Emerging Research Leaders' Preparation and Practices

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Background

A common goal of doctoral institutions is to prepare future faculty members for teaching, research, and service success in the professoriate. Akerlind (2008) documented specifically that preparation that happens in doctoral programs is pivotal to the later research success of faculty members. Instructional components necessary for students to be successful in their profession have been investigated in previous studies, with common topics including mentorship and curricular experiences.

The mentorship that doctoral students receive from faculty members has been cited as an important part of research preparation (Campbell, 2002; Duerksen, 1992; Duke, 2010; Flowers, 2012; Geringer, 2000; Humphreys, 2006; Jellison, 2004; LeBlanc, 1992; Madsen, 1988; Radocy, 1998; Yarbrough, 1996). Rohwer and Svec (2014) documented that researchers perceived that through learning experiences with mentors in doctoral programs, students should be able to choose an important research question and present their own research; in addition, mentors should expose students to basic research courses and technological resources, such as SPSS and NVivo. Researchers have suggested that doctoral training institutions should include curricular experiences that encourage researchers to effectively use many research methods (Eisenhart & DeHaan, 2005; Young, 2001), and seek interdisciplinary perspectives (Eisenhart & DeHaan, 2005; Pallas, 2001).

Researchers have also documented possible barriers to research productivity, with time being the most common obstacle. Duerksen (1992) and Laudel and Glaser (2008) stated that a lack of time can be a hindrance to research productivity. May (1992) added that research expectations, including time allotted to research and the way that faculty value research, may vary based on whether a faculty member is at a university with a research or teaching emphasis. In 2012, Chandler and Russell documented the common workload of faculty to be 74% teaching, 14%

research, and 12% service. Participants stated that the ideal workload would include more research time.

Dressler (1986) noted that junior faculty may have a heavy teaching load that could negatively affect their scholarly productivity, and Asmus (1992) added that heavy administrative loads could also negatively impact research productivity. In health science, Grbich (1998) noted that heavy teaching loads and a lack of faculty development leaves were inhibitors to research success, while collaborative research experiences and grants were facilitators to success. In music education, Hoffer (1984) advised research centers/consortia to apply for grants to facilitate collaborative work on a valued topic area.

Common faculty characteristics have been investigated, with studies finding researchers in education to be mature, have professional experience, possess a passion for education (Labaree, 2003), and have self-sufficient, introverted personalities (White, 1965). Reynolds and Hamann (2010) documented the most productive researchers to be assistant professors, followed by associate professors, and lastly full professors. LeBlanc and McCrary (1990) found that productive researchers perceived the most common intrinsic rewards of conducting research to be enjoyment, self-improvement, and fulfilling curiosity, and the most common extrinsic reward was a salary increase.

The investigation of research leadership in music education has commonly been studied in terms of eminence. Researchers who have cited eminent journals have commonly utilized the *Journal of Research in Music Education* (Brittin & Standley, 1997; Diaz & Silveira, 2014; Ebie, 2002; Fung, 2008; Hamann & Lucas, 1998; Humphreys & Stauffer, 2000; Kratus, 1992; Lane, 2011; Miksza & Johnson, 2012; Price & Orman, 1996; Reynolds & Hamann, 2010; Sample, 1992; Schmidt & Zdzinski, 1993; Standley, 1984; Yarbrough, 1984), *Bulletin of the Council for Research in Music Education* (Brittin & Standley, 1997; Hamann & Lucas, 1998; Kratus, 1992; Lane, 2011; Sample, 1992; Schmidt & Zdzinski, 1993; Standley, 1984), and *Contributions to Music Education* (Hall, 1998; Hamann & Lucas, 1998; Kratus, 1992; Reynolds & Hamann, 2010; Sample, 1992; Schmidt & Zdzinski, 1993) as the journals for their analyses. Researchers have

determined researcher/journal eminence by citing the numbers of citations (Brittin & Standley, 1997; Hamann & Lucas, 1998; Lane, 2011; Randles, Hagen, Gottlieb, & Salvador, 2010; Sample, 1992; Schmidt & Zdzinski, 1993; Standley, 1984), or by citing the numbers of publications (Brittin & Standley, 1997; Standley, 1984).

