

Fulfilling an ethical obligation: An educative research assistantship

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Scant research evidence is available about the day-to-day workings of research assistantships or the educational possibilities they provide for research assistants and their academic supervisors. This case study documents the equitable, educative, and ethical nature of one research assistantship at a Canadian university. Data sources include audio recordings and transcripts from 24 research meetings, along with field notes and textual documents gathered over 8 months as the research assistant and academic supervisor designed, conducted, and presented an interview-based study. Evidence shows the academic supervisor supported the research assistant as she learned research skills and developed confidence as a researcher. The case study provides a potential model of an equitable, educative, and ethical research assistantship for the consideration of other research assistants and academic supervisors.

Il existe peu de données de recherche portant sur les activités quotidiennes qu'impliquent les assistanats à la recherche ou sur les possibilités éducatives qu'ils offrent aux assistants à la recherche et à leurs superviseurs académiques. Cette étude de cas évoque la nature équitable, éducative et éthique d'un assistanat à la recherche dans une université canadienne. Les sources de données comprennent des enregistrements et des transcriptions audio de 24 réunions de recherche, des notes d'observation sur le terrain et des textes recueillis au cours de 8 mois pendant lesquels l'assistante à la recherche et le superviseur académique ont conçu, entrepris et présenté une étude reposant sur les entrevues. Des données probantes indiquent que le superviseur a appuyé l'assistante à la recherche pendant qu'elle acquérait des compétences de recherche et prenait confiance en elle comme chercheuse. Cette étude de cas constitue un modèle potentiel d'assistantat à la recherche équitable, éducatif et éthique que pourraient examiner d'autres assistants à la recherche et superviseurs académiques.

Researcher development is central to the mission of postsecondary institutions. Across disciplines and nations, there is increasing recognition of the importance of supporting students' development as researchers, especially during graduate studies. Scholars have examined graduate thesis supervision (Amundsen & McAlpine, 2009; Grant, 2003, 2010; Paré, Starke-Meyerring, & McAlpine, 2009) and research coursework or training modules (Deem & Lucas, 2006; Delucchi, 2007; D. Edwards, 2010) as pedagogical sites. However, relatively few scholars have examined apprenticeships or assistantships where students contribute to research projects led by academics (cf., Hulse-Killacky & Robison, 2005; McWey, Henderson, & Piercy, 2006). The purpose of this case study is to investigate the educative potential of a research assistantship involving one master's student and one academic supervisor who collaborated for eight months to design, conduct, and present an interview-based research study.

Research assistantships tend not to be required components of graduate degree programs, yet they are quite common means for graduate students to gain experience and financial support for graduate study (White & Nonnamaker, 2011). Just as supervisory relationships associated with thesis research have been framed in the literature and in institutional processes as spaces for teaching and learning (Grant, 2010) with potential for mentoring relationships (Barnes, Williams, & Stassen, 2012; Tenenbaum, Crosby, & Gliner, 2001), supervisory relationships associated with research assistantships may also be considered spaces for teaching and learning. Consequently, academic supervisors carry a basic responsibility as teachers to contribute to the intellectual development of graduate students who are research assistants (Murray, Gillese, Lennon, Mercer, & Robinson, 1996). Strike, Anderson, Curren, van Geel, Pritchard, and Robertson (2002) identified this responsibility as an ethical obligation for academic supervisors to ensure research assistantships are educative, which they defined to mean that academic supervisors must provide sufficient instruction and support to ensure research assistants are competent in the tasks they undertake and prepared to continue in research. When academic supervisors teach, there are opportunities for research assistants to learn. As Strike et al. explained, this is an ethical obligation that attends to the welfare of individual research assistants and the broader research community and, by extension, to the general public. Yet, our informal conversations with academics suggest few have thought consciously about this ethical obligation, many lack clear models for fulfilling this obligation, and most worry an educational focus could demand more time and effort than is available or worthwhile. In this paper, we document benefits of an educational focus for the research assistant, the academic supervisor, their research project, and the broader research community.

Contemporary learning theories emphasize learners' participation in socially constituted activities (Jonassen & Land, 2000; Packer & Goicoechea, 2000), with a particular emphasis on communities of practice and the intertwined nature of knowing, doing, and being (Lave & Wenger, 1991; Wenger, 1998, 2000). Accordingly, research assistantships have been theorized as apprenticeships where newcomers can learn the practices of the discipline by participating in activities and conversations alongside experienced researchers (Grundy, 2004; Hasrati, 2005; Roth & McGinn, 1998). Engaging together in research can provide space for ongoing development and mentoring (Jiao, Kumar, Billot, & Richard, 2011). Evidence suggests, however, that not all research assistantships provide comparable educational gains for new researchers and that some may become exploitative (Grundy, 2004; Hinchey & Kimmel, 2000). As Hobson, Jones, and Deane (2005) have noted, research assistants are *silenced partners* in knowledge production. Research assistants are crucial to the process of knowledge generation, yet their roles often receive insufficient acknowledgement.

Research assistants supply labor to complete research projects and contribute to knowledge generation. In exchange for their contributions, research assistants typically receive financial compensation or tuition waivers, and in some cases academic or scholarly credit. At the same time, they are well placed to learn from their experiences. Research assistants' development as researchers is captured in the activities they undertake and the ways they talk about their work and themselves. Evidence and theory show research assistants can learn valuable research skills, develop enhanced self-confidence, and begin to see themselves as researchers while working alongside experienced researchers (Grundy, 2004; McWey et al., 2006; Niemczyk, 2010). Academic supervisors benefit directly from research assistants' contributions to their research projects. Importantly, supervision of research assistants is embedded in the academic

supervisor's research program and therefore less likely to be perceived as an additional task beyond regular teaching and research responsibilities than may be the case for thesis supervision.

