

Scholarship of Teaching and Learning Grant Proposal

Graduate Students' Conception of Educational Research and Teacher-researcher Identity:

Impact of Participatory Action Research (PAR) Curriculum

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November 29, 2022

Abstract

This project aims to examine COED graduate students' conceptions of educational research and explore key demographic and programmatic factors that shape their learning experiences and outcomes in RSCH 6101 classes. The RSCH 6101 is an introductory research methods course required of all master's students in COED. Despite the emphasis placed on the research competency of all education professionals, many COED graduate students struggle to find meaning, connections, and motivation in their research methods courses and consider them one of the most challenging—and least pragmatic—courses in their graduate programs. To address this problem, we created a new section of RSCH 6101 that incorporated Participatory Action Research (PAR) in 2020. As the PAR section has been offered three times and stabilized, it is time to assess the impact of the PAR-based curriculum innovation and to identify other programmatic factors that influence students' learning experiences and outcomes in multiple sections of RSCH 6101.

Understanding that students' conception of research and teacher-researcher identity are two critical factors, we will first examine these two constructs using a survey measure and evaluate the impact of key demographic and course-related factors (including the PAR curriculum innovation). Secondly, we will explore relationships across students' conceptions of educational research, RSCH 6101-course experiences, and professional identities through qualitative data. This project will help us better understand the impact of the PAR-focused curriculum innovation and identify other instructional strategies that will positively impact students' experiences and learning outcomes in the RSCH 6101 classes.

SoTL Budget Request Page
January 15, 2023 to June 30, 2023

BUDGET: Request by budget category. Joint proposers must select one PI to be the lead and one department to receive this allocation.

Lead Principal Investigator: Jae Hoon Lim

Principal Investigator 800#: 800396452

Title of Project: Students' Conception of Educational Research and Teacher-researcher Identity: Impact of Participatory Action Research (PAR) Curriculum

Allocate operating budget to Department of: Educational Leadership

Fiscal Year One (January 15, 2023 to June 30, 2023)		
Faculty Stipend	Paid directly from Academic Affairs fund on May 15, 2023	\$4,000
911250	Graduate Student Salaries	\$3,000
911300	Special Pay to Faculty other than Grantee	
915000	Student (Undergraduate or Graduate) Temporary Wages	
915900	Non-student Temporary Wages	
920000	Honorarium (Individual(s) not with UNCC)	
921160	Subject Incentive Fee	\$1300
925000	Domestic Travel	
926000	Foreign Travel	
928000	Communication and/or Printing	
930000	Supplies	
942000	Computing Equipment	
944000	Educational Equipment	
951000	Other Contracted Services	
Total Amount Requested		\$8,300

Budget Narrative

To complete the proposed project, we request a total of \$8,300 in financial support. Following the SoTL grant's budgetary guideline, the required budget will be dispensed by May 31, 2023. The following seven months, Summer and Fall, 2023, will be spent on the analysis and write-up of the data.

A. SENIOR PERSONNEL

Faculty Summer Stipend (\$2,000 for each PI, \$4,000 in total)

Dr. Jae Hoon Lim and Dr. Xiaoxia Newton will co-lead the project and provide oversight of a graduate assistant's data collection and analysis work in the spring of 2023. Both faculty members will also engage in literature review and write-up throughout the summer and fall of 2023. Dr. Lim will be responsible for qualitative data collection and analysis, while Dr. Newton will lead the quantitative data analysis derived from the SCoRI survey. Each faculty member will devote approximately 0.2-person summer months (\$2,000) to the project.

B. OTHER PERSONNEL

Graduate Assistant (\$3,000 in total, \$25 × 120 GA hours)

We plan to hire one part-time graduate student to handle qualitative data collection and analysis and the initial cleanup work of SCoRI survey data. It is desirable for graduate assistants to conduct student interviews as they share a similar social identity as students and thus are likely to feel more comfortable discussing their course-related experiences and reflections on research. It is also essential for the GA to stay involved in qualitative data analysis to help contextualize emerging codes and findings in light of each interviewee's unique profile. The GA will also assist with survey data cleanup to expedite Dr. Newton's quantitative data analysis. A total of \$3,000 is requested to compensate the GA's 120 hours of work in spring, 2023.

C. OTHER DIRECT COSTS

Participant Stipends (\$1,300 in total)

A total of \$1,300 is requested to offer participant stipends. We expect to collect 100 surveys and 20 interviews. For each survey respondent, we will offer a \$10 gift card ($\$10 \times 100 = \$1,000$). Students who participate in the interview phase of this project will receive another \$15 ($\$15 \times 20 = \300).