While there are studies that have documented eminent research journals, described characteristics of researchers, and reported perceptions about preparation researchers receive while completing doctoral programs, there is a need for a study to provide in-depth information about emerging researcher leaders in terms of how they prepared for their career and how they utilize time and resources in their current positions in order to have continued research success. The purpose of the current study was to describe emerging research leaders' graduate school preparation and current research practices.

Method

The participants in the current study were 13 purposefully sampled assistant and associate professors who had been cited extensively in research articles (Google Scholar Citations exceeding 100) and had served on the *Journal of Research in Music Education*, *Bulletin of the Council for Research in Music Education*, or *Contributions to Music Education* editorial review boards. Assistant and associate professors, documented as those in the most productive research stage, were chosen (Reynolds & Hamann, 2010), although it should be noted that the term 'emerging research leader' was chosen instead of 'research leader' to acknowledge the exclusion of full professors from this study. The standard of a minimum of 100 citations credited to their articles was used as an indicator of research productivity and scholarly leadership. Editorial board members from journals were chosen as an additional documentation of leadership, and the three journals from which board members were sampled were chosen in alignment with the many studies that have cited these journals in studies of eminence in music education.

All professors who met the emerging research leader requirements were invited to participate and all agreed to be interviewed for the study (N = 13). The participants were male

(n = 9) and female (n = 4), assistant (n = 3) and associate (n = 10) professors from 12 states in the United States and Canada, who specialized in instrumental (n = 10), and general music/choral (n = 3) music education. The average age of the participants was 46.69 (ranging from 36 to 68, SD = 9.35), and they had been at their current institution for an average of 7.38 years (ranging from 3 to 15, SD = 3.91), and had been at any previous institutions for an average of 4.85 years (ranging from 0 to 12, SD = 3.36). In terms of personality, 10 participants categorized themselves as self-sufficient introverts (White, 1965), and three noted that they were more like self-sufficient extroverts, benefiting from their interactions with other researchers as a component of their working personality.

The 20 open-ended interview prompts addressed graduate preparation and current research practices (see Table 1 for a full listing of the interview prompts). The graduate preparation prompts (7 total prompts) addressed: coursework (2), out-of-class experiences (2), resources (2), and other pivotal preparation issues (1). The current research practices questions (13 total prompts) addressed: perceptions about research (3), process questions (4), university load (2), balance (1), co-author practices (2), and editorial review board practices (1). Survey research methodology served as the model for data analysis, with frequency counts being used to document the extent of response uniformity, and quotations serving to highlight the context of the themes. It should be noted that for the interview frequency counts, totals may be higher than the number of participants if the participants provided an answer that addressed more than one category.

Table 1. *Interview Prompts*

Graduate Preparation

1. What graduate classes did you take that were research based while you were in your own doctoral work, and do you think these courses were sufficient for your success (if no, what do you think was lacking)?
2. Beyond basic coursework, what were the most important research experiences that you had in graduate school?
3. Based on your past experiences in graduate school, what do you prioritize as experiences that you encourage/provide for your own graduate students?
4. In what ways did your graduate school mentors help you achieve research independence?
5. What were the most important research resources (books, programs, etc.) that you learned about during your graduate work time?
6. What do you think the most important resources are that you use most today that you learned about after your graduate work time?
7. What other preparation issues do you think were important to your current success as a researcher?

