Article

Incommensurability in Cross-Disciplinary Research: A Call for Cultural Negotiation

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Abstract

What happens when a clinical psychologist, a grounded theorist, an ethnographer, and a phenomenologist meet to collaborate on an interdisciplinary grant proposal on childhood loneliness? Excerpts of an imaginary dialogue reveal how different disciplines can be thought of as different "cultures," because each has its own way of doing things, deeply embedded assumptions about knowledge and the construction/representation of reality, and different specialized languages. Some of these differences might be incommensurable and call for cultural negotiation if a coherent approach is to be adopted. Cultural negotiation helps to make differences more accessible and understandable rather than creating inflexible or polarized ideological camps. This process might help methodologists think about researching across disciplines in new and more effective ways.

Keywords: cross-disciplinary research, qualitative methodology, incommensurability, cultural negotiation

Introduction

Cross-disciplinary research is being promoted across academia to address more effectively intractable social problems from a number of perspectives. Noting this trend, Lather (1992) referred to the "unprecedented cross-disciplinary fertilization of ideas" (p. 88) that characterized contemporary research. What is sometimes not fully acknowledged, however, is the extent to which different disciplines have their own way of doing things; deeply embedded ontological, epistemological, and methodological assumptions; and different specialized languages. Some of these differences might be incommensurable; in other words, one discipline's research traditions, practices, and languages cannot be understood or explained in terms of the research traditions, practices, and languages of another discipline without considerable distortion, incoherence, or confusion (MacCleave, 2003; MacCleave, James, & Stairs, 2002).

Rather than our viewing incommensurability as an insurmountable barrier, a better understanding of the issues and what is being demanded of researchers who confront these situations could lead to new possibilities for researching across disciplines. To this end, it might be helpful to think of research in cultural terms (Bruner, 1990, 1996; Cole, 1996; Geertz, 1973; Smagorinsky, 1995; Smith, 1995, 2001); that is, different research traditions might be thought of as different cultural communities, and researchers who cross disciplines might be thought of as cultural negotiators (MacCleave, 1999; Stairs, 1996; Stairs & Bernhard, 2002).

Context

A collaborative team from a variety of disciplinary backgrounds meets to write a research grant proposal, as depicted in an imaginary dialogue. Issues of incommensurability are encountered in this cross-disciplinary effort. This hypothetical story is based on my experiences working with different disciplines, reviewing research grant proposals, and teaching graduate students about a range of research methodologies. Portions of the dialogue relate to research experiences shared by colleagues, and other parts are a product of my imagination.

I also drew from the research literature for ideas. The research of a fictional phenomenologist, Helena, is based on actual research conducted by Anna Kirova-Petrova (2000). I use Anna's article in my Focus on Research Literacy graduate course to illustrate what can be accomplished with phenomenological inquiry. Although Helena's research is real, her role on the cross-disciplinary research team is fictionalized.

I began to think about different research approaches as different cultures when I was first introduced to cultural psychology at Queen's University in Kingston, Ontario, while on sabbatical leave in 1998. I sat in on a course in semiotics offered by Dr. Howard Smith. I also met with Dr. Arlene Stairs, who shared some of her writing on cultural negotiation. I collaborated with Arlene and other colleagues on a research symposium, presented at the 1999 American Education Research Association (AERA) Conference in Montreal (MacCleave, 1999). For that presentation, I described my participation in an actual research project as a committee member for a master's thesis. I analyzed this research story using principles of cultural psychology and processes of cultural negotiation. I also generated the same themes that I use for exploring this fictional research story. However, I needed to take the real research story in a hypothetical direction to illustrate processes of cultural negotiation adequately. I felt constrained, because real persons were involved who might not appreciate how they were constructed hypothetically. For the 2003 Conference of the Canadian Society for Studies in Education (CSSE) at Dalhousie University in Halifax, I wrote another version of this article based on my research (MacCleave, 2003). Unfortunately, the epistemological and ontological contrast between the quantitative and qualitative portions of my research was insufficient to draw out some of the incommensurability issues that I wanted to address or to further the research-approaches-as-different-cultures analogy. Finally, when I came up with the idea of writing excerpts of an imaginary dialogue, the ideas seemed to cohere. The dialogue is a fantasy about what I wish had happened in cross-disciplinary research rather than what actually happened as personal experience or as real-life experiences related by others. Through all these permutations and combinations, this paper has been 5 years in the making.

