Philosophy in mixed methods teaching: The transformative paradigm as illustration

DONNA M MERTENS
Department of Educational Foundations and Research, Gallaudet University, Washington, DC, USA

ABSTRACT
As teachers of mixed methods, we have a responsibility to nurture our students' abilities to think through their choices in terms of mixed methods research based on a critically examined understanding of their philosophical assumptions. The belief systems associated with the transformative paradigm are used to illustrate the importance of teaching philosophical frameworks as a part of mixed methods instruction. Teachers and students of research will improve their practice by engaging in critical self-reflection and dialogue about the philosophical assumptions that underlie their positions as researchers. This is an important area of exploration for mixed methods researchers who seek to improve the validity of their findings.

Keywords: transformative paradigm, teaching research, philosophy of science, mixed methods, social justice, validity

In the past, some of my colleagues have proclaimed that my work on the philosophical belief systems associated with research is ‘interesting’ (Mertens, 2009, 2010), but they do not have time to teach it because their students just want to know how to do research. I will not honor this proclamation by calling it pragmatic because pragmatism deserves better. Pragmatism is one of the philosophical traditions that provide a framework for mixed methods research (Creswell, 2009; Teddlie & Tashakkori, 2009). Another major philosophical framework is the transformative paradigm for mixed methods research. Just as researchers who work within the postpositivist or constructivist paradigms need to understand the philosophy of science in order to conduct exemplary research and communicate effectively with various audiences (Ponterotto & Grieger, 2007), knowledge of both of the pragmatic and transformative paradigmatic perspectives constitutes essential learning for students of mixed methods. The methodological and utilization implications of research conducted within these respective paradigms are quite different. As teachers of mixed methods, we have a responsibility to nurture our students’ abilities to think through their choices in terms of mixed methods research based on a critically examined understanding of their philosophical assumptions.

If researchers do not acknowledge (or know) the philosophical assumptions that underlie their works, this does not mean that they have no philosophical assumptions. It merely means that they are operating with unexamined assumptions. Although Bawden (2006) situates his remarks about the danger of holding an unexamined
position in his writing about program evaluation, they have equal applicability in research (p. 38):

The set of profound beliefs that each evaluator [researcher] holds as his or her worldview about the nature of reality (ontology), the nature of knowledge (epistemology), and the nature of human nature (axiology), is reflected in the approaches he or she chooses to employ in practice – knowingly or unknowingly, consciously or unconsciously. Given the paramount influence that the worldview perspective that any individual…brings to bear in any particular exercise..., it is not only regrettable when the issue of perspectives remains unaddressed, but also grossly negligent… Explicit attention must be paid to foundational assumptions about the nature of worth and value, and to how these can come to be known in any given contextual situation, if it is to be an ethically defensible practice.

In criticizing an unexamined philosophical position, I am explicitly rejecting an a-paradigmatic stance that holds that inquiry decisions be made by the practical demands of that particular situation and not some ‘abstract philosophical paradigms’ (Greene, 2007:69). In this paper, I do not explore the multiple positions on the notion of incompatibility of paradigms, nor do I dwell on the pragmatic paradigm as a philosophical framework for mixed methods because those topics have been explained quite well elsewhere (Greene, 2007; Johnson & Onwuegbuzie, 2004; Mertens, 2010; Teddlie & Tashakkori, 2009). Rather, I use the concepts associated with the transformative paradigm to illustrate the importance of teaching philosophical frameworks as a part of mixed methods instruction.

**Paradigms as Metaphysical Guides**

The language of paradigms became salient in social science research discourse following Kuhn’s (1962) publication of the *Structure of Scientific Revolutions*. Guba and Lincoln (1994) made a significant contribution to the application of the concept of paradigms in the first edition of the *Handbook of Qualitative Research*. In the third edition of that handbook, Denzin and Lincoln (2005) summarize the meaning of paradigm as a set of beliefs that guide action; and specifically in the research context, reflect the researcher’s worldview that is composed of four sets of philosophical beliefs: axiology (ethics), epistemology (knowledge), ontology (reality), and methodology (inquiry). Although Guba and Lincoln’s major focus is on the constructivist paradigm as a framework for qualitative research, the paradigmatic structure they provide is useful for illustrating the belief systems that guide mixed methods research.