Current Research Practices

1. What are your guiding thoughts about your scholarship (Why do you do it) and (To what extent do you enjoy writing research as an intrinsically motivating activity)?
2. What do you see as your greatest strengths in the research area, and what do you think is the key to your research success?
3. What are the goals you set for yourself in terms of research?
4. How do you continue to improve your skills in research?
5. What are any daily issues that may prevent you from doing your research?
6. How do you schedule your research gathering/writing time across a semester?
7. How do you prioritize these scholarly activities: poster sessions, research presentations at conferences, writing articles, and grant writing.
8. What is the teaching/research/service load expectation at your university, and if you had a choice, how would you change your teaching/research/service load weighting?
9. How does research productivity relate to load expectations at your university (i.e., could teaching loads be reduced for those with high levels of research productivity)?
10. How do you balance research and *you* time or family time?
11. What is your co-author philosophy/practice with colleagues?
12. How do you utilize undergraduate or graduate students in your research process?
13. Based on your current practice as an editorial board member, what research skills and knowledge do you think would be beneficial for music education researchers to learn more about or prioritize to a greater extent in their instruction to graduate students?

Demographic questions

1. What is your music content-area specialization (instrumental/choral/general music)?
2. What is your age?

3. How many years have you been at your current institution?
4. How many years were you at other institutions?
5. Would you consider yourself a self-sufficient introvert? Why or why not?

Note: Gender, assistant/associate status, and state demographic data were obtained online

In addition to the interview questions that provided results for the study, participants were also asked five demographic questions. All interview prompts and demographic questions came from review of the literature material and were checked for content validity by a panel of three experts on research who were not part of the current study.

After completing IRB consent forms, each participant was interviewed for an average length of 57.00 minutes (ranging from 39:08 to 85:47, *SD* = 11.71). The interview time totaled 740.96 minutes (12 hours and 35 minutes), resulting in 56.50 hours of transcribing and 196 total pages in the final transcript. Each participant reviewed his/her own interview transcription as a member check. Also, an external evaluator reviewed the coding of the responses within the categories of graduate preparation and current research practices as an authenticity and auditability check (Miles, Huberman, & Saldana, 2014).

Results

Graduate Preparation

All participants noted that they took content courses that used research studies as source material. In addition, participants (n = 12) completed an average of 4.00 (ranging from 2 to 6, *SD* = 1.13) specific research methodology/analysis classes in and out of the music area. The one participant who had no methodology/analysis classes stated that all coursework had embedded research readings and that content was the main goal of the coursework:

> I realized that research methods and advanced modes of inquiry could be easily understood if you are driven to learn and discover on your own. So if I want to learn about how to do linear regression appropriately I'm going to be an independent individual who can pull a book off the shelf or go to the business library and get some materials and learn it on my own.

Three participants had historical research, and nine participants had both qualitative and quantitative research courses. Advocating for comprehensive methodology/analysis course preparation, one participant stated:

> It's clear to me that we can no longer prepare students who are only qualitative researchers or quantitative researchers. They have to have expertise in each of these areas. Even mixed-methods is something to understand and know about these days. If you understand various methodologies, then you can allow the research question to drive the selection of the methodology. And that's different than I think it was when I was a doctoral student. I think all students need to come in and be prepared broadly now in order to be successful.

When asked whether they perceived their coursework as sufficient to prepare them for research in their future, seven participants stated yes and six stated no. Those who stated yes tended to highlight the need for researchers to learn throughout their careers, and those who stated that they perceived inadequacies in their preparation cited weaknesses in qualitative research (n = 3), quantitative methodology (n = 2), historical research (n = 2), research lab experiences (n = 1), and pragmatic ethics discussions (n = 1).

Participants perceived the most valuable out-of-class research experiences to be attending conferences/poster sessions (n = 9), extra projects (n = 6), and co-authoring with a major professor (n = 3). For their own students, they valued having group/lab research experiences (n = 6), having opportunities to do peer review (n = 5), encouraging students to write frequently (n = 5), and encouraging students to present research at conferences (n = 4). All participants believed that mentors had served an important part of their socialization as a faculty member/scholar, using terms should as "encouraging", "pushing", preparing", "practicing", and "finding a passion area to study". A commonly described technique (n = 11) was to practice and then have the students do it themselves, as in "they modeled, modeled, modeled, and then said 'you're on your own'; it was always with a net."

Most participants (n = 10) stated that they still use some foundational resources from their graduate years, but they have added newer, more up-to-date resources over time. Participants (n = 5) specified that technological resources were the most common to be replaced on a regular basis.