A research story: Collaborating across disciplines for a research grant

As Committee Chair, Dr. Cindy Jones takes her place at the head of the table. Dr. Jones is admired for her efficiency in conducting meetings.

Cindy: *I would like to call our meeting to order and begin by welcoming our department researchers and those from other departments or faculties who have decided to join us in a bid for an interdisciplinary NSERC grant on childhood loneliness. One of the major NSERC themes is a focus on social and*

emotional health in children. The granting agency is also pushing for more interdisciplinary research and favors combining quantitative and qualitative methods. I want to welcome Dr. John Smith from the Department of Anthropology, Dr. Helena Smart, a qualitative researcher from the Faculty of Education, and Dr. Jerry Keen. Jerry is a colleague from our medical school who is introducing qualitative methods to our researchers and exploring ways to combine quantitative and qualitative methods fruitfully. As you know, my work is predominantly clinical or quantitative. Over the past 10 years, my teams have brought in over $2million in research monies, and I hope to continue with my successful record. Without further ado, let's start by going around the table and hearing about which factors you found to be associated with childhood loneliness. Jerry, would you agree to serve as a recorder? Jerry and I will review the notes and try to get a draft of a tentative research proposal e-mailed to you in a couple of weeks. Helena and John can bring your comments and refinement recommendations to our next meeting at the end of the month. Let's start with you, Helena.

Helena: *In my work, I reviewed several quantitative studies reporting factors associated with childhood loneliness. Some versions of qualitative research also identified that issue in terms of factors. As a phenomenologist, however, I typically do not construct reality in that way.*

Sensing that things might rapidly be getting bogged down and glancing nervously at her watch, Cindy responds:

Cindy: *Then, what do you call "factors" in your research? You must have some other term. Is it "variables"?? Maybe we could ask Jerry to get the ball rolling and get back to you later, Helena. You identify factors associated with childhood loneliness in your grounded theory, don't you Jerry? Jerry has been trying to convince us that qualitative methods can be just as rigorous and scientific as quantitative research if sound methodology is used.*

Jerry: *No worries, Cindy. My grounded theory is considered legitimate in some scientific circles, at least. Otherwise, I would not have been invited to work with researchers in your medical school. I won't bog you down in details now except to qualify that I'm speaking in terms of situational variables or factors and participant perceptions of situations. Also, I need to point out that these factors did not emerge from testing a theory but were generated inductively in the process of building theory from the ground up.*

Jerry goes on to share some of his situational factors and participant perception "factors."

Cindy: *Thanks Jerry. It seems that we're on a roll now! What can you add to our list, John?*

John: *I don't want to bog down our process either Cindy, but similar to Helena, I don't typically report my findings in terms of factors or variables. For example, I'm currently collaborating with other colleagues across Canada in an inner city project on adolescent loneliness, and some of the contingencies around that state of being such as suicide or suicide ideation, depression, dropping out of school, underachieving, or whatever. We're in the middle of refining themes to portray our data. As one concrete example, we're finding distinctly different types of loneliness, such as existential loneliness, situational loneliness, social or relational loneliness. For the moment, I'll adapt things and call these sociocultural and contextual factors. So one of these factors, if you will, is that "adolescents experience different types of loneliness in response to an array of life events." This all sounds somewhat vacuous without a rich description of how these ideas work out in particular contexts…but it's a starting point. Here are others.*

He continues to share his themes converted to sociocultural and contextual factors, which Jerry faithfully records.

Cindy: Oh my! I don't think that I fully understand your situational and contextual factors, John, but I came to the meeting with some tentative research questions that I hoped to expand and refine with your input. These are stated in a broad or general way to include everyone as much as possible. For example, How might we define childhood loneliness? What factors are associated with childhood loneliness? How might childhood loneliness be treated by mental health care professionals, counselors, or educators?

Up to their eyeballs in incommensurability

Although not all research team members might realize it, this effort is already quagmired in issues of incommensurability before it is even off the ground. To start with, Cindy appears to be unaware of differences among various qualitative research traditions. She might be stretching her thinking to accept qualitative research of any sort and might still be somewhat skeptical about its value. On a positive note, she has some awareness of possible language differences across research traditions, but she thinks that these differences are only at the word or term level. Other traditions have another term or word that means the same thing. (i.e., if not "factors," then "variables").

Cindy seems unaware of the distinction between the terms method and methodology or of paradigmatic/methodological differences across research traditions. For her, methodology is assumed or taken for granted, and she thinks only in terms of methods. She uses these terms interchangeably.