As Kuhn (1962) noted, a shift of paradigms occurs when anomalies arise that cannot be adequately addressed by existing paradigms. The transformative paradigm emerged in response to individuals who have been pushed to the societal margins throughout history and who are finding a means to bring their voices into the world of research. Their voices, shared with scholars who work as their partners to support the increase of social justice and human rights, are reflected in the emergence of the transformative paradigm to guide researchers. The transformative paradigm is a framework of belief systems that directly engages members of culturally diverse groups with a focus on increased social justice (see Figure 1 for a summary of the transformative paradigm’s major assumptions). The need to work consciously within a context of cultural diversity leads to implications for the use of mixed methods. However, I do not start this argument with methodological assumptions; rather, I begin with a discussion of the transformative axiological assumptions because these beliefs set the stage for the other belief systems associated with this paradigm (Table 1).

**Axiology in the transformative paradigm**

Axiology is the branch of philosophy that asks about the nature of ethical or moral behavior. Ethics is a topic that is addressed in nearly all research teaching in the United States and in many parts of the
Concepts such as confidentiality, anonymity, and informed consent.

However, teaching ethics in research as a set of regulations, codes, and ethical principles that must be followed in order to get the ethical review board's approval avoids the more fundamental questions of the meaning of ethics in research that emerge when a philosophical lens is brought to the teaching of this topic. Mertens, Holmes, and Harris (2009) note that the transformative paradigmatic assumption related to ethics shifts the focus of ethics from regulations to a human rights agenda. The ethical implications of transformative research are derived from the conscious inclusion of a broad range of people who are generally excluded from mainstream society. As noted by Mertens et al. (2009:87):

Such research strives to extend the meaning of traditional ethical concepts to reflect more directly ethical considerations in culturally complex communities. Power issues in terms of determining

<table>
<thead>
<tr>
<th>TABLE 1: BASIC BELIEFS OF THE TRANSFORMATIVE PARADIGM1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axiology: assumptions about ethics</td>
</tr>
<tr>
<td>Ontology: assumptions about the nature of what exists; what is reality</td>
</tr>
<tr>
<td>Epistemology: assumptions about the nature of knowledge and the relationship between the researcher/evaluator and the stakeholders needed to achieve accurate knowledge</td>
</tr>
<tr>
<td>Methodology: assumptions about appropriate methods of systematic inquiry</td>
</tr>
</tbody>
</table>

1These beliefs were first presented by Mertens in 1998; they were further developed and appeared in Transformative research and evaluation (Mertens, 2009:49). Used with permission from Guilford Press.
The transformative axiological assumption reflects a connection between the research process and use of the findings to further human rights and social justice. This component of the assumption leads to other interesting questions for discussion, such as:

- What is the researchers’ responsibility with regard to uses made of their work?
- How can research outcomes be linked to social justice (or should they be)?

Discussions of possible responses to these questions can be informed by presenting contrasting value systems associated with different paradigms. For example, the postpositivist paradigm values knowledge for its own sake, without the requirement that the researcher knows how the information will be used (Brown & Hedges, 2009). Researchers working with this set of values might feel that their ethical responsibilities were fulfilled by publishing their results in a peer-reviewed journal. Contrast this position with that of the transformative paradigm that gives social justice a priority as the value that underlies research. Ginsberg and Mertens (2009) explain that a researcher adhering to this paradigm must ask (p. 582):

How can my research at this time and place contribute to social justice? It is a question that requires a certain amount of prescience regarding the use of the researcher’s findings.