Three participants stated that people-as-resources were much more important than any program or book.

The experience that was most commonly cited as pivotal to their own development as a researcher was choosing graduate experiences carefully to maximize the potential to promote a researcher identity (*n* = 7), such as in the following participant quote:

> I think selecting a major professor can profoundly influence your path towards being a researcher. And so, there, I would say we have to select wisely and look for individuals who publish regularly, are well versed in the field, and…this is really key…are more interested in your career than their own, at times.

Participants also documented the following pivotal experiences/traits: perseverance (*n* = 3), being surrounded by bright, motivated people (*n* = 3), hard work (*n* = 2), maintaining a high level of musicianship, and teaching and research skill (*n* = 1), and regularly reflecting on research (*n* = 1).

Current Research Practices

All participants agreed that doing research was an intrinsically motivating activity, because they were curious (*n* = 7), enjoyed the research puzzle (*n* = 4), and loved to learn (*n* = 4). Some participants regretted not having enough time to do the amount of research they wanted to (*n* = 4). Other participants (*n* = 6) noted that they enjoyed research more now and were more motivated than when they first began because they are better at research now (*n* = 3) and have a clear line of research that allows them to move to bigger questions (*n* = 3). As one participant stated, "I learned that the more I write the better I get as a writer and the more things flow, the better ideas get captured on a page, and so that practice really taught me a lot about the right process."

The most commonly cited research-related strength was methodology/design (*n* = 5), followed by idea generation (*n* = 3), writing (*n* = 3), and statistics (*n* = 2). When asked what their key to success was, the greatest number of participants cited the ability to ponder interesting questions (*n* = 7), followed by having a thorough grounding in research methodologies/analysis (*n* = 6), working hard based on parent modeling from their youth (*n* = 2), being mentored well during graduate school (*n* = 2), having practice in writing (*n* = 2), and having a reduced load that allows for the time to do research (*n* = 2).

The most common research goals participants set were to always have multiple projects in various stages (short term and long term goals) (n = 9), followed by having goals be driven by the specific research questions (n = 8), having a line of research that leads to future goals (n = 5), and having studies that can lead to promotion/tenure (n = 3). Three participants noted that their goals were now based on more comprehensive research questions than the questions were when they first began their career. When asked how they improved their research skills, participants cited reading in and out of the field (n = 12), interacting with intelligent colleagues (n = 9), editing/reviewing research studies (n = 8), teaching/mentoring/interacting with intelligent students (n = 6), attending conferences (n = 3), auditing courses (n = 3), and receiving department of education training, attending campus lectures, MOOCs, podcasts, and TED Talks (n = 1 each). The daily issues that were cited as preventing participants from doing their own research were administrative tasks (n = 7), committee work (n = 6), email (n = 5), student projects/advising (n = 5), editing (n = 3), politics (n = 2), and a long commute (n = 1). In addition, one participant discussed the time challenge of serving on a review board by stating:

> Reviewing has helped me grow a lot, but I think if I had to make one choice in the scholarship part of my career, I would have done less of that. I enjoy doing it. I enjoy helping others, but at the same time, all I could contribute, at times, to scholarship, was reviewing.

When asked about scheduling of research work, the participants tended to categorize the easiest time to write as non-teaching times during summers, weekends, evenings, or sabbaticals (n = 9), followed by scheduling around other things as needed, such as teaching and editorial board responsibilities (n = 6). Squeezing in an hour at a time was documented as an untenable option by some (n = 5) although one participant stated:

> When I set a little goal, I can manage to try to do something in the context of an hour or two hours, so I can schedule some smaller chunks for those kinds of things, but invariably there are things that need to happen that consume time. So, I do some small-increment stuff to make me feel good about goals accomplished, but then sitting down to write a paper I could do for hours and hours.

The majority of participants documented the need to have an extended period of time to approach research projects, with the most common protocol being a day or afternoon off at home or away

from the office (n = 11). Avoiding distractors (e.g., phones and emails) was an important part of scheduling (n = 5). The participants set specific goals based on where projects were in the pipeline or when application deadlines were for conferences or papers (n = 9); the goal setting commonly clarified priorities and helped productivity (n = 7). As one participant stated, "what I think you've got to do is not use that 'busyness' that we all have as an excuse to not do research. Somehow you've got to figure it out."

