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## 8

### UTILIZATION OF MIXED METHODS FOR TRANSFORMATIVE PURPOSES

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#### Objectives

Specific objectives for this chapter are to

- describe the events based on history, changes in ethical codes, and passage of multilateral human rights declarations that contribute to the rationale for the transformative paradigm;
- discuss the underlying philosophical belief systems of the transformative paradigm and their implications for use of mixed methods approaches to research;
- explain how a transformative perspective can be used to understand and account for culture, power, and social justice in conducting research with diverse populations;
- understand how the use of mixed methods within the transformative paradigm can be used to provide a better understanding of the context in which communities and individuals reside;
- analyze examples of mixed methods studies to determine facets that reflect the use of a transformative paradigm; and
- identify challenges encountered in conducting transformative mixed methods research.

If a program is designed to increase the diversity of the teaching profession with the ultimate goal of improving achievement for racial or ethnic minority students who are deaf, with additional disabilities, then is a design that focuses on the number and characteristics of teachers recruited and trained sufficient? What would a mixed methods design offer to enhance understanding of the dynamics involved in this complex and challenging scenario? What is the potential for enhancement of understanding if a transformative lens is used to frame the study with the consideration of culture, power, diversity, and social justice as central concerns?

In this chapter, we explore answers to questions about the use of the transformative paradigm as an overarching philosophical framework for addressing such issues in a variety of research contexts, such as teacher preparation, obesity prevention, inclusive education for people with disability, and poverty reduction in Africa. We examine mixed methods research for each of these aforementioned topics by illuminating the underlying assumptions from the transformative paradigm that disrupt commonly held beliefs that stigmatize members of these communities and brings focus to their lived experiences and resilience.

(1989, 2005), which explicated the basic belief systems that constitute major worldviews in the research community. Guba and Lincoln contributed to the understanding of how paradigms function in the research world by identifying four fundamental belief systems that define a research paradigm: axiological beliefs about the nature of ethics; ontological beliefs about the nature of reality; epistemological beliefs about the nature of knowledge and the relationship between the knower and that which would be known; and methodological beliefs about the appropriate methods for systematic investigation to yield warrantable assertions. We use these belief systems to explain the meaning of the transformative paradigm and its implications for mixed methods research. Box 8.1 displays communications initiated by Mertens and her graduate students with Lincoln and Denzin; it illustrates how the transformative paradigm fits into the taxonomy of paradigms that appears in Guba and Lincoln (2005). The transformative paradigm is offered as an integrated set of beliefs that is at the same level as the post-positivist and constructivist paradigms and that is commensurate with critical theory and other theories such as feminist (see Hesse-Biber, 2010 [this volume]) and disability rights theories.

### BOX 8.1

#### Paradigms and Theories

For the interested reader, Guba and Lincoln provide detailed analyses of these belief systems for several paradigms: positivism, postpositivism, constructivism, critical theory et al., and participatory. My students and I were perplexed as to why critical theory et al. would be included at the level of paradigm when it is a theory. Hence, we wrote and asked Lincoln and Denzin about this. In personal communication (March 19, 2006), they acknowledged that critical theory et al. is not at the same level as a paradigm. They wrote:

First, with respect to the paradigm-theory distinction: For us, a paradigm is a metaphysics, an integrated philosophical statement which encompasses positions on ontology (what we believe the nature of reality to be), epistemology (what we believe can be known about that reality, how the reality "works," and the best ways for coming-to-know),

axiology (the role of values, aesthetics within any inquiry), and teleology (what we believe the ends of inquiries might provide to us by way of knowledge, and what form the ends might take). Paradigms are the overarching cosmological statements to which we subscribe when we engage in research, although there might be other paradigms which we employ or deploy in other realms of our lives, such as faith (a theological paradigm), the law (a judicial paradigm), or simple social description (a demographic paradigm, for instance).

Theories are statements, usually integrated statements, within paradigms that give us some model or format for thinking about a phenomenon. A theory might have one such statement, or many connected statements, but theories describe some aspect of "reality." The reason for collapsing paradigms and theories (besides saving space!) is that theories and paradigms are commensurate: that is, they exhibit resonance, such that theories are nested within and under paradigms. Paradigms do not contain theories which violate the paradigms' cosmological assumptions, and theories do not grow from cosmological assumptions which do not support the theory. Thus, they are related, as "parent" and "child"; that is, paradigms and theories belong in ontological and epistemological and axiological "families." So that is why we have joined them.

#### ♦ Transformative Paradigm

The philosophical assumptions of the transformative paradigm lead to consideration of approaches to research that reflect explicit recognition of values and knowledge of self and community that form a basis for methodological decisions (Mertens, 2009). The transformative paradigm arose partially because researchers and members of marginalized communities expressed dissatisfaction with the dominant research paradigms and practices and because of limitations in the research associated with these paradigms that were articulated by feminists; people of color; indigenous and postcolonial peoples; people with disability; members of the lesbian, gay, bisexual, transsexual, and queer communities; and others who have experienced discrimination and oppression, as well as other advocates for social justice (see Creswell, 2010 [this volume]; Hesse-Biber, 2010).

Of the four belief systems identified by Guba and Lincoln (2005), the axiological assumption takes precedence and serves as a basis for articulating the other three belief systems because the transformative paradigm emerged from the need to be more explicit about how researchers can address issues of social justice. The transformative paradigm's axiological assumption rests on the recognition of power differences and ethical implications that derive from those differences in terms of discrimination, oppression, misrepresentation, and being made to feel and be invisible (marginalized) (Mertens, Holmes, & Harris, 2009). As Brooks (2006) notes,

Racism contributes to local and international racial disparities. These disparities are commonly found throughout virtually all areas of health, education, income, imprisonment, and the like. Given the magnitude of the gaping racial disparities both within and between nations, the question needs to be asked: Why is it those who implement societal programs seeking to reduce today's racial disparities generally fail to include serious investigations of racism as a potential contributor to such disparities?