Institutions and granting agencies encourage research assistantships as a complement to graduate studies. The Australian Research Council (ARC, 2012), the (U.K.) Economic and Social Research Council (ESRC, 2009), the (U.S.) Institute of Education Sciences (IES, n.d.), the Social Sciences and Humanities Research Council of Canada (SSHRC, 2013), and other funding agencies prioritize the development of the next generation of scholars as key to their missions. In order to sustain a strong commitment to graduate student development through fellowships, scholarships, and research assistantships, SSHRC president, Chad Gaffield (2007) identified a conspicuous need for empirical evidence to show the value of these investments. This paper stands as one response to Gaffield's request. Very little is known about the day-to-day activities within research assistantships and the resulting educative potential for research assistants or academic supervisors: What do research assistants and their academic supervisors do? How do research assistants and their academic supervisors interact? How do research assistants think about themselves as researchers? How do research assistantships contribute to researcher development? How can research assistantships be educative? These questions provide the foundation for our investigation of the educative potential of one research assistantship.

Research Design and Methods

This project received ethics clearance through our institutional review process. The research assistant and academic supervisor each provided free and informed consent before data collection began. Caution was taken to minimize the influence of the power imbalance between the research assistant and the academic supervisor on their decisions to participate. Importantly, the research assistant expressed interest first and invited her academic supervisor to participate in the study. Participation was completely voluntary for both members of the dyad, and both have approved the publication of this report.

This one research assistantship provided a convenient case to open conversations about an understudied pedagogical space (Hobson et al., 2005). It should not be considered a representative case that can be generalized to other cases. The mere fact the research assistant and academic supervisor volunteered to participate in this research project might suggest they are atypical in some ways. The presence of an audio recorder in each of their meetings with an explicit commitment to release the recording to our research team (including colleagues from the same institution) meant their interactions were on display, which could have influenced how they interacted (Grant, 2003). Our intention was to investigate the educative nature of this research assistantship as an intrinsic case (Grandy, 2009) and consider to what extent it may be possible to fulfill the ethical obligation outlined by Strike et al. (2002).

Consistent with case study design (Gillham, 2000; Yin, 2009), we drew from a range of qualitative and quantitative data sources. We audio recorded and transcribed 24 research meetings between the research assistant and academic supervisor over the first eight months of their work together (from October through May). The meetings ranged in length from 20 to 100 minutes. We collected a total of 28 hours of audio recordings, which equated to almost 200,000 transcribed words. These meetings represented over 20% of the 130-hour research assistant contract, with remaining time allocated to various research tasks completed independently by the research assistant. The research assistant and academic supervisor kept individual field

notes and research journals throughout the project. They also generated multiple drafts of textual documents throughout their research project, including the ethics review application, a conference proposal and paper, and a grant application.

We each reviewed the transcripts, assigned individual codes to important concepts (Saldaña, 2009) using computerized spreadsheets, and identified key quotes or segments from the transcripts and documents that illustrated research activities, learning, researcher identity, commitment, or changes in interaction styles. We met together over several weeks to listen to the audio recordings and discuss the transcripts and coding spreadsheets. We stopped and started the recordings whenever anyone identified a noteworthy statement or interaction (Jordan & Henderson, 1995). Consistent with socially situated theories of learning (Lave & Wenger, 1991; Packer & Goicoechea, 2000; Wenger, 2000), we identified educative elements of the research assistantship in the form of statements about tasks, skills, knowledge, activities, identities, and language use related to research. Together, we identified categories, themes, and relationships among the codes. Major themes that drew our attention through this process included research tasks undertaken in the research assistantship, emotional reactions and self-confidence, conversational topics beyond the research project, and discussions about the nature and value of the research assistantship. These themes were derived inductively due to their prevalence across data sources, and each related in some way to the educative potential of the research assistantship.

We supplemented these qualitative analyses with quantitative information about the interactions and the relative contributions of the two participants. Although we recognize the inability of written transcripts to capture conversations in their entirety (Davidson, 2009), we counted the number of transcribed words spoken in each meeting by the research assistant and the academic supervisor to track relative changes over time. We coded each conversational turn as either content (any substantive contribution) or filler (non-content-based contributions such as *hmm*, *yeah*, and *right*). To understand the nature of their interactions, we coded the focus of each conversational turn as either information related directly to the project, an academic topic unrelated to the project, or personal content. This type of coding allowed us to assess the prevalence of interactions focused directly on the interview-based project compared to interactions focused on other relevant academic topics. These numeric comparisons were intended to be illustrative to support the qualitative interpretations. Triangulation across the qualitative and quantitative information provided the depth of data essential to case study research (McGinn, 2009; Yin, 2009).

Beyond the use of multiple data sources and methods, several other strategies enhanced the trustworthiness of the case study (Bachor, 2002; Creswell & Miller, 2000). The composition of our case study research team was important to investigator triangulation (Thurmond, 2001), providing perspectives from an academic supervisor, a doctoral student, and a recent PhD recipient that were vital in developing well-grounded interpretations of the research assistantship. As well, the computerized spreadsheets allowed us to compare our coding strategies and work toward consensus in our interpretations, while also uncovering divergent interpretations and possible outliers; all of which are well documented through the resulting audit trail (Creswell & Miller, 2000). The rich description provided in this paper is intended to document the interactions between the two individuals and the changes over the 8-month period. By necessity, substantial paraphrasing and synthesizing was required to condense the extensive data corpus into the space constraints of a single, focused paper.