As mentioned previously, the transformative axiological assumption leads to specific implications for the other assumptions that constitute this paradigm. Researchers’ understanding of the nature of reality (ontology) is influenced by their belief in the importance of respectfully addressing cultural diversity.

**Ontology in the transformative paradigm**

The ontological assumptions associated with postpositivism (there is one reality that we can know within a certain level of probability) and
Philosophy in mixed methods teaching

constructivism (there are multiple, socially constructed realities) provided grist for some very acrimonious debates in the research world. The arguments might be encapsulated as an objectivity–subjectivity tension. The ontological assumption of the transformative paradigm rejects cultural relativism, while at the same time recognizing the influence of privilege in determining what is perceived to be real and the consequences of accepting one version of reality over another. This ontological assumption leads to considerations of power that influence who will be more or less likely to be included in decisions about the accepted definition of what is real.

In research, power considerations are pervasive and raise questions about how decisions are made about what is ‘researchable’, which variables to study, and the definitions and measurement of those variables. Mixed methods can be one tool used to sort out these issues. For example, how can community members be brought into the process of deciding what should be researched? Models for inclusion can be found in the work of African, Maori, and American Indian gatherings (Chilisa, 2009a; Cram, 2009; LaFrance & Crazy Bull, 2009). These can be combined with use of quantitative data collection methods such as surveys. Critical thinking on ontological issues can be stimulated through the use of examples of how research problems have been framed from different paradigmatic perspectives.

An important and perplexing problem in the United States provides an example of an issue that merits discussion: What is the cause of the achievement gap between minority and majority students in the United States? A significant amount of research on this topic has led to little in the way of effective solutions (Ladson-Billings, 2006). A long history of educational research has given privilege to the explanation that race/ethnicity and/or poverty are to blame for the lack of academic achievement for African American, Latina/o, American Indian, and Asian immigrant students. The transformative paradigm suggests the need to consider historical, economic, sociopolitical, and moral debt in the United States that results in poor opportunities for quality educational experiences for those pushed to the margins. Ladson-Billings (2006) suggests that we need to use our research skills to understand that ‘a cumulative effect of poor education, poor housing, poor health care and poor government services create a bifurcated society that leaves more than its children behind’ (p. 10). How would discussion of these contrasting explanations feed into decisions about epistemology and methodology?

**Epistemology in the transformative paradigm**

The next logical step in teaching the transformative paradigm is examination of the key epistemological assumption that refers to the nature of knowledge and the type of relationship between the researcher and participants. In order to achieve an understanding of what is valid knowledge, this epistemological assumption is characterized by a close collaboration between researchers and the participants of the study. Such collaboration facilitates development of research purpose, design, implementation, and utilization that are culturally appropriate. Exploration of the implications of this assumption can lead to rich discussions of issues related to the meaning of objectivity and trust. For example:

- Christians (2005) asks if it is possible to assume that ‘a morally neutral, objective observer will get the facts right’ (p. 148). What is necessary for the researcher to recognize the influence of their own values and biases, as well as to achieve a standard of accuracy in the representation of diverse viewpoints?
- How can researchers be cognizant of power relations associated with gender, disability, sexual orientation/identity, class, ethnicity, race and nationality, and other dimensions of diversity associated with less power, depending on the context?
- What does it mean to build a relationship of trust in a research context? What if the researcher is studying people who do violence to gay men or
lesbian women or studying White supremacist groups? What does it mean to understand culture and build trust in such a context?

Exploration of answers to these questions can be informed by scholarly writing about studying the construct of unearned privilege (Kendall, 2006). Understanding systems of oppression (e.g., racism, sexism, able-bodiedism, audism) are legitimate targets for research that can benefit from knowledge of epistemologies that have emerged from the writings of Indigenous peoples, African Americans, and Latinos (Bernal, 1998; Chilisa, 2005; Dillard, 2000). The implications of approaching research in accord with these transformative epistemologies have a logical connection to the transformative methodological assumptions.