Brooks (2006) limits her concerns to racism, yet there are many bases for discrimination and oppression, such as sexism, classism, able-ism, and others that are used as barriers to accessing privilege in society. People are born into circumstances that are associated with a greater or lesser probability of access to privilege, whether that is on the basis of physical, economic, social, historical, or other factors. The transformative paradigm offers a broad scope with regard to dimensions of diversity that are related to access to greater or lesser privilege, acknowledging that the relevant dimensions of diversity are contextually dependent and may encompass characteristics and life circumstances such as homelessness, body odor, or being drunk. The transformative paradigm emerged as a way to bring visibility to members of communities who have been pushed to societal margins throughout history and to bring their voices into the world of research in order to enhance social justice.

Given the central focus of the transformative paradigm on issues of social justice, the axiological assumption is key to framing the foundation of the transformative paradigm and provides the basis for the development of the other defining belief systems of this paradigm. The transformative axiological assumption reflects the need for ethical choices in research to include the realization that discrimination and oppression are pervasive and that researchers have a moral responsibility to understand the communities in which they work in order to challenge societal processes that sustain the status quo.

Principles of ethics (respect, beneficence, and justice) are defined in codes such as those that guide ethical review boards. Within this legalistic ethical framework, respect is defined in terms of courtesy and autonomy and is operationalized through the informed consent process. Beneficence is defined in terms of maximizing good outcomes and minimizing harm, without explicit acknowledgement of the furtherance

of social justice as a potential benefit for participants. Justice is defined in terms of ensuring that benefits of the research accrue to those who accept the risks involved in participating in the research, again without specific reference to the broader implications for social justice.

Researchers who situate their work in the transformative paradigm value these legalistic definitions of ethical principles; however, their transformative axiological assumption leads them to extend and reframe these principles. Thus, respect includes the critical examination of cultural norms of interaction in diverse communities and across cultural groups. Transformative beneficence is defined in terms of the promotion of human rights and improvement of social justice. An explicit connection is made between the process and outcomes of research and the furtherance of a social justice agenda.

Researchers who work within the transformative paradigm find that there is an intertwining of interests with multilateral organizations and professional associations that share similar values in the promotion of human rights. For example, the United Nations passed the International Convention on the Elimination of All Forms of Racial Discrimination (1969), the Convention on the Elimination of All Forms of Discrimination against Women (1979), Convention on the Rights of the Child (1990), the International Convention of the Protection of the Rights of All Migrant Workers and Members of Their Families (1990), the Declaration of the Rights of Indigenous Peoples, and the Convention on the Rights of Persons with Disabilities (2006). The list of UN declarations reinforces the need for the transformative paradigm to be responsive to violations of human rights associated with relevant dimensions of diversity.

In addition, several professional organizations have revised their codes of ethics to reflect the need to be more culturally aware and responsive, including the American Psychological Association, American Educational Research Association, American

Sociological Association, American Anthropological Association, American Evaluation Association, the International Organization for Cooperation in Evaluation (IOCE), and the International Development Evaluation Association (IDEAS). The *zeitgeist* that surrounds revisions to professional associations' codes of ethics stands in testimony for the need for researchers to be more aware of the implications of the transformative paradigm for their work.

The synergy between the professional associations and multilateral organizations on this topic of human rights is illustrated by the map for the future priorities for evaluation in an international context with an emphasis on human rights, developed by the UN International Children's Emergency Fund's (UNICEF), with the endorsement of IOCE and IDEAS:

Within a human rights approach, evaluation should focus on the most vulnerable populations to determine whether public policies are designed to ensure that all people enjoy their rights as citizens, whether disparities are eliminated and equity enhanced, and whether democratic approaches have been adopted that include everyone in decision-making processes that affect their interests. (Segone, 2006, p. 12)

This ethical impetus supports the need for a way of thinking about research that focuses on social justice and human rights as a starting point. The need for the transformative paradigm is also evidenced in the headlines of newspapers, scholarly literature, and the voices of those with unequal access to privileges. For example, the HIV/AIDS epidemic presents challenges around the world from Washington, D.C., to parts of Africa. Gang violence is a problem in many parts of the world and is often connected with the trafficking and use of illegal drugs. Indigenous peoples who still suffer from a legacy of oppressive colonialism are more often given prison sentences

instead of preventive social supports when they are found to be associated with such activities. Impaired people, subjected to the medical gaze, re-created as "the disabled," and labeled dangerous or deviant, are either incarcerated in institutions or excluded from the mainstream and generally subjected to regimes of cure, care, or observation.<sup>1</sup>

Scholars write about these headline-worthy problems and the difficulties of addressing them. However, solutions to the problems are elusive. If a transformative lens is brought to such topics and the focus is on human rights and social justice, then researchers can raise questions that are directly relevant to the life experiences and contexts of those whose quality of life is most impacted by inequality, discrimination, and oppression. Chilisa (2005, 2009) has used a transformative lens to shape research in Botswana; Battiste (2000) offers ideas for Native American Indians; Cram (2009) and Smith (2005) provide insights into working with the Maori people in New Zealand; Wilson (2005) introduced a paradigm shift for international development researchers in the field of deafness and disability; Bledsoe and Hopson (2009; Bledsoe, 2007) developed transformative research frameworks for working in African American communities; and Sullivan (2009) suggests ways of working creatively and ethically with people with disability.

Sullivan (2009) documented the paradigm shift that began in the early 1970s in the understanding of disability with the development of the social model in opposition to the hegemonic individual medical model of disability. The former locates disability in social structures and attitudes whereas the latter locates disability in individuals (Oliver, 1990; Union of the Physically Impaired Against Segregation, 1976). From this perspective, disability is no longer a personal tragedy but a basis for social oppression. Furthermore, what counts as disability research is no longer the cause and cure of disability in individuals,

but the uncovering and transformation of the disabling society and institutionalized disability. In short, disability research has become a matter of human rights and social justice. Thus, the transformative paradigm for research is viewed as being commensurate with this shift in the model of disability from a medical problem that needs to be fixed to a sociocultural basis for oppression.