Table 1

Focus for Each Recorded Research Meeting

Meeting	Date	Length (min)	Focus
1	1-Oct	30	Discuss preliminary ideas regarding study design.
2	8-Oct	70	Report back on tasks completed since previous meeting and continue discussion of the study design.
3	22-Oct	40	Discuss study design and requirements for the research ethics application.
4	29-Oct	75	Review and edit the research ethics application. Decide to submit a proposal to present the research at a conference.
5	11-Nov	65	Discuss interview design in detail and fine-tune the research ethics application.
6	17-Nov	70	Debrief about the research ethics submission and discuss the research assistant's reflections about her development.
7	25-Nov	60	Discuss the interview procedure and potential interview questions as the research plan emerges.
8	2-Dec	80	Acknowledge receipt of research ethics clearance. Complete final review of interview questions and recruitment plans.
9	7-Jan	80	Interview each other.
10	14-Jan	20	Debrief between the first and second interview.
11	21-Jan	80	Discuss transcripts from the first two interviews and possible changes to the interview questions.
12	28-Jan	40	Meet before and after the first student interview conducted by the research assistant.
13	4-Feb	35	Debrief following an academic interview conducted by the academic supervisor. Identify some preliminary themes. Establish initial plans for the conference presentation and paper.
14	6-Feb	90	Discuss research progress before and after an interview.
15	11-Feb	30	Debrief following a series of interviews conducted individually and collectively. Plan conference travel and apply for grant support.
16	13-Feb	45	Debrief following the research assistant's first interview with an academic. Assess role-modeling, guided practice, and independent practice as means to support the research assistant to conduct interviews.
17	20-Feb	30	Debrief after an interview.
18	25-Feb	55	Discuss analysis process while waiting for an interview participant who does not arrive.
19	24-Mar	90	Revise the recruitment strategy and prepare a modification to the research ethics application.
20	30-Mar	40	Discuss upcoming interviews and logistics, prepare to code completed interviews, and review relevant research journals.
21	10-May	55	Review current status of the project after a hiatus for conferences and end-of-term responsibilities.
22	19-May	75	Discuss transcripts and reports for individual participants. Plan the conference paper.
23	21-May	190	Finalize data analysis and create outline for the conference paper.
24	25-May	225	Co-write and edit sections of the conference paper. Plan the conference presentation.

The Research Assistantship Case

The research assistant was employed for 130 hours over an 8-month period while she was enrolled in a research-based master’s program at a Canadian university. She was hired in September during the first month of her master’s program. This research assistantship was her first research experience. She met once with the academic supervisor to apply for the position and then a second time to discuss her reactions to a preliminary research proposal describing the intended project they would complete together. During the second meeting, the research assistant suggested to the academic supervisor that they become research participants in this case study and they began audio recording their meetings. Subsequent meetings included periods when the research assistant and academic supervisor performed research tasks sitting side by side, reported about progress on tasks undertaken individually, and planned tasks to be completed individually or collectively (Table 1).

The Research Assistant’s Development

Over the 8-month period, the research assistantship provided a setting for the research assistant to engage in research tasks, use existing and new skills, talk about research, and express increasing self-confidence as a researcher. Contemporary learning theories identify doing research, talking research, and feeling confident in research as evidence of learning (Jonassen & Land, 2000; Lave & Wenger, 1991; Packer & Goicoechea, 2000; Wenger, 2000). We consider these three domains—doing research, talking research, and feeling confident in research—as evidence of the research assistant’s development as a researcher and the overall educative nature of the research assistantship.

Doing Research

Over the eight months, the research assistant and academic supervisor planned data collection and participant recruitment, sought ethics clearance for the study, recruited and interviewed students and academics, transcribed and analyzed interviews, wrote a conference proposal and then a paper, presented at a conference, and drafted a manuscript intended for publication (Figure 1). Their activities and meetings fit loosely into three research phases: planning (meetings 1–9), implementing (meetings 10–21), and reporting (meetings 22–24).

