

Graduate Students' Expectations of an Introductory Research Methods Course

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While there is a scattered literature base on teaching research methods courses, there is very little literature that speaks to what and how students learn in research methods courses. Students are often described as coming to the course not seeing its relevance, bringing negative attitudes and low motivation with them. The purpose of this exploratory mixed methods study was to investigate graduate student attitudes toward research, expectations of an introductory research methods course, and any relationship between the two. A total of 117 students completed the Attitudes Toward Research scale and a series of open-ended questions. Results indicate these graduate students actually came in with moderate to high positive attitudes toward research and mixed expectations about what the course would entail. Students expected research methods to be difficult, but they did not report much anxiety related to research. Implications for teaching and future research are discussed.

Although the focus of most research methods education studies has been on teaching techniques (Author, under review; Deem & Lucas, 2006), they often provide anecdotal statements about the characteristics of students taking these courses. First, authors characterize students as failing to see the relevance of the course to their personal and professional lives (Braguglia & Jackson, 2012; Briggs, Brown, Gardner & Davidson, 2009; Deem & Lucas, 2006; Dorfman & Lipscomb, 2005; Edwards & Thatcher, 2004; Emery & Kalscheur, 2000; Fabelo-Alcover, 2002; Hardcastle & Bisman, 2003; Moulding & Hadley, 2010; Murtonen, Olkinura, Tynjala, & Lehtinen, 2008; Papanastasiou & Zembylas, 2008; Rodriguez & Toews, 2005; Spronken-Smith, 2005; Vandiver & Walsh, 2010). The use of student-driven research projects

has been advanced as one way to help increase students' sense of relevance – but none of these studies directly assessed whether this change occurred, as their focus was more on describing the implementation of such projects.

Second, students have low motivation or interest for such courses (Aguado, 2009; Ball & Pelco, 2006; Birbill, 2006; Barraket, 2005; Braguglia & Jackson, 2012; Briggs, Brown, Gardner, & Davidson, 2009; Burkley & Burkley, 2009; Campisi & Finn, 2011; Fabelo-Alcover, 2002; Lehti & Lehtinen, 2005; Lie & Cano, 2001; Pietersen, 2002; Rash, 2005; Vittengl, et al, 2004). This low motivation and interest is hypothesized to negatively impact student effort in their research methods course, such that these authors present teaching methods designed to increase student interest – typically some form of experiential learning is promoted. Again, however, very few authors directly assess the impact of experiential learning on motivation and interest, so that we do not know for certain whether these teaching methods work.

Third, they have negative attitudes regarding research (Hardcastle & Bisman, 2003; Lei, 2008, 2010; Onwuegbuzie, Slate, & Schwartz, 2001; Ozturk, 2011; Papanastasiou, 2005; Schulze, 2009; Sizemore & Lewandowski, 2009). Although most authors typically just state this without actually measuring students' incoming attitudes, some authors including Papanastasiou (2005) and Ozturk (2011) have created instruments to quantify these attitudes.

Assuming this is a first course in research for undergraduates, where do these negative characteristics (e.g., not seeing the relevance, low motivation and interest, and negative attitudes) originate? What do students expect of these courses such that they bring these negative characteristics with them? Have they heard something of the course from prior students? Or are they basing their

expectations on their own personal notions of what “research” is? Have they had any prior experience with empirical research? Graduate students may have had such a course in their undergraduate degree programs, so there is some foundation for these negative characteristics – although the fact that they *come out* of the course with such negative thoughts is distressing. What about graduate students who have not had a formal research course before? The purpose of this study was to begin exploring graduate students’ expectations of a research methods course and their relationship with students’ incoming attitudes toward research. Specifically, I addressed three research questions:

What are graduate students’ expectations for their introductory level educational research course?

What are graduate students’ incoming attitudes toward research?

How do graduate students’ attitudes toward research and expectations relate to each other, if at all?

Methods

Participants

I surveyed 117 graduate students (60% female) in education-related programs at the master’s level across six sections of a required introductory research methods course offered from summer 2011 to fall 2012. This covered a typical cross-section of students taking the course throughout the year (samples were taken in summer, fall, spring, summer, and fall again). The median age was 28. For some majors in the sample, the course is typically taken at the beginning of the Master’s program (28% of the students were in their first year); for most (72% in this sample), it is typically near if not at the end of the Master’s program. Of the students in the study, only 25% reported having had a formal research methods course before, 64% reported having read an article reporting empirical research, and 45% reported having

conducted research before, either alone or as part of a research team. With a response rate of 85%, and data collection cutting across five consecutive semesters, this sample is considered representative of all graduate education students taking this course.

Data Sources

I asked course instructors to administer two surveys on the first day of class prior to any discussion of course content. The first survey is the *Attitudes Toward Research* (ATR) scale developed by Papanastasiou (2005). This scale includes 32, 7-point Likert-type items, generating quantitative data related to students' attitudes. The scale is further broken down into five subscales: research usefulness for profession, research anxiety, positive attitudes toward research, relevance to life, and research difficulty. Papanastasiou (2005) reported a 0.948 reliability coefficient for the full scale, with subscale reliabilities ranging from 0.711 to 0.929. Papanastasiou and Zembylas (2008) reported similar reliabilities with the same measure (.938 overall and ranges from .701 to .932 for the subscales). They also reported correlations among the five subscales ranging from 0.168 to 0.669.