The use of disability rights as a theoretical lens is one illustration of the theoretical frameworks that are commensurate with research conducted within the transformative paradigm. Others include, but are not limited to, feminist theory, critical theory, critical race theory, and queer theory. Feminist researchers who link feminist standpoint with mixed methods research include Hollingsworth (2004), Hesse-Biber and Leavy (2007), and Stewart and Cole (2007). Sweetman, Badiee, and Creswell (2009) cite the following illustrative examples of using a feminist lens with mixed methods research conducted within the transformative paradigm: Cartwright, Schow, and Herrera's (2006) study advocating for poor Hispanic female immigrants; Tolman and Szalacha's (1999) study of girls in high school; Hollingsworth's (2004) study of custody cases involving older women with children; and Shapiro, Setterlund, and Cragg's (2003) study of policy related to drug use with regard to the experiences of older women. Sweetman et al. also identified transformative mixed methods studies that focused on people with disability (Boland, Daly, & Staines, 2008), families facing eviction (Hill, Dillane, Bannister, & Scott, 2002), feminist-based family therapy (Freeman, 2000), drug users (Kumar et al., 2000), people of low socioeconomic class (Newman & Wryly, 2006), and couples with children (Nordenmark & Nyman, 2003).

The axiological assumption provides grounding for the other belief systems (ontology, epistemology, and methodology) that constitute a unified worldview. Recall that the ontological assumption is used as a basis for answering the question: what is

the nature of reality? The transformative ontological assumption rejects cultural relativism and recognizes the influence of privilege in determining what is accepted as real and the consequences of accepting one version of reality over another (Mertens, 2010). Versions of reality are socially constructed and shaped by a variety of factors, including social, political, cultural, economic, ethnic, gender, disability, or other cultural lenses. However, "Truths are not relative. What are relative are opinions about truth" (Nicolás Gómez Dávila, 2005). There are versions of truth that are harmful for groups who are characterized in negative terms and stereotypes by those with power (e.g., deaf people are immature and impulsive; "welfare moms" have babies to get more money). When these versions of truth (often based on stereotypes, prejudices, and biases) are interrogated through a transformative lens, they can be rejected as having no truth value.

The transformative paradigm recognizes the danger of accepting multiple socially constructed realities as having equal legitimacy. Damage is done when differences of perceptions of what is real are accepted, and when factors are ignored that give privilege to one version of reality over another, such as the influence of social, political, cultural, economic, ethnic, gender, and disability lenses in the construction of reality. In addition, the transformative ontological belief emphasizes that which seems "real" may instead be reified structures that are taken to be real because of historical situations. Thus, what is taken to be real, needs to be critically examined via an ideological critique of its role in perpetuating oppressive social structures and policies.

The transformative axiological and ontological assumptions lead to the epistemological assumption that the relationship between researchers and participants is a critical determinant in achieving an understanding of valid knowledge within a transformative context. Therefore, the nature of the relationship is characterized by close

collaboration between researchers and participants with specific attention given to issues of communication and power. Christians (2005) criticized the notion that a "morally neutral, objective observer will get the facts right" (p. 148). Hence, implications from the axiological assumption surface in the epistemological assumption in that ethical ways of knowing must be cognizant of power relations associated with gender, sexual orientation, class, ethnicity, race, nationality, disability, and other dimensions of diversity. These inequities in power relations lead to the epistemological assumption in the transformative paradigm that "understanding the culture and building trust are deemed to be paramount" (Mertens, 2009, p. 57).

The transformative methodological assumption reflects the three previously discussed assumptions and leads to support for mixed methods approaches.

Inclusion of a qualitative dimension in methodological assumptions is critical in transformative research and evaluation as a point of establishing a dialogue between the researchers 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 and the community is an important step in addressing methodological questions in research. (Mertens, 2009, p. 59)

Methodologically, the transformative paradigm reframes the researcher's worldview in terms of establishing the focus of the research, development of research questions, and decisions about data collection, analysis, interpretation, and use. The examples of mixed methods research that follow in this chapter illustrate a variety of

design options in mixed methods that are grounded in the transformative paradigm.

### ◆ *Transformative Mixed Methods Designs*

Researchers who situate themselves within the transformative worldview do not necessarily use mixed methods (Mertens & Ginsberg, 2008, 2009). However, mixed methods research that is reflective of the transformative paradigm is identified by adherence to a social justice agenda; explicit acknowledgment of factors that are culturally based in the definition of what is perceived to be real; recognition and challenging of power differences in relationships in the research context and wider society; and the need to develop methodological approaches that are responsive to the aforementioned complexities. A transformative model for mixed methods research suggests the need for community involvement, as well as the cyclical use of data to inform decisions for next steps, whether those steps related to additional research or to program changes (Mertens, 2007, 2009).

Some, but not all, researchers whose work exemplifies the transformative belief systems explicitly identify the transformative paradigm as their worldview (Mertens, 2009; Sweetman et al., 2009). Yet, it is possible to analyze mixed methods research in terms of the underlying belief systems and examine those studies that do illustrate the transformative mixed methods approach. Hence, the remainder of this chapter provides examples of a variety of mixed methods designs with illustrations drawn from the authors' research studies as well as relevant literature. We present these examples to illustrate how the transformative paradigm plays out in mixed methods research with a goal of enhancing readers' understandings of how to conduct similar research. The examples were chosen to reflect options

for mixed methods designs, such as the sequential and concurrent designs (see Creswell, 2009; Mertens, 2010; and Teddlie and Tashakkori, 2009; for more on mixed methods designs).

#### TRANSFORMATIVE SEQUENTIAL DESIGNS

A transformative sequential design is one in which researchers ground their work in the transformative paradigm's belief systems and then use quantitative methods first, followed by qualitative methods or the converse (qualitative methods followed by quantitative methods). We present examples of this approach taken from teacher preparation, obesity prevention programs, inclusive education for disabled people in New Zealand, and poverty reduction in Rwanda.

##### *Teacher Preparation*

The scenario that appeared at the beginning of this chapter is based on an evaluation of a teacher preparation project that was conducted at Gallaudet University's Department of Education (Mertens, 2008; Mertens, Holmes, Harris, & Brandt, 2007). Gallaudet is the only university in the world with the specific mission of providing higher education for deaf people and for hearing people who intend to work with the deaf population. Gallaudet's Department of Education obtained a grant from the U.S. Department of Education to recruit and train students of color and students who were deaf or hard of hearing to prepare teachers for students who are deaf or hard of hearing and who have an additional disability. The program director contacted Mertens and indicated that the project was coming to an end and that they were contractually obligated to conduct a summative evaluation.