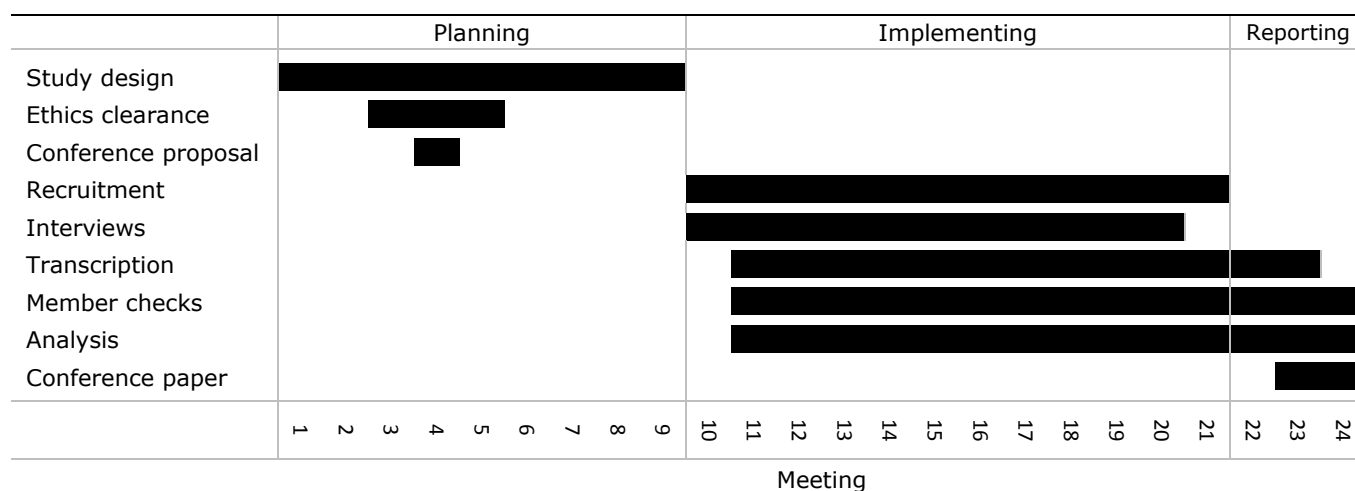


Figure 1. Three phases of the research project conducted by the research assistant and academic supervisor. Key activities and corresponding meeting numbers are identified.

The research assistant engaged actively in study design throughout the *planning phase*. She contributed to decisions about including interviews, document collection, observations, and writing tasks, and excluding statistics and questionnaires. Importantly, she provided insights as a graduate student that were not apparent to the academic supervisor, and hence increased the quality of the interview questions and the recruitment process for graduate student participants. She provided substantive suggestions and relevant information during research meetings, and created many textual documents essential to the project. She wrote the first draft of the research ethics application and of the conference proposal (which were both new writing forms for her). She also started her first research journal, which she maintained throughout the study.

During the *implementing phase*, the research assistant was fully involved in participant recruitment, especially with graduate student participants. For the first three interviews, she observed as the academic supervisor conducted the interviews (role-modeling). Then, the research assistant conducted an interview with a graduate student while the academic supervisor observed (guided practice). The academic supervisor observed a few more interviews with graduate students and then observed an interview with an academic (more guided practice). Subsequently, the research assistant conducted interviews without the academic supervisor (independent practice). Throughout the interviews, the research assistant took field notes. The research assistant and academic supervisor shared equally in transcribing audio recordings, coding key concepts, preparing one-page summaries for each interview, and soliciting participant feedback (i.e., member checks). The research assistant organized all the data files.

During the *reporting phase*, the research assistant and academic supervisor collaborated to identify themes in the analysis, and each wrote sections of the conference paper. They co-presented at a conference in the days immediately following meeting 24.

Consistent with research by B. J. Edwards (2009), Grundy (2004), and Niemczyk (2010), the research assistant was engaged in a broad range of research tasks *across phases* of the research. She worked collaboratively with the academic supervisor on actual research tasks at all phases of their interview-based study. Her activities included all steps in Hershey, Wilson, and Mitchell-Copeland's (1996) expert research script, except those associated with submitting a journal article for publication (a task that was scheduled to occur after our data collection ended, but had not occurred at the time of this writing). The research assistant made substantial contributions to 21 of the possible 41 tasks Goldsmith, Cardiel, and Clark (cited in Bourbonniere, Rusell, & Goldsmith, 2006) identified as tasks to be considered for authorship (e.g., design the project, attend meetings, conduct interviews, manage data, analyze data, write a conference abstract, write sections of the paper, edit the paper, present at a conference). Importantly, eight of the remaining 41 tasks were deemed non-applicable to the research project:

- respond to granting agency questions;
- score literature for methodological quality;
- administer survey;
- code questionnaires;
- contribute patient data;
- register the study for meta-analysis;
- prepare conference poster; and
- provide technical support.

An additional four tasks were scheduled for completion after our data collection ended:

- conduct detailed literature review;
- see final draft before submission;
- approve final draft; and
- respond to reviewers' concerns.

There were only eight authorship-related tasks undertaken by the academic supervisor not the research assistant:

- originate idea;
- write the grant;
- hire staff;
- train staff;
- supervise staff;
- supervise analysis;
- provide financial support; and
- provide moral support.

The research assistant was able to engage fully in these research tasks across the phases of the project, despite having minimal prior exposure to research. She had been a research participant in one or two studies, but had not conducted research, assisted in research, or even taken a research methods course before she became a research assistant. Over the 8-month period, she collaborated in a full range of research activities and completed research tasks to the satisfaction of the academic supervisor. Her engagement in these activities shows she learned during the research assistantship because learning and doing are inherently inseparable processes (Packer & Goicoechea, 2000; Wenger, 2000). It is important to note that she was simultaneously enrolled in a graduate degree program where she was taking courses, reading extensively, and planning an independent research project. Therefore, her learning cannot be attributed exclusively to the research assistantship.

Talking Research

In addition to undertaking this broad range of research tasks, the research assistant was engaged in ongoing conversations about research. She used research terminology regularly and accurately throughout the meetings and in the textual documents she produced. She also shared speaking responsibilities with the academic supervisor for the conference presentation.

