

Exploring Students' Conceptions of Research and Inquiry

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Abstract

While there is an abundance of literature on the pedagogy of teaching research methodology, little scholarship exists on the perspectives of beginning research methodology students – especially students who are not preparing for academic careers – regarding this subject. Yet, via our experiences as instructors of an introductory research methodology course for graduate student practitioners, we have come to a consensus that students’ conceptions of “research” play a pivotal role in how they approach learning. For example, we have noticed a disconnection between students’ expectations regarding research and their daily (professional and personal) practices. Many students assume that doing research is irrelevant to their professional experiences (for example, in teaching, counseling, or higher education administration), which often undermines their motivation in this class. Furthermore, students often bring a “positivist-like” understanding of research to class and tend to hold to the idea that conducting research in the social sciences is all about experiments, control groups, numbers and so on.

In methodology courses, students are exposed to a variety of different, even contradictory, ideas about what research entails. It is thus crucial for us to understand the ways students make sense of diverging and competing notions about research. It is also pedagogically important for us as instructors to structure class content and employ pedagogy in ways that effectively facilitate student learning based on this understanding. All these reasons serve as the impetus for carrying out this investigation, which asks the following research questions: 1) How do graduate students in an introductory research methods course conceptualize the notion of “research”? 2) How does participating in this course shape students’ conceptualization and understanding of “research”? Through our investigation of these questions, we see the potential for better framing the delivery of introductory research methodology courses with respect to both pedagogy and content so as to more effectively meet the needs of students at Indiana University and in graduate programs in other institutions of higher education.

A. Research Narrative

1. Purpose of the investigation and research objectives

The purpose of this study is to understand how graduate students in an introductory research methodology course (EDUC-Y520: Strategies in Educational Research) conceptualize “research.” By better understanding students’ understanding of this fundamental concept at the start of the semester and changes in this understanding developed throughout participation in the course, we hope to improve course delivery as reflected both in curriculum and pedagogy, as well as student engagement and learning outcomes.

Given our (four instructors who teach such courses) previous teaching experiences in this class, we have come to a consensus that students’ conceptions of “research” and of their own relationship to the research process play a central role in how they approach learning in this course. For example, we have noticed there is a disconnection between students’ expectations regarding the conduct of research and anything they do in their daily (professional and personal) practices. Many Y520 students assume that doing research is irrelevant to their professional experiences (i.e. teaching, counseling, language education, and higher education administration), which often greatly undermines their motivation and engagement in this class. We expect that at the most fundamental level, students’ life experiences and identity claims shape their understanding of what research entails and their motivation for learning. Furthermore, students often bring a “positivist-like” understanding of research to class and tend to hold to a limited idea that conducting research in the social sciences is all about experiments, control group, numbers and procedural elements associated with the scientific method.

During this course, students are exposed to a variety of different, even contradictory, ideas about what research entails, reflecting ongoing debates on the paradigms within the field of research methodology itself (Lather, 2006). It is thus crucial for us to understand how students make sense of diverging and competing notions about research, and how their understanding relates to their professional and every day life contexts. It is also pedagogically important for us as instructors to structure class content and pedagogy in ways that effectively facilitate student learning based on this understanding. All these reasons serve as the impetus for carrying out this study, which asks the following research questions: 1) How do graduate students in an introductory research methods course conceptualize the notion of “research”? What are the pedagogical implications that emerge from understanding students’ conceptualization of “research”? 2) How does participating in this course shape students’ conceptualization and understanding of “research”?

To address these questions, we collected data from both face-to-face and on-line sections of Y520 in Spring and Summer 2013, leaving open the possibility of collecting additional data in additional semesters as well. During Phase I of the study, we have primarily focused on the first research question and developed illuminating themes and pedagogical insights that we hope to further investigate during Phase II.

2. Existing Scholarship

There is a paucity of existing scholarship relevant to teaching inquiry courses. The empirical literature can be organized into two main categories: 1) effective pedagogical approaches and methods for teaching a research class, and 2) students’ and researchers’ general conceptualizations of the concept of “research.” The first category centers on pedagogical methods for teaching research methods classes in the social sciences. Examples include: “active cooperative learning” (Ball & Pelco, 2006), “student-centered approach” (Barraket, 2005), “student-centered tutor-led approach” (Edwards, 2004), “experiential and heterodoxical approach” (Hubbell, 1994), “problem method” (McBurney, 1995), “group project teaching

technique” (Ransford & Butler, 1982), “learning by doing” (Takata & Leiting, 1987; Winn, 1995), and “mixed method approach” (Tashakkori & Teddlie, 2003).

As a whole, authors of this scholarship argue for the merits of incorporating problem-based tasks and student-centered learning elements into research methods classes. Despite being pedagogically informative, however, these studies focus primarily on the logistics or outcomes of implementing these pedagogical methods. They are also predominantly grounded in the fields of psychology, sociology and political sciences. Issues surrounding how students and teachers conceptualize “research” in the context of learning and teaching inquiry, as well as its intersection with pedagogical dynamics have not yet been specifically explored in those studies.

The second body of literature addresses how “research” is conceptualized from the perspectives of students, research supervisors and senior researchers. For example, Meyer, Shanahan, and Laugksch (2005) conducted a survey to explore how doctoral students conceptualize research and they identified seven categories of descriptions on such conceptualization. Two other studies examined research supervisors’ conception of research in general. Bill (2004) identified that university-based research and researchers are privileged in participants’ discourse. Kiley and Mullins (2005) investigated how research supervisors of doctoral students conceptualize research and how they perceive the relationship between their own conceptualization and those of their students. In addition, Brew (2001) also examined how established researchers conceptualize research from qualitatively different perspective. This set of studies is closer to the study we are proposing than the first category of research. Interestingly, this set of literature largely comes from universities in Australia – we did not come across many studies conducted on this topic in the U.S..

In our review of the current literature, we found only a few studies related to teaching graduate-level research/inquiry courses. It is clear that our current understanding of students’ conceptualization of “research” as well as the evolution of this conceptualization throughout the course of a semester is weak. Existing studies tend to focus on producers and future producers of research rather than students who will primarily be consumers of research after graduation. We also note many studies are descriptive or prescriptive in nature and not necessarily oriented towards taking action to change and improve teaching practices based on the results. The scholarship of teaching and learning has much to contribute here. These patterns affirm the need to carry out more student-centered action research in the domain of teaching inquiry courses that focuses both on student understanding and pedagogical innovation. This sets the stage for our project.