Using a transformative lens, Mertens questioned the director about the history of the project and its current status, as well as

requested documents such as the request for proposals, the proposal submitted to the U.S. Department of Education, and the annual reports that the project had submitted. Thus, the evaluation began with qualitative data collection strategies of interviewing and document review. Based on analysis of these data, Mertens decided to invite members of the deaf community to join her as co-evaluators, deliberately selecting individuals who reflected important dimensions of diversity in the deaf community. Diversity considerations of relevance to deaf community include a person's choice of language (signed or spoken; American Sign Language or Pidgin Signed English) and use of assistive listening technology (such as hearing aids or cochlear implants). Two of the co-evaluators were culturally deaf, meaning that they used American Sign Language and did not speak while they were signing. One of the co-evaluators was a deaf woman who was raised orally (i.e., she used supportive technology to capitalize on her residual hearing, read lips, and spoke English.) At the time of the study, she used a cochlear implant to enhance her hearing.

As a team, Mertens and colleagues reviewed the documents and discussed how to approach the study. Graduates of the program were scheduled to attend a reflective seminar the following month; we agreed this would be a good venue for data collection. We observed the seminar proceedings for 2 days, taking careful field notes, and comparing our notes at the end of each day. On the third day, with agreement of the seminar coordinator, we interviewed all of the participants, using questions that were based on our observations and document reviews. Several issues of social justice surfaced from our preliminary data collections and analyses, and we used the interviews to explore these further. For example, the issue of marginalization of teachers who teach students with multiple disabilities, as well as the marginalization of the students themselves, was noted in our

field notes of interviews with program graduates in May 2007:

- I feel teachers in the mainstream resist our students, especially students with multiple disabilities.

- It's almost like multiple disabilities/special needs section is totally separate, an island opposed to the regular deaf school. I hate the separation. I've worked there 2 years, and many teachers at the regular deaf school building look at me as if I'm a visitor. When I tell them I've been teaching here for 2 years, they look at me in awe.

In addition, the field notes and interviews revealed concerns about how to address the diversity within the population of deaf and hard of hearing students with multiple disabilities in terms of:

- diverse home languages (e.g., Spanish, Arabic);
- diagnosing and teaching disability groups other than those with severe disabilities (e.g., learning disabilities, autism);
- multiple communication modes used in their classrooms; and
- diverse settings and teacher's roles.

Mertens and colleagues pursued these issues in the May 2007 interviews with program graduates, which yielded such comments as:

- When the home language is Spanish and the kid has very limited language and no sign, no English. Now I have a student who is deaf with another disability from another country.

- My students are under 5 years old, and they come with zero language and their behavior is awful. They can't sit for even a minute. Kids come with temper tantrums and run out of the school building. I have to teach these kids language;

I see them start to learn to behave and interact with others. My biggest challenge is seeing three kids run out of school at the same time. Which one do I run after? One kid got into the storm drain. I'm only one teacher, and I have an assistant, but that means there is still one kid we can't chase after at the same time as the other two.

We then used the data from the qualitative part of the study to construct a Web-based quantitative survey, which was sent to all the program graduates. This gave us access to a broader base of participants to determine if the issues, attitudes, and concerns expressed by those in attendance at the seminar were shared by other program graduates. The quantitative data confirmed the concerns that were raised by the seminar participants: that they felt marginalized as teachers and they needed more support for dealing with the diversity of their students.

The final cycle of data collection involved preparing interview questions for the university faculty who participated in the program and the cooperating school administrators and teachers. The interview questions were based on the data that were collected from program graduates and were designed to present the findings to the faculty and school staff members in order to determine their thoughts about these challenges. For example, the final quote from the teacher about the students who run out of the classroom was used to inquire about the need for additional preparation and/or support for the new teachers. Mertens and Holmes (2008) made a presentation of these results to an audience of faculty from 70 different universities in the United States and Canada that have programs to prepare teachers of the deaf and hard of hearing. The presentation was followed by lively discussion about the challenges involved in this type of teacher preparation and the need to give attention to the multiple-disability students that are increasingly attending mainstream schools. The Gallaudet Department of Education set up an online

mentoring system for new program graduates, which was so popular that they opened it up to all teacher candidates in the department, not just those in the multiple disabilities program.

#### *Adolescent Obesity Prevention*

Bledsoe (2005) evaluated a program designed to address adolescent obesity in a Trenton, New Jersey, high school. The program was a response to what the faculty and administration recognized as a growing problem among adolescents within the school community: that black and Latino high school students were at a higher risk for obesity than the national average.

Teachers and administrators worked to conceptualize the program, informally known as the Obesity Project Study (TOPS), to combat the growing number of overweight students (Bledsoe, 2005). TOPS was considered part of a larger agenda to provide information and actionable strategies focused on health and well-being for high school students and their families and the Trenton community at large. The desire of the faculty and administration to have an evidenced-base intervention led them to seek collaboration with the city's local liberal arts college.

The evaluation addressed two objectives:

- To understand the needs and challenges of an increasingly diverse community by providing scientific evidence of an associative link between cultural identity (how one identifies with their culture) and physical health behavior outcomes

- To make sure that the health promotion program not only educated, but also addressed the dynamics (e.g., attitudes and behaviors) that encourage and discourage healthy nutrition behavior

To address these objectives, the program consisted of three components: (1) physical (teaching students to exercise regularly),

- (2) psychological (encouraging students to understand their eating habits), and
- (3) educational (teaching students to make healthy food and eating choices). Initial evaluation activities focused on gathering information that would inform the design of the program and the strategies to accurately assess the effectiveness of the intervention within the cultural context.

Despite the good intentions of school officials, there was a tremendous gap between the program developers and researchers, on the one hand, and the student body population. Most, if not all, researchers and school officials were white (except for Bledsoe, the lead evaluator, who is African American), were middle to upper-middle class, and were not living within the city's limits. The program consumers and research participants were students of color, living in a city with a median income of \$36,000, and considered impoverished and underserved. It became clear to the research team that views of nutrition, health, and obesity were influenced by power and privilege: those in the most powerful positions making decisions and determining lifestyle choices for those in less powerful positions.