Inquiry that is "rigorous and scientific" is the gold standard for Cindy and the majority of her medical research colleagues. However, different research traditions have competing views about what is meant by "rigorous" and how broadly or narrowly "science" is defined. Neither can a monolithic view of science be assumed among natural scientists, if the ongoing methodological disputes among verificationists and falsificationists or constructivists and realists are any indication (Hacking, 1983; MacCleave, 2003).

Finally, the notion that cross-disciplinary research can be conducted efficiently across previously exclusive disciplines is incommensurable with the reality that such research requires more time and effort than other forms. A "business as usual" approach will simply not work in this situation.1

Issues of power and status

These points of incommensurability can be further exacerbated by issues of power and status. It is obvious from Cindy's introduction that within her research community, one's credibility/value/status as a researcher is measured by the number and amount of grants received. This might not be true for Helena, however, whose research with smaller numbers of participants per study is time and labor intensive but might not require large grants for successful completion. Given the relatively lower prestige enjoyed by professional schools compared to those engaged in "pure" disciplines or clinical work, there is a danger that Helena's work might be undervalued, not to mention misunderstood. The same might be true of other qualitative researchers in the group. Trubowitz (2004) related the hierarchical thinking on college campuses:

> Science professors look down on social science faculty, physics professors deem themselves superior to chemistry instructors, and so the pecking order operates. If individuals and groups are to work with each other in a collaborative fashion, attitudes generated by this type of thinking need to change. (p. 115)

In response to these perceived "put downs" and in defense of their own research orientation, some qualitative researchers dismiss the value of all versions of quantitative research. Barriers are erected, and boundaries across difference become rigid and stereotyped. This defensive posturing, albeit understandable, precludes successful collaboration across disciplinary boundaries.

Can this research team be saved?

How might this team work with these seemingly irreconcilable differences? Can a successful collaboration be forged? Much depends on how team members perceive the differences and the actions taken to accommodate them. Much also depends on the personalities or character traits of individual team members. The collaboration would be compromised if members were overly insecure, egotistical "know-allers," arrogant or insensitive.

For the sake of this story, let us assume that members are mature, unpretentious, open-minded, and not hung up on power and control. Cindy might initially be perceived as overly concerned with power and control, because she mentioned the success of her research teams in getting grants. However, her announcement might simply represent a cultural norm or practice. Statements of this type might be the accepted way of establishing credibility in her research community and expected of anyone who assumes the role of research team Chair. Any "put-downs" (i.e., implied negative comparisons) might have been unintentional.

Given the breadth and depth of the incommensurability issues facing this research team, possibilities for collaborating need to be explored further. The following questions will guide this inquiry:

- What does it mean to think of research communities as cultures and researchers as cultural negotiators?
- What does it mean to think of research communities as cultures and researchers as cultural negotiators?
- How might one research community explain itself to the other(s)?
- What are the possibilities for developing a mutual discourse or innovative processes for cross-disciplinary work?
- What are the possibilities for valuing the contributions of often exclusive disciplines and professions? and
- How might processes of cultural negotiation contribute to cross-disciplinary work?

I will address these qustions by foregrounding the themes of languages of research communities, distinguishing between methodology and method, adopting conceptual and mediational tools, and supporting transformations. Processes of cultural negotiation will be explored in relation to these themes.

Research communities as cultures: Researchers as cultural negotiators

The notions of different research traditions as cultural communities and researchers as cultural negotiators are theoretically grounded in cultural psychology (Bruner, 1996; Cole, 1996; Lave & Wenger, 1991; Rogoff, 1990, 1994; Shweder, 1990; Wenger, 1999). According to MacCleave (1999), cultural psychology is "a field that is emergent, eclectic and rich with possibilities for reconceptualizing educational research, theory, participation and practice" (p. 1).

As cultures, research communities share mutually valued knowledge and conceptions, both traditional and current (Geertz, 1973). They also share distinct languages or discourses for designing and conducting their projects and disseminating findings and insights. Research cultures develop different explicit or tacit views of appropriate methodologies or methods and the relationship between research, theory, and practice (MacCleave, 1999). Reflection might or might not be a normative part of practice. After years of socialization in existing practices, these views often become taken for granted (Rogoff, 1992).

