Article

Making Paradigms Meaningful in Mixed Methods Research

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Abstract

While recent mixed methods publications advocate for researchers' explicit discussion of their paradigmatic foundations, more guidance is needed regarding how these paradigms can be used. This article comparatively analyzes four major paradigmatic perspectives discussed in mixed methods literature: pragmatism, transformative-emancipation, dialectics, and critical realism. It offers a discussion of each perspective's implications for mixed methods and how they can be used to influence research based on recent publications. While there are several similarities, such as emphasizing divergent results and allowing for researcher choice in methods, each perspective offers a unique set of advantages and disadvantages. Emphasizing how paradigms can be used then promotes more explicit engagement with them in future research.

Keywords

paradigms, mixed methods research, guidelines

Teddlie and Tashakkori (2003) identified the ''paradigmatic foundations'' (p. 4) as a current major issue for mixed methods research. This issue is critical in terms of how to conceptualize, address, and/or move beyond the former ''paradigm wars'' that have characterized social science research for the past several decades. Discussions around the paradigmatic foundations for mixed methods research can be characterized in several ways. First, there has been much discussion on what constitutes a paradigm (Freshwater & Cahill, 2013). How scholars use the term *paradigm* has changed considerably from the original Kuhnian perspective as ''a way to summarize researchers' beliefs about their efforts to create knowledge'' (Morgan, 2007, p. 50). Biesta (2010) argues that paradigms should be considered as ''tools'' useful to the research process but not intending to be exclusionary. Freshwater and Cahill (2013) argue for conceptualizing paradigms not as static perspectives but as ''constructed entities'' that are more fluid (see Morgan, 2007). Other researchers have argued that the concept of a paradigm is ''unhelpful'' (Biesta, 2010) and perhaps should be replaced with ''mental models'' (Greene & Hall, 2010) or ''stances'' (Greene & Hall, 2010; Maxwell & Mittapalli, 2010). As a result, there seems to be little consistency in what researchers identify as the main paradigms in social science research (cf. Bryman, 2006; Greene & Hall, 2010; Mertens, 2012). I would argue that this discussion seems to echo the ''paradigm wars'' despite the belief that those wars are now largely in a state of peace (Bryman, 2006).

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Another issue for the paradigmatic foundations of mixed methods addresses whether one paradigm might be best suited to the field over others, or even if such discussions are fruitful (Mertens, 2012). Other researchers approach the use of paradigms based not on honoring one paradigm as better than another. Instead, these researchers believe that qualitative and quantitative approaches can come together to build on their ''complementary strengths'' and weaknesses (e.g., Morgan, 2007). Still others take an ''aparadigmatic'' approach, arguing that paradigms could be important for methodology but should not be used to inform the inquiry process.

More recently, scholars have argued that empirical research should include explicit discussion about the paradigm(s) used (Creswell & Plano Clark, 2011). For example, Alise and Teddlie (2010) studied the prevalence rate of mixed methods, type of designs, priority, and paradigm usage among the 600 articles they reviewed across five journals in the following fields: nursing, education, sociology, and psychology. They found that only one article explicitly stated the paradigm used (pragmatism). Thus, in order to characterize the articles as one of four paradigms identified (Alise and Teddlie used the following paradigms: postpositivism, pragmatism, critical or transformative, or constructivism), the researchers had to infer the paradigm used based on methods, priority of quantitative or qualitative strands, and/or discussion of a theoretical framework.[1] I believe that such extrapolation should not be necessary.

It is important to engage in discussions about what characterizes or can be considered a paradigm, as well as their application within mixed methods research specifically. For example, I agree with Greene and Hall (2010) that ''quantitative'' and ''qualitative'' should not be used as synonymous with paradigms. These qualifiers are instead more about our approaches to data and methods (Biesta, 2010) rather than signaling a singular worldview. It is also important to debate which paradigmatic approaches relate to mixed methods in general. However, arguments on what characterizes a ''paradigm'' versus an ''approach'' have led us away from the more important issue of how a researcher can operationalize a paradigm. While we advocate for more researchers to discuss their paradigms in their published work, there is not enough guidance, particularly for novice researchers, on specifically how these perspectives can be used. In other words, what are the implications of certain paradigmatic perspectives for mixed methods inquiry? By addressing that question, the purpose of this article is to consider the practical implications of paradigms for mixed methods design, implementation, and reporting.

It is important to note then that the focus of this article is not to analyze the representation of paradigms in published articles. Alise and Teddlie (2010) already provide an extensive investigation of this issue. Instead, the emphasis here is on offering suggestions for specific ways in which researchers can use their paradigm(s) in actionable ways. These suggestions are based on the characteristics, mechanisms, and special considerations particular to each paradigmatic perspective discussed. These suggestions should not be considered as an exhaustive list but an offering of areas to consider.