For example, many of the assumptions concerning the rationale behind perceived high rates of obesity among urban high school students were based on high-level stakeholders' (e.g., teachers, researchers, community partners) theory that was loosely informed by the literature. This "theory" emphasized an individual deficit model anchored by variables such as low self-esteem, poverty, and educational deficiency. The research team sought to close the gap in the power structure by engaging in more qualitative (in addition to quantitative) and/or unusual methods that would help provide an understanding of the students and the community in which they resided (Mertens, 2007).

The first approach of the evaluation team was to meet with students regularly via the use of focus groups. These focus groups were used to gather information

about the kind of intervention to which student participants would respond. The group discussions served two purposes. First, they served to connect the evaluation team (made up of college-age research assistants) to the students. Second, they served to provide needed context of any possible intervention design and future evaluation strategies. These groups were used throughout the project to bring the student voice into the planning of the program, as well as the evaluation process.

A second approach was to gather baseline data via survey from the students and their teachers, families, and the general environment. The team, with feedback from the students, designed surveys (students provided feedback on the wording of questions and the general concepts that should be covered) for students, parents, and teachers. The team also conducted a site mapping of the city to identify the environmental and community factors that encouraged or discouraged unhealthy eating patterns.

The third approach, based on the results obtained from the focus groups, surveys, and site mapping, involved the evaluation team meeting regularly with faculty, staff, and administration. These meetings served as a conduit to present information obtained from student, teacher, and parent surveys. As information from key consumers and participants was brought to light, the composition of the program collaborators changed. Instead of private and local general medical practitioners, new collaborators, such as a municipal land use group, a community environmental housing development organization, and the department of health were included. In addition, the evaluation team brought on an urban planner who used Geographical Information Systems to provide a Web-based mapping of the city's eateries and grocery and convenience stores.

By using the transformative paradigm, the team was able to diminish the power differential by fostering regular dialogue

with students, teachers, and staff members in every planning aspect. In this case, using focus groups first and then using quantitative methods allowed for the creation of a bond with the students who began to feel (a) that they had some control over what they would be asked to disclose and in what manner and (b) that they had ownership in the development of the program and research (Bledsoe & Hopson, 2009). Finally, this approach allowed for a more accurate understanding of health and well-being in the city in a collective and community-based manner, as opposed to a deficit model of human imperfection and blame (Bledsoe & Hopson, 2009).

#### *Disability Studies in New Zealand*

A good example of disability research in New Zealand using mixed methods is Alison Kearney's (2009) research into the exclusion of disabled children from and within their neighborhood schools, despite legislation guaranteeing their right to inclusion. In this research, Kearney sets out to explore the nature of this exclusion to provide some answers as to why this was happening and to make recommendations that may reduce this exclusion. She developed a three-phase mixed methods study: Phase 1 involved an online questionnaire for parents whose children had experienced barriers, followed by a semistructured interview with a random stratified sample of these parents; Phase 2 involved a postal questionnaire to principals in three regions of New Zealand, followed by a semistructured interview with a sample of these principals; Phase 3 involved interviews with teachers in one school and a focus group interview with a group of teacher aides in the school. Kearney concludes her study with some powerful and compelling recommendations to (a) schools on how they might reduce and eliminate the exclusion of disabled students and (b) to government and government agencies on how they might develop truly inclusive education in New Zealand.

Although Kearney does not claim this research to be within the transformative paradigm, it clearly fits within it. The exclusion of disabled people from schools constitutes a violation of their human and legal rights; the need to rectify this situation is a matter of social justice—not just for the individuals involved but for their families and *ubhama* (extended family) as well. A genuinely inclusive education system will result in the transformation of the lives not only of the disabled students involved but of all students who must learn to work with and within a community in which difference and diversity is a valued given.

#### *International Development and Health Services in Zambia*

Mbwili-Muleya, Lungu, Kabuba, Zulu Lishandu, and Loewenson (2008) used a transformative, sequential mixed methods design to investigate the effectiveness of a health intervention program in Zambia over a 3-year period. As demonstrated in other transformative studies, one of the most important considerations centered on relational issues between service providers and recipients that challenged effective service delivery. They described their research approach as follows:

the further action identified to be necessary. A pre and post intervention questionnaire was administered to assess change in the new HCs [Health Committee] involved. (p. 5)

Mbwili-Muleya et al. (2008) found that pre-post test questionnaires allowed them to document that the health intervention program was successful. More important, they reported that the participatory action research process demystified and removed suspicions between stakeholders, strengthened dialogue between communities and health workers, and increased the community involvement in planning and in resolving community issues, increasing the efficacy of the program.

#### TRANSFORMATIVE PARALLEL DESIGN FOR MIXED METHODS

A transformative parallel design involves the use of both quantitative and qualitative methods at essentially the same time during the study. In this section, we use examples of this mixed methods approach from an evaluation of a crime prevention program, a study on spinal cord injury, and a study on an international development poverty reduction program.

##### *The Peace Campaign Crime Prevention Program*

Bledsoe (2001) evaluated an East Los Angeles community's efforts to reduce bullying and intimidation in school and in the community. The Peace Campaign was a response to a growing situation in which school-age children in the East Los Angeles community were being bullied and intimidated into giving up material goods and property and were also being "jumped" or forced into early gang membership and violence (Bledsoe, 2001). The program was a collaborative effort, with the school administration, parents, a local community service

organization, and the Los Angeles Police Department (LAPD), designed to provide services that focus on the bullies and intimidators, as well as the bullied and intimidated, and the parents and community members who were at a loss about how to deal with the situation. Services included providing communication skills training for parents and children, as well as sponsoring activities that encouraged students to project their energies toward more fruitful avenues such as sports, academics, and the arts.

The evaluation team was asked to help determine the extent of bullying and intimidation within the community and to evaluate the effectiveness of the campaign. The team used focus groups and interviews of key constituents, as well as surveys, to help provide a well-rounded understanding of (a) the extent to which students were being bullied and engaging in bullying and intimidation; (b) the community's general context, which served both to protect and to place at risk children and their families; and (c) appropriate strategies to address the situation.

Members of each stakeholder group were asked to participate in either a survey or focus group. The choice of method was determined by the participants and their perceived comfort level, and survey and focus group data were combined to give a comprehensive picture. The team felt that this approach—to provide participants a choice of the measures in which they would like to participate—would result in more accurate data collection (Mertens, 2007).

