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Do We Need Paradigms? A Mixed Methods Perspective

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When the editors of this journal asked me to provide my evaluation of the concept of “paradigms” and provide a commentary on Joseph Maxwell’s article on the subject, I responded positively because I believe that too often important ideas are not clarified, discussed, and debated in the literature. Below, I first define some relevant terms that I have been writing about. Second, I provide some thoughts on the concept of paradigms. Third, I comment on some key themes in Maxwell’s article on paradigms in this issue.

Some Background Concepts

I believe the paradigms and qualitative versus quantitative research debates are about knowledge and power (and personality) (Johnson & Gray, 2010). This is seen in the schism in universities between humanities and natural-science-oriented research. This knowledge war (about what knowledge is, who has it, and arguments surrounding relativism vs. realism) goes back, at least, to ancient Greek times. This “knowledge war” about what is real or true continues to the present, and I do not think this war will ever end. Still, I hope each generation will try to do better than (building on ideas seen in) their predecessors and continue to add new thoughtful viewpoints to the discussion.

Often, I advocate what I will label “mixed methods perspective” or MMP (for lack of a better label). If you take the MMP, you will attempt to systematically dialogue with, engage, understand, respect, and combine/integrate multiple concepts and perspectives (e.g., about meaning, epistemology, ontology, what is “seen,” what is important, emic vs. etic viewpoints, etc.). This kind of thinking is dynamic and the thinker is always listening to learn something different, challenging, and new. The thinker is not afraid of difference, contradictions, and lack of certainty. He or she will carefully listen to but also ultimately reject dogmatism and reductionisms. He or she typically finds some truth in very divergent ideas, places, and people. Rather than accepting binary arguments (such as it must be “either a or b”) the person taking the MMP typically says both are correct in some ways and prefers a combined package of “some of both.”

I am no longer advocating a single philosophical paradigm for mixed research (my preferred label for mixed methods research) such as pragmatism. Instead, I advocate a metaparadigm that I call *dialectical pluralism* (DP). I first explicated DP in a paper presented at the 7th International Congress of Qualitative Inquiry (Johnson, 2011). Dialectical pluralism (DP) is a philosophy designed to produce the MMP, but its potential use is much broader than its use in a methodological paradigm. The key idea of DP is to understand and purposively, dialectically, and dialogically engage with difference and interact with multiple paradigms, disciplines, positive values, and concepts. Research conducted in this way should help produce justified knowledge that

is “thick” (i.e., value laden knowledge), provisionally true, useful, and widely accepted (especially when one dialogues with practitioners and users). In my original paper on DP (Johnson, 2011), I articulated DP as an intellectual process, examined some tensions that DP mediates dialectically and provided a set of principles for conducting DP in a group or team composed of people with different paradigms. I also showed how DP can dialogue with multiple ontologies, multiple epistemologies, multiple ethical theories and values, and multiple methods and methodologies.

In 2007, I began constructing a list of criteria/tenets of what I call *Inclusive Education Science*. My current list builds on the one first articulated in Johnson (2009). An *inclusive science* asks all of us to, at least sometimes, empathetically and carefully “listen to and learn from” each other and work together for causes that we care about. There are sets of researchers from multiple epistemological and methodological backgrounds that care about similar broad issues, for example, educating children, reducing mental illness, reducing violence, reducing radical inequalities within and across nations, understanding and promoting ethnic understanding and appreciation, and producing basic knowledge to build upon for future research.

Common to both DP and the MMP is a respect for and continual striving to literally “thrive on our differences” as well as our similarities, as we attempt to create new integrative knowledge. These ideas background my thinking, and I will refer to these three ideas occasionally in this article: MMP (the mixed methods perspective), DP (dialectical pluralism), and Inclusive Education Science. The reader should be able to predict at this point that I will advocate listening to multiple paradigms and combining or integrating ideas and values found in them. This operation can be done by a highly trained individual or by a team that is willing to work together while respecting and retaining key differences.

Paradigms

To orient one’s self to the word paradigm, it is instructive to examine how the term has been used in some of our academic literatures. An ontological point, regarding the term paradigm, is that there is no essentialist definition (i.e., no *single* eternally correct definition) for the word or term paradigm to be found. As Wittgenstein (1991) said in the latter part of his career and published shortly after his 1951 death, “for a large class of cases . . . the meaning of a word is its use in the language” (p. 18). The word paradigm has been socially constructed multiple times and it is used in multiple ways by different writers to refer to something they care about. Exhibit 1 shows a few examples of the use of paradigm in a few social-science-related literatures.

A key point is, again, that researchers define paradigms differently and use the term in multiple ways. Because of the

