

*Following Joe's demand to humanize, politicize, and transgress through qualitative research, it was natural for him to go to create a new strand of bricolage, a completely fresh approach to qualitative work. Looking at Levi Strauss's context of bricolage and the nods made to bricolage by Norm Denzin and Yvonna Lincoln, Joe was determined to continue to criticalize and rigorize the traditional ways in which to do multi-methodological research. Certainly humbled by the invitation to deliver the Egon Guba Lecture at the American Educational Research Association, he acknowledges the lineage he follows from those who came before. Certainly, one of the highlights of Joe's friendships was the one he shared with Egon Guba. We met Egon early in the 1990s, at his and Yvonna's home in Texas. Joe marveled at the pleasure and gifts he had been given to engage in a new friendship with one of his heroes. And Egon did not disappoint...a funny, passionately compelling and brilliant man, Egon exemplified the persona Joe admired. Egon's love for Yvonna added volumes to the beginning seeds of Joe's work in radical love. SS*

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## **8. DESCRIBING THE BRICOLAGE**

### *Conceptualizing a New Rigor in Qualitative Research*

*Picking up on Norman Denzin's and Yvonna Lincoln's articulation of the concept of bricolage, the essay describes a critical notion of this research orientation. As an interdisciplinary approach, bricolage avoids both the superficiality of methodological breadth and the parochialism of unidisciplinary approaches. The notion of the bricolage advocated here recognizes the dialectical nature of the disciplinary and interdisciplinary relationship and promotes a synergistic interaction between the two concepts. In this context, the bricolage is concerned not only with divergent methods of inquiry but with diverse theoretical and philosophical understandings of the various elements encountered in the act of research. The insights garnered here move researchers to a better conceptual grasp of the complexity of the research act—a cognizance often missed in mainstream versions of qualitative research. In particular, critical bricoleurs employ historiographical, philosophical, and social theoretical lenses to gain a more complex understanding of the intricacies of research design.*

As a preface to this essay, I want to express what an honor it is for me to deliver the Egon Guba Lecture. I consider Egon one of the most important figures in research in the 20th and 21st centuries and consider his career the best model I know for a

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life of rigorous, innovative scholarship in education. Every idea expressed in this essay is tied to concepts Egon developed over the past few decades. If they are insufficiently developed, it is an expression of my limitations, not his. In this spirit, I dedicate this lecture to Egon Guba and his innovative scholarship and pedagogy.

My desire to write this essay and ultimately a more comprehensive work on bricolage comes from two sources. The first involves my fascination with Denzin and Lincoln's (2000) use of the term in their work on research methods over the past decade. From my perspective, no concept better captures the possibility of the future of qualitative research. When I first encountered the term in their work, I knew that I would have to devote much effort to specifying the notion and pushing it to the next conceptual level. Secondly, coupled with this recognition of the power of bricolage was the experience several of my doctoral students brought back from their job interviews. Prepped and ready to answer in detail questions about their methods and research agendas, my students spoke of their theoretical embrace and methodological employment of the bricolage. Much too often for our comfort, search committee members responded quite negatively: "bricolage, oh I know what that is; that's when you really don't know anything about research but have a lot to say about it." Much to our dismay, the use of the concept persuaded such committee members not to employ the students. I had no choice, I had to respond.

Yvonna Lincoln and Norm Denzin (2000) used the term in the spirit of Claude Levi-Strauss (1966) and his lengthy discussion of it in *The Savage Mind*. The French word, *bricoleur*, describes a handyman or handywoman who makes use of the tools available to complete a task. Some connotations of the term involve trickery and cunning and remind me of the chicanery of Hermes, in particular his ambiguity concerning the messages of the gods. If hermeneutics came to connote the ambiguity and slipperiness of textual meaning, then bricolage can also imply the fictive and imaginative elements of the presentation of all formal research. Indeed, as cultural studies of science have indicated, all scientific inquiry is jerryrigged to a degree; science, as we all know by now, is not nearly as clean, simple, and procedural as scientists would have us believe. Maybe this is an admission many in our field would wish to keep in the closet. Maybe at a tacit level this is what many search committee members were reacting to when my doctoral students discussed it so openly, enthusiastically, and unabashedly.