Since there are many conceptualizations of ''paradigm,'' I will first frame this discussion with how I define it and mixed methods research in general. This foundation is especially important considering that one's conceptualization of ''paradigm'' ultimately affects its utility in research. Next, I discuss each paradigm—pragmatism, transformative-emancipation, dialectics, and critical realism—while focusing explicitly on the implications that each offers for mixed methods inquiry. I chose these paradigms in particular because these are perspectives typically discussed in mixed methods literature (e.g., Creswell & Plano Clark, 2011; Freshwater & Cahill, 2013; Hesse-Biber & Johnson, 2013).

Then, I discuss examples of how these perspectives can be used intentionally based in part on recently published empirical research. These articles were found using each paradigm name and ''mixed methods'' as key words in search engines such as Summon and Google Scholar, as

well as in my search of the *Journal of Mixed Methods Research* specifically. I limited the search of articles to the past 10 years and to those that explicitly discussed the use of a philosophical paradigm. Rather than extrapolating the use of a particular paradigm (cf. Alise & Teddlie, 2010), I was interested in the ways in which researchers explicitly used their paradigmatic foundation. Given that this article specifically focuses on the use and implications of paradigms, this discussion will be most helpful for research practitioners as well as methodologists generally interested in this issue.

Conceptual Frameworks

I view mixed methods research as a type of inquiry that is philosophically grounded where an intentional mixture of both qualitative and quantitative approaches is used in a single research study. This mixture, or the integration of these two approaches, can take place in the philosophical or theoretical framework(s), methods of data collection and analysis, overall research design, and/or discussion of research conclusions. The purpose of a mixed methods research is to provide a more complex understanding of a phenomenon that would otherwise not have been accessible by using one approach alone (Creswell & Plano Clark, 2011; Morse & Niehaus, 2009).

In this article, I conceptualize ''paradigms'' based on Morgan (2007): ''Systems of beliefs and practices that influence how researchers select both the questions they study and methods that they use to study them'' (p. 49). Paradigms are not static, unchanging entities that restrict all aspects of the research process. Instead, paradigms can help frame one's approach to a research problem and offer suggestions for how to address it given certain beliefs about the world. Thus, I see paradigms as a guide that the researcher can use to ground their research.

It is important to reiterate here that there is debate among mixed methods researchers on the utility of paradigms for mixed methods research, as was discussed above. Indeed, not all researchers—including those in mixed methods—agree that paradigms are a helpful concept due to their potential to marginalize other beliefs or force researchers to buy into a set of beliefs (Maxwell, 2011). While I do agree with these points, I still argue that the conscious use of paradigms can offer a framework for researchers to help guide their decisions during the inquiry process. Paradigms can help the novice researcher align their choices with their values. They can provide a clear indication to those who would like to align themselves with other researchers who follow similar beliefs (Johnson, 2011). Also, when a researcher provides information about their beliefs, it gives their audience a better understanding of the potential influences on the research. Therefore, I approach the paradigm issue asking not *whether* paradigms are useful but *how* paradigms *can* be intentionally used; which paradigm to operationalize then is at the researcher's discretion.

On the word *paradigm*, in particular, there is discussion on whether the term itself is helpful as discussed above. While the focus of this article is not on this debate, it is important to note that pragmatism, transformative-emancipation, dialectics, and critical realism have been labelled in a variety of ways in other research (cf. Greene & Hall, 2010; Mertens, 2003; Morgan, 2007). Thus, for consistency, I will refer to them as *perspectives*.

In this article, I focus on four paradigmatic perspectives that have been presented as possible paradigms for mixed methods research (e.g., Creswell & Plano Clark, 2011; Freshwater & Cahill, 2013; Hesse-Biber & Johnson, 2013). While Creswell and Plano Clark (2011), for example, would agree with my characterization of these as paradigms, it can be argued whether critical realism is a ''paradigm'' (and not a theoretical perspective for example) or the extent to its actual use in mixed methods (Creswell & Plano Clark, 2011, p. 45). There is also a discussion on the distinction between realism and critical realism (e.g., Creswell & Plano Clark, 2011;

Maxwell & Mittapalli, 2010). However, critical realism does offer particular implications for mixed methods and the research process that are worth discussion here.

Dialectics can also be characterized as an approach rather than its own separate paradigmatic perspective. This is because research can use this perspective at various levels including paradigmatic, methodological, and analytical. Still, I categorize it here as another perspective for mixed methods researchers because the values at the core of dialectics—dialogue, recognizing similarities and differences, and divergence—can operate at the paradigmatic level and thereby influence decisions throughout the inquiry.

Finally, it is notable that I am not discussing postpositivism. While Alise and Teddlie (2010) discussed the large number of mixed methods studies following this paradigm, it is not presented in the mixed methods literature as a paradigm that deserves increasing attention like others. This is the case perhaps because of its dominance in various fields such as medicine and business. According to Alise and Teddlie (2010), the use of this paradigm is so accepted and inherent to some disciplines, though not necessarily mixed methods research itself, that it does not need to be explicitly mentioned; researchers in those fields would already assume its use. Given this, I have focused my discussion on paradigms that warrant further attention for their unique implications.