3. Significance and impact the study may have upon undergraduate or graduate teaching, learning and assessment

As a core course required for most of the graduate students in School of Education, Y520 plays a significant role in both exposing students to the fundamental principles of social science research and providing them with hands-on skills to conduct and consume research. In addition, discussions within the Inquiry Methodology Program point to significantly changing the delivery method of Y520 in the coming academic years to better meet the research-consumer identity of most students and enhance their engagement and learning outcomes accordingly. We believe that this study will therefore not only offer a platform for us as instructors to reflect upon and improve our own teaching practice, but will also benefit the forthcoming course reform. Moreover, implications will extend beyond Y520, since similar methodological courses are taught on campus across a number of different social science disciplines. We hope to engage in and facilitate scholarly and pedagogical discussions with other instructors and researchers in this area.

Specifically, we anticipate a two-fold impact of this study. First, this research will reveal students’ baseline understanding of research and how it relates to their identity and motivation. Using this baseline as a foundation, we can better frame the delivery of Y520. We see this as a particularly urgent need for Y520 students since they are mostly educational practitioners,

typically having little or no exposure to social science research. It thus is important to frame the course in a way that enables them to connect research with their daily practice while simultaneously providing critical knowledge about research methodology and evaluating research. Second, we hope that tracking *changes* in students' understanding of the concept of research over time and reaching a better understanding of *how* changes occur (i.e., through critical teaching moments vs. other life experiences, etc.) will also help us adjust the course curriculum and choose appropriate pedagogical designs and techniques. In other words, this data will help us better understand what is working about the course content and delivery methods, and what might be improved. It will also help us to develop course curriculum and instructional methods that align with students' identity claims in relation to research and thus optimally enhance their motivation and engagement in the class.

4. Outcomes of the work and how they will contribute to the assessment of student learning at Indiana University

The first phase of the study has resulted in a number of outcomes that have benefited the teaching and learning community of Indiana University. These outcomes include:

Brown-Bag Dialogue. On March 22nd, 2013, our research team presented the conceptualization and research design of this study in a Brown Bag Seminar hosted by the Inquiry Methodology Program at the School of Education. Most faculty members and graduate students from the program attended the presentation and we received positive feedback and constructive suggestions from the attendees. It also provided an opportunity for instructors who taught introductory level methodology classes to collectively reflect on teaching practices following our formal presentation.

Course Reflection. Our presentation on the 25th Annual Ethnographic & Qualitative Research Conference discussed the inter-subjective feature of reflective teaching practice. Applying this finding into our teaching practice with support from other Y520 instructors, our team members formed a support group to facilitate each other's reflective teaching. The group worked effectively in exploring innovative online and hybrid teaching approaches. So far we have composed and collected a large pool of online forum discussion questions, critically reviewed several introductory research methodology textbooks, and updated several assignments utilized in the Y520 course.

In the second phase of the study, we aim at achieving the following goals to continue to support the teaching and learning at Indiana University:

1. Consolidate the collaborative reflection practice among Y520 instructors and associate instructors.
2. Continue to explore innovative teaching approaches for online and hybrid Y520 classes. Recent years there have seen a significant increase in the interest of online and hybrid classes among higher educational institutions. Online and hybrid teaching platforms are still quite new for instructors in research methodology. Still not far from starting point, the recently restructured Y520 course deserves more reflection and facilitation from the instructors.
3. Reform the curriculum by writing a new textbook for introductory level research methodology class. Our review of popular textbooks for classes like Y520 shows the need for an updated textbook with a more refined understanding of philosophic assumptions of research methodology, as well as a delivery approach that better engages students. We aim to write such a book so that students in such courses will be exposed in a more holistic way to philosophical, methodological, and practical elements of research.

5. Research methodology

We have designed this study as a critical action research project. Action research design blurs the traditional distinction between researchers and practitioners and effectively shortens the distance of the transformation from academic findings to teachers' daily practice. In this study, we integrate practice and research, thus taking on a dual-role as both instructors and researchers. The research design is *critical* in terms that it is framed by the meta-theoretical framework provided by critical qualitative research methodology (Carspecken, 1996). It will also employ a series of techniques developed by critical methodologists for collecting and analyzing the data.

We have collected data primarily through archived class discussions and student assignments from both face-to-face and online sections of Y520. This includes formal course assignments, in-class discussions (for the face-to-face class) and online postings in the Oncourse forum (for the online sections).

For the duration of Phase I of the grant, we have been utilizing the qualitative data analysis software package Dedoose to enable collaborative coding and analysis. Over the course of phase I, two central strands of analysis have evolved. First, we have engaged in analyses of our teaching practices and of collaborative teaching through individual reflection, written memos, commentary upon one another's reflections, and collaborative discussion. The second strand of analysis has focused on obtaining a deep understanding of how students conceptualize research and inquiry. For this second strand, our analysis began with open coding of written course materials, conducted individually and discussed as a group. Our discussions have led us to a current focus on identifying emergent themes focused on the relationship between students' conceptualizations of research and their own identity claims. This more recent analysis has drawn upon thematic coding of course materials as well as analysis of narrative structure and language utilized by students in their written assignments.

During phase II of this project, we plan to continue both strands of analysis. Our continued analysis will focus on making links not only between student conceptualizations of research and their identity claims, but also on how student understandings and identity claims evolve. We will also engage in further analysis of our pedagogical practices and of the implications of our emergent understandings of student perspectives for shaping teaching pedagogies.

6. Means by which you will measure the success of your project.

The goals of the project are to understand student conceptions of research and to understand how these conceptions develop through the engagement in the Y520 course activities. Measuring by the means designated for Phase I of the study, we are steadily marching toward achieving our goals. To hold accountability in the second phase of the study, we will consistently and systematically employ these means to further our current research. Below we point out how our first phase achievement can be evaluated according to these means and how we would like to further our study under different threads.

- Publish research articles in peer-reviewed journals or present findings in research conferences where the judgment of peers on the analysis addressing both research questions will indicate scholarly success. Now we are working on publishing the findings in peer-reviewed journals. Ideally, 1-2 research papers will be submitted for review by this summer. We have also presented or been accepted to present the findings of this study at three national-level academic conferences. In the next section of this document on the dissemination of the findings, we will provide the details of these presentations.
- Provide an outline for the reform of the class and a new text relevant to the reform, particularly attentive to the theoretical development related to student conceptions of research and inquiry: We have met with faculty members in our program and discussed the reform of the class several times. We have also submitted written memos and suggestions to our program. In Phase II, we plan to compile a comprehensive report and are currently writing a textbook proposal in advance of contacting publishers.