In terms of the dissemination possibilities of poster sessions, research presentations, and publications, the most common perception was that all three were an important part of the development of a project, starting with a poster, leading to the presentation, leading to a publication (n = 10). A publication was commonly viewed as most valuable by the profession and by institutions (n = 9), such as in the following participant quote:

> Looking at it from a promotion and tenure standpoint, publications hold the most weight. But, I see it as a process; a lot of times I'll do a poster and then I'll do a presentation and then I'll publish, and the reason I do that is so I can get feedback from peers about the work prior to submitting it to a journal.

Participants (n = 7) stated that they enjoy the feedback from presentations, such as in the following participant quote:

> A conference presentation really forces you to boil things down and it often helps me decide what the headings are going to be in an article. What are the real key points here and so that helps me organize, plus, I think conference presentation and posters are helpful for getting feedback from peers: things I might not have thought about. To me it functions like peer review in a way.

Some participants stated that they enjoy the interaction/networking and learning from poster sessions (n = 5), although there were dissenting opinions on posters (n = 2), such as in the following participant quote:

> My graduate students are in upright rebellion about poster sessions. They think they are dumb; they're not meaningful; they don't think that they engage people; they feel like they are back in seventh grade science class, and I have to say that I think I'm on the same page. We need a newer model. So, poster sessions I don't do at all anymore.

Priorities may be different at different stages of a career (n = 6); as one participant stated, "I'm most interested these days in publishing articles, and second would be research presentations, and a distant third would be posters, but I think for people who are just getting into it, maybe it

goes the other way." Similar to different research activity priorities at different stages of a career, participants also noted different topic area priorities at different stages of a career. Participants (n = 4) specifically discussed weighing priorities in terms of broad topic areas such as interdisciplinary research. As one participant stated with concern about preparing future faculty, "I think generically, just like I like kids and puppies, interdisciplinary research would be good, but we have to be really careful about it because it doesn't tend to help people get tenure. The interdisciplinary part can be professionally dicey." Another, however, said interdisciplinary research was a positive area at the current stage in his/her career: "I think the interdisciplinary aspect of research for me is really big. It's one way to really understand whatever phenomenon I am interested in."

For most participants, grants were not a common component of their research process (n = 10), other than internal, university grants. The most frequently cited reason for not concentrating on grants was they were hard to find in music education (n = 5), followed by grant writing being a frustrating process (n = 4), and grants being time consuming to write (n = 3). As one participant stated, "My mentor told me early on, 'Do research that you can sustain yourself because if you spend your time writing grants you're not doing research.'"

The stated teaching loads at the participants' universities were 2/2 (or 2 fall classes and 2 spring classes) (n = 5), 3/2 (n = 5), 3/3 (n = 2), and 4/4 (n = 1), but load reductions were made for administrative tasks or overloads were described for assignments such as student teaching. When asked what the ideal teaching load would be, participants most commonly stated that their current teaching load is ideal (n = 5), followed by the desire to: move to a 2/2 load (n = 4), teach other classes (n = 3), lessen administrative responsibilities (n = 3), serve on fewer committees (n = 2), and have fewer independent studies/student projects (n = 2). When asked whether teaching loads could be reduced at their universities due to high research productivity, eight participants said yes and five participants said no. Participants clarified that faculty could make requests for course reductions for special projects through university or administration processes (n = 4), faculty could

request sabbaticals (n = 3), new faculty could negotiate a lower teaching load during the hiring process (n = 2), and faculty could informally ask other faculty to cover classes (n = 2).

