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Faculty Teaching Improvement: Opportunities Within a Graduate Student & Faculty Community of Practice

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Abstract: Improving higher-education teaching is a growing focus on American colleges. A program was developed to train current PhD students in effective pedagogy practices. The Community of Practice resulted in current teaching faculty pedagogical improvement.

Keywords: Community of Practice (CoP); college teaching; professional development; Qualitative methodology

Introduction

An emphasis on both teaching strategy, as well as research, defines the academic job market (Austin, 2003). Institutions, students and parents are expecting an increase in teaching ability in higher-education (Austin, 2003). Faculty members experience tensions between research and teaching expectations that has characterized professorship at institutions of higher education (Austin, 2002; Lewindowsky & Purdy, 2001). No longer, does research expertise mean that you will be a successful faculty member (Austin 2003).

The literature indicates that a correlation exists between students' expectation of effectiveness in teaching from their faculty and their success in the class (Hoffmann & Oreopolus, 2009) and faculty with both focuses on research and teaching are inconsistent. Preparing effective future faculty is important in the effort to train future scientists and citizens (Committee on a Leadership Summit to Effect Change in Teaching and Learning, 2009; Cuseo, 2007; Mulryan-Kyne, 2010).

Doctoral preparation continues to remain heavily focused on research preparation, with little emphasis on pedagogical practice (Price & Cotton, 2006). Mentoring and Communities of Practice (CoPs) are strategies for individuals to improve teaching practice. The need to prepare future faculty in the Virginia Tech, College of Agriculture and Life Sciences lead to the development of the Graduate Teaching Scholars program.

Program Description

Virginia Tech, College of Agriculture and Life Sciences (CALS) launched the Graduate Teaching Scholars program to support the development of pedagogy skills in PhD students from Departments across the CALS. Scholars are selected to participate in a three-year cohort program. In the first year Scholars observe their mentor teaching. In the second year they co- teach or serve as a Teaching Assistant. In the third year the Scholars serve as Instructor of Record. Scholars maintain their own research responsibilities in their academic departments, while attending a weekly class session on pedagogy with their cohort and completing the Graduate School sponsored Future Professoriate Certificate, which requires nine additional credits of coursework on pedagogy. The Scholars also complete an educational research project. Scholars complete these efforts in coordination with a teaching mentor. The Scholars receive an assistantship that is funded half by CALS and by their home department.

Theoretical Framework

The Virginia Tech Graduate Teaching Scholars (GTS) program was designed around an experiential learning model (Kolb, 2004). This experiential approach is supported by the presence and development of strong relationships (Kolb, 2004). Participants in experiential learning are able to learn from their own and others experiences (Lave & Wenger, 1991). A combination of experience, expertise and relationships in educational practice is supported by a CoP framework (Wenger, 1998). The combination of experience, expertise and relationships in educational practice is organized by the Communities of Practice (CoP) framework.

CoPs are the reification of the theories of social structure, theories of practice, theories of identity and theories of situated experience in the context of social theory of learning (Wenger, 1998). In practice, CoPs are groups of individuals with differing levels of expertise engaging with each other to improve their skills in varying levels of formality. Members of CoPs are people who share a common interest around learning that organize, whether, organically or formally, to fulfill both individual and group goals (Wenger, 1998). This means that CoPs foster best practices over an extended period of time and exist within the real-world that the participants live. CoPs are different from a team because of the ongoing interaction of the participants over a period of time while investigating the same area of interest.

CoPs are defined by having a domain, practice, and a community. A domain is a group of individuals that share common professional or social interests. The shared interest defines the domain, thus not all individuals with the same experience or job title are in a CoP by default (Wenger, 2011). The practice is defined by the development of a shared repertoire of resources.

These resources are things like tools, best practices, and collective genesis stories and artifacts (Wenger, 1998). A community is characterized by a shared commonality and social connectivity to express those commonalities (Wenger, 1998). Without each of these characteristics the group of professionals do not form a CoP rather they remain solely a social network.

Purpose

This qualitative research study evaluated the educational effectiveness and outcomes of a three-year cohort program that aims to develop pedagogical skills in selected PhD students in the College of Agriculture and Life Sciences at Virginia Tech. The overarching research purposes were:

1. Determine what aspects of GTS has an impact on Scholars
2. Identify impacts that the GTS has had on the Scholars' teaching practice, and
3. Identify attitudes and perceptions held by Virginia Tech CALS faculty and Department Heads regarding GTS.

The researchers previously reported the findings of the program evaluation (Elliott-Engel & Westfall-Rudd, in press). The emergent themes from this study are reported by the authors in this paper.