- Reflect on the research process with the intention of contributing to the Scholarship of Teaching and Learning: Our presentation on the 25th Annual Ethnographic & Qualitative Research Conference focused on teacher's reflective practice, which can be viewed as an effort to contribute to the scholarship of teaching and learning. Looking ahead, we plan to keep working on this topic, present it in a Scholarship of Teaching and Learning (SoTL) conference and publish it in a peer-reviewed journal focused on the scholarship of teaching and learning.

7. Dissemination of results

We have disseminated the results of this study in a variety of ways. In the second phase of the study, we will continue to circulate our findings at local and national levels.

As mentioned in Part 4 of this narrative, during Phase I we disseminated the findings within the local community in several ways, including submitting memos and suggestions to the program, initiating Brown Bag dialogues and conducting course reflections. In phase II, we will continue to closely work with the Inquiry Methodology Program and engage actively with Indiana University's scholarship of teaching and learning community.

We also presented or were accepted to present our findings at three different national conferences. As mentioned above, we presented our findings on teacher's reflective practices at the 25th Annual Ethnographic & Qualitative Research Conference in June 2013. In April 2014, we will share our findings on students' conceptualization of research with attendees at the American Educational Research Association annual conference. In May 2014, we will discuss the methodological implications of this action research at the 2014 *International Congress on Qualitative Inquiry* (see **Section D** for the papers and abstracts presented/accepted for these conferences).

This effort at disseminating our findings will continue in the second phase of the study. Beyond conference presentations, publishing research articles in peer-review journals and writing a textbook are the other two channels to share our findings with the larger intellectual community in the next phase.

In addition, we intend to disseminate our results in several forums related specifically to SoTL. These include SoTL events at Indiana University-Bloomington, as well as submission of a paper proposal to the International Society for the Scholarship of Teaching and Learning (ISSoTL) 2014 or 2015 conference. Based on feedback in SoTL and other forums, we intend to submit a manuscript for submission at a SoTL-oriented journal, such as *College Teaching*.

8. Reflective teaching practices

As a group, all investigators of this study have been engaged in a variety of reflective practices since this study was first conceived. These practices relate to this project, specifically, but also more broadly to our individual and collective efforts as instructors of Y520.

As instructors of this course, our reflective practices prior to and during the early stage of Phase I included the following:

- Individual reflections on our own conceptualizations of research and assumptions regarding research/teaching research, as well as a group discussion on these written reflections.
- Individual reflections on our own expectations and pedagogical assumptions regarding teaching Y520, as well as group discussions and comments to one another on these written reflections.
- Individual reflections on our perceptions regarding learning objectives for Y520, both global and specific topic-based objectives in the class, and group discussions about these individual reflections.

Through these discussions, we came to a consensus regarding our overarching objectives for Y520 as well as objectives for different content area topics, such as ontology/epistemology

and objectivity/subjectivity in research. Concretely, these reflections enabled us to decide upon readings, activities, and assignments that we felt would best meet the learning objectives that we developed.

During the spring and summer 2013 semesters, we engaged in ongoing reflection to jointly reflect upon our experiences utilizing new tools for teaching this introductory research methodology course. In the Fall 2013 and Spring 2014 semesters, those of us teaching Y520 have continued to engage in reflection about our teaching and have drawn upon our experiences from the Spring and Summer 2013 semesters to make changes to course content and structure. We have also shared our reflections with other Y520 instructors and engaged them in our joint reflection and learning efforts.

As we move into the Spring 2014 semester, we plan to continue reflecting as a group and anticipate that discussions surrounding developing the new textbook will play an important role in continuing to shape our teaching practices. We also plan to continue reflecting with other Y520 instructors, and are taking steps to develop a structured forum for sharing reflective and pedagogical materials.

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B. Budget narrative

During our first year conducting this study, we anticipate costs to total slightly more than \$5000. These costs include the following:

- Dedoose (web-based qualitative data analysis software): We have been using Dedoose to engage in collaborative data analysis and plan to continue doing so over the next 2 years. For groups of 3 or more, Dedoose access costs \$10.95/month/person. We will need access for 3 investigators over 24 months. (One investigator has other funding providing her Dedoose access). Total cost: $10.95 \times 3 \times 24 = \mathbf{\$788.40}$
- During the next two years, we are planning three writing retreats during which all four investigators (now physically located in different parts of the USA) will come together for a weekend of intensive work on our textbook. In the past year, we have been meeting each other regularly to discuss our project via Skype. We will continue to do this in the coming year. However, it has become important to carve out larger working space together in a face-to-face context in order to move our discussions and writing to greater sophistication and efficiency, and that is why there is a need for writing retreats to create additional synergy for this project. Anticipated costs for each of these retreats include travel (\$250, estimated flight cost for the investigator located furthest away to come to the area where the three other investigators are living; \$50/investigator for gas costs for the other three investigators), housing (\$500, estimated for all four investigators for 2-3 nights, assuming shared accommodations), and meals (approximately \$100). Total cost: $\$1000 \times 3 = \mathbf{\$3000}$.
- Conference attendance. As mentioned earlier in this narrative, we will be presenting findings from this study at two different conferences in Spring 2014 (AERA and ICQI), and we anticipate presenting at one or more other conferences during the 2014-2015 academic year (e.g. the annual ISSoTL conference). At each of these conferences, two or more team members from this project will be attending. Thus, we intend to use Phase II funding to help fund the cost of attendance for team members attending these conferences. We request approximately **\$1400** in conference attendance during the period between April 2014 and April 2015 to help defray a major part of the costs of presenting.