#### BRICOLAGE IN THE COSMOS OF DISCIPLINARITY AND INTERDISCIPLINARITY

My umbrage at the denigration of bricolage by my students' interlocutors should in no way be taken as disrespect for those who question the value of the concept. For those of us committed to theorizing and implementing such an approach to research, there are some profound questions that need to be answered as we plot our course. As we think in terms of using multiple methods and perspectives in our research and attempt to synthesize contemporary developments in social theory, epistemology, and interpretation, we must consider the critiques of many diverse scholars. At the core of the deployment of bricolage in the discourse of research rests the question

of disciplinarity/interdisciplinarity. Bricolage, of course, signifies interdisciplinarity—a concept that serves as a magnet for controversy in the contemporary academy. Researching this article, I listened to several colleagues maintain that if one is focused on getting tenure he or she should eschew interdisciplinarity; if one is interested in only doing good research, she or he should embrace it.

Implicit in the critique of interdisciplinarity and thus of bricolage as its manifestation in research is the assumption that interdisciplinarity is by nature superficial. Superficiality results when scholars, researchers, and students fail to devote sufficient time to understanding the disciplinary fields and knowledge bases from which particular modes of research emanate. Many maintain that such an effort leads not only to superficiality but madness. Attempting to know so much, the bricoleur not only knows nothing well but also goes crazy in the misguided process (Friedman, 1998; McLeod, 2000; Palmer, 1996). My assertion in this article respects these questions and concerns but argues that given the social, cultural, epistemological, and paradigmatic upheavals and alterations of the past few decades, rigorous researchers may no longer enjoy the luxury of choosing whether to embrace the bricolage (Friedman, 1998; McLeod, 2000).

#### THE GREAT IMPLOSION: DEALING WITH THE DEBRIS OF DISCIPLINARITY

Once understanding of the limits of objective science and its universal knowledge that escaped from the genie's bottle, there was no going back. Despite the best efforts to recover "what was lost" in the implosion of social science, too many researchers understand its socially constructed nature, its value-laden products that operate under the flag of objectivity, its avoidance of contextual specificities that subvert the stability of its structures, and its fragmenting impulse that moves it to fold its methodologies and the knowledge they produce neatly into disciplinary drawers. My argument here is that we must operate in the ruins of the temple, in a postapocalyptic social, cultural, psychological, and educational science where certainty and stability have long departed for parts unknown.

In the best sense of Levi-Straus's (1966) concept, the research bricoleurs pick up the pieces of what's left and paste them together as best they can. The critics are probably correct, such a daunting task cannot be accomplished in the time span of a doctoral program; but the process can be named and the dimensions of a lifetime scholarly pursuit can be in part delineated. Our transcendence of the old regime's reductionism and our understanding of the complexity of the research task demand the lifetime effort. It is this lifetime commitment to study, clarify, sophisticate, and add to the bricolage that this article advocates.

As bricoleurs recognize the limitations of a single method, the discursive strictures of one disciplinary approach, what is missed by traditional practices of validation, the historicity of certified modes of knowledge production, the inseparability of knower and known, and the complexity and heterogeneity of all human experience, they understand the necessity of new forms of rigor in the research process. To account for their cognizance of such complexity bricoleurs seek a rigor that alerts them to new ontological insights. In this ontological context, they can no longer

accept the status of an object of inquiry as a thing-in-itself. Any social, cultural, psychological, or pedagogical object of inquiry is inseparable from its context, the language used to describe it, its historical situatedness in a larger ongoing process, and the socially and culturally constructed interpretations of its meaning(s) as an entity in the world (Morawski, 1997).

#### RIGOR IN THE RUINS

Thus, bricolage is concerned not only with multiple methods of inquiry but with diverse theoretical and philosophical notions of the various elements encountered in the research act. Bricoleurs understand that the ways these dynamics are addressed—whether overtly or tacitly—exerts profound influence on the nature of the knowledge produced by researchers. Thus, these aspects of research possess important lived world political consequences, as they shape the ways we come to view the social cosmos and operate within it (Blommaert, 1997). In this context, Douglas Kellner's (1995) notion of a "multiperspectival cultural studies" is helpful, as it draws on numerous textual and critical strategies to "interpret, criticize, and deconstruct" the cultural artifacts under observation.