Second, I created a set of three open-ended questions asking students to list their expectations for what they are going to learn and what they hope to learn in the course, generating qualitative data related to students' expectations. As part of this survey I also asked students to rate how difficult they expect the course to be on a scale from 1 – 6 (1 being easy and 6 being difficult) and to explain why they chose that rating. I pilot tested the questions with a set of master's students taking the course in spring 2011 (prior to the study reported here) and made slight modifications based on their recommendations. The final questions asked, in addition to the rating question, included:

What do you expect to learn this semester in this course?

How would you describe what educational research is to someone not taking this course?

What do you need most to help you learn in this course?

Results

I first analyzed the *Attitudes Toward Research* scale results by focusing on the five subscales, after recoding negatively-worded items. The median score on the ATR total scale was 139 out of 224, indicating a slightly more positive than average (looking at 112 as the middle point possible on the scale) Attitude Toward Research. Students were grouped into “high” and “low” attitude groups based on a median split for use in later analysis. Mean scores on the five subscales are presented in Table 1

Table 1
Means scores on ATR (out of 7)

Subscale	Mean (sd)
Relevance to Profession	5.1 (0.8)
Research Difficulty	4.6 (1.0)
Positive Attitude toward Research	4.1 (1.1)
Research Anxiety	3.7 (1.0)
Relevance to Life	3.6 (0.8)

.Scores on the Relevance to Profession and Research Difficulty subscales were above 4, indicating stronger positive feelings about these two aspects of research (i.e., research is relevant to the profession and research is difficult), whereas scores for Research Anxiety and Relevance to Life were slightly below 4, indicating more negative feelings (i.e., slightly higher anxiety and lower perceptions of the relevance of research to one’s personal life). These subscale scores match

those found by Papanastasiou and Zembylas (2008) in strength as well as in the order from highest to lowest.

I then explored students' expected difficulty ratings. Students could rate how difficult they expected the course to be on a scale from 1 – 6, 6 being most difficult. Seven of the 109 students responding to this item rated the expected difficulty a 1 or a 2, followed by 44 who rated it a 3 or 4 and 58 students who rated it a 5 or 6. These ratings correlated $r = .512$ with students' responses to the "Research Difficulty" scale, indicating strong agreement between the two. Clearly one of the expectations of students was that the course would be difficult. But why?

For the qualitative data, I first coded the expectations question responses (see Table 2). I coded some of the lengthier responses twice, yielding 137 total coded responses from 115 students. Two did not respond to this question. The clear majority of students (53.3%) expected to learn more about how to conduct research, followed by 17.5% of students who described some sort of general introduction to educational research as their expectation. Only five of the 115 students were unsure as to what to expect from the course.

Table 2
Summary of responses to expectations of course

Expectation	N	Percent
How to conduct research	73	53.3
A general introduction to research	24	17.5
How to apply research	15	10.9
How to be a better consumer of research	14	10.2
Statistics in some form	6	4.4
Unsure	5	3.6

I next coded the responses to the question about difficulty – why did students select the difficulty rating from 1

– 6 they did? A total of 109 students answered this question, with 103 of them providing responses to the “why” question. The most frequent response, from 33 students, was that this was “new” to them (the typical difficulty rating in this group was a 5 out of 6). An additional 20 students indicated that research involves work or time (these students rated the expected difficulty of the course above a 4 out of 6). The seven students rating the expected difficulty a 1 – 2 (out of 6, on the easy end) reported prior experience with research methods or that the coursework looked easy from the syllabus.

Discussion

The strongest results coming from this exploratory investigation are that students’ incoming expectations of research methods lead them to believe it will be difficult, that research involves time and work. Over 50% of students rated the expected difficulty to be 5 or 6 on a 6-point scale. Even though 32% of students indicated this was new material to them (and 75% had never had a research course before), only 5 (3.6%) students were unsure what to expect. A clear majority of students (53.3%) expected to learn how to conduct research – this coupled with the difficulty findings indicates students may believe coming into the course that conducting research is difficult. Students did find research methods relevant to their professions (the mean on that ATR subscale was 5.1 out of 7), although not to their personal lives.

While instructors cannot come to class the first day with cries that research is “easy,” to allay the difficulty expectation, they can create a learning environment in which students believe they can succeed – that they can do this (Fabelo-Alcover, 2002). Breaking the complexities of the research process (Ball & Pelco, 2006; Birbill, 2006) down into manageable tasks is one way to achieve this. Matching this

with the fact that students in this study saw the relevance of research methods to their professional lives, instructors can be explicit about ties between research and practice and encourage students to make these connections on their own. For example, reading and reacting to research studies that could directly impact practice, or hearing presentations from practitioners engaged in their own research, would certainly help students' views of the relevance of research to their professional, if not personal, lives. Exploring research reports in the media (e.g., Burkley & Burkley 2009) and understanding how they impact students' personal lives would also help students develop a more positive sense of its relevance.

Future research should continue to explore why students might expect research methods to be difficult, as well as how this relates to student attitudes and anxiety. The results of this study are limited to a sample of education-related majors at the graduate level and should be expanded to undergraduates and students in other fields. Many undergraduate programs require a research methods course (e.g., sociology, psychology, social work, and nursing among others) and these students, most of whom have not entered the profession yet, may not see the relevance as strongly as graduate students do.

Required by many undergraduate majors, and a mainstay in graduate programs, the introductory research methods course is an important one to look at more deeply. This requires not only exploring what content to teach and how to teach it, but also having a better understanding of the students required to take this course and how best to help them successfully meet the goals of the course. If it is true that students typically come to the course dreading it for a variety of reasons, instructors need to know this so that these attitudes can be addressed. Even if improving student

attitudes toward research is not a goal of the course, teaching and assessment methods – and student commitment to performing well – are dependent on knowing who our students are.

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