research role prevails, rhetoric is precise and ‘scientific,’ presented in an objective manner. By marked contrast, in the constructivist and criticalist stances, in which a subjective and interactive researcher role prevails, the rhetoric of the final research report is in the first person and is often personalized,” including information about the researcher’s own biases and experiences in the research (Ponterotto, 2005, p. 132). Chapter 17 will give you more information about aspects of rhetoric to help you make your argument.

TEST YOUR UNDERSTANDING

In the following examples, determine which paradigm the example fits and what methodology would be appropriate. Justify your answer.

1. A study to determine whether there is a relationship between students’ entrance exam scores and their grade in an introductory maths course.
2. A study of health centre personnel’s attitudes toward the use of placebo therapy in the case of malarial diseases.
3. A study to determine how community leaders can address the increasing crime rate in a suburban area.
4. An investigation of the differences in the number of highway accidents following a national push for seatbelt use.
5. A study of the factors that affect migration into city centres from rural areas.
6. An investigation of women’s perceptions of the usefulness of available prenatal care services in one neighbourhood.

CHAPTER SUMMARY

This chapter summarizes four prominent paradigms used to guide research. Each is described within a framework of its epistemology, ontology, axiology, and methodology. Methods of data collection typically used for each are also included.

- Positivists and post-positivists view reality as being objective and knowable. Such research is value free and based on precise observation and verifiable measurement. Typical research

designs include quantitative approaches, such as experimental and quasi-experimental research, correlational research, and causal comparative research.

- Constructivists or interpretativists view reality as being socially constructed and hold that there are multiple realities. Knowledge is subjective and idiographic, and truth is dependent upon the context. This paradigm is value-laden and emphasizes that values influence how we think and behave, as well as what we find to be important. Typical research designs are qualitative approaches, such as phenomenology, ethnography, symbolic interaction, and other naturalistic designs.
- Transformative or emancipatory research focuses on the view that reality is shaped by culture, politics, economics, race, gender, ethnicity, and disability. Values are considered to be important, particularly as values and beliefs differ from one culture to the next. Knowledge and understanding are aimed at critical praxis. Typical research designs may involve quantitative and/or qualitative approaches, such as action research and participatory research.
- Postcolonial Indigenous research emphasizes reality as being socially constructed with multiple realities, based on the relationships humans have with each other and the world around them, both living and non-living. Values of reciprocity, respect, and representation are emphasized. Knowledge is derived from relationships and drawn from indigenous knowledge systems. Typical research designs include participatory, transformative, or indigenous approaches.

CHAPTER REVIEW QUESTIONS

1. What is the view of reality for each of the four paradigms discussed in this chapter?
2. What place do values hold in each of the four paradigms discussed in this chapter?
3. What types of knowledge are valued in each of the four paradigms discussed in this chapter?

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