Exhibit 1 Examples of Paradigms in the Social and Behavioral Science Literature

Here are some entities that have been called paradigms: action research (Bargal, 2008), humanistic psychology (Aanstoos, 2003), organizational discourse (Bargiela-Chiappini, 2004), an approach to identifying individuals at risk for psychosis (Cannon, Cornblatt, & McGorry), a device to define and direct a social movement (Chiappe & Flora, 1998), type of therapy such as psychomedical therapy paradigm (Cottone, 1989), an area of empirical research (Vervliet et al, 2005), mixed methods communities of practice (Denscombe, 2008), participatory research (Cocks, & Cocram, 1995), design based research (Dix, 2007), pragmatism in mixed methods research (Feilzer, 2010), randomized clinical trials (Goldfried & Eubanks-Carter, 2004), theories of social change (Jorg, Muller, & Olaf, 2003), perspectives for the analysis of social phenomena (Hassard, 1991), a conceptual framework in demography (Thorton, 2001), a collection of roles, relationships, and authority structures (Horling & Lesser, 2005), empowerment paradigm (Haber, 2009), a way of studying language comprehension (Just, Carpenter, & Wooley, 1982), multidisciplinary research (Kappas, 2002), a multi-methodological theory-testing framework (Noar & Mehrotra, 2011), solution oriented research (Robinson & Sirad, 2005), an approach for use of library space (Scott, 2009), theoretical construct such as emergency paradigm, monetary paradigm, social justice paradigm, and bankruptcy paradigm (Spector, 2009), and phenomenology (Suransky, 1980).

multiple uses of the term paradigm, I would find it helpful if writers more often defined their uses of the term to help maximize communication (and minimize confusion and equivocation of meaning). Sometimes, authors also use the term in multiple ways in the same article or book. Maxwell, by the way, appropriately defined his usage. Now I will compare several definitions of the term paradigm found in some key writings.

As pointed out by Maxwell, modern usage of the term began in Thomas Kuhn's 1962 book entitled *The Structure of Scientific Revolutions*.¹ Kuhn's book is now republished in its original form in a third edition. The only difference across the editions is that the second and third editions include Kuhn's "1969 Postscript" where he replied to some of his critics and clarified some of the points he made in the original text (Kuhn, 1962; 1970; 1996). In the philosophy of science (and social science), in social/behavioral research methodology, and in the qualitative research revolution, Kuhn's book was of epochal importance. I consider Kuhn to be the "father" of the modern concept of paradigm, not because he invented it but because he articulated it at an important time in intellectual history.

As Maxwell points out, Kuhn's (1962) discussion of paradigms included multiple usages of the word (e.g., Masterman, 1970), and Kuhn in his "1969 Postscript" decided to rename and explain his two major meanings (1970). In the Postscript Kuhn suggested that we drop the term paradigm and instead use the more accurate terms that he coined. His first meaning of paradigm is called a *disciplinary matrix*:

I suggest 'disciplinary matrix': 'disciplinary' because it refers to the common possession of the practitioners of a particular discipline and 'matrix' because it is composed of ordered elements of various sorts, each requiring further specification. (p. 182)

A disciplinary matrix included, for example, the following: symbolic generalizations (e.g., $f = ma$), shared models (including heuristic models) that supply "permissible analogies and metaphors" and metaphysical commitments (p. 184), and widely shared values (e.g., about how to judge theories; about the importance of prediction; and important characteristics of theories such as consistency, plausibility, and simplicity).

Kuhn labeled his second major meaning of paradigm *exemplars* that referred to the following:

... the component of a group's shared commitments which first led me to the choice of that word [i.e., paradigm]. Because the term has assumed a life of its own, however, I shall here substitute 'exemplars.' By it I mean, initially, the concrete problem-solutions that students encounter from the start of their scientific education, whether in laboratories, on examinations, or at the ends of chapters in science texts. To these shared examples should, however, be added at least some of the technical problem-solutions found in the periodical literature....exemplars provide the community fine-structure of science. All physicists, for example, begin by learning the same exemplars.... (p. 187)

Here is how Kuhn (1977) explained these ideas of disciplinary matrices and exemplars in another of his books: "Constituents of the disciplinary matrix include most or all of the objects of group commitment described in the [1962] book as paradigms, parts of paradigms, or paradigmatic" (p. 297); "the term 'exemplar' provides a new name for the second, and more fundamental, sense of 'paradigm' in the [1962] book" (p. 298); [exemplars are] "a community's standard examples" (p. 306). Kuhn thought exemplars were especially important for the operation of research in scientific communities during normal science.

Against this Kuhnian background, Egon Guba (1990) defined paradigms with regard to philosophy and methodology. Guba emphasized that there were three major components of a paradigm, including ontology, epistemology, and methodology. Guba identified several "paradigms" including positivism, postpositivism, critical theory, and constructivism. Unlike Kuhn, Guba emphasized the philosophical (rather than problem solving) aspects of paradigms as being of primary importance. Because of this emphasis, when talking about Guba's approach to paradigms, I add an adjective for clarity, calling them *philosophical paradigms* (even though it includes methodology).

Guba's approach has been of epochal importance and helped spark a "qualitative revolution" of sorts and promoted the rise of qualitative research (that takes on many different and more specific forms). Guba's approach has been particularly popular in education (though its influence cuts across

1 For a history of Kuhn's usage and use before Kuhn, see Wray (2011).

many disciplines). One contributing factor to this influence is the internationally recognized *Sage Handbook of Qualitative Research*, now in its fourth edition. To stay up-to-date, here is Denzin and Lincoln's (2011) latest summary of their construction of "paradigm":

In our introductory chapter, following Egon G. Guba (1990, p. 17), we defined paradigm as a basic set of beliefs that guide action. Paradigms deal with first principles or ultimates.... Perspectives, in contrast, are not as solidified nor as well unified as paradigms.... A paradigm encompasses four terms: ethics (axiology), epistemology, ontology, and methodology. (p. 91)

Comparing this definition, one sees that ethics is now included, unlike in the original 1990 definition. They also seem to claim that paradigms are "solidified" and "unified." Guba's approach to paradigms is what I will label *philosophical* paradigms.