Employing Nietzsche's notion of perspectivism to ground his version of a multimethodological research strategy, Kellner (1995) maintains that any single research perspective is laden with assumptions, blindneses, and limitations. To avoid one-sided reductionism, he contends that researchers must learn a variety of ways of seeing and interpreting in the pursuit of knowledge. The more perspectival variety a researcher employs, Kellner concludes, the more dimensions and consequences of a text will be illuminated. Kellner's multiperspectivism resonates with Denzin and Lincoln's (2000) bricolage and its concept of "blurred genres." To better "interpret, criticize, and deconstruct," Denzin and Lincoln call for bricoleurs to employ "hermeneutics, structuralism, semiotics, phenomenology, cultural studies, and feminism" (p. 3). Embedded in Kellner's (1995) and Denzin and Lincoln's (2000) calls is the proto-articulation of a new rigor—certainly in research but with implications for scholarship and pedagogy in general.

This rigor in the ruins of traditional disciplinarity connects a particular concept—in contemporary education, for example, the call for educational standards—to the epistemological, ontological, cultural, social, political, economic, psychological, and pedagogical domains for the purpose of multiperspectival analysis. In the second edition of their *Handbook of Qualitative Research*, Denzin and Lincoln (2000) maintain that this process has already taken place to some extent; they referred to it as a two-way methodological Diaspora where humanists migrated to the social sciences and social scientists to the humanities. Ethnographic methodologists snuggled up with textual analysts; in this context the miscegenation of the empirical and the interpretive produced the bricoleur love child.

Thus, in the late 20th and early 21st centuries, disciplinary demarcations no longer shape, in the manner they once did, the way scholars look at the world. Indeed, disciplinary boundaries have less and less to do with the way scholars group themselves and build intellectual communities. Furthermore, what we refer to as

the *traditional disciplines* in the first decade of the 21st century are anything but fixed, uniform, and monolithic structures. It is not uncommon for contemporary scholars in a particular discipline to report that they find more commonalities with individuals in different fields of study than they do with colleagues in their own disciplines. We occupy a scholarly world with faded disciplinary boundary lines. Thus, the point need not be made that bricolage should take place—it already has and is continuing. The research work needed in this context involves opening an elastic conversation about the ways such a bricolage can be rigorously developed. Such cultivation should not take place in pursuit of some form of proceduralization but an effort to better understand the beast and to realize its profound possibilities (Friedman, 1998; Palmer, 1996; Young, & Yarbrough, 1993).

#### BRICOLAGE AND THE DIALECTICAL VIEW OF DISCIPLINARITY

Questions of disciplinarity permeate efforts to theorize the research bricolage. Exploring such inquiries, one notes a consistent division between disciplinarians and interdisciplinarians: Disciplinarians maintain that interdisciplinary approaches to analysis and research result in superficiality; interdisciplinary proponents argue that disciplinarity produces naïve overspecialization. The vision of the bricolage promoted here recognizes the dialectical nature of this disciplinary and interdisciplinary relationship and calls for a synergistic interaction between the two concepts. Before one can engage successfully in the bricolage, it is important to develop a rigorous understanding of the ways traditional disciplines have operated. I maintain the best way to do this is to study the workings of a particular discipline. In the context of becoming a bricoleur, such a study would not take place in the traditional manner where scholars learned to accept the conventions of a particular discipline as a natural way of producing knowledge and viewing a particular aspect of the world.

Instead, such a disciplinary study would be conducted more like a Foucauldian genealogy where scholars would study the social construction of the discipline's knowledge bases, epistemologies, and knowledge production methodologies. As scholars analyzed the historical origins of the field, they would trace the emergence of various schools of thought, conflicts within the discipline, and the nature and effects of paradigmatic changes. In this genealogical context they would explore the discipline as a discursive system of regulatory power with its propensity to impound knowledge within arbitrary and exclusive boundaries. In this context, scholars would come to understand the ideological dimensions of the discipline and the ways knowledge is produced for the purposes of supporting various power blocs.