Several perspectives emerged from the use of qualitative and quantitative measures. First, the team discovered that part of the problem was exacerbated by aspects such as culture (bullying and intimidation were considered an extension of the artifact of *machismo*, a characteristic considered indicative of manhood within the immigrant Latino community), socioeconomic status (the community was of low socioeconomic status), and employment was temporary or consisted of low-level service

profession jobs), and community population (the community had a high percentage of monolingual, Spanish-only immigrants who had recently come to the East Los Angeles area with little knowledge of the surrounding city).

Participants noted that increasing daily communication and improving communication skills between students and parents seemed to reduce bullying and intimidation. The increase in communication seemed not only to help students develop strategies that could keep them safe from bullying but also to lessen the use of bullying techniques.

In addition, data from student-level focus groups indicated that students felt they had outlets and support from many sources, not just one. Their data, as well as data from parents, teachers, the LAPD, and other key constituents, found that bullying and intimidation was not a family issue or a school issue. It was a community issue and the problem needed to be addressed using a community-based perspective, rather than using an individual deficit model (Bledsoe, 2001). Thus, the community program designers included aspects in which the LAPD and other community members were active as a community in their response to potentially violent situations, developed partnership-like interactions, and sponsored community-building activities. The transformative perspective also allowed for the consideration of the close relationship between the researcher and participants, the values of the community, and the general context in which participants resided (Bledsoe, 2001).

##### *Spinal Cord Injury Research in New Zealand*

Sullivan and colleagues (2007) are currently undertaking research in New Zealand on the first 2 years of spinal cord injury (SCI) and the transition from spinal unit to community. Anecdotal evidence suggests that many people with SCI in New Zealand waste their lives away existing on accident

compensation, once they leave the spinal unit.<sup>2</sup> To test this, the *SCI: The First Two Years* longitudinal study was designed to find out what actually happened to people with SCI, once they left the spinal unit. Funding was obtained from the New Zealand Health Research Council (New Zealand HRC) and the 4-year study began in August 2007. This study is nationwide and includes both tetraplegics and paraplegics.

The aims of the research are (a) to explore how the interrelationship(s) of body, self, and society have shaped the life chances, life choices, and subjectivity of a cohort of people with SCI; and (b) to investigate how entitlement to rehabilitation and compensation through the Accident Compensation Commission (ACC) affects socioeconomic and health outcomes. All new SCI-people with neurological damage to their spinal cord, but without serious cognitive injury, admitted to one of New Zealand's two spinal units will be eligible to participate if they are New Zealand citizens or permanent residents aged between 16 and 65.

At the beginning of research design, Sullivan and colleagues consulted with the directors of the spinal units to seek their permission and support for the research. They then entered a partnership arrangement with the consumer groups at each of the spinal units: the Association of Spinal Concerns (TASC) at Auckland and the Burwood Academy of Independent Living (BAIL) at Christchurch. In close consultation with these groups, the study was designed and questionnaires developed. To ensure the research was culturally sensitive and in line with the Treaty of Waitangi principles,<sup>3</sup> a representative from Ranga Haora, Maori Health Services, Burwood Hospital, took part in these discussions. The final proposal was also scrutinized by the Ngai Tahu Research Consultation Committee (the local tribal authority for research in the Christchurch area) and the Maori Health Research Unit of the Counties-Manukau District Health Board

(which has tribal authority over research located in the Auckland area).

The research uses a transformative parallel design using quantitative and qualitative methods concurrently. Quantitative material will be collected in three structured interviews with all participants recruited over a 2-year period. The first interview is at 4 months following SCI. This is a face-to-face interview undertaken by the trained on-site interviewers (who themselves have an SCI) prior to participants' discharge from the spinal unit. The second and third structured follow-up interviews will be undertaken by telephone at 12 and 24 months after SCI. The timing of these interviews complies with international recommendations for follow-up times in injury outcome studies (van Beeck et al., 2007). These three structured interviews are designed to collect factual evidence on the "what" of the world SCI people inhabit: their life chances, attitudes, health status, support services, work and income, personal and social relationships, and life satisfaction, as this constitutes the framework in which they create their subjectivity. Two qualitative, face-to-face interviews with a subsample of 20 participants explore in greater depth the meanings participants now attach to these phenomena and how these phenomena and meanings are shaping their life choices and subjectivity. On the advice of BAIL and TASC, these qualitative interviews will be held at 6 and 18 months after discharge from the spinal units for specific reasons. At 6 months, the person ought to be settled in at home with alterations complete and the necessary personal supports in place to be thinking about venturing out into the broader world if he or she has not already done so. At 18 months, any neurological recovery that is going to occur will have occurred and the person will be thinking "so this is it for the rest of my life." Inferences derived from facts and personal perspectives will be triangulated to enrich understandings of what actually happens to SCI people in the first 2 years post-injury.

In summer 2009, recruitment is continuing, and the second round of quantitative interviews is being conducted. A different questionnaire is being used, which while repeating a number of questions from the first interview, includes a new set of questions on issues such as what has changed for participants since the first interview and their use and satisfaction with support services generally and with personal careers and ACC in particular. These later questions are yielding some interesting data, which will be followed up in-depth in the second qualitative interview.

This exemplifies the beauty of using mixed methods within a transformative paradigm. The quantitative data provide the raw numbers, which are processed into the frequency tables that constitute the skeleton of what happens to SCI people as they transition from spinal unit to community. A skeleton, while providing a useful model, does not provide the how, the why, or the "where to from here" detail necessary for transforming lives. Quantitative data are useful for promoting policy change, but the qualitative data, the subjective meanings of the individuals concerned, reveal the appropriate color, texture, and direction of that policy if it is to transform the lives of the target population on the ground.

While seeking and obtaining transformation at the macro policy level is very important, what happens to individuals on the ground provides the "proof of the (policy) pudding." At this stage of the research, participants are so newly paralyzed that most of their energy is directed at their personal situation of learning to live in new bodies and new lives. Notwithstanding, we have had a high response rate to this study, as most want to contribute their experience in order to improve or transform the lot of all people with SCI. In terms of the study having a transformative effect on the immediate lives of participants, to date, this has been achieved in two ways.