I often talk about research or *methodological* paradigms, to add yet another twist to the concept. I do this, perhaps, because I am a methodologist with a strong interest in the philosophy of science. I also do it because when I hear professors and students talk about their identities, the vast majority of the time I hear them identifying with "qualitative research" (not constructivism), "quantitative research" (not postpositivism), or, more recently with "mixed methods research" (not pragmatism or realism). In short, there seems to be a place for the concept of methodological paradigms.

A methodological paradigm includes the same components in Denzin and Lincoln's paradigms (ontology, epistemology, axiology, and methodology) but it is *named* differently (quantitative research, qualitative research, mixed research). By the way, if anyone wants to claim that methodological paradigms "ignore philosophy" then they simply have ignored what I have said. Also, if anyone decides to claim that Guba's definition of "paradigm" is wrong or Kuhn's is wrong or Johnson's is wrong, I hope they will first ask themselves if they are ontological realists and go as far as Plato when he said we must "carve nature at its joints" and get the *one* real or essentialist or true definition of an idea (e.g., paradigm). I think most will find that they do not wish to make that commitment. I know I do not; I am not an essentialist, especially when it comes to social constructs. Furthermore, I think it is good to have multiple perspectives and definitions of paradigm *as long as the writer "defines" his or her meaning in use of the word*. I look forward to thinking about additional definitions/uses of paradigm that other writers might want to add to the dialogue. Again, however, we all need to keep the reader in mind and make sure that our meaning in use is clear in our publications.

Here are two key statements about what I refer to as research or methodological paradigms. The first statement is, probably, the statement Maxwell was referring to when he pointed out that I view qualitative, quantitative, and mixed research as "paradigms" (Johnson, Onwuegbuzie, & Turner, 2007):

[In its modern use,] Thomas Kuhn (1962) coined the term *paradigm*. In a recent article we coined a term we thought might work for delin-

eating the three major research approaches in the social and behavioral sciences: qualitative research, quantitative research, and mixed research (or mixed methods research). We used the term *research paradigm* (Johnson & Onwuegbuzie, 2004, p. 24) as follows: "By *research paradigm* we mean a set of beliefs, values, and assumptions that a community of researchers has in common regarding the nature and conduct of research. The beliefs include, but are not limited to, ontological beliefs, epistemological beliefs, axiological beliefs, aesthetic beliefs, and methodological beliefs. In short, as we use the term, a research paradigm refers to a research culture. We will be arguing that there is now a trilogy of major research paradigms: qualitative research, quantitative research, and mixed methods research." (pp. 120-130)

My colleagues and I elaborated on the issue as follows:

A synonym for our concept of "research paradigm" would be the term *methodological* paradigm. The point is that a paradigm can develop around what it means to conduct research and how it is undertaken.... For Kuhn, the term *paradigm* was clearly not limited to epistemology, which is one of several popular usages today, but not ours. We find it convenient to speak of research or methodological paradigms as a way of separating and organizing qualitative, quantitative, and mixed research. (p. 130)

In short, I find it convenient to refer to qualitative, quantitative, and mixed research as research or methodological paradigms because I want to be able to have a name for what we all call "qualitative research," "quantitative research," and "mixed methods research." I think it works fine because methodology can be construed in a large sense to include anything of possible relation to research methodology including history, philosophy, and methods. Yet another reasonable way to conceptualize a social research paradigm would be around the categories Greene (2006) constructed for what she called social inquiry. Her conceptual categories included (a) philosophical assumptions and stances, (b) inquiry logics, (c) guidelines for practice, and (d) sociopolitical commitments (Greene, 2006; Onwuegbuzie & Johnson, 2006). Similar to Guba's philosophical paradigms and Johnson's methodological paradigms, Greene's social inquiry includes philosophy, values, and methods or guidelines for practice. Common elements abound but the preferred *emphases* and *names* vary.

In my writing, I think of a paradigm as a sort of community culture with shared understandings (much like Kuhn). In Kuhn's (1996) words, "a paradigm is what the members of a scientific community share" (p. 176). A culture (and a paradigm) can be large or small. Cultures (and paradigms) can have very different cores. Here are a few possible cultural cores: baseball culture, University of Michigan football culture, Williamson High School band culture, emergent culture in an ethnographic scene, African American culture in the United States, feminist culture, national culture, and, increasingly, world culture. We also can belong to many different communities and cultures concurrently; this is a key idea in mixed research. For me (and Kuhn) a key part

of culture or paradigm is viewing one's self as a member (identifying with the culture or paradigm). Maxwell makes a good point when he emphasizes that cultures are distributed and heterogeneous (within a culture), and this is what I meant above by shared understanding. This idea is encapsulated in George Herbert Mead's concept of "the generalized other" (see section 20 in Mead, 1934) that we have after successful socialization (i.e., we know our place, but we also have come to understand through the process of "role-taking" other statuses and roles in the community and its culture). From my reading, my view of cultures is similar to Kuhn's. Perhaps we should always emphasize that cultures include both homogeneity and heterogeneity.

