POSTDOCTORAL RESEARCH AND INFORMAL MENTORING: A REFLECTIVE INQUIRY

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ABSTRACT

This article reflects on an informal mentoring project that took place between an established faculty member with grant-writing and research experience and another faculty member who was finishing her doctoral degree and had no experience in applying for grants or submitting to peer-reviewed publications. After the project, the doctoral student reflected on her experience using Graham Gibbs' reflective model and discovered why this mentor/mentee relationship was effective despite the fact that all communication took place via email. The results were the authors concluding how important mentorships are for doctoral students.

STATEMENT OF PURPOSE

While American university doctoral programs continue to evolve to match the ever-changing landscape of world needs, one area that has had little movement in improvement is that of mentoring doctoral students for postdoctoral research (Santucci et al., 2008; Scaffidi & Berman, 2011). Despite higher education policy support in the US and the UK for postdoctoral research and the mentoring of such, little scholarly literature has examined this need (Scaffidi & Berman, 2011; Welton, Mansfield, Lee, & Young, 2015).

Mentoring is often broadly defined as "as a voluntary alliance between an experienced senior professional and a less advanced one, for the dual purposes of career development and enhancement of the profession" (Santucci et al., 2008). There are different types of mentoring, such formal and informal. This type of mentoring was an informal, external, step-above mentorship in which the mentor was not the student's advisor or committee member and a step above the protégé's level of experience and professional expertise (Welton et al., 2015).

Because postdoctoral mentorship is lacking, often doctoral students graduate only to find they are not prepared to conduct research or apply for research grants (Brent & Felder, 2016; Scaffidi & Berman, 2011). Studies show that doctoral students who have mentors are more likely to achieve their career goals, gain skills necessary for future employment, have a higher level of research output, and publish more in peer-reviewed publications (Scaffidi & Berman, 2011; Welton et al., 2015).

The purpose of this reflective inquiry is to reflect on the relationship formed between an experienced faculty and researcher, Dr. Manyu Li, and a faculty member and doctoral student nearing the end of her doctoral program, Dr. Sandi M. Van Lieu. While the researchers set out to work on a grant-funded project, not only did they complete the research and subsequently publish and present, but they also formed an informal, organic mentor/mentee relationship that assisted the doctoral student and helped her to understand how research grants and projects work. This unexpected relationship and work was reflected upon after completion of the project.

Graham Gibbs' (1998) seminal work provided the framework for this reflection. Gibbs stated it was not enough to have an experience in order to learn; one must also reflect on the experience. Writing is a great way to think through and reflect upon an experience. Some questions the reflector may ask include: What was going on? How did

you feel? What were the risks? Questions should describe what occurred, then describe the feelings involved. It can also help to have someone who was involved in the experience give a peer review. From here, the reflector should ask questions that involve evaluation (i.e.: What was positive/negative about the situation?). After evaluation is complete, one can move to conclusions and then actions (Gibbs, 1988).

STATEMENT OF PROBLEM

As I neared the end of my doctoral program, which was an EdD with an emphasis in higher education, my dissertation chair advised me to begin considering research projects for the postdoctoral phase of my academic career. I did not, however, have much experience in terms of formal research projects, write-ups, or grant applications. I considered myself savvy in writing and conducting literature reviews because of my background as a college literature and composition teacher, and because of some part-time work in my college's research department. Because of my doctoral progress, I was also familiar with basic methodologies and applying for IRB approval. However, I knew I lacked many of the skills necessary to conduct competitive research in my field. I did not know where to begin in this area of inquiry, nor did I have a mentor or superior who had the time to work with me and show me how to work through the process.