Despite the active contributions of the research assistant, the academic supervisor contributed substantially more conversational content during the research meetings than the research assistant, $t(23) = 9.47$, $p < .01$, two-tailed, $d = 1.67$ ($M = 5756.8$ words, $SD = 2404.9$ and $M = 2466.5$, $SD = 1421.7$, respectively). Overall word counts show the academic supervisor contributed 70% of the conversational content, with higher percentages during planning than in later phases. Meeting 19, when they prepared a modification to the ethics application late in the implementing phase, was the one meeting where the research assistant was equally responsible for the conversational content (51%). The vast majority (over 90%) of the academic supervisor's conversational turns were content focused not conversational fillers (*hmm*, *yeah*, and *right*),

$t(23) = 8.27, p < .01$, paired two-tailed, $d = 1.69$ ($M = 229.3$ turns, $SD = 136.4$ and $M = 13.6$, $SD = 10.9$, respectively). In contrast, the research assistant's conversational turns were more evenly split between substantive content and conversational fillers, $t(23) = -1.57, p = .13$, paired two-tailed ($M = 112.5$ turns, $SD = 73.8$ and $M = 129.9, SD = 81.0$, respectively), with slightly higher levels of conversational fillers when she faced new tasks requiring substantive instruction or guidance. What is most important here is the extent to which the research assistant talked research, not her contributions relative to the academic supervisor. It is evident the research assistant was talking about research, which is an important aspect of doing research and knowing research.

Feeling Confident in Research

In addition to doing research and talking research, there were concomitant changes in the research assistant's expressed self-confidence as a researcher. During the early *planning phase*, she expressed low self-confidence. In one of her early journal entries, she wrote, "I am not sure why I was chosen for this position. Likely just because I can type fast. I have so much to catch up on that others already know" (journal entry after meeting 2). Several weeks later, she explained to the academic supervisor that she had initially believed she could learn a lot from the experience, but would probably make limited contributions to the project:

I guess at the beginning stage I really was unsure of what my value to this [project] could be. And I was thinking that my value would probably be more as a transcriptionist or doing sort of the background work involved. . . . There was a strong intimidation factor. (meeting 6)

One of the research assistant's initial tasks was to secure information about graduate programs at the institution to guide participant recruitment. She was intimidated and hesitant about talking to staff members: "even just making these phone calls was so 'Oh my god, what are they going to ask me?' They're going to say, 'It's none of your business' or something like that" (meeting 2).

Despite low self-confidence throughout the planning phase of the research, the research assistant was eager to get involved in research and readily volunteered to try new tasks. For example, immediately after the academic supervisor described the requirements for the research ethics application in the third meeting, the research assistant offered to write a first draft:

It would be interesting for me to try and draft it myself. Perhaps if there are going to be areas where I would closely require some help, but I think for next week what I should think about is filling it out on my own and where I think belongs where, and bringing as much as I can with me next week. (meeting 3)

During the subsequent week, as the research assistant worked through the task, she questioned herself about offering to do this task:

Why the hell did I volunteer to complete this [research ethics] form. I must be off my rocker. OK, I think I have the reasoning worked out in the right place, but is that different from objective? Got to talk to [the academic supervisor] about recruitment. (journal entry after meeting 3)

Despite this uncertainty early in the research assistantship, she also volunteered to write the first draft of the conference proposal and reflected in her research journal: "Okay, so research [ethics] clearance forms are not a big deal. [The academic supervisor] took what I had

completed today and we worked out the details. A lot will be carried over into the conference proposal, which surprises me” (journal entry after meeting 4).

As she engaged in these different tasks, she became more comfortable in her role as research assistant:

As I started doing some of the first graphs, the first charts with respect to the [academic participants] and doing some of the visits to the office of the registrar and things like that, I sort of started to become a little bit more comfortable with my role. Although there is still a very strong intimidation factor—it’s still there. (meeting 6)

Toward the end of the planning phase, she began to feel less anxious and more confident. At this point, she also began talking to the academic supervisor about feeling part of a team where her ideas, skills, and input counted:

When I was working through the ethics committee [proposal], you had sent me an email, basically saying, “You are still drafting this [document] as if you are not really involved and this [research] is my project.” And when I read that, I kind of went back to the ethics committee proposal you prepared, where I could see very clearly, that it was all there and I was just sort of completely involved. . . . I noticed the pronoun “we” as opposed to “you.” (meeting 6)

The research assistant’s self-confidence and independence emerged in earnest during the *implementing phase* of the project when they began to collect and analyze data. During this phase, she regularly described how much she was enjoying the work and how it supported her other research plans:

It’s a confidence boost too, you know. Especially right now, I will be going out and collecting my own data. I’m really glad that I had this opportunity to do this [research assistantship] because I feel confident that I can go out and collect the data that I need. (meeting 22)

The final three meetings (22–24) involved the *reporting phase* of the research, wherein the research assistant and academic supervisor completed their data analyses and final revisions for the conference paper. During these meetings, a collaborative atmosphere was readily apparent. The research assistant was excited, but also nervous about what would be her first conference presentation: “I’m really excited about this [presentation] but I also have to admit that in the past few days my tummy has been doing one of these kind of curdling, kind of awful things” (meeting 24).