One can see many identifiable cultures in social and behavioral research. For example there are disciplinary cultures (sociology, psychology, education, business) and theory cultures (in psychology and education one might see behaviorism, cognitivism, constructivism, and biological psychology). I also have already mentioned research or methodological cultures/paradigms. During the 1980s social science started dividing more clearly into qualitative research in addition to quantitative research, and in the 1990s and beyond also into mixed methods research. Furthermore, there are many smaller paradigms in these disciplines and methodologies, and they come and go relatively frequently as communities-of-practice (Denscombe, 2008).

A question one might ask is "What are the philosophical and methodological aspects of the three major methodological paradigms as ideal types?" I would say the methodological paradigm of *quantitative research* tends to rely on (with much intra-paradigm variation) the following: (a) an ontology of either phenomenalism (this was the approach of the logical positivists) or scientific realism (this is a development over the past 30 years or so), with ontological physicalism/materialism being popular in the natural sciences); (b) an epistemology of naturalism and empiricism (i.e., empirical research/data are viewed as providing the best evidence); and (c) the use of multiple quantitative methods (e.g., structured surveys, laboratory and field experiments, structured observation). *Qualitative research* tends to rely on (with much intra-paradigm variation) the following: (a) an ontology of ontological relativism and idealism, although there also are realist groups; (b) multiple epistemologies, with individual/cognitive constructivism and social constructivism (or constructionism) and critical theory being most popular; and (c) multiple qualitative methods (e.g., ethnographic and phenomenological interviews, ethnographic observation, auto-ethnographic methods, constructivist grounded theory, and so on). Third, *mixed research* tends to rely on the following: (a) ontological pluralism and ontological complexity; (b) the purposeful use of multiple epistemologies that allow the construction of a complex emergent epistemology (sometimes on a project-by-project basis); and (c) an emphasis on the importance of both qualitative and quantitative methods.

Themes in Maxwell's Article with My Thoughts

I turn now to a more specific commentary on Maxwell's article in this issue. My commentary surrounds 11 themes that I found in the article. A different reader would likely "find" a different set of themes. I make no claim that my identified themes are either mutually exclusive or exhaustive.

Theme 1

Maxwell says the "validity and usefulness of the concept of 'paradigm' needs to be challenged." This is perhaps the major theme of Maxwell's article. I do not think the concept of paradigm is especially popular among practicing mixed researchers, but I like the concept. I agree that the usefulness of the concept of paradigm always needs to be *challenged* (just like other concepts), and I attempted to do that in the previous section. If one wanted to "throw away" the concept of paradigm (I do not think Maxwell does, but I am not sure), I would disagree because I think the concept has an important place in philosophy, methodology, history of science, and academic culture. What is important is that different writers inform readers of their intended meaning or meanings of paradigm in their articles and books. An example of this type of definition is found in Table 3.1 in a chapter in the *Handbook of Mixed Methods in Social and Behavioral Research* (Johnson & Gray, 2010). I think construction of this kind of table (defining one's terms) would be a useful general practice especially when contested terms are used.²

Second, I am a little concerned with Maxwell's use of the word "validity" in the above quote (and in several other places in the article) because I do not know what he means by the term. I am worried he might be using it in a deductive logical way, which I would not agree with because empirical research is about probabilities not deductive certainties. "Validity" is a contested term in social/behavioral/educational research, with many different meanings, and it usually needs to be defined. If Maxwell had defined his meaning of validity, I might have a different assessment. For the purpose of dialogue, I wonder "What exactly is a 'valid paradigm?', and "What is an 'invalid paradigm?'" Examples of any paradigms (held by a number of scholars) that are deemed to be invalid would be helpful. Coming from the MMP, I usually expect that most paradigms today will include at least some truth value and offer an interesting perspective that adds something of value "to the conversation." Speaking of paradigms as valid or invalid harks back to the days of logical positivism (where theories were a series of sentences that were taken together to be true or false).

Again, although some in mixed research might readily drop the concept of paradigm, I would not. Rhetorically, the use of the concept of paradigm is one important way of attempting to communicate what one believes, identifies with, and values. Also, I have learned very much from consideration of and listening to what different paradigms have to say. They all have added to "the conversation." My listening has helped me to become (I hope) more intellectually well rounded. Many writers like the term paradigm and some researchers passionately identify themselves with a paradigm, and I certainly would not want to take away that freedom and mode of identification and communication. I suspect Maxwell's point in his article is more of a challenge to defend how one uses the term, and I agree with him. On the other hand, I think it is possible that Maxwell might also inadvertently be searching for the one true definition of paradigm.

² If you happen to look at the table just mentioned, you will not find paradigm in it, but I define paradigm later in the text of the chapter.

Theme 2

Maxwell says he takes a “distributive view of culture” and “I question the assumption that communities are united primarily by their shared beliefs and values.” Maxwell views this as an assumption in the background of the paradigms debate, and he thinks it is false. This sounds like an empirical question to me, but it is not one that will be readily determined at the level of paradigms in the world. I would argue that communities are held together by many factors, but I would *emphasize*, unlike Maxwell, that some sharing of beliefs and values are quite important. Thus, I disagree with Maxwell *if he contends that shared beliefs and values are not important* for community solidarity.

Let us consider the case of qualitative research. I believe the beliefs and values described in paradigm descriptions provide many people with a message and an ideology to rally around (when it fits their values and beliefs better than competing paradigms) and this has helped spark the social/intellectual/methodological movement known as qualitative research across the world. I think the philosophical and methodological paradigm descriptions of qualitative research have been powerfully influential because they have hit upon something (issues, values, beliefs) that many people share; that is why they decided to identify with the movement. At the same time, qualitative research includes much heterogeneity, which is a healthy phenomenon and adds many helpful perspectives within qualitative research. The same is true for mixed research.