To shake up ingrained views, Stairs (1996) depicted education as a dynamic process of culturing and the role of educators as cultural negotiators. MacCleave (1999) adapted cultural negotiation to serve as an alternative lens for viewing both content and conduct of research and the role of the researcher. Researchers who introduce new ways of thinking or acting into research cultures might be viewed as cultural negotiators. To be effective, they need to grasp the theoretical and philosophical implications of their innovation in relation to prior practice (MacCleave, 1999). If researching across disciplines were thought of as cultural negotiation, the challenges faced by researchers might be better understood and the value and accomplishments of such encounters might be more fully appreciated. Possible outcomes of cross-disciplinary work might be better anticipated.

Combining methodologies and methods of different research cultures can have several possible outcomes. If there is no negotiation of meaning differences and if assumptions are not made explicit, the result could be an incoherent mess, filled with unexamined contradictions. (e.g., in the case of our research team, that might entail speaking of factors, variables, thick contextual descriptions, and phenomenological insights as if they were interchangeable and all basically meant the same thing).

As cultures, the more dominant and powerful research community might simply assimilate the less dominant one(s). Assimilation is an undesirable outcome if the less dominant research tradition loses its uniqueness, integrity, and fundamental purpose. Even if one research culture does not assimilate another research, there is a tendency to appropriate new research practices within previously existing practices or activities. Such appropriation of practices from another tradition can lead to fruitful innovations if done thoughtfully and with full awareness of differences.

Working across research cultural boundaries can lead to transformation for all who participate. Ideas evolve over time. Ultimately, a new "interdiscipline" might be formed through integrating dimensions of the original research cultures within an overarching and coherent methodological framework (Kockelmans, 1979). This outcome, however, is premature if researchers do not understand the assumptions governing the original traditions. At earlier stages in the collaboration, it would be better to consider different research cultures as complementary but incommensurable (MacCleave, 2003).

MacCleave (2003) related how the meaning of incommensurability changed for her when she reconceptualized research orientations in cultural terms: "I used to believe that incommensurability meant 'contradictory'; something like claiming at the same time that the world was round AND flat" (p. 17). Alternatively, mixing different research approaches in cross-disciplinary research might be thought of as looking at the same phenomenon through different cultural lenses. Incommensurability means that one research culture's mode of inquiry can not be fully understood in the terms or language of another research culture. Exploration of language differences across research cultures might help illuminate this meaning of incommensurability.

Languages of research communities

The vast array of research languages is often a barrier or constraint when working across disciplinary boundaries. Researchers from diverse disciplinary backgrounds might assume falsely that comparable concepts or terms exist across research traditions. They might be unaware that differences go beyond substituting one term for another. This tendency should be expected rather than faulted. Persons encountering a foreign language typically initiate the learning process by focusing on words or short phrases. In cultural terms, "learning a foreign language" might be a productive analogy for researchers crossing disciplinary boundaries.

Also, researchers might be unaware that the same words or terms have different meanings across research cultural boundaries. Alternatively, they might be aware that words or terms embody different meanings

but choose to ignore the "alien" discourse and cling to the already familiar. As one example, consider the word knowledge. When a researcher schooled in quantitative scientific/clinical traditions speaks of "knowledge," he or she means something entirely different from the cultural psychologist who speaks of "knowledge" or the phenomenologist who speaks of "knowledge." These differences in meaning cannot always be explained or understood quickly and easily. Mark Fettes (March 2, 1999, personal communication) expanded on this discussion of knowledge and the related problem of discourse or language as follows:

But the fundamental problem is the social organization of knowledge. Once a community of any kind is semi-closed, things are talked about inside it that are not talked about outside it, or are talked about in different ways (e.g. formal vs. informal, lived experience vs. theorizing, etc.), then its language begins to evolve semi-independently from the language of neighbouring communities. That's inherent in the way language works.

Development of specialized language allows research communities to share information and knowledge internally without the necessity of elaborate or prolonged explanation. In cultural terms, research languages or discourses might be thought of as both tools and artifacts (MacCleave et al., 2002). As psychological tools, research languages are developed to guide the content and conduct of inquiry within research cultures. Language-based reports, texts, articles, procedures, and technologies are the artifacts produced by the activity of inquiry, artifacts that influence subsequent activity.

* * * * *

To illustrate research language differences further, let us return to the dialogue of the research committee. After Jerry and John have shared their respective research projects in terms of factors, it is Helena's turn once again to contribute to this group effort to find common ground for their collaborative project.

Helena: I can relate to the factors associated with childhood loneliness that have been discussed by Jerry and John. I did encounter most of these factors in my background research. I find it reassuring that we've read many of the same studies. However, as I stated initially, I do not report my research in terms of factors or variables, for that matter. Instead, I try to focus on the meaning of loneliness within the lifeworlds of children. I try to integrate feeling or emotion with perception and thought to provide an account that is more holistic than that of the research studies we've addressed so far.