When asked about how they maintained balance between their research and time for themselves and/or family, the most common response was having a supportive spouse to help (n = 6), followed by the need to consider priorities, with work sometimes needing to happen at home when deadlines were near, but family being most important whenever they were home and could make it the top priority (n = 5). Participants also stated that they had great focus at work so that they could make time at home about the family (n = 4), and that their research time over the years had become more efficient because they were more practiced and refined at their research skills (n = 4), and that they scheduled research and family activities on a calendar so that they maintained a strategic balance between the two (n = 3). In addition, participants stated that they needed to prioritize space in their schedules for health and wellness so that they could stay active and happy (n = 3). It should also be noted that there were participants who admitted that balance was not at all a perceived strength of theirs and they were constantly struggling with this issue (n = 3).

> With all students we need to talk about life balance. I think my wife, who is also an educator, has to carry the load with our children more than I, and so doctoral students need to be made aware of this issue and its potential impact on their lives, careers, and marriages. If females want to break through the glass ceiling and become lead researchers or university administrators, it's definitely a challenge juggling it all, especially with all of the single or male administrators out there who may not understand.

When asked about their co-author experiences, the participants described a process where the procedural path for the co-authorship decisions were made based on the specific co-authors involved; the most commonly cited protocol choices were to take the sections to write and divide them up to the various co-authors (n = 8) or work organically in a brainstorming-collaborative process (n = 5). Participants (n = 6) stated that working with colleagues has the benefit of providing motivation and a variety of perspectives, and participants (n = 8) stated that working with graduate students serves a mentoring function, with some participants (n = 3) noting that they started their career by being mentored by co-authoring with their major professor. One participant also noted that he enjoys working with more experienced faculty so that he can be

mentored and grow even at this more experienced stage in his career. Co-authors usually linked up by area of interest (n = 5) and personality match (n = 3) and many participants (n = 7) had tended to take the lead in organizing their co-author work.

The challenges with co-authoring were described as agreeing on deadlines and keeping them (n = 3), the researching and writing process taking longer (n = 2), writing style agreement and consistency (n = 2), and the concern that co-authoring may delay the graduation of some graduate students (n = 1). Four participants noted their perceived concern about whether co-authoring is valued by the profession as much as single author work. Overall, participants (n = 9) tended to agree that the benefits outweighed the possible challenges, even with the concerns. As one participant stated about co-authoring and promotion and tenure (P & T):

> I'll be the first to say that I'm convinced my co-authored work is better than my sole author work. How could it not be? I'm all for co-authoring, but it terrifies me because it just takes that one person on a P & T committee to say that this person has co-authored too often and you lose your job.

When providing feedback as editorial review board members, the most common comment the participants wrote was the need to clarify the methodology (n = 7) followed by clarity in the research questions (n = 4), providing a convincing need for the study (n = 4), and improving writing style (n = 3). When teaching their own graduate students about research, the participants prioritized the following concepts: writing style (n = 5), peer critiquing (n = 4), data analysis and statistical concept understanding (n = 4), the extended editing/revising process (n = 4), reading quality articles (n = 4), education on each journal's style and which articles might fit best with which journal (n = 3), and APA style mastery (n = 2).

Discussion

As with any study with a small, purposefully chosen sample, the results should be generalized with caution. The results of the study can, however, provide an initial, exploratory view of emerging research leaders in music education. A description of the path toward research leadership can provide university faculty with choices to weigh in the coursework and mentoring experiences that can be introduced to students.

Participants in the study tended to have taken multiple research methodology/analysis courses in addition to content area courses that used research reading source material. As past researchers have also cited (Eisenhart & DeHaan, 2005; Young, 2001), then, it may be ideal for programs to provide options for students to take a variety of methodology/analysis courses if they so desire. In case students do not partake of research methodology/analysis courses in programs that do not have such courses as degree requirements or options, it may be useful for content courses to address, strategically and systematically, the conceptual understanding of research methodologies and analysis techniques, in addition to covering music education content. That is, it would be important for classes not to skip the method and results sections for ease of reading; in these content courses it may be beneficial for students to discuss the methodological and analysis trends across the studies and ideally the faculty member could provide valuable resources in case the students might need to use and interpret the statistics/techniques in a study at a later time. In terms of class content, past researchers have documented interdisciplinary work as valuable (Eisenhart & DeHaan, 2005; Pallas, 2001), however participants in the current study described contrasting perspectives about interdisciplinary research depending on when in a career it might be undertaken, with later in the career possibly being preferable to earlier.