**Methodology in the transformative paradigm**

Methodological assumptions constitute the philosophical basis for making decisions about appropriate methods of systematic inquiry. It is at this point that the integrative nature of the philosophical assumptions is illustrated in this quotation about the transformative methodological assumption (Mertens, 2009:59):

Inclusion of a qualitative dimension...is critical in transformative research and evaluation as a point of establishing a dialogue between the researchers/evaluators and the community members. Mixed methods designs can be considered to address the informational needs of the community. However, the methodological decisions are made with a conscious awareness of contextual and historical factors, especially as they relate to discrimination and oppression. Thus, the formation of partnerships with researchers/evaluators and the community is an important step in addressing methodological questions in research and evaluation.

There is no one method that is associated with the transformative paradigm. Rather, it is characterized by the use of multiple approaches, methods, techniques, and theories that align with the previously discussed assumptions. Transformative approaches can vary along such dimensions as type and level of community involvement, the nature and length of involvement with the community, the type of research that is appropriate (e.g., descriptive or interventionist), and the types of data collected (quantitative, qualitative). One model of transformative research is a cyclical approach that involves an ongoing relationship with the community where the results of one cycle of inquiry feed into decisions about the next cycle of inquiry (see Figure 1). Such a model sets up conditions for mixed methods research in that qualitative or quantitative or both methods could be used in different parts of the research cycle.

Use of transformative mixed methods is tied to the concept of enhanced validity. Kirkhart (2005) discusses the integral connection between the quality of the human relations in research settings and the validity of the information that is produced. She suggests the term *multicultural validity* as being key to the ‘correctness or authenticity of understandings across multiple, intersecting cultural contexts’ (p. 22). This type of validity involves making methodological decisions that reflect culturally appropriate measurement tools as well as design configurations.

The methodological assumption and its implications might raise such questions as:

- What are the implications of using a cyclical approach to research as compared to a short-term approach?
- What constraints might be imposed by time, money, or politics on an ongoing cyclical approach to research?
- What are the challenges associated with community participation and how might they be addressed through the use of a transformative mixed methods approach?

Cyclical models of inquiry have been articulated by Indigenous peoples who are knowledgeable about ancient customs such as the use of *hui* by Maori for communal expression and discussion.
From this, they designed an intervention that consisted of billboards in English that contained messages such as ‘don’t be stupid, condomize.’ Using a transformative mixed methods approach, Chilisa collected quantitative demographic data that indicated: most of the people in Botswana speak 1 of the 25 officially recognized languages, and girls and women who earn the lowest wages and have the lowest education had the highest rates of infection. Thus, those most at risk of infection not only did not know English, but they were illiterate as well. She also conducted focus groups to ascertain the meaning of HIV/AIDS as it is understood by the Botswana people. The results of her work were pushed aside by those in power when the decisions were made about the type of intervention that the project would implement.

Yet Chilisa’s work revealed that the billboard intervention not only ignored the linguistic diversity of the population, it also ignored the people’s understanding of the transmission and prevention of the disease. Hence this first cycle of research.
to prevent AIDS in Botswana is not in keeping with Kirkhart’s concept of multicultural validity. However, Chilisa was able to use her results to plan the next steps in a culturally appropriate study of prevention strategies by applying for and receiving a multi-year grant from the United States National Institutes of Health (NIH) (Chilisa, 2009b). In the NIH funded study, she uses a transformative mixed methods approach that includes qualitative needs assessment, as well as quasi-experimental designs. Rather than beginning with assumptions about how Botswana youth understand the transmission of AIDS, she began with interviews with youth about their views of sex, sources of information about sex, and transmission of sexually transmitted diseases. She also collected data by means of a radio call-in program in which older men explained why they have unprotected sex with young girls. She was able to use this information as a basis for developing an intervention for the prevention of AIDS that is more culturally responsive than billboards written in English. As part of the intervention, youth will be involved in cultural events that include singing, dancing, myths, stories, and poems that they help create as ways to prevent the spread of AIDS. Their creation of these culturally appropriate expressions will be used as data to reveal the extent to which their understandings have increased and their behaviors have changed.