Cindy: (with a tone of incredulity) Did you say "feelings"?? As a researcher, I was strongly socialized to believe that feelings or emotions should be avoided as much as possible . . . to avoid bias and maintain objectivity?? Don't you worry about having biased research, Helena?? Jerry assured me that qualitative research can be just as rigorous as quantitative, and I assumed that that meant maintaining objectivity!?

Although Helena attempts to relate her contributions to what has already been discussed, it is unlikely that her distinctions would be understood by everyone at the table. Trubowitz (2004) has provided insight for this and similar situations: "We cannot bridge the gap . . . by talk alone. Years of separate thinking will not yield to an exchange of words" (p. 117).2 However, this initial attempt to contrast and compare languages and approaches positions Helena as a "first phase" cultural negotiator. Within the medical school environment, Jerry is also assuming this role in his attempts to promote the value of qualitative modes of inquiry. As cultural negotiators, Helena and Jerry must first understand these differences themselves and be able to "code switch" across multiple perspectives and research discourses (MacCleave, 1999). Both understand language differences between qualitative and quantitative research in general, as the research literature abounds with such comparisons. As a qualitative researcher schooled in grounded theory and the constant comparative method of analysis, Jerry might or might not be familiar

with the ethnographic approaches used by anthropologists or with phenomenological modes of inquiry. With his initial experiences as a cultural negotiator, he certainly has a foundation to build on.

Helena attempted to connect with the research discussed at the table before inserting what would be perceived as "alien" discourse to Cindy, if not the others. She also valued traditional scientific research; otherwise, she would not have taken the time to review articles written in this mode. In her own research, Helena was able to communicate subtle and nuanced distinctions in the word loneliness with children whose first language was not English. To accomplish this feat, she developed some innovative strategies. Her phenomenological study on loneliness among linguistically diverse children exemplifies sophisticated or "advanced stage" cultural negotiation. If nurtured in the role of cultural negotiator, Helena could be an invaluable asset to the team.

Not only must cultural negotiators grasp language differences, they must also understand differences in underlying assumptions across diverse meaning or discourse systems. As a final note on differences across research discourses, language mediates thought (Vygotsky, 1962, 1978). This mediation occurs through broad, interrelated, and coordinated systems of meaning (MacCleave, 1999). In the final narrative excerpt, Helena and Cindy have touched on the deep ontological, epistemological, and methodological assumptions that underpin their respective research traditions. For Cindy, these assumptions are a "given," and she is unfamiliar with reflection and critique of methodology and method.

Distinguishing between methodology and method

It is at this point in the collaboration that methodology and method need to be distinguished for three reasons: (a) to acknowledge incommensurability issues and decide how they might be addressed in this project, (b) to appreciate the purposes served by alternate modes of inquiry, and (c) to evaluate different segments of the research project appropriately (MacCleave, 2003).

Methodology refers to "the theory of knowledge and interpretive framework that guides a particular project" (Harding, 1987, cited in Lather, 1992, p. 86) whereas method refers to "techniques and procedures used to collect and analyze data" (Grix, 2004, p. 170). Methodology encompasses assumptions about what counts as knowledge, what is worth knowing and how knowledge and reality ought to be constructed or represented (i.e., epistemological and ontological assumptions). In contrast, structured interviews, conversational interviews, questionnaires, case study, participant observation, and artifact and document analysis are all examples of method. Although there might be strong connections between particular methods and methodologies, these connections cannot always be assumed.

Some research communities are more methodologically diverse than others and routinely encounter theoretical and philosophical differences. Community members get used to explaining themselves to each other and become comfortable with the ambiguity of being only partially understood, and vice versa. Other research communities are more homogeneous and rarely encounter an "alien" research discourse. MacCleave (1999) questioned whether the expectation of developing a shared or mutual discourse over the short term was realistic:

> To expect members of such diverse research communities to come to a shared understanding, let alone agreement, on such complex and far-reaching issues of research methodology and practice would require years of dialogue and a desire and deep commitment among all participants to give up their old way of doing things and adopt or create new ones. (p. 5)

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To explore the issue of differing methodological assumptions further, let's return once again to the cross-disciplinary research committee meeting. When we left our team, the Chair, Cindy, had expressed shock that Helena was unconcerned about objectivity. If Helena were not a cultural negotiator, she might have taken offense to Cindy's reaction. She might have "heard" the following: "Your research isn't rigorous or scientific!" "Your research is biased!" Rather than taking offense, Helena recognizes Cindy's reaction as a form of culture shock. She senses the possibilities hidden in Cindy's surprised reaction and recognizes that such dissonance is a precondition to negotiating meaning. In cultural terms, the situation would be impossible if Cindy had simply carried on, unaware of differences! Cindy's remarkable honesty about perceived differences is facilitative of cultural negotiation. Others in her position might have simply shut down the conversation or shifted to more familiar ground.