It is not contradictory, I assert, to argue in a dialectical spirit that at the same time this genealogical analysis is taking place, the bricoleur would also be studying positive features of the discipline. Even though the discipline operates in a power-saturated and regulatory manner, disciplinarians have often developed important models for engaging in a methodical, persistent, and well-coordinated process of knowledge production. Obviously, there are examples not only of genius within these domains but of great triumphs of scholarly breakthroughs leading to improvements in the human condition. The diverse understanding of these types of disciplinary

practices empowers the bricoleur to ask compelling questions of other disciplines he or she will encounter. Such smart questions will facilitate the researcher's capacity to make use of positive contributions of disciplines while avoiding disciplinary parochialism and domination.

As bricoleurs pursue this dialectic of disciplinarity, gaining a deep knowledge of the literature and conversations within a field, they would concurrently examine both the etymology and the critique of what many refer to as the disciplines' arbitrary demarcations for arranging knowledge and structuring research. In a critical context, the bricoleur would develop a power literacy to facilitate his or her understanding of the nature and effects of the web of power relations underlying a discipline's official research methodologies.

Here bricoleurs would trace the ways these power dynamics shaped the knowledge produced within the disciplinary research tradition. Learning multiple lessons from their in-depth study of the discipline in particular and disciplinarity in general, the bricoleur becomes an expert on the relationships connecting cultural context, meaning making, power, and oppression within disciplinary boundaries. Their rigorous understanding of these dynamics possibly makes them more aware of the influence of such factors on the everyday practices of the discipline than those who have traditionally operated as scholars within the discipline (Freidman, 1998; Lutz, Jones, & Kendall, 1997; Morawski, 1997).

#### QUESTIONING THE SOCIAL CONSTRUCTION OF INTERDISCIPLINARITY

Thus, bricoleurs operating within this dialectic of disciplinarity gain an in-depth understanding of the "process of disciplinarity," adeptly avoiding any superficiality that might result from their interdisciplinary pursuits. At the same time, such researchers possess the insight to avoid complicity in colonized knowledge production designed to regulate and discipline. Such subtle expertise illustrates an appreciation of the complexity of knowledge work to which bricolage aspires. Understanding disciplinary processes and models of expertise while recognizing the elitist dimensions of dominant cultural knowledge technologies involves a nuanced discernment of the double edged sword of disciplinarity. Concurrently, bricoleurs subject interdisciplinarity to the same rigorous perusal. Accordingly, bricoleurs understand that interdisciplinarity is as much a social construction as disciplinarity. Just because bricolage is about interdisciplinarity, bricoleurs must not release the notion from the same form of power analysis used to explore disciplinarity.

In addition, bricoleurs must clarify what is meant by interdisciplinarity. A fuzzy concept at best, *interdisciplinarity* generally refers to a process where disciplinary boundaries are crossed and the analytical frames of more than one discipline are employed by the researcher. Surveying the use of the term, it quickly becomes apparent that little attention has been paid to what exactly interdisciplinarity implies for researchers. Some uses of the concept assume the deployment of numerous disciplinary methodologies in a study where disciplinary distinctions are maintained; other uses imply an integrated melding of disciplinary perspectives into a new methodological synthesis. Advocates of bricolage must consider the diverse approaches

that take place in the name of interdisciplinarity and their implications for constructing the bricolage.

In light of the disciplinary implosion that has taken place over the past few decades and the “no going back” stance previously delineated, I feel no compulsion to preserve the disciplines in some pure, uncorrupted state of nature. Although there is much to learn from their histories, the stages of disciplinary emergence, growth and development, alteration, and devolution and decline, the complex view of bricolage I am presenting embraces a deep form of interdisciplinarity. A deep interdisciplinarity seeks to modify the disciplines and the view of research brought to the negotiating table constructed by the bricolage. Everyone leaves the table informed by the dialogue in a way that idiosyncratically influences the research methods they subsequently employ.

The point of the interaction is not standardized agreement as to some reductionistic notion of “the proper interdisciplinary research method” but awareness of the diverse tools in the researcher’s toolbox. The form such deep interdisciplinarity may take is shaped by the object of inquiry in question. Thus, in the bricolage, the context in which research takes place always affects the nature of the deep interdisciplinarity employed. In the spirit of the dialectic of disciplinarity, the ways these context-driven articulations of interdisciplinarity are constructed must be examined in light of the power literacy previously mentioned (Freidman, 1998; Blommaert, 1997; Pryse, 1998; Young, & Yarbrough, 1993).