Four Perspectives for Mixed Methods Research

I focus my discussion on these four paradigmatic perspectives: pragmatism, transformative-emancipation, dialectics, and critical realism. These were chosen based on their representation in discussions about paradigms by methodologists in mixed methods as well as their potential implications. In the following subsections, I discuss each in more detail, drawing from both theoretical and empirical research, with particular attention to the contributions of each to mixed methods inquiry.

Table 1 presents in brief the unique implications of each paradigmatic perspective for mixed methods research. It presents general information on: the context that in part drove the need for the perspective, how it has been labelled, the purpose for using the particular perspective, and its characteristics. It then details the ramifications of each perspective related to the use of theory, the relationship of the researcher to the research, special considerations in the methods, and how inferences are drawn from the data. I came to these categories by considering the basics of mixed methods inquiry based on my conceptualization above. Also, given the impact on constructivist thinking on all research paradigms, considering the role/relationship of the researcher to the research is increasingly important.

Pragmatism

Morgan (2007) presents pragmatism as an alternative to positivism and ''metaphysical'' (based on critical theory, postpositivism, and participatory approaches) thinking. Pragmatism is outcome-oriented and interested in determining the meaning of things (Johnson & Onwuegbuzie, 2006) or focusing on the product of the research (Biesta, 2010). It is characterized by an emphasis on communication and shared meaning-making in order to create practical solutions to social problems. It places primary importance on the research question (Tashakkori & Teddlie, 2003). Pragmatism is based on the belief that theories can be both contextual and generalizable by analyzing them for ''transferability'' to another situation. The pragmatic researcher is similarly able to maintain both subjectivity in their own reflections on research and objectivity in data collection and analysis. Importantly, it has been referred to as an ''approach'' rather than a paradigm (Morgan, 2007). This distinction is important because

Table 1. Four Perspectives for Mixed Methods Research.

Perspective (primary source)	*Pragmatism* (Morgan, 2007)	*Transformative-emancipation* (Mertens, 2003)	*Dialectics* (Greene & Hall, 2010)	*Critical realism* (Maxwell & Mittapalli, 2010)
Context	Alternative to renewed interest in metaphysics among qualitative researchers	Response to the need for a framework that embodied researchers' work toward social justice with marginalized groups	Response to the paradigm wars	Response to polarization of positivism and constructivism
Identified as a/an	Approach (Morgan, 2007)	Perspective and/or paradigm (Mertens, 2003); Purpose (Tashakkori & Teddlie, 2003)	Stance (Greene & Hall, 2010)	Stance (Maxwell & Mittapalli, 2010)
Purpose for using	Determine practical solutions and meanings; useful for programmatic or invention-based studies	Address social inequities; useful for enacting positive social and/or individual changes for marginalized groups	Address convergent and divergent ideas; useful for studies with conflicting data sets/theoretical stances	"Facilitate" dialogue and compatibility between quantitative and qualitative approaches; useful for evaluation-based studies
Characterized by	Emphasis on communication; shared meaning making	Working with minority groups or typically excluded groups; attention to power, privilege, and voice	Working across and highlighting differences	Emphasis on context; acceptance of alternative viewpoints
Approach to connecting theory to data	Connect theory before and after data collection (abduction)	Must use a theoretical framework from community's perspective	Emphasize connections and divergence of theory and data/data sets	Recognize the partial and incomplete nature of theory to explain/capture data

(continued)

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Perspective (primary source)	*Pragmatism* (Morgan, 2007)	*Transformative-emancipation* (Mertens, 2003)	*Dialectics* (Greene & Hall, 2010)	*Critical realism* (Maxwell & Mittapalli, 2010)
Researcher's relationship to the research	Can follow tenets of objectivity and/or subjectivity depending on research/researcher (referred to as intersubjectivity)	Have a strong relation to the community involved; maintain some level of objectivity to address potential bias	Remain reflective throughout inquiry; promote dialogue among theories, data, and results	Emphasize relationships throughout; believe that complete objectivity is not possible
Methods	Emphasizes identifying practical solutions	Involves community in design and implementation	Emphasizes ability to make comparisons across data	Emphasizes perspectives and perspective taking; process-oriented
Inferences from data	Discuss transferability of results by determining level of context-specificity and study's generalizability	Discuss within relevant community sociohistorical contexts and power dynamics	Generate via integrations of diverse viewpoints/data sets, particularly from tensions within data strands and integration results	Can make causal inferences when emphasizing the context
Implications for mixed methods research	Mixes characteristics of quantitative and qualitative approaches; identifies practical solutions	Provides overarching social justice related goals and issues to guide research process	Addresses divergent results directly and emphasizes both convergence and divergence in data	Provides potential for causal inferences, and an approach to establishing context-based validity; emphasizes importance of mental aspects and perception

pragmatism has been described as offering specific ideas as to what constitutes knowledge, but does not purport to present an entirely encompassing worldview (Biesta, 2010).