As found by past researchers (Campbell, 2002; Duerksen, 1992; Duke, 2010; Flowers, 2012; Geringer, 2000; Humphreys, 2006; Jellison, 2004; LeBlanc, 1992; Madsen, 1988; Radocy, 1998; Yarbrough, 1996) mentors were perceived to be important to students' research identity development. Because of the importance of the student-mentor relationship, it may be valuable for doctoral students to be able to choose their own mentor who will be able to meet their personality, content, and research needs.

The participants described research-nurturing experiences as being pivotal, including working with a group of motivated, intelligent people and having research modeled and experienced regularly during their studies. Ideally, universities would have a way for faculty to work together to be an example of cooperative research strength. Universities may also want to

consider adding lab experiences in music education, with other students, or students and faculty, or across complementary content areas such as music and cognition, so students can experience peers and mentors as researchers. The participants in the current study did not document grants as a common research practice, so in weighing doctoral experiences, grant writing may be lower on the list of important activities. Institutions may want to continue to monitor the status of grant requirements in terms of tenure for future doctoral preparation. If grants become more important in the future, music education labs could consider adding grant writing as an embedded learning activity. Then, faculty members would have had some contextual experience with grant writing in a safe environment without the pressures of the tenure time clock.

Encouraging students to attend and present at conferences as well as publish early in their career seemed to be an important developmental process for these participants that could be encouraged with doctoral students as they are progressing through a doctoral degree. Faculty who can highlight behind-the-scenes thought processes of how to search out, choose, and replace educational and research resources when they become obsolete may also help students think through steps that will be useful to them when they become faculty members.

As in past research (LeBlanc & McCrary, 1990), participants in the current study documented similar intrinsic motivations of curiosity, enjoyment, and love of learning; as an extrinsic factor some participants addressed meeting the demands of getting tenure. University faculty members may be able to spot curious, hard-working master's students to guide them into research experiences that would encourage their research outlet and clarify their future career path. For those students in the doctoral program, discussing how to progress through a line of research leading to tenure and presenting options for scheduling research time may put a spotlight on issues that are important to research success, but are commonly assumed as background knowledge instead of being strategically addressed in graduate school. Specifically, faculty could let students know that it might be in their best interests and should not be perceived as negative to take a day off campus for research time each week. Also, discussing the

learning benefits and scheduling challenges associated with becoming a review board member may help students determine the best time and best journal with which to start the editorial review board experience.

It may help educate students about university load issues if contextual information like faculty teaching loads at their own universities were discussed in terms of the variety of responsibilities that can impact time; this type of context may help empower students to be advocates for themselves when it comes time to negotiate for a manageable teaching load if they are considering a faculty line with research expectations. Having discussions about real life balance scenarios may also help students weigh which university might best be able to meet their work and life/family-related needs.

Because co-author experiences were generally considered to be valuable with colleagues and with students, it might be useful for universities to consider curricular additions/modifications to highlight this experience, whether that would be a new class or a specific activity in a doctoral seminar, or an independent study project with a chosen faculty member. Whether curricular or not, co-authoring may be an important topic to broach with students, not only for the experience itself, but to model the ways to approach the procedures for structuring co-authorships. Co-authoring activities could logically include peer/faculty review modeling. In addition, it would be useful for faculty to show students their own articles in various stages of progress; if students could attend poster sessions and research presentations with their mentors, they might get further context of the development of an article so that they could see the timeline and dedication it takes to complete a project.

While curricular changes are sometimes difficult to implement, faculty could approach many of the issues addressed in the current study in discussions with students during pre-existing seminars or independent study classes or even informally over lunches. While some of the topics may seem obvious to seasoned veteran researchers, new faculty members have so many new issues vying for their time, that providing an advance warning/experience for students may help them manage the transition better so that they, too, have the possibility of

becoming future research leaders.

Keywords

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