Budget Item	Cost
Dedoose software	\$788.40
Conference funding	\$1400
Writing retreats (3 total)	\$3000
TOTAL	\$5188.40

C. Research plan and timeline

Over the coming year, we plan to continue conducting analyses that we will use to inform future semesters of Y520 instruction. Our research timeline during 2014-2015 is as follows:

Semester	Activities
Spring 2014	<ul style="list-style-type: none">• Continued analysis of data from 4 sections of Y520• Presentation at AERA annual meeting (April)• Presentation at ICQI annual meeting (May)
Summer 2014	<ul style="list-style-type: none">• Continued data analysis• Submission of one peer-reviewed article based on analyses conducted during 2013-2014• Discussions with textbook publishers; obtain contract for book manuscript
Fall 2014	<ul style="list-style-type: none">• Continued data analysis• Submission of one peer-reviewed article based on analyses conducted during 2013-2014• Textbook writing retreat for intensive manuscript writing
Spring 2015	<ul style="list-style-type: none">• Continued data analysis• Textbook writing retreat for intensive manuscript writing• Presentation of data analysis at a national conference (TBD)
Summer 2015 and onwards	<ul style="list-style-type: none">• Continued data analysis• Textbook writing retreat for intensive manuscript writing• Initial completion of textbook manuscript

D.

**From Tacit to Deliberate Reflection:
Consensus Formation and Position Taking in a Collaborative Action Research in
Teaching Research Methodology**

Pengfei Zhao, Peiwei Li, Karen Ross, Barbara Dennis

(Presented at the 25th Annual Ethnographic & Qualitative Research Conference, Dayton, Ohio,
June 2013)

Introduction

When teaching research methodology, reflection is always one of the most important learning objectives that, as instructors, we hope our students can grasp. However, a brief review of the literature on reflective teaching practice reveals that, although there are extensive discussions on this topic across various subfields of education, very few studies have been done in the field of research methodology. This in no way means that our field is too clear to be able to get rid of reflection. On the contrary, there are a myriad of unsolved questions in our field that a methodology instructor needs to address before even stepping into her classroom, such as the ceaseless discussion on the paradigm war, or the connection between educational research and practice. We thus see a necessity to engage in the conversation on reflective practice in teaching research methodology.

Many of the current studies on this topic have a theoretical orientation, with the emphases on applying or synthesizing one or several philosophic underpinnings, whereas in this paper, we want to investigate it from a more empirical based approach, namely from the findings of a collaborative action research on teaching an introductory level research methodology class. The study was initiated last fall and its full title is “Exploring Students’ Conceptions of Research and Inquiry”. The purpose of the study as a whole is to understand how graduate students in an introductory course of social research methodology conceptualize “research” and “inquiry”, and to examine whether and how these conceptualizations might change as a result of participation in the course. In this paper, we report the preliminary findings of the action research with a focus on the instructors’ self-reflection.

Background of the Action Research

The methodology course, “Strategies in Educational Research”, is an introductory level master degree course offered by Indiana University, School of Education to all the master students. For many of the students, this is the very first research class they take in school. Because the class is offered both online and face-to-face, sometimes this is also the first on-line class for the students. The goal of the class is to prepare the students to become more informed educational research consumers instead of producers, since most of them will become teachers, counselors and school administrators rather than professional researchers. All of the four action researchers, Barbara Dennis, Peiwei Li, Karen Ross and Pengfei Zhao have taught this class for at least twice as independent instructors. Among them, Barbara Dennis is the faculty member of Inquiry Methodology Program of Indiana University, who is also in charge of designing the class and coordinating all the teaching practice.

The reason why we initiated this action research is that, as we keep having conversations about this class, we realize that we have many “how” and “what” questions related with the daily teaching practice that we could not figure out in a snapshot. After having many conversations and reading relevant literatures, we realized that these questions are not contingent questions, but rather questions any instructor teaching similar classes in our field could encounter. For example, we noticed there is a disconnection between students’ expectation of a research class and their daily practice. Many Y520 students assume that doing research is irrelevant to their professional

experiences (i.e. teaching, counseling and higher education administration), which often greatly undermines their motivation in learning. We suspect that at the most fundamental level students' life experiences and their identity tend to shape their understanding of what research entails and their motivation to learning. Furthermore, Students often bring a predominant "positivist-like" understanding of research to class and tend to hold the idea that doing social scientific research is all about experiments, control group, numbers and so on. In addition, throughout the class students will be exposed to a variety of different, or even contradictory ideas, which reflect the ceaseless debates on the paradigms within the field of research methodology itself (Lather, 2006). In other words, we think this is a typical context in which a methodology instructor needs to navigate her practice.

Therefore, collectively we started this action research in the hope of finding our own way to approaching these questions and supporting each other in the decision-making process. After finishing the teaching practice that constitutes a major part of the study, we became interested in not only how these "how" and "why" questions are answered and practiced, but also how the consensus on various decisions has been achieved in our collective reflection process. Thus this paper is concerned not so much on the answers to these "how" questions as on how the consensus is achieved through deliberate reflection. Our research question is: How does the reflective practice facilitate the decision making process in teaching research methodology? In the typical context described above, what will be the primordial modes and internal structure of reflection and how can we probe its nature?

Preliminary Literature Review and Theoretical Framework

Reflective practice has been widely discussed during the last 30 years in various subfields of education (Schön, 1983, Freire, 1997, Lyons, 2010, Crducci, et al., 2013). Researchers approach this issue from different philosophic underpinnings. Noticeably, Dewey's pragmatic version of "reflection" has exerted great influences on this issue. (Dewey, 1933) Schon's groundbreaking articulation of reflection in and on action draws people's attention to the tacit learning process taking place on the level of "know-how". (Schön, 1983) In the book *Pedagogy of the Oppressed*, Freire made the insightful connection between critical reflection with the pursuit of social justice and the hope of transformation of the world. (Freire, 1997) It is here that reflection is integrated within the whole emancipation enterprise and become more dialogically oriented. Recently the discussion on reflection encountered the challenges from post-modernism. The concept of "reflexivity" is proposed to substitute "reflection". The essential part of this challenge is a different understanding of the "subject" of reflection. Rather than an integrated actor with agency, post-modernists argue that the "subject" is fragmented and always determined and shaped by different social power. (Crducci, et al., 2013) We found out that an implicit theme that has not been explicitly addressed in the philosophic discussion is the relationship between subject and object in regard to reflection. It seems that Dewey's version of reflection is still within the subject-object framework. It is in Freire's work that we start to see the emergence of inter-subjectivity. However, we see the best formulation of the intersubjectivity of reflection in Habermas's theory, whereas in the literatures we have reviewed so far, this feature has not been noticed yet.