November 23, 2022

Dear SoTL Committee Members,

I am pleased to offer my support for the SoTL grant proposal, “Graduate Students’ Conception of Educational Research and Teacher-researcher Identity”, submitted by Drs. Jae Hoon Lim and Xiaoxia Newton. The proposed project has great potential to impact the quality of student learning experiences and outcomes in RSCH 6101, an introductory research methods course required of all master’s students in our college, and thus positively contribute to the professional dispositions of our graduates as specified in our college’s conceptual framework.

Understanding research and engaging in every day, field-based inquiry and data-driven decision-making are the essential professional competencies expected of all teachers and other professionals. North Carolina Professional Standards for teachers, school administrators, and counselors unequivocally emphasize the importance of candidates’ solid understanding and effective use of research and evaluation skills. Following the state’s professional standards, Cato College of Education also highlights “research competency” as a critical professional disposition in its conceptual framework. However, despite the strong value placed on the research competency of all education professionals, many graduate students struggle to find meaning, connections, and motivation while taking RSCH 6101. The proposed project addresses this problem through program innovation and systematic inquiry. Two investigators, Drs. Lim and Newton have led multiple curriculum development and innovations in RSCH 6101 and its equivalent undergraduate course (RSCH 4101) for many years. Their extensive teaching and curriculum development experiences, as well as complementary methodological expertise covering both quantitative and qualitative methods, will ensure the success of this project.

This proposed project supports the College’s conceptual framework to equip teachers and educational professionals with solid research and evaluation-related professional competencies. Based on this explicit alignment and the PIs’ proven records of teaching and scholarship, I evaluate this project as necessary and promising. I offer my full support of Drs. Lim and Newton’s SoTL proposal.

Sincerely,

Malcolm B. Butler, Ph.D.
Dean and Professor of Science Education

Office of the Dean

Cato College of Education
9201 University City Blvd.
Charlotte, NC 28223

An Equal Opportunity/
Affirmative Action Employer

Project Narrative

Specific Aims

The purpose of this project is to examine COED graduate students' understanding of educational research and key factors that shape their learning experiences in RSCH 6101 class, an introductory research method course required of all master's students in the Cato College of Education. Understanding research, engaging in everyday field-based inquiry processes, and making data-driven decisions are the essential professional competencies expected of all teachers and other professionals working with students and youths in various educational systems and service sectors. North Carolina Professional Standards for teachers, school administrators, and counselors equivocally emphasize candidates' solid understanding and effective use of research and evaluation skills (North Carolina Professional Teaching Standards, 2017). Aligned with the state's professional standards, Cato College of Education also highlights "research competency" as one of the college's key professional dispositions in its conceptual framework (Cato College of Education, 2017).

Despite the strong emphasis placed on the research competency of all education professionals, many graduate students struggle to find meaning, connections, and motivation while taking their introductory research methods course, RCH 6101. The introductory research methods course is often regarded as one of the most challenging—and least pragmatic—courses in their graduate programs; instructors also perceive the course as a difficult course to teach due to students' lack of motivation and resistance (Lim & Bescherer, 2021; Lim et al., 2022). The acute and persistent struggles experienced by both instructors and students in the introductory research methods course are already well-known phenomena in the existing literature (Early, 2014).

The PI and co-PI of this proposal are faculty members in Educational Research, Measurement, and Evaluation (ERME) who teach the RSCH 6101 course on a regular basis. While running its own Ph.D. program, ERME is the unit responsible for overall research methods courses available to all graduate students in the college—and even beyond. Improving the quality of students' learning experiences and outcomes in research methods courses are one of EREM faculty's core professional responsibilities. Thus, we have initiated multiple curriculum revisions based on students' feedback, self-reflection, and collegial discussions. One of the major innovations was introducing the concept of participatory action research (PAR) and engaging students in the development of PAR, which will be part of their graduation portfolio requirements. As the RSCH 6101 section with the PAR component has been offered three times and stabilized, we found it necessary to launch a systematic and holistic investigation of students' learning experiences across multiple RSCH 6101 sections, including the section with PAR. We believe this investigation will help us better understand the impact of the new curriculum innovation and identify additional factors that create variations in students' understanding of educational research and sense of connection/disconnections. This study will generate both pragmatic and scholarly knowledgebase which will aid our further curriculum innovations and generate important contributions to the existing literature.

We have three key objectives to accomplish through this project: 1) Exploring COED graduate students' conceptions of educational research using a survey measure entitled "Students' Conceptions of Research Inventory (SCoRI) (Meyer et al., 2005, 2007; Zhang et al., 2018), 2) Examine the impact of key demographic and course-related factors (including the PAR curriculum innovation) on students' conceptualization of educational research, 3) Explore the relationships across participants' conceptions of educational research, RSCH 6101-course experiences, and professional identities through the analysis of two types of qualitative data (reflective writing and interviews).