According to Morgan (2007), pragmatism addresses three issues with the metaphysical paradigm: ''how to define paradigms, whether those paradigms were incommensurate, and the extent to which metaphysical assumptions actually guide research in the social sciences'' (p. 66). He argues that rather than relying on the metaphysical paradigm's a priori ''limits on communication,'' pragmatism emphasizes creating ''shared meanings and joint action'' (p. 67). This emphasis points to the underlying belief in complementarity, that is, qualitative and quantitative approaches can be combined in order to ''compliment'' the advantages and disadvantages present within each.

The impact of this complementarity approach can be clearly seen in Arnon & Reichel's (2009) discussion of their study using a telephone survey to comparatively analyze perceptions of a ''good teacher'' across gender and ethnicity among Israeli citizens. They used a concurrent parallel design with a telephone interview that included open-ended qualitative questions and a quantitative survey. These data were then analyzed separately and integrated using two methods: ''cross-validation'' or triangulation and ''quantizing'' the qualitative codes for statistical analysis (p. 182). Methodologically, the discussion of their research centers on the importance of having this pragmatic, complementary approach to their data since their quantitative and qualitative data seemed inconsistent with one another. In other words, despite having dissonance at the integration stage, Arnon and Reichel (2009) were able to use their pragmatic perspective to still emphasize the ''shared meanings'' created as a result of the integration. This reflects the intersubjectivity that pragmatism offers mixed methods researchers, which emphasizes disrupting the dichotomy between ''complete objectivity'' and ''complete subjectivity'' (Morgan, 2007, p. 71).

Similarly, the researchers stated that this complementarity was possible in their own working relationships because they ''could speak a common research language and combine [their] diverse research experience and expertise in a joint project'' (Arnon & Reichel, 2009, p. 178). Sharp et al. (2012) also discussed the impact of this complementarity in the formation a research team from various disciplines. In their article analyzing the impact of pragmatism on their sampling in a multisite case study, Sharp et al. (2012) argued that having such diversity was necessary in order to engage in a ''mixed methods way of thinking'' (Greene, 2007).

The pragmatic approach also maintains the ''valuable contributions'' of the metaphysical paradigm, that is, the importance of epistemology and the centrality of one's world views for their research (Morgan, 2007). While considering these issues, pragmatism focuses on what things will make a difference, as well as connecting abstract issues on the epistemological level to the methodological level. Arnon and Reichel (2009), for example, sought to engage in conceptions of multiculturalism and how identities can affect beliefs. It was toward this purpose that the researchers ''gave priority'' in their research design ''according to [their] pragmatist approach'' (p. 178). At this conceptual stage, Arnon and Reichel explicitly state that pragmatism influenced their conceptualizations of ''the nature of the investigated phenomena, and the [writing of] research questions and then considered the appropriate methodological ways of inquiry'' (p. 178).

Finally, pragmatism offers several ways to bridge dichotomies that exist in mixed methods approaches to social science. Biesta (2010) addresses this by arguing that ''knowledge'' can only provide us information about our actions and their results, not of the ''once-and-for-all truths'' (p. 96). Instead, pragmatism breaks down the hierarchies between positivist and constructivist ways of knowing in order to look at what is meaningful from both (Biesta, 2010). Addressing the connections between theory and data, pragmatism uses ''abduction,'' which ''moves back and forth between induction and deduction—first converting observations into

theories and then assessing those theories through action'' (Morgan, 2007, p. 71). An example of a research study that explicitly uses pragmatism's abduction is by Feilzer (2010). In this article, she discusses the implications pragmatism had on her research study measuring the impact on the general public of receiving factual information concerning crime via newspapers. According to Feilzer, she ''abductively'' noticed while analyzing the qualitative data that it ''had qualities of stability and recurrence,'' which prompted her to transform it into quantitative data (p. 10). She characterized her use of abduction as ''moving back and forth between the data sets,'' combining it with methods for triangulation (p. 12).

Also, pragmatism utilizes transferability to consider the implications of research. Transferability in qualitative research refers to the possible local and external connections that data can reveal about a phenomenon (Jensen, 2008). In other words, transferability allows researchers to ''investigate the factors that affect whether the knowledge we gain can be transferred to other settings'' (Morgan, 2007, p. 72). Returning to the example offered by Arnon and Reichel (2009), the authors conclude by pointing out the implications of their methods with feedback for researchers intending to use a similar ''multistrand-conversion-concurrent design,'' a telephone survey, and/or using a survey instrument with both quantitatively and qualitatively driven questions (p. 191). They also ask pertinent questions on the implications of their research findings for investigating these culturally laden beliefs about a ''good teacher'' in other national contexts.