Methods

Focus-groups and semi-structured interviews were conducted with program participants that came from three different populations: current Scholars (n=5) and alumni Scholars (n=5), faculty mentors (n=4*), and administrators (n=5*). The asterisk denotes that an interviewee had been both a faculty mentor and serves as a Department Head. Table One Study participants shows participants engagement with the program. The total number of study participants was 18. Experience by the Scholars ranged from having completed the first year in the program as a current participant to having graduated the program and working in their current position for almost a year. Experience by administrators and mentors also ranged from tangential connection to serving as both an administrator supporting the program and serving as an administrator. The three populations were used to give structural corroboration to the study (Creswell, 2013).

Audio recordings were transcribed verbatim. Transcripts were line-by-line open coded without theoretical sensitizing concepts (Creswell, 2013). Codes and themes were reviewed by another researcher to achieve inter-coder agreement (Creswell, 2013). Codes

and analytical memos were then used to develop themes until saturation was reached (Creswell, 2013).

Table 1. Study Participants

Assigned Name	Relationship to the program	Gender	Ethnicity
David	Mentor	Male	Caucasian
Shannon	Mentor	Female	Caucasian
Karen	Mentor	Female	Caucasian
Max	Mentor & Department head	Male	Caucasian
Tim	Department head	Male	Caucasian
Daniel	Department head (Interim)	Male	Caucasian
Charlotte	Department head	Female	Caucasian
Laura	Administrator	Female	Caucasian
Samantha	Alumni	Female	Chinese
Kristin	Alumni	Female	Caucasian
Molly	Alumni	Female	Caucasian
Sarah	Alumni	Female	Caucasian
Grant	Alumni	Male	Caucasian
Pam	Current Scholar	Female	Chinese
Brad	Current Scholar	Male	Native American
Peter	Current Scholar	Male	Caucasian
Samuel	Current Scholar	Male	Caucasian
Jose	Current Scholar	Male	Hispanic

Results

The purpose of the research was to evaluate the programs effectiveness to prepare future faculty. Study participants recognized growth in a wide range of pedagogical skills of the Scholars (Elliott-Engel & Westfall-Rudd, in press). These growths were attributed to the program strengths, while weaknesses were illuminated as strategies to increase that growth (Elliott-Engel & Westfall-Rudd, in press). Strengths of the program included: a three-year program design, weekly sessions, experience direct teaching, research component, and mentors. Areas of improvement included: a need for effective and consistent feedback, the mentor role and

responsibilities needed to be clarified for the faculty mentor and the participants, and, more balance between the theoretical and practical teaching application in the weekly class (Elliott-Engel & Westfall-Rudd, in press). Beyond the evaluation results, three themes emerged (Charmaz, 2014; Creswell, 2013) from the data.

Development of a Community of Practice

GTS was not designed with the intention of being a CoP. The participants and mentors expressed that they had experienced the main components of a CoP: a common domain, shared resources to improve their practice, and developed positive social relationships over-time. The intended domain was around improved teaching. The domain the Scholars identified were teaching, social-science research, graduate school and becoming a future faculty member. This lead to the shared Practice to be although primarily around improving teaching, also about surviving graduate school, conducting research, and the job search. As Molly said, "*My best research buddies are in that program*." She went on to explain that she was sharing resources and that as a group they were helping each other. All of the Scholars expressed that they were engaged in the process of sharing resources formally and informally. The Scholars and mentors too identified that they were sharing best practices but primarily around teaching.

The strongest dimension of the programs CoP is the development of the relationships that inform the Community. Many relationships even continued even after the program was completed. As an alumni Scholar stated "*those are pretty life-long friends. That is permanent*." That describes the relationships fostered among participants. Faculty and Scholars did not express the same level of relationships. Those relationships were described primarily in professional terms. Faculty viewed their relationships with their advisees as close but still in a professional mentee role, and the Scholars ranged in their assessment of the relationship as having a lot of time spent with their mentee, but that it was not an overly friendly relationship.

The one mentor who had graduated a Scholar talked highly about their closeness through the program, but had not kept that relationship up after the program had ended. Scholars at all levels of participation, from completing their first year to alumni status, talked about their strong peer relationships.

The CoP components contributed to Scholar learning. Scholars attributed their learning in the program to the regular discourse that occurred within the regular-weekly meetings among their peers and the conversations and side-projects that occurred outside of the program. They also reported that they have, or would, continue to rely on their cohorts for continued professional growth after graduation. The learning objectives of improved teaching strategy could not have been achieved without the social component the expanded support for Scholars in their doctoral program and early career would not have been achieved.