Helena: Let me assure you that my research is rigorous and systematic in its own right, but my purpose is not to develop generalizable truth claims or propositions like you do. I neither test theory like you do nor create theory from the ground up like Jerry does. Neither do I describe and understand the complex interactions between context and perception, thought, and action like John does. Instead, I try to understand and portray the structure of experience as it is lived, not as an abstraction. I've been successful when the experience I portray resonates with the reader of my research on the level of shared humanity and provides deeper insight into the phenomenon . . . childhood loneliness, in this case. Basically, I'm talking about the difference between methodology and method.

Cindy: (looking baffled) I have to confess that this is all new to me! Before this meeting, I had never heard of phenomenology. I have no idea how to handle this type of research!

John: The dissonance that you're experiencing Cindy seems similar to that of graduate students who enroll in my qualitative inquiry course having just completed a quantitative research methods course.3 They often experience emotional and intellectual shock when initially exposed to a whole new way of thinking and talking about research. They feel that I'm pulling the rug out from under.

Jerry: (nodding vigorously) When I first started working with your colleagues, Cindy, I had to reassure them that it was OK to move beyond some deeply engrained systems of meaning and to expand their repertoire of conceptual tools. It took some time, however.

Helena: I can relate to what John and Jerry are saying. I had similar feelings when I first encountered paradigmatic and methodological differences in graduate school. It is not my intention to create discomfort, but I feel compelled to explain myself. I hope that you'll accept that this difference is legitimate and allow a place for it in the project. I don't expect you to fully understand my methodology. That takes years!

Cindy: Thanks for letting me of the hook, Helena. I have to confess that I really do not understand your orientation. I knew that qualitative researchers did things differently from us quantitative folks, but I didn't know until today that you do things differently from each other! At this point, I'm stymied about how to proceed!?

Helena: I have a suggestion about procedure. There is no need to abandon the research questions that you brought to the meeting, Cindy. Let me assure you that I value the research efforts of everyone at this table. The more variety, the richer the research, as far as I'm concerned! Let's stick with those preliminary questions with whatever refinements are deemed desirable and those who can contribute to answering them can certainly do so. But I would like to generate a separate but related set of questions from a phenomenological perspective. In addition to contributing to your questions as he obviously can by referring to "contextual factors" and "sociocultural factors," John might also want to generate his own set of questions from an anthropological perspective. Jerry might add a grounded theory

perspective. These alternative perspectives could be "nested" within the larger study, and a methodological rationale could be written for each nested section. That way, we are educating the reader of our project about the purposes of the different sections while preserving the integrity of each research orientation. Maybe I'm getting ahead of myself, but it would be helpful for our readers and each other if the authors of the different sections also generated criteria for evaluating the different sections.

Cindy*: (looking relieved) That sounds feasible. Let's "go for it." I just hope that the funding agency buys into our different way of doing things!*

Helena's suggestion of "nesting" the different research approaches within the larger study was a good starting point for this team. Negotiating meaning at the level of methodology and sharing theoretical and philosophical assumptions is an enormous challenge. An exchange of words is not enough, especially if researchers seldom think of their research practice at a level beyond method.4 A range of conceptual and mediation tools might help initiate this process.

Using conceptual and mediational tools

One conceptual tool that is helpful for exploring theoretical and philosophical ideas is the generation of concrete and contextual examples rooted in the practice of different research traditions. When distinguishing methodology and method, John could readily relate to the following example: Participant observation, a common method employed by anthropologists in their field studies, could be used in the service of competing methodologies. Participant observation might be used to generate verifiable truth claims. On the other hand, the same method could contribute to a more interpretive/narrative account of a given reality.