Transformative-Emancipation[2]

Mertens (2003) makes an argument against using a pragmatic approach simply because it is practically based. She raises the question ''practical for whom and to what end?'' (House & Howe, 1999, as cited in Mertens, 2003, p. 159). In response to this, Mertens (2010) argues for adopting particular goals for research, which can be done by utilizing the transformative-emancipatory perspective. This perspective is characterized by the intentional collaboration with minority and marginalized groups or those whose voice is not typically heard on particular issues. According to Mertens (2010), it has been used in disabilities and deafness communities, work on HIV/AIDS, violence prevention, participation in governing structures, and more. This perspective necessitates attention to power, privilege, and voice throughout the research process (Mertens, 2003). It emphasizes making explicit the researcher's values, ethics, and paradigm(s) (Creswell & Plano Clark, 2011; Mertens, 2010).

This perspective was developed in concert with the increase in national awareness on issues related to race, class, gender, and disabilities. It emphasizes considering who is being left out, what groups are being targeted, and how researchers label/recruit/treat. Chilisa (2005), for example, analyzed research in Botswana on the prevention of HIV/AIDS to uncover how these studies have marginalized African value systems. I would argue that these issues of power inequities and voice should be paid particular attention in studies that rely on a triangulation rationale for the use of mixed methods. For example, how can inferences from qualitative and quantitative data be triangulated if collected from samples at the top and bottom of a bureaucracy? Conversely, how might an imbalance in power among sample populations influence using a mixed methods approach to discover ''initiation,'' or differences or paradoxes (Greene, Caracelli, & Graham, 1989)? Thus, integrating the data or results from two different samples under this perspective could be problematic unless the researcher's goal is to highlight the divergences that exist between the two groups.

Mertens (2003) argues that while an in-depth literature review is an important first step in determining the boundaries of what has been published, this approach to information collecting is limited to only that which has been published. Thus, Mertens argues for building strong

relationships within the community. To utilize a transformative-emancipatory perspective, the researcher must have a strong understanding of the community, its history (particularly related to research), and be well connected if not integrated within the community. Mixed methods researchers might plan for this kind of relationship building as part of their qualitative stage in a sequential exploratory (Creswell & Plano Clark, 2011) design for example. It is important to keep in mind though that for some communities, the use of certain methods that have historically negatively affected the community might cause them to be hesitant or even resistant to the research.

This emphasis on being integrated within the community is evident throughout the ''checklist'' provided by Canales (2013) for transformative mixed methods research done with Mexican Americans. This checklist was developed as a frame for other researchers to use in order to ensure that their research embodied high-quality mixed methods, critical and feminist theories, and a transformative-emancipatory perspective. Related to Mertens's (2007) emphasis on getting information not just from the literature, Canales (2013) lists the following: ''learn about the Mexican American community and its perceptions of the issue or problem under study *from Mexican Americans themselves*'' (p. 10, italics added). She also lists that mixed methods researchers develop ''trust'' and ''rapport'' with the community (p. 10).

Beyond building relationships with communities and viewing them as research ''participants,''Mertens (2003) states that community people should be actually involved in the research. This can be through question development, determining culturally appropriate methods, effective recruitment, sensitive data collection, and so on. Since the transformative-emancipatory perspective advocates the use of marginalized voices within the research, mixed methods researchers can operationalize this in the use of their qualitative results. For example, a sequential explanatory design could be used to highlight the voices of the participants in terms of how they understand the research phenomenon from their own perspective. This type of design utilizes qualitative data collection after the quantitative strand in order to explain or further understand the quantitative data, among other purposes (Creswell & Plano Clark, 2011).

This emphasis on community involvement is evident in the checklist from Canales (2013), though not explicitly. For example, when Canales described how to relate the ''benefits and credibility'' of a mixed methods design to the transformative-emancipatory perspective, she argues that researchers should hire members of the community to collect data. I speculate that empowering the involvement of the local community in something like data collection could assist mixed methods researchers utilizing a concurrent parallel design that requires collection of qualitative and quantitative data simultaneously. According to Canales, this involvement ''benefits the community by providing pay and research training to its members and promotes credibility through collaboration with the community'' (p. 16). Thus, involving the community in the analytic and integration stages of a mixed methods study could further benefit the community beyond simply the products of the research.

Of particular issue to the transformative-emancipatory perspective during data collection is the researcher's ability to explicate how the research will benefit the community, whether the community will view the findings as credible, the appropriateness of the communication, use of culturally sensitive ways to collect data, and ensuring data are used to positively change the community (Mertens, 2007). Canales's (2013) checklist in particular addresses issues of cultural sensitivity, asking how the research questions are posed, whether the measures used are ''culturally equivalent,'' and if the research will ''validate the culture of Mexican American female participants'' (p. 11).

In terms of data analysis, reporting, and using results, Mertens (2003) stresses that within this perspective it is important to connect quantitative and qualitative data in analysis, look at subgroups to determine any impacts across diversities, interpret results through a lens focused

on power dynamics, and ensure results are reported in ways that promote social change. By way of advocating for investigating power dynamics, the transformative-emancipatory perspective provides mixed methods researchers with a potential lens from which to base their integration analysis for example. I would argue also that data transparency, considered a characteristic of quality mixed methods research (O'Cathain, 2010), after the research study can then assist in maintaining a positive relationship with the community.