If one could separate the variance, I suspect he or she would find that similar views unite people more than different views, but that is an empirical question. Furthermore, I would assume we agree that both are important. I will claim for now (until the empirical literature tells me otherwise) that paradigms are both homogeneous *and* heterogeneous, and both of these characteristics contribute to solidarity in some way. I believe that Maxwell has failed to appreciate the uniting effect of shared values and beliefs. Also, as I have mentioned, one of the most important shared values and beliefs for mixed research is the importance of understanding difference and purposively bringing those differences into new wholes to work toward ends we value.

Taking the MMP tells me to appreciate homogeneity and heterogeneity within and between paradigms. The MMP is a very inclusive view indeed. I appreciate the presence of multiple paradigms because they provide me with different useful ways of looking at the same named “object.” I know more and see better when I use multiple paradigmatic lenses. Paradigms are just one of many ways that researchers identify themselves and see the world, but I think it is a useful one. If we eliminated the word paradigms from our writing and speaking, a new replacement word would quickly appear.

Theme 3

Because of his distributive view of culture, Maxwell next says “I am skeptical of the call (e.g., Teddlie & Tashakkori, 2011) for ‘convergence on core principles’ in mixed methods research” because, for example, (a) “what ‘brings us together’ is not core principles or supposedly foundational beliefs or practices, but mutually productive dialogue,” and (b) “I am concerned that any attempt to define ‘core ideas’ will margin-

alize or exclude people who do not share these ideas.” This theme overlaps with the previous one, but it also is different.

I believe (a) offers a false choice. Why cannot both core principles *and* dialogue bring us together? Maxwell’s point (b) is quite important, and mixed research like every other paradigm must continually attempt to minimize its presence. I suggest that it is useful to have some very general core principles in mixed research that are *specifically designed to include everyone* who would possibly hope to be in the paradigmatic community. In a moment I will show that many of Teddlie and Tashakkori’s core principles are focused on inclusion and the valuing of difference.

Here is an example of a general core principle designed to be inclusive: Individuals engaging in mixed research should attempt to understand, listen to, and fully respect both difference and commonality. I suggest this core principle will not marginalize or exclude people, and if it does, that is okay. Here is an “asterisk principle” that should be applied to any set of core principles, and it too should help eliminate marginalization and exclusion: It is not expected that everyone will adhere to all core principles because the principles are merely suggestions that a number of mixed researchers and methodologists have provided; our principles should be flexible and subject to continual modification over time as the mixed research community changes. Johnson, Onwuegbuzie, and Turner (2007) suggested that

whereas there might not be a perfect or essentialist definition [of mixed methods research] forthcoming, dialogue and social construction of a workable definition is a worthwhile goal for the field, understanding, of course that definitions can and will usually change over time as the approach or ‘research paradigm’ continues to grow. (p. 112)

If mixed research constructs core principles, they must be flexible and inclusive.

Getting back to Teddlie and Tashakkori’s principles (originally outlined in 2010), I am confident that Teddlie and Tashakkori did not in any way intend to suggest that anyone be marginalized. Let us look at the principles or core ideas to which Maxwell was referring from Teddlie and Tashakkori (2010):

- “The first general characteristic of MMR [mixed methods research] is what we call methodological eclecticism....A researcher employing methodological eclecticism is a *connoisseur of methods*, who knowledgeably (and often intuitively) selects the best techniques available to answer research questions that frequently evolve as a study unfolds” (p. 8).
- “The second contemporary characteristic of MMR is paradigm pluralism, or the belief that a variety of paradigms may serve as the underlying philosophy for the use of mixed methods” (p. 9).
- “The third characteristic of contemporary MMR is an emphasis on diversity at all levels of the research enterprise, from the broader, more conceptual dimensions to the narrower, more empirical ones....There is a growing awareness that an equally important result of combining information from different sources is *divergence* or *dissimilarity*” (p. 9).

- “The fourth...is an emphasis on continua rather than a set of dichotomies” (p. 10).
- “The fifth...is an iterative, cyclical approach to research, which includes both deductive and inductive logic in the same study” (p. 10).
- “The sixth characteristic endorsed by many [but not all] writing in MMR is a focus on the research question (or research problem) in determining the methods employed within any given study” (p. 10).
- “The seventh characteristic of contemporary MMR is a set of basic ‘signature’ research designs and analytical processes, which are commonly agreed upon, although they go by different names” (p. 11).
- “The eighth ... is a tendency toward balance and compromise within the ‘third methodological community’” (p. 11).
- “The ninth...is a reliance on visual representations (e.g., figures, diagrams) and a common notational system” (p. 11).

To be fair to Teddlie and Tashakkori, I think the reader will see that they are far more receptive to diversity than Maxwell seems to imply, and they do not want to force everyone into a single common approach. What is common is a respect for diversity. Principle 3 literally advocates diversity of approaches and perspectives. Although Maxwell makes a useful point (we should never force everyone to follow the same set of principles), I think he might not have listened carefully enough to what Teddlie and Tashakkori were trying to say and I think he might have missed the point that “core principles” can emphasize diversity and wide inclusion.