First, one of the key aims of the study was to involve newly paralyzed people as part of

the research team.<sup>4</sup> To this end, a number of people with SCI were recruited through TASC and BAIL, trained in research and interviewing techniques, and included as paid members of the team to recruit and carry out the quantitative interviews. They will also be used in the analysis of data.

Second, at a more prosaic level, the research is transformative insofar as it provides the opportunity for those newly paralyzed participants in the qualitative side of the study with the opportunity to speak confidently with someone with at least 30 years experience of living successfully with SCI.

In summary, the transformative paradigm uses mixed methods to bring about social justice for minority groups by researching with them their conditions of existence and deconstructing these so that they can eliminate barriers and build better lives for themselves. Participants in the *SCI: The First Two Years* study are motivated by the desire to move beyond anecdote and find out what actually happens to people with SCI once they leave the spinal unit. Has this population been adequately prepared to manage living productively with SCI in their communities? If not, what might be done better or differently, what might be added to or eliminated from the rehabilitation programs in the spinal units? Is this population getting the ongoing supports necessary for living in the community? If so, is there room for improvement? If not, why not? How can this be rectified? Only when we have the answers to these questions will we be in a position to know if and what barriers impede SCI New Zealanders from reaching their full potential in terms of living productive and fulfilling lives.

#### *International Development and Poverty*

The United Nations' Millennium Development Goals (MDGs) place emphasis on and expectation of results from organizations delivering development assistance



to communities in poor countries. Impact assessments have traditionally been used to report movement toward the MDGs, but quantitative data does not always accurately reflect what is observed on the ground, nor offer practical recommendations for improving practice. When specifically studying poverty itself, quantitative measures have not been able to accurately capture the dynamics of poverty and why it occurs (Addison, Hulme, & Kanbur, 2008). Howe and McKay (2007) found in Rwanda that using quantitative measures limited their understanding of chronic poverty (poverty that lasts over a long period of time) and that these measures were ineffective in discovering the factors and processes that caused it. Historically, random sample household surveys and structured interviews were commonly used and then analyzed using statistical techniques to describe the demographics of poverty, but the qualitative dimension necessary to answer the why and how questions about chronic poverty were missing.

For the past 15 years, the World Bank has included a Participatory Poverty Assessment (PPA) in poverty measurement and assessment, employing purposive sampling and semistructured and interactive interviews to collect data related to "people's judgments, attitudes, preferences, priorities, and/or perceptions about a subject—and analyzes it usually through sociological or anthropological research techniques" (Carvalho & White, 1997, p. 1). (See Bamberger, Rao, & Woolcock, 2010 [this volume] for more details on mixed methods research conducted by the World Bank.)

PPA, designed by the World Bank in the mid-90s, includes poor people in the process of analyzing poverty and in creating strategies for influencing national policy (Norton, Bird, Brock, Kakande, & Turk, 2001). PPA uses a variety of participatory tools and activities that encourage information sharing, analysis, and action. PPAs are usually done in a community with collaboration of representatives from universities,

nongovernment organizations (NGOs), government officials, or local development agencies. During many PPAs, the stakeholders develop community action plans, which are later supported by local governments or development organizations.

To study chronic poverty, researchers use a "Q-squared" approach (quantitative + qualitative sources) where economic factors found in government household surveys are analyzed simultaneously with well-being and quality of life factors found in the PPAs (Addison et al. 2008). For example, in Rwanda (Howe & McKay, 2007), household surveys (Q1) described the assets owned by poor families, their living conditions, their annual income, and consumption over time. The addition of qualitative methods (Q2) allowed for a clearer understanding of the "extent, pattern, and nature of chronic poverty" because measures such as human development and well-being gave deeper insight into factors overlooked by Q1. The results of the Q-squared approach, shared with all stakeholders, gave the Rwandan participants a better understanding of their poverty, a tool to use for social mobilization, and the ability to identify factors that affect their welfare at the household level. Supplemental qualitative methods in studying chronic poverty have been critical to attain social justice for the poor who are typically marginalized because of lack of access and exclusion.

#### *International Development and Mixed Methods*

International organizations send billions of dollars in development aid to economically poor countries for development programs targeted to better the lives of people living in poverty. External experts routinely monitor and evaluate programs using single-method approaches to measure the effectiveness/efficiency of projects and to discern whether accountability demands of donor agencies are being met (Mayoux &

Mosedale, 2005). Development research institutes have noted many development projects are unsustainable and make minimal impact on improving communities. Debates have emerged about the cost/benefit of the impact assessments as they take considerable time and resources away from the development programs. Questions have arisen concerning the validity of assessments that measure the economic impact of projects but ignore the multidimensionality of poverty and the social, political, and cultural factors that also influence economics (Mayoux & Chambers, 2005). Exclusively measuring "development" through an economic lens is insufficient in designing policies to truly make a positive impact on poor people's well-being (Cobb, 2002). Poor populations and minority groups have been nearly voiceless in the evaluation process and excluded from participating in making decisions and policies on their own behalf (Turk, 1999). Rather than assessments that "proved impacts" and held limited practical relevance to the beneficiaries, development organizations and stakeholders have requested assessments that aid them in "improving their practice" (Hulme, 2000).

Researchers conducting development studies now recognize that their work is improved when they use qualitative participatory assessment tools in which stakeholders participate fully in the evaluation and consequently learn about their needs and opportunities (Hulme, 2007). Participatory techniques include case studies, participant observation, focus groups, semistructured interviews with key informants, and Participatory Learning and Actions where program stakeholders participate in the study in a variety of ways (drawing resource maps, developing timelines, ranking their well-being, prioritizing challenges to resolve, or sketching seasonal diagrams). Participatory activities raise the stakeholders' awareness of their right to a voice in the evaluation process and inform and empower them to take actions they can make to improve their program.

Currently, it is difficult to locate development studies using mixed methods that share the study's results with all stakeholders (other than PPA—see below). Many researchers have wholeheartedly embraced Chambers (1997) and Narayan's (1996) call for a more inclusive, qualitative methodology of putting the "first last" and the "last first." Some practitioners work with stakeholders to create knowledge that is socially useful and contributes to advocating for the attainment of human rights using qualitative means, yet they omit using quantitative tools. Wilson and Kakiri (2005) used case studies, focus groups, and individual interviews to learn what development assistance deaf beneficiaries desired from their Kenyan government and foreign NGOs. The results of the study were used by the deaf community to obtain government funding for several national and international activities; the study also was a tool to identify their needs when discussing policy with their government ministries, yet no quantitative data collection tools were used in the study.