Based on Mead's and Habermas's insights, Carspecken developed the thoughts of "position-taking" and reveals its close connection with reflection in general. It deserves a long quote to illustrate this point:

Reflection is structured in relation to the formal speech positions. [...] Reflection is basically an internal shift of position, so that a former state could in principle be talked about with others. The former state I am referring to could be any subjective or communicative state. If communicative it would be structured by a typification: a culturally shared understanding of a meaningful situation in which agents interact. When a reflection occurs the former state becomes an objectification framed within a new typification for communicating with others.

The former state was something to be and act through; after reflection it becomes something to talk about. A former state can be talked about when one occupies a new state in which to be and act through: a new typification. One must take a new position in order to represent an older position to an audience. Reflection is therefore internalized position-taking. One either talks about the former state with others or thinks about it in relation to an internalized audience. The sorts of internalized position-taking that can bring about a reflection may be specified as various points along a continuum. (pp. 259-260, Carspecken, 1999)

Carspecken expounds the position-taking theory in a manner that reveals its close connection with reflection. Compared with reflection theories emphasizing on the “know-how” feature of reflection, we believe that a theory like this using the formal speech positions is more helpful in understanding the deliberate reflection, whereas in the scenario of conducting action research, the action researchers’ reflection is exactly this type of consciously conducted research. Therefore, we think it is appropriate to utilize the Carspeckenian version of reflection theory to examine the internal structure of reflection. Nevertheless, in the following section of this paper, Carspecken analyzes five different types of third-person positions involved in reflection, which we will not do in our analysis. We argue that it is possible and probably more appropriate to investigate the empirical types of positions involved in this specific scenario of reflective teaching practice instead of applying the pre-defined position-taking types. In this way, we can better unpack the particularity of the reflection in teaching practice with more details.

Meanwhile, researchers have also examined the different orientations and components of reflections. (Nelson et al, 2013). Nelson and his colleagues analyzed different orientations of reflection including technical reflection, reflection-in and on-action, deliberative reflection, personalistic reflection and critical reflection. (Refer to Figure 2 cited from Nelson et al’s paper, Nelson et al, 2013) In the following discussion, we will see the reflection involved in the decision-making process mainly falls into the category of deliberative reflection, but some of its contents also reach the category of personalistic reflection and critical reflection. In the same paper, Nelson also mapped out the different components of reflection that are the stimulus, content, process and outcome. (Refer to Figure 3 cited from the paper, Nelson et al, 2013) The following analysis focuses more on the “process” of reflection, its internal structure and dynamics, than on its content or outcomes.

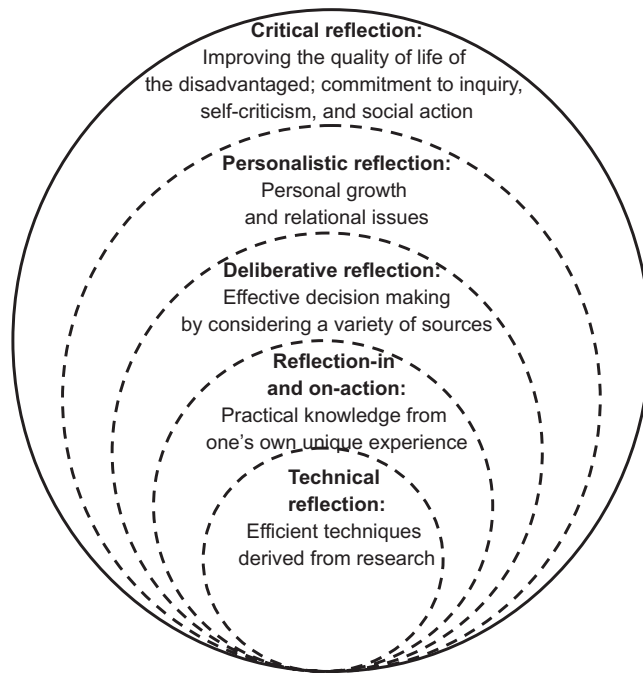


Figure 2. Orientations to reflection in teacher education.

(Figure 2 is cited from Nelson et al, 2013)

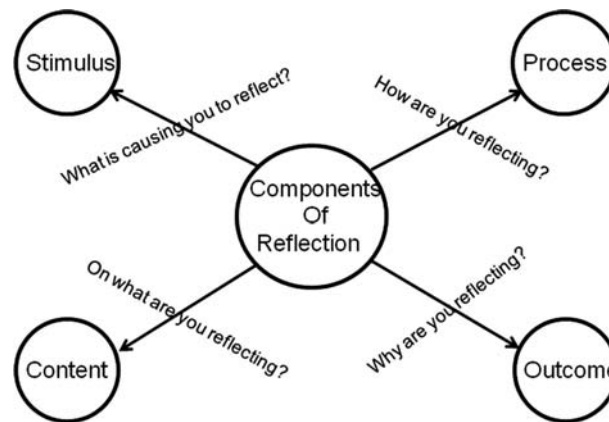


Figure 3. Components of reflection in teacher education.

(Figure 3 is cited from Nelson et al, 2013)

Methods

The whole study is framed as a collaborative action research. All the four researchers assume dual roles in the study, the role as instructors and the role as researchers. All of the instructors have taught the class at least twice and obtained some pre-understanding on the course. The study as a whole involves approximately 90 graduate students from 4 sessions of the “Strategies in Educational Research” courses, including 3 online sessions and 1 face-to-face session taught in spring and summer 2013. It is divided into three stages: Stage One is in the fall semester of 2012, which is before teaching the course. At this stage all of the instructors had regular meetings in 2012 fall to reflect on their previous experiences of teaching this class and composed formal reflection notes. This was also the primary time when the decision-making took place. These

decisions include: a more refined curriculum of the course; the primary learning goals of the class, namely, what we want our students to take out of the classrooms; how to deal with the discrepancy between research and practice; the main pedagogical and evaluation strategies, and so on. Stage Two is the spring semester of 2013, when most of the teaching practices were conducted and data from the students' side were collected. On this stage, the action researchers also held regular meetings to talk about the progress of the class and reflect on their practice. There were also email exchanges discussing pedagogical and substantial issues. Within this stage, the team also presented their ongoing research on a Brown Bag session hosted by Inquiry Methodology Program, Indiana University. Stage Three is from May of 2013 to the end of the summer, when all the data from both the instructors' and the students' sides will be finally collected and analyzed.