Overall, within the transformative-emancipatory perspective, it is important to frame all decisions, data collection, analysis, and reporting within the social and historical contexts of the community. This means paying particular attention to issues of power, privilege, and voice. As detailed above, this perspective offers mixed methods overarching goals to help guide the entire research process, particular considerations for the use of the qualitative data and results depending on design, and suggestions for the focus of integration analyses.

Dialectics

Dialectics offers a different approach to the paradigm discussion. Instead of conceptualizing another ''paradigm'' or perspective entirely, dialectics argues for using two or more paradigms together. According to Greene and Hall (2010), a dialectic perspective brings together two or more paradigms in ''respectful dialogue'' with one another throughout the research process (p. 124). By doing this, dialectics values each paradigm as a unique perspective of the world (Greene, 2007). The emphasis here is not in actually joining the two, but instead focusing on the tensions and new understandings that arise. Dialectics is used as a perspective to address divergent or dissonant data (Mathison, 1988) uncovered when bringing together paradigms with conflicting ideas (Greene & Caracelli, 1997). Among the perspectives discussed here, dialectics offers the most emphasis on divergence in the data and results. This focus on divergence is reminiscent of Greene's (2007)''initiation'' rationale for mixed methods research.

In the field of evaluation studies, Johnson and Stefurak (2013) take on the question of what evidence is considered credible from a ''dialectical pluralism'' perspective. Emphasizing the process-based component of dialectics, Johnson and Stefurak use this perspective to bring together and support cross-perspective research teams. Like the transformative-emancipatory perspective, dialectics also recognizes the importance of researcher's values on the research process (Johnson & Stefurak, 2013). It is through this recognition that opposing values are equally important and have something offer that dialectics can bring diverse researcher teams and paradigmatic perspectives together.

Johnson and Stefurak (2013) also argue for the collection of evidence to support changes in both top-down and bottom-up models. In other words, not only can dialectics provide a framework for bringing together potentially opposing perspectives and data, but it also supports social change. Thus, dialectics offers a framework regarding the handling and analysis of data, relationships among researchers and with participants, and dialogue across paradigmatic perspectives. It stresses no binaries, equal weight between groups, and no hierarchies (Johnson & Stefurak, 2013), making this an ideal paradigm to consider when placing equal priority among strands in a mixed methods study.

Frels, Frels, and Onwuegbuzie (2011) recently argued for the increased use of geographic information systems (GIS) to address the seldom investigated spatial contexts relevant to business and management. In discussing the possibilities of GIS for these fields, Frels et al. identify ''dialectical pluralism'' as having the ''greatest potential to use GIS applications to their fullest extent'' (p. 371). This is due to the perspective's ability to ''incorporate'' differing epistemologies present in typical uses of GIS compared to business and management research.

Greene and Hall (2010) also emphasize maintaining a reflective stance throughout the inquiry in order to ensure that any inferences made are ''warranted'' and thus not a result of the researcher's biases (p. 138). These reflections are also important in order to generate deep, rich, and complex insights from the data. Ultimately, dialectics seeks to ''surface, engage and legitimize difference in the social world, toward greater understanding and acceptance of difference'' (p. 140). This emphasis on reflection makes dialectics useful for mixed methods designs based in grounded theory and keeping research memos in general (Wiener, 2007).

In terms of the research process, the dialectic perspective believes that the methods used should depend on the study at hand. The researcher(s) should collect, analyze, and report data in ways that promotes dialogue, particularly between the quantitative and qualitative data sets (Greene & Hall, 2010). For example, mixed methods researchers can use side-by-side comparisons or comparative data displays that bring together both the qualitative and quantitative strands (Creswell & Plano Clark, 2011). This incites inferences based on these cross-dialogues including addressing those points that raise tensions, contradictions, and paradoxes. As a result, dialectics offers mixed methods research a perspective that not only recognizes difference and diversity but also emphasizes its importance to the point of placing it at the center of all decisions and outputs. This perspective is also a mechanism for mixed methods researchers to combine two or more paradigms that might be of relevance to their project (Greene & Hall, 2010).

Critical Realism

While some disciplines have more readily accepted the complementarity argument for paradigms, in other disciplines the paradigm wars have resulted in further ''fragmentation and polarization,'' impeding the adoption of perspectives like dialectics (Modell, 2009, p. 208). In response to this polarization, some researchers use a critical realist perspective. Discussed as a ''stance'' (Maxwell & Mittapalli, 2010), critical realism[3] utilizes the compatibility thesis of worldviews, supporting the point that quantitative and qualitative research can work together to address the other's limitations. Embodying a constructivist epistemology, critical realism believes in a world that is constructed through our individual standpoints and perceptions (Creswell & Plano Clark, 2011). However, this is contextualized within the traditional realist ontology where reality can exist outside of perception (Maxwell & Mittapalli, 2010). Thus, while there may be multiple perspectives on a single event or object (Healy & Perry, 2000), critical realism also recognizes that there are realities that cannot not be known (Guba, 1990). As a result, critical realists believe that theories can only be impartial representations of reality. Still, the goal of critical realist research is to measure and verify underlying structures in reality (Bisman, 2010). Similarly, critical realists also believe that objectivity can only be approximated (Maxwell & Mittapalli, 2010).