NURTURING CRITICAL SELF-AWARENESS WITH AN EYE TOWARD DEFENSIBLE PRACTICE

The argument put forth in this article is that teachers and students of research will improve their practice by engaging in critical self-reflection and dialogue about the philosophical assumptions that underlie their positions as researchers. There are several complex issues implied by this argument that deserve further comment: self-awareness; the knowledge base needed for critical self-reflection, and the meaning of defensible practice. These issues do not lend themselves to linear exploration; hence, this next section reflects the intertwining nature of discussions associated with them.

On a personal note, I find it mildly amusing that the need for critical self-reflection and knowledge of self-as-instrument is most often expressed as an issue for researchers who use qualitative methods. The outsider researcher supposedly looks at things with an objective and neutral eye. The insider researcher supposedly looks at things with a higher degree of cultural sensitivity and can thus yield data of higher validity. This tension has been discussed and debated for many years. Who the researcher is and what their belief system is has implications no matter which paradigm a researcher calls home. As teachers of mixed methods research, we have a responsibility to present the major paradigmatic perspectives that are salient in the research community: postpositivism, constructivism, transformative, and pragmatic. We also have a responsibility to make visible the tensions that exist amongst these paradigms and the implications of accepting one paradigm over another in a way that allows students to situate themselves with the belief system that most closely aligns with their own. One of my students’ comments is relevant here:

The paradigm filters the world for us into understandable components. Therefore it is everything when considering that a researcher filters the data and transforms it into information. The idea of subjectivity now concerns me as I wonder who can be absolutely objective when interpreting data. Are we not a product of our upbringing, culture, experiences and education? (Risa Briggs, September 2004, used with permission)

In my teaching, I make clear to my students where I stand; although I am sure it is obvious from my scholarly work that I situate myself in the transformative paradigm. I tell them that they need to make up their own minds about which paradigm suits them best. All I ask is that they are able to articulate both the meaning of the assumptions associated with the paradigm of their choice, as well as their reasons for situating themselves in that paradigm. I encourage them to examine critically the implications of their choices, what
questions remain, what tensions arise. In Kuhn’s earlier work, there is an implication that one paradigm replaces another in history; however, I do not hold this to be accurate. Presently the world of social research is operating with the several aforementioned paradigms (Denzin & Lincoln, 2005; Mertens, 2010). Two of these paradigms have been recognized as providing a foundation for mixed methods research: pragmatic and transformative (Teddlie & Tashakkori, 2009).

Although the criteria for judging what defensible practice is may shift somewhat with the choice of paradigm, there are common issues that merit attention. Understanding of self and self in relation to community is a critical component of defensible practice (Symonette, 2009). Researchers make choices about what and how to research. These choices are made in every research study, no matter the paradigmatic framework. Therefore, one criterion for defensible practice is the manifestation that researchers are cognizant of those philosophical beliefs that underlie their choices. A second criterion might be evidence that the researchers’ choices throughout the study are reflective of their paradigmatic stance.

Although mixed methods researchers have demonstrated the contribution to enhanced validity that are possible by combining quantitative and qualitative methods either in congruent, sequential or embedded designs (Creswell, 2009), that is only part of the emerging story. Understanding of the philosophical assumptions that underlie mixed methods research offers a way to extend thinking and clarify reasoning that is needed to continue progress in this area. Understanding the transformative paradigm’s philosophical assumptions allows for greater clarity for researchers who place priority on the furtherance of social justice.

References
Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. Washington, DC.


Received 20 January 2009 Accepted 13 November 2009