Since the paper mainly focuses on the reflection in decision-making process, we use the data primarily from the first stage of the study. The data include: (1) self-reflections on research assumptions written by the instructors prior to teaching the course for the given semesters, based upon knowledge gained through past teaching experiences in this particular course and other inquiry courses; (2) self-reflections on teaching pedagogy for this course, based on previous teaching experiences and students' feedbacks; (3) the notes and audio recordings of the reflective meeting held regularly among the instructors prior to the teaching; (4) regular email exchanges on pedagogical or methodological issues.

Critical qualitative research methodology (Carspecken, 1996) and position-taking theory of reflection are employed to analyze the data, since it offers sophisticated analytic tools to delineate the holistic meaning horizons delivered by the data. Some of its methods, such as validity horizon analysis and role analysis, also offer insights on approaching the relationship between one's self-reflection and her identity claims.

Analysis

When we first started to analyze our data, we encountered a difficulty: It is hard to pin down "reflection" discursively on the data. Let's see three sets of examples below:

Example Set 1:

I was so into reading that for quite a long time, diving into a novel or a collection of poems was the biggest fun in my life. What drew my most attention in my reading was the myriad of experiences that the characters in the novels or stories have gone through. I could so easily resonate with them and sometimes almost felt like I was living in dual worlds—the world of reality and the world of my books. (Pengfei's reflection)

I see research with human participants as best conducted as a sort of a conversation, where the aim is to learn about others' experiences. (Karen's reflection)

Example Set 2:

I do not view the publication of research as an end-state but rather as a part of the larger process of learning more about the world of which we are a part. (Karen's reflection)

The predominance of quantitative studies across many disciplines in social sciences makes people easily get lost in the forest of numbers. I am not saying that I am against quantitative research, what I hold as a crucial belief is that we shouldn't take the manipulation of numbers as the ultimate task of social researches or let ourselves lost in the truncated view that once you work out the computational result in SPSS or R, your work is done. (Pengfei's reflection)

Example Set 3:

We both talked about our interests in working with people. Making connection with people probably satisfies some of our identity needs and it is about who we are and who we want to be. (Peiwei's comment on Pengfei's reflection)

Karen's reflection is more oriented toward how research is conceptualized. Compared mine with Karen's, I feel that this one is more formal and more systematic, whereas my own one is more narrative-based, and more related with my own experience of doing research. (Pengfei's comments on Karen's thought)

All of the examples here are from our data of the written reflection on our own assumptions about "research". The two examples from the third set are from the following comments that we wrote to each other's reflection using "comment" function in word document. Ideally, they are all part of the whole reflection process, but what we find difficult is that it is very hard to pin down the reflective components in the examples in the first set. For us, they are more like self-expression than self-reflection. So what is the difference between self-expression and self-reflection? It seems that by doing reflection, one needs to distance herself from the original action or experiences and then take another position to re-examine it. So is it possible for one to distance herself and re-examine herself without occupying other referential point? We noticed that different philosophers may have different answers to this question. For Husserl, this seems to be possible in his phenomenological reduction, whereas Habermas will argue with him that this subject-object model is never possible in reflection. In order to do reflection, one needs to be able to take a third person's position to look at her previous action or experiences. However, this is not a good place to scrutinize the philosophic debate. What we want to demonstrate and all we want to say here is that the difficulty in discursively pinning down the reflective component reminds us of the different levels of reflection. When we as instructors taught the class, we have already conducted tacit reflection there. It still stays in the pre-linguistic stage. It is part of the teaching practice itself and could hardly be differentiated from it. When we teach, we navigate our action with the anticipation of the consequences and effects of the teaching in our view. We constantly adjust our teaching practice according to this anticipation and along with the adjustment of our teaching action, our anticipation changes, too. That is how tacit reflection takes place, but here we are concerned more about the deliberate reflection.

How does different levels of linguistically formulated reflection differ from each other? What is the difference between the examples in the three sets? As we have noticed here, the examples in the first sets are more expression-like, which is to say, discursively we can only pin down one formal speech position there. One may argue that as long as a person starts to use language to articulate her own experiences, she has already distanced herself to some level from her previous position and thus obtained a certain degree of reflection. This thought makes sense to us, but "linguistically", we think there is only one first person position involved in the examples. Therefore, we think that the claim that Set 1 is more self-expression-like claims holds valid. In this sense, Set 2 is very different from Set 1. By saying "I do not view the publication of research as an end-state but rather as a part of the larger process of learning more about the world of which we are a part", the speaker implicitly indicates that there is another position holding that the publication of research is an end-state. What this sentence conveys is that yes, I see the existence of another position and I understand its claim, but I don't agree with it. Engaging another position makes it possible to clarify the speaker's own position. This implicitly indicated position serves as an internal audience for the speaker or writer. In order to make such a claim, the speaker not only needs to understand her own position, but also needs to understand her counter-position, which thus enables her to stand in a position different from either the very first-person position or its counter-position. Instead, through the reflection she obtains a new position beyond the two.

Set 3 is also different from Set 2. For Set 2, the dialogue is still within the text itself. Internal audiences are implicitly indicated and the speaker's position is clarified and elucidated. In Set 3, the dialogue takes place in reality between different action researchers. When my colleague comments on my reflection, she wrote: "We both talked about our interests in working with people. Making connection with people probably satisfies some of our identity needs and it is

about who we are and who we want to be.” (Peiwei) Her comment makes it clear that we stand in the same plane in understanding the connection between working with people and doing social scientific research. The same as in the examples in Set 2, the comparison here also allows the emergence of a new position, a “we” position here. The emergence of “we” position is possible only if she understands both her and my positions and also validates my position. This is the initial step toward the formation of consensus in the collaborative action research. It can be realized only through various position-taking processes and deliberate reflection.

Based on above analysis, Table 1 shows the difference between tacit reflection, and reflections in the three different sets:

Table1: Comparison of Different Levels of Reflection

	Whether it is in pre-linguistic stage or not	The discrepancy between practice and reflection	Type of knowledge	How one could distance herself in the reflection	What position does one take in reflection	How effective it could be used in consensus forming
Tacit reflection	In pre-linguistic stage	Reflection is part of the practice	Know-how knowledge	Implicitly	N/A	Not very effective
Example 1	In linguistic stage	Reflection is separated from the practice	Know-that knowledge	Hardly. One is mostly in a self-expression mode.	An “I” position	Not very effective
Example 2	In linguistic stage	Reflection is separated from the practice	Know-that knowledge	One distance from herself in reflection via taking the other referential point	An “I” position differed from “the other”	Not very effective
Example 3	In linguistic stage	Reflection is separated from the practice	Know-that knowledge	One distance from herself in reflection via setting up dialogue with other action researchers.	A “we” position	Effective

Discussion and Conclusion

In our analysis, we reveal how reflection takes place and its internal structure in our collaborative action research. We compare types of reflections taking place in the process of our study according to their different levels of deliberateness. Since our primary focus is on the emergence of deliberate consciousness in the linguistic stage, the analysis mainly focuses on the latter three types of linguistic reflections. However, this does not mean that we will degrade tacit reflection. On the contrary, we strongly feel that without the accumulation of everyday teaching practice and the embedded tacit reflection, it would be quite difficult for us to articulate our reflection and conduct this action research deliberately. Therefore, we see the tacit reflection as a foundation for our deliberate reflection.