The implications of critical realism's ontology are represented throughout the practical use of this perspective. For example, due to this belief, critical realists use theory as helpful in guiding the research process, while recognizing that such theories are impartial or otherwise incomplete views of reality. I believe this manifests in mixed methods research based on the ability to discuss how particular findings might not support existing theories. This is not to underestimate the influence of theory on research but to recognize instead that theories cannot offer an all-encompassing or complete view of a phenomenon.

Identified as ''compatible'' with both quantitative and qualitative research, critical realism emphasizes a particular view of causal relationships. Like dialectics, critical realism emphasizes process and a ''generative'' view (Clark, MacIntyre, & Cruickshank, 2007) of coming to inferences during the integration stage. By emphasizing the process, critical realism offers a recognition of relationships between factors that promotes the investigation of context-based causality.

It does this by seeking to ''understand how phenomena are generated—in either physical or social realms—[. . . examining] underlying factors that are or potentially are at play'' (Clark et al., 2007, p. 524). Therefore, critical realists are interested in ''*particular* situations and events, rather than addressing only general patterns'' (Maxwell & Mittapalli, 2010, p. 156). For example, Clark et al. (2007) use a ''critical realist approach'' in order to critique other research on programs designed to help ''reduce cardiovascular risks and promote health in people with heart disease'' (p. 513). They argue that contemporary research is based on an ''impoverished ontology'' related to positivism that does not take into account the contextual factors that influence the health and outcomes of such programs (Clark et al., 2007, p. 513).

In another example of mixed methods research utilizing critical realism's emphasis on contexts, Douglas, Gray, and van Teijlingen (2010) used a realist approach in their study evaluating smoking cessation intervention programs. They discuss using this perspective specifically in order to illuminate ''the *context* in which an intervention is implemented; the *mechanisms* of that intervention, as well as its outcomes'' (p. 2). For this study, in particular, it was important to identify the contexts of successful intervention programs since these contextual factors are intimately connected to the success or failure of an intervention. To address this importance, they used a phased design that first mapped the ''context, components and complexity of emergent health promotion interventions'' (p. 3). These contextual maps could then be used to ground their inferences.

Critical realism shares with pragmatism the utilization of abduction when applying theory to the data. For example, Modell (2009) discusses two articles that use a critical realist–like approach to triangulation. (Modell states that they are not arguing that the articles use critical realism.) Both examples used an abduction model to bring together multiple theories in order to ''explain context-specific tendencies'' (p. 218). This approach was used because, according to Modell, the researchers found that traditional approaches to the data could not explain the findings that seemed to contradict existing theories. In this way, critical realism offered an approach to add new ''theoretical insights'' while still attending to particular contexts vis-à-vis abduction. While both perspectives use abduction, critical realism in particular emphasizes the theory-generating and generalizability of results as well as their context-based nature. Furthermore, this allows for the continual refinement of theories (Modell, 2009).

Critical realism also emphasizes the ''mental,''''part of reality,'' or how emotion and mental perspectives are important to the research process (Modell, 2009). Critical realists place high importance on perspectives—that is, taking new perspectives, understanding different viewpoints, and representing diverse voices. Modell (2009) would argue that these diverse viewpoints can be seen as ''the starting point for further theorizing'' (p. 219). In fact, ignoring variations in perspectives would make critical realists, according to Modell, ''highly skeptical'' since it would likely compromise the overall analysis (p. 219).

Critical realism can offer mixed methods a perspective that emphasizes diversity and the relationships among people, events, and ideas. This allows for process-based causal inferences, which are not as possible with other perspectives described here. Finally, critical realism also offers mixed methods researchers a perspective that emphasizes perspective-taking and empowering the voices of others while still recognizing that these can only be partial representations of reality (Maxwell & Mittapalli, 2010). These components combined make this paradigmatic perspective particularly useful in evaluation-based research studies.

Conclusions

In this article, I have discussed the history and various conceptualizations of paradigm and the ''paradigm issue'' for mixed methods research, its importance to mixed methods, and four of

the ''perspectives'' or philosophical foundations that have particular implications for mixed methods inquiry. By focusing on how these perspectives—that is, pragmatism, transformative-emancipation, dialectics, and critical realism—influence mixed methods design, theory use, relationships, inferences, and data reporting, this discussion is intended to be practically based for novice mixed methods researchers as well as relevant to those interested in the paradigm issue.

Pragmatism offers a strong emphasis on research questions, communication, and shared meaning making. In connecting theory to data, it uses abduction, which has been found to be particularly useful during the integration stage of mixed methods. Pragmatism recommends a balance between subjectivity and objectivity throughout the inquiry. Finally, its emphasis on transferability offers a paradigm that can revise previous or create new disciplinary theories based in particular context but still generalizable to others.