Overall, the research assistant found the research assistantship extremely valuable. She believed the required research courses would not have prepared her adequately for the independent research required for degree completion. Participating in the research assistantship left her feeling equipped and ready for independent research, which she felt differentiated her from other student colleagues in her program:

I am getting ready to leave [for the conference] but cannot get something out of my mind. It is a conversation we had about a comment one of our participants—Mr. Smith—said about many grad[uate] students not having the kind of opportunity I had. . . . Here I am ready to go and create my own research proposal for my thesis and I feel ready for it, but what about them? (journal entry after meeting 24)

She told the academic supervisor that she did not think she would have developed self-confidence in her research abilities if she had merely transcribed or entered data. She explained that being fully involved and feeling like an equal partner helped her overcome her early fears, contributed to her sense of satisfaction, and inspired a passion for research and being a researcher. D. Edwards (2010) documented the importance of focusing on the “more nebulous and emotional aspects of the experience of studying for a PhD” (p. 314). Contemporary learning theories emphasize identity development as an integral part of learning (Lave & Wenger, 1991; Packer & Goicoechea, 2000; Wenger, 2000), suggesting the research assistant’s emerging self-confidence and sense of herself as a researcher can be considered evidence of her learning and development through the research assistantship.

Beyond the Research Project

Throughout the meetings, the academic supervisor invested significant time mentoring and motivating the research assistant. The academic supervisor did not limit herself to carrying out the research project but invested time to enrich the research assistant’s educational experience. At many points (22% of codes assigned to text), the conversation moved beyond the research project to discussions about academic topics that were not related directly to the project, such as other research, graduate education, and academic life. Occasionally (2% of codes assigned), the conversation turned to personal topics. The conversational focus on the research project compared to other academic topics fluctuated over the duration of the research project, with a statistically detectable difference between the three phases of the research, $\chi^2(2) = 14.9, p < .01, \phi = 0.14$. The emphasis on the research project was highest during the planning phase (83% of codes) compared to the reporting (72%) or implementing phases (68%); a reverse trend was evident in the conversational focus on other academic topics (with 16% during planning compared to 25% and 28% during reporting and implementing, respectively). Few personal issues were discussed during the planning phase (.6%) as the research assistant and academic supervisor got to know each other and established ground rules for their interactions; personal issues were somewhat more prevalent in the implementing (4%) and reporting (3%) phases, but far less common than talk about the research project or other academic topics beyond the research.

During intense work periods when they prepared the ethics review application (meetings 3–5) and the conference paper (meetings 23–24), almost all the conversation was about the research task at hand, with little attention to other academic topics. In contrast, meetings 13, 14, and 22 included extended conversations about academic conferences that went beyond the specifics of their planned conference presentation.

The portions of the meetings devoted to other academic topics provided a solid foundation for the research assistant through discussions of other research, graduate education, and academic life. The research assistant judged these conversations as distinctly enriching and perceived them as evidence that the academic supervisor cared about her and her learning, not just the research project. The academic supervisor introduced examples from other research projects (her own research, other students’ research, and published literature) into their conversations and she presented various strategies for accessing and using existing literature in research projects. Throughout their conversations, the academic supervisor provided information about various aspects of academic life, such as grant applications, community

service expectations, conference attendance, and the importance of publishing. They also discussed the research assistant's graduate studies.

Through their broad conversations, the research assistant learned about more than the one narrowly defined research project they undertook together, thereby reducing concerns regarding over-specialization, which Nicolas (2008) identified as a deficiency in apprenticeship-based approaches to research education. Their conversations contributed to ensuring the research assistant was prepared not just for the immediate research assistantship tasks, but also to continue in research, thereby meeting the definition of an educative research assistantship (Strike et al., 2002). As McAlpine, Jazvac-Martek, and Hopwood (2009) found, it is not just formal, program-related activities that contribute to graduate students' identities as scholars; semi-formal and informal interactions and activities also have a formative influence on developing identities. Even the side conversations about personal matters were relevant learning interactions for "chats about children or hobbies or current affairs [are] essential to creating working relationships" (Paré et al., 2009, p. 185) in supervisory dyads. By moving beyond the research project to include a range of personal and professional discussions, the academic supervisor practiced an empowering form of mentorship (Hansman, 2012).

Commitments to the Research Assistantship

The balance between completing research tasks, developing as a researcher, and discussing issues within and beyond the research was possible because the research assistant and academic supervisor were both committed to the research assistantship as a learning space. The research assistant applied for the position because she thought it would help her learn about research, and the academic supervisor intended to support the research assistant's learning as they completed the research project together. The academic supervisor characterized work with research assistants as a vital component of her responsibilities as an academic and, in particular, an important part of her advisement role. In one meeting, she explained to the research assistant that she had added a section to the standard annual report form and her curriculum vitae to document her supervision of research assistants:

When I describe my annual report and the various other places where I need to document the things that I do, I list all the students for whom I am [a thesis] advisor. I also list all the students for whom I am an advisor as research assistants. I describe that as well because I think that's an important part of my advisory role as well. I take that seriously. That's a commitment that you're not just here to help me get the research done. (meeting 18)

The academic supervisor's description of completing the ethics review application provided an important example of this approach and the underlying commitment:

One of the things for me, you know, you did the whole draft of the ethics [application], so that was exciting for me that you took that on. And then it came to me, and we didn't have a face-to-face meeting, we said, "Okay, well we should get this [ethics application] done, hurry up and get this into the ethics board. And okay we need this description of the procedures, that's [a section in the application form]. We need to expand that and be more educative. Okay, well, I'll just sit down and write that." Well wait a second, you know, that doesn't help you to get it and it takes it away from you. So, you know, we can wait; it's okay if it's, you know, another week and we sit down together when we can work through it together. (meeting 6)