Theme 4

Maxwell says “I do not believe that paradigms themselves are typically logically consistent and unified systems of thought, a claim that Kuhn never made.” I fully agree, and I argue further that *no one in mixed research makes this claim*. Perhaps Maxwell was referring to someone in qualitative research or quantitative research. The argument for “logically consistent and unified” sounds like something one might have heard from the *logical* positivists in the mid 20th century (remember, they wanted theories constructed as logical systems that were true or false). I think most researchers in mixed research, like Maxwell, are suspicious of the word “unified.” There still are some calls in the natural sciences for a “unified science” (that started with the logical positivists), but no one in mixed research makes this claim.³

Virtually everyone in mixed research, I suspect, would agree with Maxwell’s statement that, “coherence is not necessarily a matter of philosophical consistency but of pragmatic compatibility, and is in principle an empirical question, rather than a strictly logical one.” From the MMP, any paradigm will value multiple goods and will typically have to deal with tradeoffs all of which could be consistent with the paradigm. Paradigms are wholes with many components and it is not

³ Although I am not at all fond of the word unification, I have argued that humans should universally agree on a few ethical issues. I hope everyone agrees with these two statements: (a) We should conduct research directed at ethical ends, and we should conduct it ethically; and (b) No one should be held in slavery. There are many more statements of this sort (see Johnson, 2011).

a requirement that all of the components naturally agree. A MM-like paradigm would purposively include consideration of conflicting/different perspectives. Paradigms are not like mathematical equations, but rather are heavily value laden social constructions that we think help us in dealing with our lives and worlds.

Theme 5

Maxwell says “My views on this issue are similar to Greene’s (2007; Greene & Hall, 2010) dialectical stance for mixed methods research.” I am in strong agreement with Maxwell and Greene about the importance of dialecticalism. One of my motivating reasons for developing dialectical pluralism was to expand on Greene’s dialectical view for mixed research. Furthermore, I contend that *the basic idea of dialecticalism is a popular idea in mixed research*. While many mixed researchers do not label themselves as following dialecticalism, they also do not label themselves as following any other theoretical paradigm. Again, although this is an empirical question, I believe that the vast majority of people in mixed research like the basic concept of dialecticalism and view it as both useful and important. I do not think Teddlie and Tashakkori have any reservations about a dialectical view. For example, see pages 73, and 99-100 in Teddlie and Tashakkori’s mixed methods textbook where the dialectical approach was praised (Teddlie & Tashakkori, 2009). For quite some time, I have believed that perhaps the one thing that virtually all mixed researchers believe is that we should listen to and dialogue with divergent concepts, people, and perspectives (i.e., dialecticalism) to better understand and improve our world.

Theme 6

Maxwell says “that diversity itself is fundamental rather than superficial” and we should be skeptical “toward totalizing, foundational theories.” I certainly agree with this point, but, I claim that this is the position held in mixed research. *Mixed research, one could argue, was developed because it was thought that diversity was important*. Diversity is a key theme in mixed research.

Let me now say a little more about the term foundationalism. Whenever a writer in any area of human research uses the term “foundationalism” I consider it a red flag because I do not believe that any empirical researcher holds the position of philosophical foundationalism. Perhaps we should all define what we mean by foundationalism. I draw my definition from philosophy, and there it is a long debunked epistemology that was most notably found in the philosophy of Rene Descartes and the philosophy of rationalism. Foundationalism held that one could identify certain a priori truths (Descartes’ “clear and distinct” ideas) that are necessarily true and that can act as axioms or as a secure foundation upon which one can deduce additional certain truths. Foundationalism is not about probabilities; it is about certain, deductive truth. In many ways, foundationalism is an application of mathematics and/or deductive logic to knowledge building. Here is how Feldman (2003) put it:

Foundationalism involves two fundamental claims:

F1. There are justified basic beliefs.

F2. All justified nonbasic beliefs are justified in virtue of their relation to justified basic beliefs. (p. 52)

Foundationalism was a key part of the philosophy of rationalism which stood in contrast to the philosophy of empiricism. The vast majority of researchers in the social/behavioral sciences are much closer to empiricism than rationalism.

My point is that foundationalism in the sense that I am familiar with is not present in mixed methods research. I suspect that Maxwell either had a different meaning for foundationalism or perhaps he is thinking of someone not in the area of mixed research. Foundationalism is one of a number of words that I attempt to always avoid because of possible confusion and because it is not held by anyone in the research domains that I study.

Theme 7

Maxwell says “I have taken a distributionist view of culture, the critique of paradigms as unified philosophical stances for research.” I have already touched on the distributionist view of culture, so I will just make a couple of extra points here. First, as to the “correct” definition of culture, I suggest such a definition will never be found, but that dialogue and debate about definitions is usually helpful. Second, coming from a sociological perspective, I have traditionally emphasized the shared aspect as have many anthropologists, and I have found that kind of concept useful for explaining societies and groups. I have traditionally used different concepts to examine the non-shared aspects of groups and societies. I looked at several very recent introductory cultural anthropology books and they are still including the “shared” aspect of culture (Eller, 2009; Haviland, Prins, McBride, & Walrath, 2010; Hiebert, 1999; Lenkeit, 2004; Nanda & Warms, 2011; Robbins, 2008).