The transformative-emancipatory perspective specifically addresses social inequities in order to enact positive social change related to oppression, power, and privilege. In working with marginalized groups, voice and power are particularly important considerations that should be addressed in all stages of the mixed methods design. Theoretical frameworks, methods, and the researcher all must have strong relationships to the communities involved. Emphasizing values, this perspective offers mixed methods inquiry specific value-based goals to be incorporated at all stages.

Taking a somewhat different stance compared to the other perspectives, dialectics offers a way to bridge seemingly conflicting ideas, theories, and/or data sets. In particular, this perspective is interested in investigating the nature of these divergences as well as possible convergences. As a result, it can be used as a perspective to help address divergences between data sets after integration. Promoting reflection and dialogue throughout, dialectics also offers diverse research teams a frame within which to work together.

Finally, critical realism also bridges divides between quantitative and qualitative approaches but is based specifically in the belief that theories on reality are partial thus emphasizing the importance of diverse viewpoints. This ontology then allows for researchers to legitimately discuss divergences in their findings compared to existing literature. Critical realism can help facilitate dialogue across differences theoretically. It also encourages including insights that are mentally based, such as collecting perception- and reflection-based data. Its emphasis on relationships is connected to its ability to infer causal relationships that are both contextually based and generalizable to others. This perspective has been particularly used in evaluation studies.

Through discussion of examples of recent mixed methods research that explicitly engages each of these perspectives, this article offers insights into particular considerations, mechanisms, and avenues in which researchers can mobilize these perspectives intentionally in their research. While this discussion is not intended to be exhaustive, it does provide a foundation for considering which perspectives might be relevant to a novice researcher based on her or his beliefs and research focus. In most cases, the strategies for intentionally using these perspectives were those addressed in the examples discussed above. In a few cases, I used a side-by-side analysis of the articles with the researchers' identified paradigmatic perspective to uncover any other influences. Future researchers could use the same approach by asking how a particular decision made during the research inquiry aligns with a specific component of her or his paradigm. Additionally, reading further examples of empirical research that highlight the use of paradigm(s) will also generate ideas for the researcher's own study. While examples of this reporting do exist and journals are increasingly asking for such discussions (e.g., *Journal of Mixed Methods Research*), these examples are still few and far between. Additionally, while several articles were found that identified using dialectics to help reconcile competing beliefs,

much of these did not adequately discuss how this was done. It is necessary then that our discussions on paradigms promote such intentional uses of these perspectives.

While in this discussion, I did intentionally use the term *perspective*, I still argue for the importance of conducting paradigmatically grounded mixed methods research. There are strong arguments on how the term or concept of *paradigm* has become unhelpful at best. It remains to be decided in the field whether replacing *paradigm* with another term would be useful or if such debate is pulling discussions away from other important issues.

However, we should not argue for a single ''best'' paradigm (or perspective) for mixed methods research. To do so would perhaps enliven a new kind of paradigm war, placing importance on research that uses said paradigm over others when this kind of exclusionary thinking helped prompt the paradigm war as we have come to know it. Thus, the particular paradigm(s) used should be at the discretion of the researcher(s). We should be less concerned with whether researchers chose the ''best'' paradigm and more concerned with their legitimation for and operationalization of the one chosen. Does it align with her or his values and the research focus? Are the implications of the paradigm clearly and explicitly discussed? How do her or his inferences relate to the discussed paradigm(s)? We should be focused more on how researchers use their paradigm(s) and their elaborations on how. To do so better promotes researchers' explicit and intentional interaction with their philosophical foundations throughout the design, implementation, and reporting stages of their research.

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Notes

1. In this article, I refer to philosophical paradigms and theoretical frameworks as two distinct entities. A philosophical paradigm as a worldview with certain beliefs about how knowledge is constructed and measureable, what is ethical, and the nature of being. A theoretical framework, on the other hand, serves as an explanation for a phenomenon, a general ''orienting lens'' for understanding a phenomenon (Creswell, 2009, p. 62), and provides a hypothesis for what might occur or why.
2. After the initial use of the full ''transformative-emancipatory'' perspective phrase, Mertens (2007) uses ''transformative'' to refer to this perspective. I have found that in conversations about the ''transformative'' perspective, it tends to be misconceptualized to mean simply some level of change. This misconceptualization may be a result of shortening the term. Therefore, to emphasize its emancipatory foundation, I use the entire term.
3. Maxwell and Mittapalli (2010) use the term *realism* interchangeably with *critical realism*. While the latter can specify a particular kind of realism, they state that they use ''realism'' in order to encompass all of this perspective's manifestations. However, most other scholars refer to the perspective detailed by Maxwell and Mittapalli as ''critical realism.'' Therefore, in order to be consistent with this other

research and to signify particularly its critical foundations, I refer to this perspective as ''critical realism.''

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