Through my part-time work in my college's center for innovation and research, I met, Dr. Li, a fellow adjunct faculty with a PhD who taught in the psychology department. She was seeking to apply for a grant to conduct research on the topic of Ernest Boyer's (1990) fourth domain, the Scholarship of Teaching and Learning (SoTL). As a quantitative researcher, Dr. Li formulated a plan to apply for the grant and conduct research with a qualitative researcher in order to form a mixed-methods study. Since my dissertation was a qualitative narrative inquiry, included Boyer's model of scholarship, and since I was far enough into my dissertation to strongly understand my methodology, Dr. Li felt comfortable working with me. What we did not know at that time was that by her working with me, I would learn what goes into applying for research grants, conducting research, working with a peer researcher, conducting a

write-up, and submitting for journal publications and conference presentations. All of this unknown, led to my desire to write a reflective practice article on how a postdoctoral mentor/mentee relationship can form and work, and what the benefits of such a relationship can be.

PROJECT DESCRIPTION

As I neared the end of my doctoral program, I knew the next step would be to conduct research and possibly apply for grants for this research; however, I had little experience in this area and did not know how to get started. For more than a decade I had taught English composition and literature in an adjunct role for a university. There I met, Dr. Li, a fellow adjunct faculty member who taught psychology. Dr. Li was a quantitative researcher looking to conduct a research project with a qualitative researcher. We talked via email, and she expressed interest in applying for a grant through a professional psychology society/organization. She was interested in conducting research on SoTL, and to find a niche area, I suggested the area of Classroom Assessment Techniques (CATs) (Angelo & Cross, 1993). Some of my dissertation research related to SoTL since the underpinning theoretical framework was Boyer's (1990) model of scholarship. Because I had no experience in grant writing, Dr. Li wrote up the grant application, and she asked me to help fill in some of the literature review in the area I was knowledgeable in, and also in the methodology area of qualitative research. The study proposed was a mixed-methods study on adjunct psychology instructors and their use of CATs in the classroom. Even though we lived in different states, Dr. Li suggested I conduct qualitative research with the participants at the online university we both taught at, and she would conduct the quantitative portion with the same population, but if there were not enough participants she could use the population at the local university she also taught at.

During the process, we communicated only via email; we never once spoke on the phone or met in-person. We received the grant, and from there we each took on tasks and created deadlines for those. I applied for site approval since I knew the site approval process for our university because of my dissertation and because I had worked in the research department. Once site approval was granted, Dr. Li created the survey, and I contacted

the appropriate department for getting it sent out. Once the survey was out and enough participants had responded, I contacted those participants who had agreed to be interviewed for the qualitative portion. I conducted the interviews, transcribed the interviews, and coded the data, while Dr. Li analyzed the quantitative data on her end. Once the data and analyses were completed, we each wrote up our portions, with Dr. Li writing more of the article because of her experience with format and language. I sent my portion to her and she finished the write-up. From there, we also found out about another publication seeking articles on SoTL, so Dr. Li wrote up another article using a different angle with part of our research. In addition, she applied and was granted acceptance to speak at a conference. In all, we published two articles and had two conference acceptances. Dr. Li also wrote the post-grant wrap-up and handled the grant funds.

It was through this process of us applying for the grant, conducting the research, and publishing subsequent articles, that I learned how to go about applying for grants, how the research process can work, and how to work with a research partner. While we did not set out to have a mentor/mentee relationship, this is nonetheless how I came to view the process as I reflected on it.

PROPOSED REASONS

What contributed to the success of this mentor/mentee relationship between a researcher and a doctoral student, and what contributed to the outcomes, was the diligence on both our parts. We kept on task and on deadline, and we kept in frequent communication. If I had questions, Dr. Li answered them willingly and always had a positive and helpful demeanor. If one of us were running late on a task, we communicated that. We utilized our strengths; Dr. Li's experience led to knowing how to apply for a grant, and my expertise in grammar and editing and in applying for site approval at our university, aided in those areas. Without communication, using our strengths, and staying on task, the relationship may not have been successful. Yob and Crawford (2012) synthesized literature on doctoral mentoring within an academic domain and concluded that communication is important, along with competence, availability, and challenge.

Scaffidi and Berman (2011) noted that in order for postdoctoral students to have the best chance of success in their career goals "they need to not only acquire discipline-specific research experience, but also additional generic skills vital for future employment inside or outside academia. They also require access to information and mentoring that will help them strategically plan and make informed decisions about their future" (p. 685). Research supports this assertion, showing associations between supervisors or mentors and the number of peer-reviewed publications produced (Scaffidi & Berman, 2011). Mentoring doctoral students leads to the student gaining the skills they need to become a scholar and more research productivity than those students who are not mentored (Welton et al., 2015).