According to the principle of completeness (which is important for the MMP), perhaps what is especially important in defining culture is that we do not miss anything important. Eller (2009) includes the following characteristics of culture: learned, shared, symbolic, integrated, and adaptive. His list is incomplete, but it could offer a useful starting point for a more complete perspective of culture. In agreement with the MMP, we could view the five starting characteristics as not essentially true of culture but as true in the sense of family resemblance (they all are in some sense “culture like”) and then start building. I will start by adding *distributed and different meanings* as a sixth family member. In general, one can use the principle of combination to put the ideas together, but combination and integration must be done very carefully. Why not view culture as partially shared and partially distributed? Both the shared and the distributive views of culture seem to have some merit, and taken together one has a “third” viewpoint or perspective that seems useful.

Theme 8

Maxwell says the following:

There is a term that captures this approach [the view taken in this article for mixed research]—*bricolage* which was used by the French anthropologist Claude Lévi-Strauss to distinguish mythological from “scientific” thought. (In current French usage, *bricolage* means “do-it-yourself,” and is used to

refer to stores like Home Depot.) ... The key idea is that, rather than developing a logically consistent plan in advance and then systematically following this plan, the *bricoleur* spontaneously adapts to the unique circumstances of the situation, creatively employing the available tools and materials to create unique solutions to a problem.

To help readers not familiar with this concept, I will provide a reasonable definition of *bricoleur* from an online dictionary of anthropology (<http://www.anthrobase.com/Dic/eng/>):

A term introduced by Lévi-Strauss (1962), describing a type of thinking and symbolization; the opposite of “engineer”. The engineer creates specialized tools for specialized purposes. The *bricoleur* is a “jack-of-all-trades”, who uses few, non-specialized tools for a wide variety of purposes. There is a loose connection between, on the one hand, the *bricoleur* and “primitive” societies, and, on the other, the engineer and modern societies (see evolutionism). For Lévi-Strauss, the two concepts are the point of departure for a complex theoretical discussion of “the science of the concrete” in premodern, “primitive” cultures.

I agree with Maxwell that *bricolage* is a useful concept, and I expect many people in mixed research will use the concept once they hear about it and become more familiar with the concept.

Many characteristics of the *bricoleur* are important if one is going to conduct mixed research successfully. Here are a few characteristics that are *bricoleur*-like (in varying degrees) or *bricoleur*-related that are very important for a mixed researcher to have available in his or her persona and toolkit: creativity, spontaneity, ability to create unique and apropos solutions to particular problems at hand, openness to the new and different situations, ability to use traditional methods and techniques in new ways, ability to cross ideas found in multiple disciplines, ability to make Gestalt switches between conflicting paradigms (Kuhn, 1996), ability to use whatever is at hand for the job, have an ability to “do it yourself,” obtaining and acting on tacit knowledge (Kuhn emphasized this), acting recursively, listening to multiple viewpoints and perspectives, viewing the world as complex, ability to see differences, patterns, relationships, and solutions, and ability to use metaphors creatively. I try to work these ideas into my writing as often as I can, because I value them and hope others will too. I also see those ideas in the writings of many mixed methodologists and researchers. I hope to see more writers in the domain of mixed research incorporate the term *bricoleur* into their writing more frequently in the future.

Let us also consider, however, some opposite or different ideas that also are important. In many circumstances, I would not want to *only* use the approaches of a *bricoleur*. Here are a few more characteristics of the *bricoleur* (Lévi-Strauss, 1966):

- “His [sic] universe of instruments is closed and the rules of his game are always to make do with ‘whatever is at hand’, that is to say with a set of tools and materials which is always finite and is also heterogeneous because

what it contains bears no relation to the current project” (p. 17).

- “The elements which the ‘bricoleur’ collects and uses are ‘pre-constrained’” (p. 19).
- “The engineer questions the universe, while the ‘bricoleur’ addresses himself to a collection of oddments left over from human endeavors, that is, only a sub-set of the culture” (p. 19).
- “The engineer is always trying to make his way out of and go beyond the constraints imposed by a particular state of civilization while the ‘bricoleur’ by inclination or necessity always remains within them. This is another way of saying that the engineer works by means of concepts and the ‘bricoleur’ by means of signs” (pp. 19-20).
- “The scientist, on the other hand, whether he is an engineer or physicist, is always on the look out *for that other message* which might be wrested from an interlocutor in spite of his reticence in pronouncing on questions whose answers have not been rehearsed. Concepts [used by scientists] thus appear like operators *opening up* the set being worked with and signification [used by bricoleurs] like the operator of its *reorganization* which neither extends nor renews it and limits itself to obtaining the group of its transformations” (p. 20).