Three research questions are as follows:

- 1) What dimensions of research are salient in graduate students' conceptions of educational research?
- 2) What demographic and course-related factors influence students' conceptualization of educational research?
 - What is the impact of the new PAR-focused curriculum innovation on students' conception of educational research in comparison to students in other sections?
- 3) What relationships, if any, exist across students' understanding of educational research, RSCH 6101-course experiences, and professional identities in their narrative data?

Literature Review

The introductory research method course is one of the most commonly required courses in almost all graduate training, including masters' programs in education serving both in and pre-service teachers and other professionals working in various formal and informal teaching and learning environments. Despite the dominant perspective upholding research methodology as canonical knowledge required of any graduate student, researchers have long acknowledged—and wrestled with significant challenges in teaching research methods courses in a way that is meaningful to their graduate students. Many studies have reported students' lack of interest in and appreciation of "research methods" courses (e.g., Nind & Lewthwaite, 2018; Vanderlinde & van Braak, 2010), most notably among graduate students in teacher education and human service-related disciplines (Early, 2014; Vanderlinde & van Braak, 2010).

Scholars suggest that the widespread challenges in teaching research methods courses to graduate students in education may be linked to a more fundamental reasons beyond the students' lack of intellectual interest, confidence, or quantitative reasoning skills; the troubling phenomenon may reflect continuing dissonance and failure in creating a meaningful connection between the canonical knowledgebase and graduate students' professional experiences and identities (Kilburn et al., 2014; Wagner et al., 2011). Some critical scholars contest that elite researchers and education policymakers have privileged abstract and context-free knowledge while discounting the value of educators' field-based situated professional knowledge. Through this "knowledge monopoly," educators have been pushed out of research process and experience clear division of teacher-researcher identities, which in turn mold them as mere "technicians who are not seen as capable of producing new knowledge to advance education as a core component of democratic society" (Hong & Rowell, 2019, p. 128).

Acknowledging the issues of identity (mis)alignment and sense of (un)belonging to typical course content in the introductory research methods course, recent studies utilized a more inductive, qualitative approach to elucidate students' conceptions of research or educational research. For example, Ross et al., (2017) investigated graduate students' perceptions of valid research and their position in relation to research practices through the analysis of students' written essays. They elucidated the four salient ideas of research students utilize to relate themselves to research, 1) a means of problem-solving, 2) a form of expertise, 3) science, and 4) a situated practice. Pitcher's study (2011) applied a metaphor analysis to students' interview data and identified four salient characteristics of research; research is explorative, spatial, constructive, and organic. These studies elucidate an important link between students' understanding of (educational) research—and their professional identities—and the persistent challenges in teaching and learning research methods by graduate students and college instructors. Furthermore, scholars reported that engaging students directly in meaningful research activities (e.g., teacher action research, participatory action research) is a possible—and promising—solution to enacting student engagement and positive learning outcomes (Wagner et al., 2011). However, very few studies have examined this vital link by implementing adequate curriculum innovation and applying proper research design, measures, and data analysis techniques. Our proposed study intends to fill in the void in the existing literature while carrying out high-quality program evaluation on our PAR-based curriculum innovation that was designed to bridge the bifurcated identities of our graduate students as teacher-researchers.

Methods

This study is a mixed methods study using a concurrent triangulation research design (Creswell & Plano-Clark, 2017).

Study Participants

We will invite COED graduate students who took RSCH 6101 courses during the academic year of 2022-2023 to our study. We will obtain the list of students' UNCC email addresses from cooperating course instructors. We already discussed this study with ERME faculty members and secured their informal support. Each year, about 250+ COED graduate students take the RSCH 6101 class. The RSCH 6101 section with participatory action research (PAR) curriculum is offered only in fall semester and the total number of students in the section is 20. As a result, students enrolled in the PAR section will be over-sampled for adequate comparative analysis later.

Survey Data Collection

The survey will have three sub-sections, 1) Meyer et al.'s Students' Conceptions of Research Inventory (SCoRI), 2) Reflective Writing Prompts, and 3) Demographic Information. The first section is Meyer et al.'s Students' Conceptions of Research Inventory (SCoRI). The SCoRI is a widely used, validated survey instrument with five factors (each factor with 5-8 items):

Factor 1. Misconceptions about educational research (ER) ($\alpha=85$)

Factor 2. Research is re-search ($\alpha=83$)

Factor 3. Research is an insightful process ($\alpha=85$)

Factor 4. Research is finding the truth ($\alpha=89$)

Factor 5. Research about problem solution ($\alpha=80$)

We made minor modifications to five questions in the SCoRI to make the questions more relevant to educational research (e.g., changing “research” to “educational research.”)