A study by Welton et al. (2015) showed that doctoral students want quality mentoring that includes the fostering of developing research skills, guidance for grant writing and publishing, developing writing expertise, giving feedback and critique, and development of leadership skills. Students wish for the relationship between mentor and mentee to be a dynamic learning exchange where the mentee learns scholarship skills from the mentor. The students surveyed in this study used words such as close, trusting, nurturing, and supportive to describe a quality mentor. All of these attributes occurred while we worked, my feelings were always positive, I believed I could trust my mentor, and she was supportive.

EVALUATION OF PROPOSED REASONS

The EdD program I attended did not offer any type of postdoctoral training or mentorship; however, I knew through my work as an adjunct faculty over the years that somehow I was going to need to learn how to apply for research grants and conduct research. Another university had a similar response when engineering faculty held a conference for new faculty and found that many of them had a fear of grant proposal writing. Their advice was, "If you can find a skilled research mentor with whom you can collaborate on your first project, consider doing it. Watching how the mentor identifies and works with funding sources, develops the proposal, assembles a research team, and manages the research can help knock years off the 4–5 year learning curve faced by roughly 95% of new faculty members" (Brent & Felder, 2016, p. 251-252). In addition, postdoctoral students

who create clear plans with advisors are more "productive and satisfied with their experience" than those who do not (Davis, 2009, p. 687).

In the US, the National Postdoctoral Association (NPA) and Postdoctoral Education Committee of the Association of American universities have lobbied for more attention to postdoctoral training, and in the UK, the change in this area has recently come from the government's recognition that postdoctoral graduates are needed to help drive an innovative economy (Scaffidi & Berman, 2011). Between world government requests for knowledge leading to economic growth, and administrators from world-wide higher educational institutions, there is a clear need to focus on the development of postdoctoral students (Scaffidi & Berman, 2011).

Studies also show that postdoctoral students are concerned about their future job security and competition, and they yearn for collaborations, whether formal or informal, with other researchers and networks (Scaffidi & Berman, 2011). At one university, postdoctoral students who "establish collaborations are more likely to have a higher level of research output than those who do not" (Scaffidi & Berman, 2011, p. 692), and students who work with mentors or supervisors have a more positive experience than those who do not. Results showed, "There is a positive association between supervisors conveying to postdocs the importance of taking responsibility for their future career through strengthening their track record by applying for grants, and the number of peer-reviewed publications produced" (p. 695). This also includes developing a network for collaboration, as the postdoctoral students in this study noted they would like more opportunities, research and interactions, and collaborations with researchers. In fact, "Doctoral students and postdocs may learn to carry out a research project that someone else has defined and gotten funded, but few of them learn how to select research topics, write successful proposals, assemble an effective research team, and get papers published in top journals" (Brent & Felder, 2016, p. 251). While the Scaffidi and Berman (2011) study showed a need for mentorship in postdoctoral university research programs, it stands to reason that such is needed outside of these programs for those who graduate and are not given university research jobs; perhaps even more so. In fact, this study noted that mentorship relationships,

whether inside or outside of the institution, could lead to collaborations and further research.

Some effective skills and behaviors of successful mentors are communicating empathy; exposing the mentee to a variety of methods; evaluating and critiquing work; being available to meet and being readily available; introducing them to new opportunities; communicating timely and specific feedback; and giving both positive and constructive feedback (Brown, Daly, & Leong, 2009). The mentor should also promote "scholarly values, scientific integrity,

and ethical decision making" (Brown et al., 2009, p. 310). All of these skills were employed by Dr. Li; thus, we could see why the relationship and project outcomes were so successful.

In our case, both professionals were faculty members. The reflection not only gave us insight into doctoral mentoring practices, but showed us how positive mentoring can also occur with students. In addition, we both saw the practice of working with students over the years as reasons why the informal mentor/mentee relationship worked so well. For example, we had clear and effective communication and maintained that throughout the process, which is what we do with students as well.