We also notice that the emergence of deliberate reflection evolves from the more tacit, less explicit levels of reflection in teaching practice. It is not quite possible to have deliberate reflection at the very beginning point of the teaching practice. It usually takes some effort and time to cultivate the more formal, more deliberate reflection. As in our case, we have both taught the class for several times and have been discussing teaching research methodology in a less formal way for more than 3 years. Thus, we suggest that a culture of reflection needs to be patiently and consciously cultivated in order for us to become reflective instructors.

What is more, the analysis also shows the significance of position taking both in the formation of deliberate reflection and in decision-making process. There is no other time than now that we see a most urgent need in our field for researchers to talk with each other and to form some consensus. And this urgency can be seen most vividly in the process of teaching research methodology. As practitioners, we know how confused and struggling we could be if we still trap ourselves in the lonely practice of ourselves.

Finally, we want to say that all the above analyses, including the analysis of position-taking, different levels of reflection and its facilitation on decision-making as well as consensus formation, show that deliberate teaching reflection is intrinsically inter-subjective. We can see the feature of intersubjectivity not only in the internal position-taking of our written reflection texts, but also in the dynamic of the dialogic consensus formation process itself. This feature, we may infer, does not belong to the particularity of the reflective practice of teaching research methodology, but deserves the attention from all the researchers who have interest in studying reflective practice in education.

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Exploring Students' Conceptions of Research and Inquiry

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Introduction

While there is an abundance of literature on the pedagogy of teaching research methodology, little scholarship exists on the perspectives of beginning research methodology students – especially students who are not preparing for academic careers – regarding this subject. Yet, via our experiences as instructors of an introductory research methodology course for graduate student practitioners, we have come to a consensus that students' conceptions of "research" play a pivotal role in how they approach learning. For example, we have noticed a disconnection between students' expectations regarding research and their daily (professional and personal) practices. Many students assume that doing research is irrelevant to their professional experiences (for example, in teaching, counseling, or higher education administration), which often undermines their motivation in this class. Furthermore, students often bring a "positivist-like" understanding of research to class and tend to hold to the idea that conducting research in the social sciences is all about experiments, control groups, numbers and so on.

In methodology courses, students are exposed to a variety of different, even contradictory, ideas about what research entails, reflecting ongoing debates on the paradigms within the field of research methodology itself (Lather, 2006). It is thus crucial for us to understand the ways students make sense of diverging and competing notions about research. It is also pedagogically important for us as instructors to structure class content and employ pedagogy in ways that effectively facilitate student learning based on this understanding. All these reasons serve as the impetus for carrying out this investigation, which asks the following research questions: 1) How do graduate students in an introductory research methods course conceptualize the notion of "research"? 2) How does participating in this course shape students' conceptualization and understanding of "research"? In this paper, we focus primarily on the first question and on students' conceptualizations at the start of the semester.

Background and Theoretical Framework

The empirical literature on teaching inquiry courses can be organized into two main categories: 1) effective pedagogical approaches and methods for teaching a research class, and 2) students' and researchers' general conceptualizations of the concept of "research." The first category focuses on pedagogical methods, which include: "active cooperative learning" (Ball & Pelco, 2006), "student-centered approach" (Barraket, 2005), "student-centered tutor-led approach" (Edwards, 2004), "experiential and heterodoxical approach" (Hubbell, 1994), "problem method" (McBurney, 1995), "group project teaching technique" (Ransford & Butler, 1982), "learning by doing" (Takata & Leiting, 1987; Winn, 1995), and "mixed method approach" (Tashakkori & Teddlie, 2003). Overall, authors of this scholarship argue for the merits of incorporating problem-based tasks and student-centered learning elements into research methodology classes. Despite being pedagogically informative, however, these studies focus primarily on the logistics or outcomes of implementing these pedagogical techniques. These studies fail to explore issues surrounding how students and teachers conceptualize "research" in the context of learning and teaching inquiry, as well as the intersection of these conceptualizations with pedagogical dynamics.

The second body of literature addresses how "research" is conceptualized from the perspectives of students, research supervisors and senior researchers. For example, Meyer, Shanahan, and Laugksch (2005) conducted a survey to explore how doctoral students conceptualize research and identified seven categories of conceptualization. Two other studies

examined research supervisors' conceptions of research in general. Bill (2004) identified that university-based research and researchers are privileged in participants' discourse. Kiley and Mullins (2005) investigated how research supervisors of doctoral students conceptualize research and how they perceive the relationship between their own conceptualization and those of their students. In addition, Brew (2001) examined how established researchers conceptualize research from qualitatively different perspectives.

While our study fits better with this set of studies than with the first, we found only a few studies related to teaching research methodology at a graduate level. It is clear that our current understanding of students' conceptualization of "research" as well as the evolution of this conceptualization throughout the course of a semester is weak. Moreover, existing studies tend to focus on producers and future producers of research rather than students whose primary relationship to inquiry will be as *consumers* of research in their personal and professional endeavors. We also note that many studies are descriptive or prescriptive in nature and not necessarily oriented towards changing and improving teaching practices based on the results. These patterns affirm the need to carry out more student-centered action research in the domain of teaching inquiry courses, focusing both on student understanding and pedagogical innovation.