Such examples help, because many researchers lack experience deliberating about methodological issues, and the esoteric and unfamiliar language of philosophy can be intimidating (e.g., epistemological, ontological). In addition, some conceptual tools exist that might help researchers locate and name their research traditions in relation to other traditions. Langenbach, Vaughn, and Aagaard (1994) developed a three-dimensional cube based on three continuums of truth-seeking versus perspective-seeking worldview or ontology, quantitative versus qualitative method, or whether a research project is oriented toward reform of existing conditions or preservation of the status quo (the axiology continuum). Constas (1998) developed a cube with methodological, representational, and political dimensions, which he claimed would help researchers better understand postmodern theorizing. St Pierre (2000) contested Constas's claim and pointed out that, among other shortcomings, an epistemological dimension was missing. Development of a conceptual tool that helped researchers visualize epistemological differences across research traditions would be especially useful for our cross-disciplinary research team.

Despite imperfections and conceptualizations that might be contested by some theorists, these cubes serve as useful heuristics for addressing a range of theoretical and philosophical assumptions.5 Both cubes help researchers distinguish methodology and method and both legitimize diversity in research approaches.

* * * * *

Let us return to our research committee 3 months later. The team is moving forward full throttle with its plans after learning that the grant proposal was accepted. During the proposal stage, Helena and John had formed a subcommittee to write an overall rationale for the pluralist approach to inquiry. They decided to build time and space into the project for educating each other about their respective approaches and planned to document understandings and misunderstandings plus any transformations that occurred as a result of these efforts. Grant reviewers were enthusiastic about this "inquiry about the inquiry" and believed that documented cultural negotiation could serve as a guide for future cross-disciplinary projects.

Cindy: John requested that we share examples of research from our respective orientations. At our last meeting, we exchanged journal articles from our previous research on childhood loneliness. Today, each team member promised to bring evaluation criteria for assessing the quality of different modes of inquiry plus the different segments of our cross-disciplinary research project. These evaluation criteria are designed to help us avoid judging one tradition with criteria suited for another tradition. Let's start with Helena who wants to initiate what she calls a "dialogue across difference."

Helena: Yes, let me share the evaluation criteria for my phenomenological inquiry into childhood loneliness. I'm not used to composing lists of this nature but it's a start . . . I'll pass out copies so that each of you can follow along.

> *Does the inquiry tap feeling as well as thought to encompass a more holistic understanding of phenomenon? Is affect (feeling) integrated with cognition (thought) in the account?*
> *Does the research help us probe beyond surface appearances to help us grasp deeper levels of meaning?*
> *Does the lived experience resonate with our own lived experiences at the level of a shared humanity even though our experiences may not be identical to those portrayed?*

and so on.6 After sharing the list, Helena asks the group,

Helena: After having read my research article, do you think that these assessment questions help you get a better understanding of what I'm about??

Jerry: Those questions really help me understand more about phenomenological inquiry, Helena but I have a bit of an advantage by having served as your sounding board before the meeting.

John: When I originally read your article, I wondered why you limited the number of participants, since I'm used to talking with a larger number of informants. I also wondered why you didn't simply promote multisite studies in order to generalize. After listening to your questions, I'm starting to get the idea that you probe more deeply for underlying meaning than I typically do in my field studies. Also, the way you integrate feelings with thoughts is amazing! It is quite evocative . . . could move a person to tears!

Cindy: I'm struggling!! I have to force myself to suspend questions about objectivity and bias that are buzzing around in my head . . . the way I usually evaluate research . . . But I think that I'm starting to get a gist of an idea about what you are trying to do. However, I'm still at a very early spot on the learning curve.

The idea of generating different lists of criteria for assessing the quality of the research segments (MacCleave, 2003) served as an effective conceptual and mediational tool for this group. The lists helped to initiate and focus what Helena referred to as a dialogue across difference. Although team members are at various stages in their understanding of the different research cultures in their midst, a process of transformation has begun. Participation on the team will likely expand the repertoire of research possibilities for everyone. Even if individual team members do not choose to change their own practice, with greater familiarity, they might become increasingly tolerant of different research approaches. Ideally, they will come to appreciate, and even value, what each research tradition can contribute to their mutual area of study.

Supporting transformations

How might the processes of transformation be initiated and maintained in cross-disciplinary research groups? A list of recommendations for supporting productive transformations follows.

Expect difference. Feelings of dissonance or "surprise" (Eisenhart, 1998) should be expected. Such dissonance is a precondition for negotiating meaning and a deeper understanding won't occur without it. It is important to create an environment where it is OK to ask seemingly naïve questions and explore misunderstandings.

Embrace difference. Rather than viewing failures to sort out deeply ingrained differences as something to be avoided or concealed, varying degrees of understanding can be expected, accepted, and interpreted as a normative part of cross-disciplinary research practice (MacCleave, 1999).