Furthermore, we saw the theory of situated-learning in the context of a mentor/mentee relationship utilized in this situation (Lave, 1988; Lave & Wegner, 1991). Situated Learning Theory (SLT) states that learning often occurs in informal and unplanned settings where activities are authentic and are situated in the actual social or cultural contexts. SLT is mostly applied and discussed in classroom settings, suggesting that teachers should include elements in the real-world context, such as social interactions and collaborations, so that students apply the knowledge they learn to real life (Lave & Wegner, 1991). This idea is further supported by Brown, Collins, and Duguid's (1989) theory on cognitive apprenticeship, emphasizing the role of a skilled teacher in the situated-learning process.

SLT, which focuses heavily in the social relationships among learners and between learners and teachers, has also been applied to mentor/mentee relationship in beginning teachers (Harrison, Lawson, & Wortley, 2005). Specifically, Harrison et al. (2005) suggested that in professional

knowledge acquisition, learning about the process or practices (i.e., knowing how) is more important and more challenging than learning the propositional knowledge (i.e., knowing that). Yet, traditional learning theories are not sufficient in addressing how people learn what to do (know-how). The best way to learn the know-how is through collaborating with an experienced individual and learning how an experienced individual deals with problems that arise in the profession. Therefore, SLT, instead of traditional learning theories, explains how beginner teachers learn through the social context and through the social relations between teachers and experienced teachers. Applying to the context of this reflective piece, SLT perfectly illustrates that in order to mentor graduate students, postdoctoral scholars, or early career faculties, it is very important to develop a smooth social and professional collaboration relationship between the mentor and the mentee.

RESULTS

From the start of this project, I did not know how it would work or go, but I knew it was important for me to have someone with grant-writing and publication experience show me how to proceed. Research shows that this is indeed the case, as students near the end of their doctoral program not only wish for mentoring and collaboration, but also need it as it will lead to a stronger track record of grants and publications (Brent & Felder, 2016; Scaffidi & Berman, 2011). Our project was successful for a number of reasons, including that I was mentored and learned how to apply for a research grant and conduct a write-up for a peer-reviewed publication.

Another reason for the success of this collaboration was the use of communication. We not only communicated regularly, but we did so with professionalism. If one of us had a question, we would email the other and kindly answer and within a reasonable amount of time. We also gave positive and constructive feedback. Research supports that these types skills are effective during mentor and mentee projects (Brown et al., 2009).

REFLECTIVE CRITIQUE

This reflection has shown us how important mentoring relationships are in higher education. As we work in higher education, we can find ways to engage in mentor/mentee collaborations. As faculty members, we can utilize the same skills, such as clear communication and constructive feedback, with our own students. We also realize how important clear communication is; even if we are only communicating via email, it can be an effective form of communication if there is respect and goal-meeting among the parties.

Doctoral colleges should examine the research on the need for postdoctoral mentoring and consider implementing more opportunities for such. This should not only be for traditional research disciplines such as the sciences, but in other disciplines as well. Doctoral colleges could implement mentoring programs between experienced faculty and recent doctoral graduates, or they could consider a more informal program between peers with different skill sets. Research identifies various types and levels of mentoring, some of which are formal and require more commitment than others (Welton et al., 2015). This takes time and commitment from the college and the faculty, but can result in doctoral students gaining the skills they need to conduct formal research and impact society, along with having personal support for the psychological side that comes with being a doctoral student (Welton et al., 2015). Colleges could also work to find external mentoring for postdoctoral students, consisting of professionals that could help students with research, grants, and awards. This may include pairing up students with faculty at other institutions or connecting students with experts in specific disciplines.

Future research should examine doctoral student mentoring in various disciplines, including those not often seen as research-based, such as education or humanities. Research could also study informal or formal types of mentoring relationships and/or programs. Future research might also examine what qualities or traits within a mentorship and/or within the mentor and the mentee lead to success of the student (i.e., publications, grants, and so forth). Finally, future research might examine the concept of communication and how it functions within doctoral mentoring relationships.

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