Other development studies that use mixed methods tend not to be transformative, as the resulting data are not shared with the stakeholders. Hulme (1999) studied 13 Microfinance Institutions in East Africa to understand why individuals dropped out of these small business programs meant to bring income into homes of the moderately poor. Quantitative data were collected and analyzed from computerized dropout records as well as spreadsheets detailing each individual's account statements. About 1,400 people were interviewed, from bank employers who made loans to those who borrowed money. Results show banks tended to adhere to strict bank policies that did not fit the clients' needs, which varied according to:

seasons, stage of life, means of gaining a livelihood and a host of contingencies. Clients need loans for emergency medical and health bills, savings to pay

school fees, insurance in case of the death of an adult income earner, a mortgage to build a house, a savings plan so they have a small retirement income, and many, many other needs. (Hulme, 1999, p. ii)

Qualitative methods have the express purpose of empowering the beneficiaries, yet similar to other final reports using mixed methods in development, this study makes no mention of sharing results with stakeholders.

### ◆ *Conclusions*

The work discussed in this chapter highlights the use of mixed methods research methodology within a transformative framework. In particular, the authors demonstrate how engaging with communities that are often marginalized has produced powerful results for the questions and issues of interest to those communities.

In addition, the transformative paradigm allows for the inclusion of important contextual factors such as social justice (or lack thereof), power, and oppression to be addressed in (a) the type of questions asked; (b) the types of designs used; (c) the manner in which those designs are used; and (d) the kind of information that can be gathered that can both benefit and accurately represent the cultural communities. This chapter discusses issues in conducting transformative mixed methods research that can be used to expand on and complement earlier work. It also brings to visibility domains of social inquiry in which transformative mixed methods can be fruitfully applied, such as participatory action research, dissemination research, program evaluation, and international development. Framing research with philosophical components from the transformative paradigm allows the researcher to focus on how that perspective plays out in mixed methods research. Such a focus should help others decide how to conduct similar research.

### Research Questions and Exercises

1. Analyze one of the examples in this chapter in terms of the philosophical assumptions of the transformative paradigm. Present evidence from the study that supports the claim that it is reflective of the transformative belief systems.
2. Visit the U.S. Agency for International Development's Web page, "Telling Our Story" (<http://www.usaid.gov/stories/index.html>), and read examples of development assistance projects the U.S. supports worldwide. Select one project and list all of the stakeholders you think should participate in an evaluation of the project and why. What kinds of supports might be necessary to involve the stakeholders in appropriate ways?
3. Howe and McKay (2007) used qualitative methods, such as focus groups, to understand the "extent, pattern, and nature of chronic poverty" in Rwanda. What information do you imagine they were able to gather from focus group discussions that they were unable to capture using quantitative methods? How could this imagined collected data be used by poor people themselves?
4. Visit the United Nations' Web page, "About the Millennium Development Goals" (<http://www.unpd.org/mdg/basics.shtml>), and select one of the eight goals. Describe the measures (indicators) the United Nations uses to measure achievement of that goal. Derive implications for mixed methods research based on your review of these documents.

5. How did the qualitative data enhance quantitative data in Bledsoe's (2001, 2005) evaluation of the obesity program or the peace campaign program? By using the transformative paradigm in her work with the high school obesity prevention program, what does Bledsoe feel she accomplishes with the participants?
6. What are the transformative elements of Sullivan et al.'s (2007) research in the SCI community?
7. What are the challenges of using transformative mixed methods in the context in which you conduct your own research?

### ◆ *Notes*

1. As when living in group homes owned by an agency contracted by the state to provide accommodation and to enforce attendance at life-skills, educational, vocational, and various training programs designed to keep "clients" safely occupied.
2. In 1974, New Zealanders gave up the right to sue for compensation if they incurred injury in an accident. In return, a state-run Accident Compensation Commission (ACC) was established to provide all people in New Zealand 24-hour, no-fault compensation. Compensation includes a cash lump sum, all rehabilitation costs including aids and appliances, any necessary home and workplace alterations, ongoing home care and support, a motor vehicle, and 80% earnings-related compensation (ERC) for the period of rehabilitation (this might be extended for life if one cannot return to work). It is funded from levies on employers, wages, petrol, and motor vehicle registration. If, however, one's SCI is congenital or caused through illness, one is not covered by ACC and must rely on the far less generous and means-tested Invalid Benefit and Ministry of Health Disability Support Services (DSS) for rehabilitation, aids and appliances, and so on.
3. The Treaty of Waitangi is the founding document of New Zealand. It was signed between *iwi* Maori (tribes) and representatives of the British Crown in 1840 and allowed for the annexation and establishment of British law in New Zealand. Maori and English texts

of the treaty were circulated throughout New Zealand, with the overwhelming majority of chiefs signing the Maori text. Later-day debates over translation have seen the principles of the treaty—partnership, participation and protection—rather than the actual clauses incorporated in New Zealand law.

4. Martin Sullivan, a paraplegic himself and first researcher on the team, was philosophically committed to including people with SCI on the research team. Happily, this coincided with the Health Research Council of New Zealand (funding body) policy to build research capacity within the disability community and the important tenet of transformative research to include appropriately in the research process people from marginalized communities.

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## 9

## THE MULTIDIMENSIONAL MODEL OF RESEARCH METHODOLOGY

*An Integrated Set of Continua*

◆ Katrin Niglas

**Objectives**

The detailed objectives of the chapter are to

- present a brief history describing how the idea of philosophical research paradigms (and essential attributes of those paradigms) were converted from dualisms into continua;
- present a brief history describing how the QUAN-QUAL methodological dichotomy (and its constituent components) was converted into a set of QUAN-MM-QUAL methodological continua;
- present the multidimensional model of research methodology and describe its constituent parts as illustrated in Figure 9.2;
- describe in more detail the philosophical continuum in the model;
- describe in more detail the methodological continuum in the model;

*(Continued)*