#### BRICOLAGE AS DEEP INTERDISCIPLINARITY: THE SYNERGY OF MULTIPLE PERSPECTIVES

With these disciplinary concerns in the front of our mind, I will now focus attention on the intellectual power of the bricolage. It does not seem a conceptual stretch to argue that there is a synergy that emerges in the use of different methodological and interpretive perspectives in the analysis of an artifact. Historians, for example, who are conversant with the insights of hermeneutics, will produce richer interpretations of the historical processes they encounter in their research. In the deep interdisciplinarity of the bricolage the historian takes concepts from hermeneutics and combines them with historiographical methods. What is produced is something new, a new form of hermeneutical historiography or historical hermeneutics. Whatever its name, the methodology could not have been predicted by examining historiography and hermeneutics separately, outside of the context of the historical processes under examination (Varenne, 1996). The possibilities offered by such interdisciplinary synergies are limitless.

An ethnographer who is conversant with social theory and its recent history is better equipped to transcend certain forms of formulaic ethnography that are reduced by the so-called “observational constraint” on the methodology. Using the x-ray vision of contemporary social-theoretically informed strategies of discourse analysis, poststructural psychoanalysis, and ideology critique, the ethnographer gains the ability to see beyond the literalness of the observed. In this maneuver, the ethnographer-as-bricoleur moves to a deeper level of data analysis as he or she sees “what’s not

there” in physical presence, what is not discernible by the ethnographic eye. Synergized by the interaction of ethnography and the social theoretical discourses, the resulting bricolage provides a new angle of analysis, a multidimensional perspective on a cultural phenomenon (Dicks, & Mason, 1998; Foster, 1997).

Carefully exploring the relationships connecting the object of inquiry to the contexts in which it exists, the researcher constructs the most useful bricolage his or her wide knowledge of research strategies can provide. The strict disciplinarian operating in a reductionistic framework chained to the prearranged procedures of a monological way of seeing is less likely to produce frame-shattering research than the synergized bricoleur. The process at work in the bricolage involves learning from difference. Researchers employing multiple research methods are often not chained to the same assumptions as individuals operating within a particular discipline. As they study the methods of diverse disciplines, they are forced to compare not only methods but also differing epistemologies and social theoretical assumptions. Such diversity frames research orientations as particular socially constructed perspectives—not sacrosanct pathways to the truth. All methods are subject to questioning and analysis, especially in light of so many other strategies designed for similar purposes (Denzin, & Lincoln, 2000; Lester, 1997; Thomas, 1998).

This defamiliarization process highlights the power of the confrontation with difference to expand the researcher’s interpretive horizons. Bricolage does not simply *tolerate* difference but *cultivates* it as a spark to researcher creativity. Here rests a central contribution of the deep interdisciplinarity of the bricolage: As researchers draw together divergent forms of research, they gain the unique insight of multiple perspectives. Thus, a complex understanding of research and knowledge production prepares bricoleurs to address the complexities of the social, cultural, psychological, and educational domains. Sensitive to complexity, bricoleurs use multiple methods to uncover new insights, expand and modify old principles, and reexamine accepted interpretations in unanticipated contexts. Using any methods necessary to gain new perspectives on objects of inquiry, bricoleurs employ the principle of difference not only in research methods but in cross-cultural analysis as well. In this domain, bricoleurs explore the different perspectives of the socially privileged and the marginalized in relation to formations of race, class, gender, and sexuality (McLeod, 2000; Pryse, 1998; Young, & Yarbrough, 1993).

The deep interdisciplinarity of bricolage is sensitive to multivocality and the consciousness of difference it produces in a variety of contexts. Described by Denzin and Lincoln (2000) as “multi-competent, skilled at using interviews, observation, personal documents,” the bricoleur explores the use of ethnography, Pinarian currere, historiography, genre studies, psychoanalysis, rhetorical analysis, discourse analysis, content analysis, ad infinitum. The addition of historiography, for example, to the bricoleur’s tool kit profoundly expands his or her interpretive facility. As bricoleurs historically contextualize their ethnographies, discourse analysis, and semiotic studies, they tap into the power of etymology. Etymological insight (Kincheloe, & Steinberg, 1993; Kincheloe, Steinberg, & Hinchey, 1999) involves an understanding of the origins of the construction of social, cultural, psychological, political, economic, and educational artifacts and the ways they shape our subjectivities. Indeed, our



conception of self, world, and our positionalities as researchers can only become complex and critical when we appreciate the historical aspect of its formation. With this one addition, we dramatically sophisticate the quality and depth of our knowledge work (Zammito, 1996).