Create time and space for dialogue across difference. Recognize that it takes time to sort our deeply ingrained differences, and allow "the necessary tools and spaces" (Eisenhart, 1998, p. 392) for this to happen. Cross-disciplinary research teams might consider building time and space for engaging in dialogue across difference into their proposals. They might plan to use a variety of conceptual and mediational tools to support their efforts in terms of knowledge and capacity-building.

Conduct inquiry into the process of cross-disciplinary inquiry. Reflect on the process of conducting cross-disciplinary research. Issues of methodology might be discussed or deliberated at various stages in a research project (i.e., at the proposal stage, while conducting the inquiry, and as a follow-up reflection). Shared understandings, misunderstandings, points of confusion, dissonance, and surprise could be documented. The effectiveness of various conceptual and mediational tools could also be documented along with any transformations that have occurred. By supporting this type of inquiry, funding agencies can have a tremendous impact on the conduct of cross-disciplinary research.

Nurture cultural negotiators. Researchers who are familiar enough with diverse research cultures to "code switch" across different research languages and practices should be highly valued members of cross-disciplinary teams and encouraged in this role. Graduate programs should educate students to assume the role of cross-disciplinarians, research eclecticists, or cultural negotiators. Such a role needs to be valued as much as that of the specialist, because it would require more years of study and be relatively more challenging.

Become a community of learners. Researchers who participate in collaborations across cultures should think of themselves as communities of learners (Rogoff, 1994) and demonstrate a willingness to learn from each other. Participants would need to give up the goal of converting everyone to their way of thinking and forego any attempts to assimilate another research culture. They would need to preserve the integrity of the different research cultures that comprise the group while appreciating the richness that such a diversity can add to a common area of study. Participants should be prepared for transformations because working across research cultures is a dynamic situation for those who are open-minded and willing to learn.

Conclusion

Other than basing Helena's research on the actual inquiry conducted by Kirova-Petrova (2000), the rest of this research is pure fiction. For some, it might also be pure fantasy. What are the possibilities of this story and similar stories becoming a reality? Although cross-disciplinary research is not uncommon, the dialogue about working through theoretical and philosophical differences, addressing points of incommensurability, and arriving at a coherent and workable overarching methodology is seldom shared.

If this dialogue were included as part of the inquiry, researchers from different orientations might be encouraged to acknowledge differences but work together anyway. They might be committed to understanding and appreciating diversity and devising innovative ways to work collaboratively. Thinking of different research orientations as different cultures and the role of researcher as cultural negotiator may be a productive way to initiate a dialogue across difference. A cultural stance might also enhance the appreciation and value of research diversity and the accomplishments of such endeavors. As their ultimate goal, cross-disciplinary researchers should strive for more meaningful thought and action across research cultures (MacCleave, 1999).

Notes

1. Yet another point of incommensurability for this team is in the area of practice. Cindy uses the medical model when she refers to the "treatment" of loneliness. MacCleave (1999) recalled her shock at educational interventions' being lumped in with other medical or therapeutic interventions. Educators seldom think of their practice in this way.

2. The complete quote by Trubowitz (2004) is "We cannot bridge the gap between liberal arts departments and schools of education by talk alone" (p. 117). Although he was referring to difficulties encountered in efforts to collaborate across liberal arts and education, the sentiment expressed by Trubowitz aptly describes the situation of crossing disciplinary research boundaries.

3. This idea is based on Hein's (2004) description of the emotional and intellectual adjustment and stress his graduate students experienced in a similar situation. When faced with a new paradigm, seasoned researchers might experience even greater dissonance than students, who are relatively less invested in any particular mode of inquiry.

4. Apparently it is not uncommon for researchers to think exclusively at the level of method. Slife and Williams (1997) described psychology as "a discipline defined and driven principally by a commitment to method. Theorizing is secondary to the supposedly more precise, experimental pursuit of truth" (p. 119).

5. The "cube" was useful even with inadequacies. A group of my graduate students, who were presenting poststructuralist research, visualized this mode of inquiry as a vapor arising from the top and sides of Langenbach et al.'s (1994) cube. In other words, poststructuralist research cannot be contained inside structuralist categories!

6. The full list of criteria is part of a handout for my graduate course, Focus on Research Literacy. This handout, first distributed in Fall 2003 was entitled "Assessing the Quality of Phenomenological Research." It is still very much a work in progress and I have asked my graduate students to contribute questions to the list.

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