The academic supervisor clearly felt the investment in training the research assistant was worthwhile (B. J. Edwards, 2009) and was demonstrably committed to ensuring the research assistantship was educative (Strike et al., 2002). She was explicit about her “delight” (academic supervisor field note after meeting 24) that her approach seemed to lead to real improvements for the research assistant. She told the research assistant, “It’s exciting for me to hear you describing how you see your movement and the fact that you feel you’re now more a part of [the project], more equally involved, more comfortable in your shoes” (meeting 6). The academic supervisor emphasized the project was intended to be an equal collaboration with opportunities for both the research assistant and the academic supervisor to contribute. As noted, this focus on undertaking research together provided opportunities for the academic supervisor to discuss wider aspects of academic life, not just the explicit research tasks involved. In one meeting, the research assistant apologized for directing the conversation away from the research project after asking a series of questions about how to prepare for admission to a doctoral program. In response, the academic supervisor defended the importance of these side conversations (Paré et al., 2009):

But that’s all important. That’s all about research training stuff, right? . . . I think that conversation is related to our reasons for being here. . . . I think those side conversations are an important part of being a research assistant. I don’t think that, you know, certainly you learn a lot from being involved in all of the specific research tasks, but I think that it’s also the other stuff that happens. (meeting 14)

Initially, the research assistant joined the project to gain experience and skills, and to challenge herself. Because she was committed first and foremost to learning from the research assistantship, the research assistant regularly volunteered to attempt tasks. By the midpoint of the project, she was so committed that she wanted to continue even beyond the end of the grant providing her salary: “Whenever my contract hours are done . . . I still want to keep looking at this [research project] and thinking about this [topic] and writing out the paper and revising the paper and, just go with it” (meeting 18). She further explained,

The money itself, okay, yeah it’s been helpful, it’s come in handy, but the money’s not really the focus. The focus is first of all learning, and secondly getting involved in that academic side of it: the presenting at the conferences, the publication. (meeting 18)

Both the research assistant and the academic supervisor were pleased with the payoff from their commitments in terms of learning and the progress of the research project. They each spoke extensively in their meetings about how much they benefited from and enjoyed their collaboration.

Conclusions

Although this case study should not be considered representative of all research assistantships, it does provide an important contribution to the literature and to practice. Understanding the specifics of this one intrinsic case study can increase awareness about the teaching and learning potential of other research assistantships. The accumulated evidence shows this specific research assistantship was educative. The academic supervisor provided instruction and support to assist the research assistant in performing the tasks associated with their research project,

progressing through her master's degree program, and building toward future contributions in research. As a result, the research assistantship fulfilled the requirements for it to be considered educative (Strike et al., 2002).

The educative nature of the research assistantship was further evidenced through the various forms of development experienced by the research assistant. The research assistant's research skills developed over the 8-month period, as did her self-confidence and her commitments to engaging in research, which contributed to her decision to pursue doctoral study and an academic career. Considered from a socially situated perspective on learning (Lave & Wenger, 1991; Packer & Goicoechea, 2000; Wenger, 2000), the research tasks she performed and the ways she described her work and herself as an emerging researcher, all demonstrated her development. It was significant that the research assistant attributed this development to the research assistantship and not to coursework or other experiences related to her graduate program, which highlighted the role the research assistantship played in her future goals. Furthermore, the research assistant received scholarly credit as a co-author and co-presenter, thereby providing entries for her curriculum vitae and evidence of her scholarly productivity that probably contributed to her later success in securing admission and a scholarship for doctoral study. Through opportunities to engage in a range of research tasks under the supervision of an academic, the research assistant learned what it was like to do research and be a researcher. She also received modest financial compensation for time devoted to the project.

The academic supervisor also benefited from the research assistantship. She experienced a sense of satisfaction from seeing the ways her efforts contributed to the development of the research assistant. The self-reflections and documentation from this case study show the academic supervisor was fulfilling her ethical obligation to ensure the research assistantship was educative with respect to the specific tasks of their research project and more broadly in terms of other academic topics they discussed. The positive outcomes affirmed the academic supervisor's commitment to working collaboratively with research assistants on research projects.

Benefits for the academic supervisor went beyond altruism or personal satisfaction. The time and effort the academic supervisor devoted to supervising the research assistant were embedded in her ongoing program of research and not additional tasks she needed to undertake, as is often the case for thesis supervision. This approach to the research assistantship provided a way for the academic supervisor to connect her teaching and research responsibilities and to balance her busy academic career (B. J. Edwards, 2009). Furthermore, the research assistant brought insights from a graduate student perspective, along with typing and organizational skills that complemented the academic supervisor's strengths. The resulting research design and reports advanced the academic supervisor's research agenda and curriculum vitae.

Research tasks were distributed between the two individuals, so the project proceeded more quickly than it would have if the academic supervisor had been working individually. This assessment seemed to hold even at times when the commitment to educating the research assistant delayed individual task completion (e.g., the final editing of the ethics review application). Although these delays may have slowed a specific task, there seemed to be no hesitations or slow downs in the overall work flow. The increased confidence and competence the research assistant developed over time allowed her to contribute substantively to the research project.

Through this intrinsic case study, we have provided empirical evidence to show conscious attention to the educative potential of this research assistantship led to a high level of satisfaction for the research assistant and the academic supervisor. Through this educative

research assistantship, the research assistant learned and contributed to the project, received appropriate recognition for her contributions, and positioned herself to continue to contribute to scholarship (e.g., by pursuing doctoral study and an academic career). The academic supervisor (and the research project) benefited from the substantive contributions of the research assistant. The academic supervisor also experienced a sense of personal and professional satisfaction from witnessing the research assistants' development through the research assistantship.