#### EXPANDING THE BOUNDARIES: THE SEARCH FOR NEW FORMS OF KNOWLEDGE PRODUCTION

Operating as a form of deep interdisciplinarity, bricolage is unembarrassed in its effort to rupture particular ways of functioning in the established disciplines of research. One of the best ways to accomplish this goal is to include what might be termed *philosophical research* to the bricolage. In the same way that historiography ruptures the stability of particular disciplinary methods, philosophical research provides bricoleurs with the dangerous knowledge of the multivocal results of humans' desire to understand, to know themselves and the world. Differing philosophical/cultural conventions have employed diverse epistemological, ontological, and cosmological assumptions as well as different methods of inquiry. Again, depending on the context of the object of inquiry, bricoleurs use their knowledge of these dynamics to shape their research design. It is not difficult to understand the epistemological contention that the types of logic, criteria for validity, and methods of inquiry used in clinical medicine as opposed to teacher effectiveness in teaching critical thinking will differ.

In making such an assertion the bricoleur is displaying philosophical/epistemological/ontological sensitivity to the context of analysis. Such a sensitivity is a key element of the bricolage, as it brings an understanding of social theory together with an appreciation of the demands of particular contexts; this fused concept is subsequently used to examine the repertoire of methods the bricoleur can draw on and to help decide which ones are relevant to the project at hand. Practicing this mode of analysis in a variety of research situations, the bricoleur becomes increasingly adept at employing multiple methods in concrete venues. Such a historically and philosophically informed bricolage helps researchers move into a new, more complex domain of knowledge production where they are far more conscious of multiple layers of intersections between the knower and the known, perception and the lived world, and discourse and representation. Employing the benefits of philosophical inquiry, the bricoleur gains a new ability to account for and incorporate these dynamics into his or her research narratives (Bridges, 1997; Fischer, 1998; Madison, 1988; McCarthy, 1997).

This is what expanding the boundaries of knowledge production specifically references. In the particularities of the philosophical interactions with the empirical in a variety of contexts, bricoleurs devise new forms of rigor, new challenges to other researchers to push the methodological and interpretive envelopes. As bricoleurs study the subjective meanings that human beings make, for example, they use their philosophical modes of inquiry to understand that this phenomenological form of information has no analogue in the methods of particular formalist forms of empirical research. Thus, in an obvious example, a choice of methods is necessitated

by particular epistemological and ontological conditions—epistemological and ontological conditions rarely recognized in monological forms of empirical research (Haggerson, 2000; Lee, 1997).

I want to be as specific as possible about the nature of these epistemological and ontological conditions. Although we have made progress, much of the research that is devoid of the benefits philosophical inquiry brings to the bricolage still tends to study the world as if ontologically it consists of a series of static images. Entities are often removed from the contexts that shape them, the processes of which they are a part, and the relationships and connections that structure their being-in-the-world. Such ontological orientations impose particular epistemologies, specific ways of producing knowledge about such inert entities. In this ontological context, the task of researchers is reduced, as they simply do not have to worry about contextual insights, etymological processes, and the multiple relationships that constitute the complexity of lived reality. In a reductionistic mode of research, these dynamics are irrelevant and the knowledge produced in such contexts reflects the reductionism. The bricolage struggles to find new ways of seeing and interpreting that avoid this curse and that produce thick, complex, and rigorous forms of knowledge (Karunaratne, 1997).

In this thick, complex, and rigorous context, bricoleurs in the social, cultural, psychological, and educational domains operate with a sophisticated understanding of the nature of knowledge. To be well prepared, bricoleurs must realize that knowledge is always in process, developing, culturally specific, and power-inscribed. They are attuned to dynamic relationships connecting individuals, their contexts, and their activities instead of focusing on these separate entities in isolation from one another. In this ontological framework, they concentrate on social activity systems and larger cultural processes and the ways individuals engage or are engaged by them (Blackler, 1995).