Methods and Data

We have designed this study as a critical action research project. Action research design blurs the traditional distinction between researchers and practitioners and effectively shortens the distance of the transformation from academic findings to daily practices. In this study, we take on dual roles as instructors and researchers, which brings the integration of our own practices and research into purview. We consider the research design *critical* in the sense that we do not take notions such as "knowledge" and "research" for granted. We aim to make students' and our own assumptions more explicit through the reflective process of research. We also hope to explore how students' identity claims influences their conceptualizations of "research" and perhaps their underlying motivation during learning. This aim of making the implicit explicit is best supported by a critical approach. Our methodological design is guided by Carspecken's (1996) critical qualitative research methodology. As both a meta-social theory and a methodology theory, this approach is built on a critical epistemology that draws heavily on Frankfurt School critical theory (Habermas, 1972, 1981) and includes the value orientations and methodological implications for conducting research.

The project involves 4 instructors and approximately 90 students from 4 sessions of an "Introduction to Educational Research" class. Data from this project was collected primarily through archived class discussions and student assignments. The larger study from which this paper is drawn also includes data generated through written self-reflection on our own assumptions about research, email exchanges among instructors on pedagogical issues, and notes and audiorecordings of reflective meetings regularly held among the instructors throughout the teaching process.

Our analysis thus far has consisted of open coding of written course materials, in particular an introductory assignment asking students to describe their background and associations with 'research' and 'inquiry.' Coding was conducted collaboratively utilizing the qualitative data analysis software platform Dedoose (SocioCultural Research Consultants, LLC.). In this early part of our analysis and reflection on initial coding schemes, we have focused on elucidating emergent themes related to students' understanding of research/inquiry, how their understanding evolves, and in what sense they connect this understanding to their educational practice and their own identity. We will continue to analyze this and other data as the project progresses.

Results

Through our analysis thus far, several important themes have emerged related to the way that students conceptualize the terms “research” and “inquiry.” The predominant theme relates to a perception of research and inquiry as *externally-oriented*, purposive action conducted in isolation. Firstly, many students describe both research and inquiry as concepts related to finding answers or solutions. In students’ descriptions of these terms, inquiry and research are thus conceptualized in ways linked to Weber’s concept of *purposive action* – action undertaken in order to achieve a specific end (Weber, 1925; Merton, 1936). Secondly, students seem to think that conducting research is a means of discovering, accumulating, and evaluating knowledge, which itself is assumed to exist externally to the knower, as part of the objective world. Finally, students’ descriptions suggest that those who conduct research are experts working in isolation; very few students address the communicative feature inherent in the research process.

Although overall research and inquiry were both characterized as purposive endeavors, we also note several key distinctions. Most students differentiated between research conducted in formal (academic) and informal (“daily life”) settings. The term “research” was often associated with more formal processes, while “inquiry” was used to describe processes of investigation undertaken informally. Likewise, “inquiry” was connoted as a “curiosity driven,” “enjoyable,” “open” process undertaken in a non-systematic manner. “Research,” on the other hand, was often described utilizing terms such as “systematic,” “scientific,” “tedious,” and “formal,” and in many cases was described as *a part of* broader “inquiry” processes that encompass all forms of investigation. These distinctions suggest that students make a clear differentiation between investigations that occur as part of an academic endeavor and those that occur elsewhere, even as similar processes take place in both cases. Moreover, the distinctions point to a perception that “research,” as a “formal,” “systematic” endeavor, is something that is distant from students’ own experiences, whereas “inquiry” is something more ordinary that resonates with the way students make meaning of their everyday lives.

Finally, we note that students made a wide range of connections between past experiences and their understanding of the notions of inquiry and research. Previous educational experiences seem to be most influential in shaping their conceptions of these terms: many students mentioned inquiry-based class projects, work experiences and their undergraduate majors as significant. Some students also discussed the significance of family background, as well as their own characteristics and identity as contributing to their understanding of research and inquiry.

It is important to note the preliminary nature of our analysis thus far. In our on-going analysis, we will also use counter-examples to explore the boundaries, trouble the consistencies, question the conceptualizations, and critique hegemonies that are reconstructed through these themes. Counter-evidence invites us to think more complexly about the data and encourages us to think of oppositional structures through which the divergences can be understood.

Significance

Results of our preliminary analysis point to a number of implications for the structure, content and pedagogy of introductory research methodology classes. For instance, it is important to consider the significance of students viewing research and inquiry as endeavors limited to the realm of purposive action. This is particularly relevant for social research where communicative action is more foregrounded in constituting knowledge and the research process itself. In this conception, issues such as value or ethical conflicts cannot be addressed via inquiry and are excluded from the vision of doing research. Such a perspective suggests the need for instructors of research methodology courses, not only to help guide students towards an expanded understanding of epistemology and methodological approaches that are part of the investigative

process, but also to emphasize a broader notion of the purposes research serves and the opportunities it creates in the communicative and transformative realms.

Similarly, the distance students place between themselves, their everyday experiences, and what it is that constitutes “research” points to a need for making stronger connections between the content emphasized in methodology courses and its application not only in academic, but equally important in personal, and other professional contexts. This is particularly important in courses where students are primarily practitioners rather than future academic or other producers of empirical scholarship. Interestingly, this distance is well reflected in the drastic differences in students’ conceptualization of “research” and “inquiry”. It is striking that “inquiry” carries the connotations of being curious, open, and critical – orientations we strive to cultivate during a research class, which nonetheless seem to be missing from how students conceptualize “research”. This suggests it might be fruitful to integrate such spirit of “inquiry” more fully in students’ understanding of “research”.

In sum, we suggest that in order to improve the quality of research methodology instruction, it is necessary to integrate students’ initial conceptualizations into the content and structure of the course. Explicating these underlying understandings will not only facilitate mutual understanding between instructors and students, but will also enable pedagogical and theoretical reflections that can improve the relevance of such courses for professionally-oriented students.

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Methodological Reflections on Using Qualitative Data Analysis Software (QDA) in Collaborative Qualitative Projects

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Abstract:

It is widely assumed that analyzing qualitative data collaboratively means that all researchers code the data using the same set of codes. Qualitative data analysis software programs, such as NVivo and Dedoose, have embedded this assumption in their designs, which in turn reinforces researchers' assumptions and constrains their perceptions of collaborative qualitative data analysis. What underlies this assumption is a theory of meaning that decontextualizes and reduces the pragmatic meaning of data, and a theory of validity that is based on repetition rather than consensus.

Drawing upon collaborative action research focused upon teaching an introductory research methods class, we argue for a more dynamic and dialogue-oriented approach to conducting collaborative data analysis. We also call for more reflection on the role of qualitative research software, arguing that it should not be viewed simply as a toolkit, but as a medium through which we can creatively and methodologically develop a relationship with the data.