The research assistantship provided positive outcomes for the research assistant and the academic supervisor, as well as the broader scholarly community. Their research project led to a conference presentation and a planned publication to disseminate research results, which represent substantive research contributions. At the same time, the educative nature of the research assistantship contributed to the development of a new researcher. Lapidus asked, "Is the result a research result or a researcher?" (cited in Nicolas, 2008, p. 11). Our findings show it is both. The research assistant transformed into a researcher set to join the next generation of scholars who will contribute in multiple and ongoing ways through research and teaching. As Nicolas (2008) argued, "Researchers-in-the-making are by far the most important 'vehicles' for the transfer of university research to society" (p. 10).

All these positive benefits accrued over a single academic year. The research assistant was employed for approximately 130 hours, and much of the research was undertaken in blocks of one or two hours in duration, which would seem to be a manageable time frame even for the busiest academic or student.

Despite the educative nature of this research assistantship, we know that not all research assistantships are educative. Anecdotes and scholarly evidence show some research assistants are burdened with meaningless tasks, uninformed about the ways their tasks relate to an overall project or scholarly advance, and uncredited for their contributions (Grundy, 2004; Hobson et al., 2005; Niemczyk, 2010; Niemczyk & Hodson, 2008). Far too often, the relationship between research assistants and their academic supervisors becomes exploitative (Hinchey & Kimmel, 2000; Hobson et al., 2005). These challenges may explain why the (U.S.) National Academy of Science, the National Academy of Engineering, and the Institute of Medicine (1995) recommended more education and training grants instead of research assistantships. They argued that education and training grants emphasize student needs and provide direct benefits to student recipients whereas research assistantships tend to emphasize project needs and may or may not provide benefits to student recipients. The existence (possibly even prevalence) of non-educative research assistantships may have prompted the American Educational Research Association's earlier assertion that "educational researchers should ensure that research assistantships be educative" (Strike et al., 2002, p. 152).

Relationships between academic supervisors and research assistants may be fraught with ethical issues or challenges (Löfström & Pyhältö, 2012). Academic supervisors are charged with acting fairly and equitably, in the best interests of students, supervisees, and employees (American Educational Research Association, 2011). Beyond learning goals, Strike et al. (2002) emphasized the need to ensure equity in the appointment of research assistants. Students are more likely to be appointed as research assistants if they have previous experience as research assistants or strong cultural, linguistic, or disciplinary connections with an academic supervisor. Grundy and McGinn (2008) argued students with disabilities and their academic supervisors should consider the advantages of research assistantships and not be dissuaded unjustly by the extra time and challenges involved or the complexities of coordinating financial compensation

with any existing social support benefits. The potential educational benefits of research assistantships should not be denied unfairly.

In some ways, the academic supervisor's decision to appoint this particular graduate student to the research assistantship may have been questioned initially. The research assistant began the academic year without previous research experience or research courses. There were other applicants for the position who had some research experience, had taken research courses, or were enrolled in research courses. At the starting point for this research assistantship, those other applicants may have been more competent than the selected research assistant. However, the academic supervisor judged that the selected research assistant displayed a level of enthusiasm and desire to learn that surpassed the other candidates, which ostensibly placed her in a better position to engage more fully in the research assistantship and thereby make a greater contribution. There was no way to tell how those other candidates might have flourished if given the opportunity to engage in an educative research assistantship, but it was evident to us that the selected research assistant made a significant contribution to the research project, fully warranting co-authorship of the conference paper and the planned journal manuscript (which had not yet materialized at the time of this writing). We believe it is critically important for assessments of the current competence of a potential research assistant to be balanced with assessments of the potential competence of the research assistant if provided with adequate support. Research assistantships are educational opportunities, not just employment opportunities.

Through this paper, we have documented one research assistantship. We do not suggest this research assistantship should be considered representative of the diversity of research assistantships that occur, some of which are known to provide more limited educational opportunities (Grundy, 2004; Hinchey & Kimmel, 2000; Niemczyk & Hodson, 2008). However, based on the findings, we see the research assistantship in this case study as a potential model for other research assistants and academic supervisors to follow. Research assistants and academic supervisors can work together on research projects in ways that are equitable, educative, and ethical. Our case study research team includes an academic supervisor, a doctoral student, and a recent PhD recipient. We each see possibilities to emulate the actions and commitments displayed by the research assistant and academic supervisor in this study. In particular, we see their research assistantship as equitable, educative, and ethical because the two participants:

- Prioritized learning;
- Acted proactively to try new things;
- Capitalized upon complementary skills and strengths to advance the research;
- Ensured the research assistant knew how to complete tasks;
- Connected research assistant tasks to the larger goals of the overall project;
- Allocated time to discuss wider scholarly issues beyond the specifics of the research project;
- Assigned appropriate credit for the research assistant's contributions;
- Recognized the contributions of an educative research assistantship toward the aspirations of the research assistant;
- Extended opportunities for a newcomer to research; and
- Allowed time for a personal relationship to build.

Extending theory or generalizing to other cases is not an intended goal for intrinsic case studies (Grandy, 2009). Instead, we call upon all academics and educational institutions to consider this case study in making decisions about their practices and encourage them to strive toward research assistantships that are equitable, educative, and ethical. Further case analyses of other research assistantships can provide an empirical base for understanding the constituent elements that contribute or detract from the educative potential of these opportunities. A broader spectrum of case analyses will help to move beyond the limitations of this single case comprised of two particularly committed individuals.

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