Preparation for a Career in Academia

Preparation for a Career in Academia describes the tension that program participants experienced between research and teaching requirements. Being a Teaching Assistant was not enough preparation to become an effective lead instructor. Feeling the responsibility of the students needs and classroom management was important for developing teaching efficacy. The mental emphasis that teaching took when instructing, and the responsibility that comes with being the instructor of record, lead administrators and Scholars to perceive Scholars as being prepared for careers in academia, at least far more prepared than the mentors and administrators felt for careers in academia.

The Scholars communicated a clear tension between their research and teaching requirements. These tensions were both about time and mental energy. The time tension was generated from their home departments emphasis on research and publication and the juxtaposition that they felt placed in because they were emphasizing teaching. The Scholars identified that when they were put in the role of instructor that it took a lot of mental energy. It was not just the preparation of the course materials and preparing for the instruction of class, but it was also the responsibility that comes with being the instructor of record. The instructor of record responsibility brings student communication, grading and overall classroom management to the Scholar. Having the experience of the responsibility was appreciated, however, the Scholars were clear that the responsibility was taxing to their time and energy, and it limited their ability to perform their research expectations.

Scholars while participating in the program and emphasizing their teaching responsibilities they continued to keep half an assistantship in their home department and continue their own research towards their dissertation. The Scholars are expected to make progress on both research and teaching. Many Scholars relayed feelings of being asked to give twice the effort because their home department continued to expect the same level of research output as their peers, while the Scholars also have a growing teaching commitment. An alumni Scholar, Sarah stated that *"This is what we are expected to do, we will need to do it in the real world."* The mentors and department heads supported the Scholars in their assessment, acknowledging that Scholars were having to do quite a bit more in their preparation because the program was so intensive. However, they also expressed support that the Scholars were experiencing the full-faculty experience because of the tension between research and teaching.

Current Faculty Pedagogy Improvement

Current Faculty Pedagogy Improvement was acknowledged by both Scholars and mentor faculty members. Mentors all talked about their lack of previous formal preparation on teaching and that the Scholars were getting training they wish they had, therefore they were gleaning ideas from

their mentee. Molly said "having the mentors… involved is serving junior faculty, [GTS is] really enhancing the teaching practices of everybody at Virginia Tech." The mentors expressed that the Scholars were providing them new pedagogical approaches and new strategies. Max said

> I got to hear a little bit about pedagogy which was, I mean, I can be a Scholar myself and go and learn things. But, there is a lot of stuff that I can't do and don't have time to do, I don't wanna say that if forced me into doing it, because I really embraced it, but, it gave me the opportunity to hear dialogue and uhm, I think it made me a better teacher.

Shannon also reiterated that she was gaining pedagogical efficacy from watching her mentee teach. She said

> I, think that, she is always, she has a ton of different techniques of this kind of activity and this little thing, and I have learned, oooooh oh okay, is a GREAT idea, and she really has been helpful in instituting those in the lab in terms of…, let's add this little piece toit, let's add this little thinking puzzle piece, and so I have certainly picked up a lot of tricks from her. And, so I think …it has also been interesting and helpful for me to watch her learn how to teach

The mentors expressed appreciation and interest in the Scholars who were implementing strategies in the class. David illuminated this when he said

> last year when [the Scholar] was my TA, and I knew she was going to be teaching it this past year, I wanted to give her… a little taste of teaching, so I gave her like 2 weeks to teach, and she was much better than me in terms…. of engaging the students in activities and so I talked to her about that… ya know, again given my age, I'm more from the kinda lecture format which is pretty stale and boring, for the current generation, probably any generation (laughter). She was much … better at breaking the class up into little segments. I am going to adopt some of that myself

The mentors attributed observing new pedagogical practice from their mentees and looking forward to applying new strategies in their class instruction. In each cases the mentors expressed appreciation and respect for the teaching abilities of the Scholars, and from that respect there could be mutual sharing. The Scholars relaying theory and strategy, while the mentors share experience in classroom management and content.

Implications & Recommendations

The development of positive and long-term relationships within the cohort, and among the many individuals involved in the program, is important for enhanced learning and development of efficacy. The cohort served as peer support during the program, but also into the beginning of

their careers. More research needs to be done to explore how the development of a informal support network at the terminal degree granting institution impacts the future faculty members teaching and research efficacy and prolificacy, which are indicators of pre-tenure faculty members (Austin, 2002).

The faculty mentoring relationship was important for the participant, and also had the unplanned outcome of improving pedagogical knowledge and practice of the mentor faculty. Faculty continue to have a lack of training in pedagogy (Austin, 2002; 2003). Approaches like this program which has utilized mentorship programs and formal or informal CoPs to cross student and faculty boundaries can be implemented to magnify efforts to improve higher education teaching. These efforts should not to be limited to solely preparing future faculty, but also to have ripple effects of increasing pedagogical knowledge and praxis in current faculty members.

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