In the original French version of Lévi-Strauss’ *The Savage Mind*, the *bricoleur* is contrasted with the *ingénieur* (e.g., Duymedjian & Ruling, 2010; Eriksen, 2004). In contrast to the *bricoleur*, the *ingénieur* is like a modern scientist and engineer who is a planner, tries to develop new concepts and theories, acts carefully and linearly, and attempts to produce specific desired outcomes. Duymedjian and Ruling (2010) constructed “ideal types” (in a Weberian sense of a construct developed for comparison) of *bricoleur* and *ingénieur*:

Our proposition is to consider the two notions of the *bricoleur* and the *ingénieur* as they are juxtaposed by Lévi-Strauss. We consider them as designating two opposed but complementary ideal-typical regimes of action, which can each be understood through a particular combination of acting (practice), knowing (epistemology) and an underlying world view (metaphysics). However, at the same time regarding the *bricoleur* and the *ingenieur* as ideal-types also acknowledges that truth that, in fact, all ‘real world’ actions are situated somewhere in between the two—in concrete, empirical terms, there is no such thing as ‘pure’ bricolage. (p. 139)

The *bricoleur* is weak in the area of constructing new concepts and new theories. He or she also is weak in the area of planning for a project. Pasteur was not completely wrong when he famously said in 1854 that “chance favors the prepared mind.” Perhaps some balance between planning and doing-it-yourself with what you have is prudent for many research projects. My key point is that the *bricoleur* and the scientist or engineer or *ingénieur* have some useful characteristics, and Lévi-Strauss would agree. He says: “But it is important not to make the mistake of thinking that these are two stages or phases in the evolution of knowledge. Both approaches are equally valid” (p. 22). I think virtually everyone in mixed research would agree that both or multiple approaches are preferable.

Theme 9

Maxwell says, “I do not think it is generally appropriate or useful to attempt to synthesize different philosophical approaches or assumptions into a single logically consistent paradigm for mixed methods research” and “It may be fruitless or counterproductive to attempt to resolve all of the contradictions among different premises.” I argue that no prominent writer in mixed research makes these claims.⁴ I searched the second edition of the Sage Handbook of Mixed Methods in Social and Behavioral Research (using the Google Books search function), and the only time the string of words “logical consistency” occurred was in the Maxwell and Mittapalli chapter. (The string “logically consistent” also appeared only once, and it was in the same chapter.) I also did not find any instances of those strings of words in the newest Sage Handbook of Qualitative Research. In short, I agree with Maxwell’s perspective on these issues, but I think most everyone else also agrees. From a mixed methods perspective, what I think is especially important (rather than “logical consistency”) is juxtaposition of divergent ideas, dealing with the tensions created by listening to these divergent ideas, and creating a new combined or “dialectically integrated” perspective on a project-by-project basis.

Theme 10

Maxwell says, “I am also skeptical of the view that successfully combining diverse methods depends on what they have in common.” I agree with Maxwell and, again, I think virtually everyone in mixed research also agrees, including Teddlie and Tashakkori. In contrast to Maxwell’s point, many writers in the field of mixed research argue that just the opposite is typically true. A common and important strategy is to combine methods that do *not* have much in common. Here is what I wrote in my recent International Congress of Qualitative Research paper where I introduced dialectical pluralism (Johnson, 2011): “In mixed research, one should typically attempt to privilege the mixing of methods that are quite different from one another (Greene, 2007) because convergence and divergence are equally important to equal-status mixed research.” In Maxwell’s article, I very much like his praise of Elbow’s “believing game” and “doubting game.” The believing and doubting game offers an excellent strategy for researchers to use and it fits very well with dialectical pluralism and mixed research.

Theme 11

Maxwell says, “Philosophical stances and assumptions, like theories, are lenses through which we view the world. These lenses are essential for our understanding, but the views

⁴ In the Johnson and Onwuegbuzie (2004) article, we were arguing for mixed methods research as a methodological paradigm as discussed above. Furthermore, diversity and some commonality are both parts of our view of any sort of paradigm for mixed research. Tony Onwuegbuzie and I have many times discussed how broadly we view mixed research. We view mixed research as including qualitative-dominant mixed research, quantitative-dominant mixed research, and equal-status mixed research. Perhaps most of the researchers practicing qualitative-dominant mixed research would even self-identify with qualitative research, and perhaps most of the researchers practicing quantitative-dominant mixed research would self-identify with quantitative research. That certainly includes much diversity, correct? We were not arguing for synthesizing different philosophical approaches or assumptions into a single logically consistent paradigm for mixed methods research.

they provide are fallible and incomplete, and we need multiple lenses to attain more valid, adequate, in-depth knowledge of the phenomena we study.” I agree with Maxwell’s point, and I suspect that *most everyone in mixed research also would agree*. Mixed research is typically conducted because researchers want multiple lenses through which to view phenomena. I agree with Kuhn that we view the world through our paradigms, and individuals from two different paradigms literally “see” the world differently. Kuhn (1996) says that people with different paradigms “do in some sense live in different worlds” (p. 193). Kuhn spends much space showing how difficult it can be for individuals operating from different paradigms to communicate or “see” the same thing. Kuhn also provides some strategies for seeing through the lenses of two or more paradigms (e.g., language translation and Gestalt switching). According to my mixed methods perspective, we *can* (with difficulty, but with extensive training) and *should attempt to understand multiple paradigms so that we can “see” the world from multiple useful perspectives and so that we can use these perspectives to build a better and more just world*.

Conclusion

My conclusions here are that (a) the term paradigm is not a singular concept with full agreement on definition, (b) there never will be a *single* correct definition of paradigm that “carves nature at its joints,” and (c) I recommend that authors define paradigm in their publications and provide adjectives to help clarify the type of paradigm they are considering (e.g., epistemological paradigm, philosophical paradigm, methodological paradigm, theoretical paradigm, paradigm example, paradigm model, etc.). Regarding the themes in Maxwell’s article, I believe the vast majority of methodologists and researchers in mixed methods research *agree with Maxwell’s beliefs*, and not the beliefs Maxwell projected onto mixed methods research.

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