The second section of the survey will have five reflective writing prompts asking participants to type their free responses. The five prompts have been adapted from the version used in Ross et al.’s study (2017). They are:

- What do you think “educational research” means in your discipline or subject?
- What type of educational research do you think successful teachers actually do in your discipline or subject?
- What do you think are the main reasons for teachers to conduct “educational research”?
- What do you think are the main reasons for teachers not engaging in “educational research”?
- What do you think is desirable or unnecessary educational research? Why?

The last section of the survey will have demographic questions. The section will collect key demographic information such as age, gender, program affiliation, enrollment status, years of full-time teaching/professional work, prior exposure to research, hands-on research experience, online/blended class (synchronous/asynchronous), summer or regular semester course (CRN).

At the end of this section, we will ask if a respondent is willing to participate in a short individual interview. All survey participants will receive a \$10 e-gift card for their participation in the survey.

Qualitative Data Collection

In spring, 2023, we will collect individual interview data from 20 volunteers who indicated their interest in the interview phase of this study. All interviews will be conducted by a graduate assistant and guided by a semi-structured interview protocol. The format (virtual or in-person) and location of each interview will be determined based on the interviewee’s preference. All interviews will be recorded and transcribed verbatim for analysis later. Written consent forms will be obtained before data collection. All interview participants will receive a \$15 gift card for compensation.

Evaluation

Quantitative Survey Data Analysis (SCoRI Data),

Our quantitative data analysis will have two phases. Firstly, since some minor modifications have been made to the survey items, Cronbach’s alpha will be calculated to determine the internal consistency (i.e., reliability) of the five outcome factors. Following reliability analysis, we will create a composite variable for each of the five factors, measuring students’ conceptions of research. In the second phase, we will conduct exploratory analyses prior to carrying out multivariate t -tests (general linear model, Saville, 1990) and/or regression analysis. These exploratory analyses included frequencies of categorical variables (e.g., students’ backgrounds) and descriptive statistics of continuous variables (e.g., the measures of research conceptions). In addition, we will explore bivariate relationships among variables. The bivariate relationship

analyses will include comparing potential differences between students in sections of 6101 with no curricular revisions and those in 6101 sections with curricular revisions. Finally, the correlation between backgrounds and research conception measures will also be examined.

Qualitative Text Analysis

The research team will use thematic analysis (Ezzy, 2002) for two types of textual data, students’ written responses from the five reflective writing prompts and twenty individual interview data. In the initial cycle of coding, we will use in-vivo and open codes to identify major patterns at the descriptive level. In the second cycle of coding, we will apply interpretive/theoretical coding (Tracy, 2012), and synthesize major patterns and themes in relation to the existing literature and results from the SCoRI. We will use NVivo, qualitative data analysis software, to ensure consistency and transparency in our coding and interpretation process.

Knowledge Dissemination

We will share the findings of this study with ERME colleagues and RSCH 6101 instructors to facilitate continuing improvement and innovation in the course and entire ERME program. We will also disseminate this study’s findings through multiple professional conferences, such as the annual meetings of American Educational Research Association (AERA) and Associate for Studies in Higher Education (ASHE). We will also publish the study’s outcomes in relevant scholarly journals, such as *International Journal of Research Methodology*, *International Journal of Research & Methods in Education*, and *Studies in Higher Education*.

Human Subjects

We will submit an IRB protocol in early December 2022 to ensure the timely completion of our project. All data collection activities will occur after securing an IRB approval in spring, 2023. The research team will follow relevant IRB guidelines for research with human subjects.

Extramural Funding

We have no intention to apply for an external grant in relation to this topic. While both investigators are highly active in external grant work, this topic has very few possible funding sources.

Timeline

Date	Research Activities	Goals
December 2022	IRB protocol submission	
January 2023	Obtaining an IRB approval	
February 2023	Survey data collection from students enrolled in RSCH 6101 in fall, 2022 Interview data collection from students enrolled in RSCH 6101 in fall, 2022, including the PAR section	Collecting 50 surveys 10 interviews (5 PAR section students & 5 non-PAR section students)

March 2023	The first round of data analysis using the 2022 fall data set (survey & interview data)	
April -May 2023	Survey & interview data collection from students enrolled in RSCH 6101 in spring, 2023	Collecting 50 surveys 10 interviews
June- July 2023	Data analysis using the entire data set	In total, 100 surveys & 20 student interviews
August-December 2023	Writing the SoTL project report, conference proposals, and manuscripts	

References

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