Bricoleurs follow such engagements, analyzing how the ever-changing dynamics of the systems and the processes alter the lived realities of participants; concurrently, they monitor the ways participants operate to change the systems and the processes. The complexity of such a mode of inquiry precludes the development of a step-by-step set of research procedures. Bricoleurs know that this inability to proceduralize undermines efforts to “test” the validity of their research. The researcher’s fidelity to procedure cannot simply be checked off and certified. In the complex bricolage the products of research are “evaluated.” The evaluation process draws on the same forms of inquiry and analysis initially delineated by the bricolage itself (Madison, 1988). In this context, the rigor of research intensifies at the same time the boundaries of knowledge production are stretched.

#### LIFE ON THE BOUNDARIES: FACILITATING THE WORK OF THE BRICOLEUR

The bricolage understands that the frontiers of knowledge work rest in the liminal zones where disciplines collide. Thus, in the deep interdisciplinarity of the bricolage, researchers learn to engage in a form of boundary work. Such scholarly labor involves establishing diverse networks and conferences where synergistic interactions

can take place as proponents of different methodologies, students of divergent subject matters, and individuals confronted with different problems interact. In this context, scholars learn across these domains and educate intermediaries who can build bridges between various territories. As disciplinary intermediaries operating as bricoleurs facilitate this boundary work, they create conceptual and electronic links that help researchers in different domains interact. If the cutting edge of research lives at the intersection of disciplinary borders, then developing the bricolage is a key strategy in the development of rigorous and innovative research. The facilitation and cultivation of boundary work is a central element of this process.

There is nothing simple about conducting research at the interdisciplinary frontier. Many scholars report that the effort to develop expertise in different disciplines and research methodologies demands more than a casual acquaintance with the literature of a domain. In this context, there is a need for personal interaction between representatives from diverse disciplinary domains and scholarly projects to facilitate these encounters. Many researchers find it extremely difficult to make sense of “outside” fields and the more disciplines a researcher scans the harder the process becomes. If the scholar does not have access to historical dimensions of the field, the contexts that envelop the research methods used and the knowledge produced in the area, or contemporary currents involving debates and controversies in the discipline, the boundary work of the bricolage becomes exceedingly frustrating and futile. Proponents of the bricolage must help develop specific strategies for facilitating this complicated form of scholarly labor.

In this context we come to understand that a key aspect of “doing bricolage” involves the development of conceptual tools for boundary work. Such tools might include the promotion and cultivation of detailed reviews of research in a particular domain written with the needs of bricoleurs in mind. Researchers from a variety of disciplinary domains should develop information for bricolage projects. Hypertextual projects that provide conceptual matrices for bringing together diverse literatures, examples of data produced by different research methods, connective insights, and bibliographic compilations can be undertaken by bricoleurs with the help of information professionals. Such projects would integrate a variety of conceptual understandings, including the previously mentioned historical, contextual, and contemporary currents of disciplines (Friedman, 1998; Palmer, 1996).

Kellner (1995) is helpful in this context with his argument that multiperspectival approaches to research may not be very helpful unless the object of inquiry and the various methods used to study it are situated historically. In this way, the forces operating to socially construct all elements of the research process are understood, an appreciation that leads to a grasp of new relationships and connections. Such an appreciation opens new interpretive windows that lead to more rigorous modes of analysis and interpretation. This historicization of the research and the researched is an intrinsic aspect of the bricolage and the education of the bricoleur. Because learning to become a bricoleur is a lifelong process, what we are discussing here relates to the lifelong curriculum for preparing bricoleurs.

Also necessary to this boundary work and the education of the bricoleur are social-theoretical and hermeneutical understandings. Social theory alerts bricoleurs

to the implicit assumptions within particular approaches to research and the ways they shape their findings. With grounding in social theory, bricoleurs can make more informed decisions about the nature of the knowledge produced in the field and how researchers discern the worth of the knowledge they themselves produce. With the benefit of hermeneutics, bricoleurs are empowered to synthesize data collected via multiple methods. In the hermeneutic process, this ability to synthesize diverse information moves the bricoleur to a more sophisticated level of meaning making (Foster, 1997; Zammito, 1996). Life on the disciplinary boundaries is never easy, but the rewards to be derived from the hard work demanded are profound.

I'll mercifully stop here.... This is part of an expanding piece.

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