A Cross-Institutional Collaborative Model

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Abstract
In this duoethnography, a narrative framework is used to present the perspectives of members of a cross-institutional collaborative working group of mathematics education researchers. This article provides an example of an organic professional community group that integrates diverse interests and common goals. The analysis identifies characteristics of the working group which can be applied to other collaborative organizations in academia.

Introduction
As with any field, the professional development needs of mathematics education researchers are a unique challenge to fulfill. In addition, there may be one or only a handful of such researchers in a department navigating through these challenges in their isolated situation. Such is the case for the researchers who formed the Mathematics Education Research Group in North Texas (MERGiNT). The eight contributors represent four research and teaching universities and all stages of academic careers, from new faculty to full professors. Members have taken different routes to the mathematics education field - some with doctorates in Mathematics and others with doctorates in Mathematics Education. Some members are housed in the College of Education while others are in the Department of Mathematics. Only one institution has more than two members in the group. As such, this group was formed to address the varying backgrounds and experiences as well as the sense of isolation, providing support and mentoring from colleagues in the same field. Many professional organizations for accreditation and teacher preparation recognize the importance of collaboration and have included it as part of their standards or goal/mission (e.g., National Council for Accreditation of Teacher Education, 2006). By collaborating, we are engaging in a best practice with which our students are expected to be familiar.

We found that our collaboration also mirrors the goals of mentoring programs for new faculty. Since university faculty must balance responsibilities in teaching, scholarship and service, while sometimes dealing with feelings of isolation, mentoring can especially help junior faculty acclimate and adjust to higher education (Savage, Karp, & Logue, 2004; Cory, Dawkins, Eddy, Epperson, Quebec Fuentes, Gawlik, Jones, Jorgensen, Mallam, Ward, & Wheeler, 2010). Mentors in the same field as the junior faculty, in this case mathematics education, can provide additional support and knowledge specific to the field. Many members of MERGiNT are the only mathematics education faculty at their university and need to seek mentors in their field outside of
their institution. Due to the limited literature on cross-institutional collaboration, the formation of MERGiNT is a critical addition to this research area.

The existing literature on collaborative research groups assisted MERGiNT members in defining the process of forming a group to develop professionally (Cory et al., 2010). In particular, collaborative models of professional learning communities, distributive leadership and university/K-12 partnerships were influential (Brown & Littrich, 2008; Hord, 2009; Robbins & Cooper, 2003; Savage et al., 2004; Whitby, 2006). MERGiNT’s model of cross-institutional collaboration has characteristics of a collaboration usually seen in K-12 education, called professional learning communities (PLC). Members come together to engage in meaningful activities, “to develop shared meanings, and identify shared purposes related to the topic” (Hord, 2009, p. 41). In accordance with Hord (2009), MERGiNT dedicated a predetermined time and location for meetings and rotated among the members’ institutions. This also reinforces the idea of distributed (or distributive) leadership that Whitby (2006) and Brown and Littrich (2008) discuss as a way to share responsibility and workload as well as increase ownership and engagement. Rotating locations and meeting on a regular basis allowed MERGiNT members to construct a “space for shared professionalism” (Robbins & Cooper, 2003, p. 225).

Kezar (2006) suggests that collaborations such as MERGiNT come into existence so that members can share resources or increase efficiency and effectiveness. In this narrative, we present our reflective perspectives on MERGiNT, in our own words, to illustrate the group’s evolution, our purpose for joining and the ongoing benefits.

**Methods**

To analyze our different perspectives about the working group, we used duoethnography which “is not looking for universals but rather examines how different individuals give both similar and different meanings to a shared phenomenon” (Given, 2008, p. 235). By representing and analyzing multiple viewpoints, readers can situate themselves and their unique circumstances within the construct of a mathematics education research group. To tell our stories, each member of the group wrote a personal narrative. We created a set of guiding questions about who we are, how we entered the field of mathematics education, why we joined the working group, and what benefits we have derived from our participation. The questions were not designed to dictate the direction of the narrative but were meant to stimulate the writing process.

The personal narratives were analyzed using the constant comparative method (Given, 2008). One of the researchers initially examined the data identifying categories. Then, using these categories, along with an additional researcher, recoded the narratives. All of the members of the working group read the manuscript as a form of member-checking to ensure accurate depiction of each individual’s perspective.

**Findings**

The characteristics of our collaborative working group arise from our narratives under two major themes: reasons for joining the working group and benefits of participating in the working group. Members’ reasons for joining include being a member of a community, developing collaborations, and receiving support in scholarship. The benefits of being a part of the working group (discipline, critique and feedback,
encouragement, tangibles, and mentoring) are directly related to the reasons for joining. The themes are described using our voices with the intention that readers will recognize themselves and their situation. (Note that all names are pseudonyms.)

Reasons for joining the working group
Members of the working group wanted to be a part of a community of scholars who share common interests for different reasons. For example, Unna, whose formal educational background is in pure mathematics, wrote: “Because I did not have formal training in mathematics education research, I always feel a bit like an outsider to the field. ... Prior to joining MERGINT, I felt a need to be better connected in the mathematics education research community – to know more people, and to see more perspectives.” Despite being part of a broader research community, Keith, an associate professor, still sought a more localized community: “My experience and connections in the mathematics education research community are quite broad; however, I often have wished for a local community of researchers who could provide a support network in various areas from research design to navigating professional challenges as a faculty member.” Developing a localized community enabled us to interact on a regular basis, as compared to nationally-based communities, such as professional organizations which meet annually.

Several members elaborated on the need for having a community in their particular field of research. Keith expressed: “In MERGINT, I thrive on having a community of researchers and colleagues who truly understand the unique challenges in our field.” Zoe, a new faculty member, noted that being a member of the working group eased her isolation: “I am the only full-time mathematics educator in the Department of Curriculum and Instruction. ... Joining MERGINT ensured that I wouldn’t feel like I was alone in my research efforts ... potentially to find[ing] someone with whom I share interests so that we can push each other ahead and be productive with our research agenda.” Tanya also acknowledged the limitations of support from people outside of her field:

As a new tenure-track faculty member at my university, I received support in my transition from my colleagues. However, since I am the only mathematics educator in the College of Education, there are limitations to the guidance that I can be given. Therefore, an important part of my adjustment to a new position was making connections with other mathematics educators.

David had a fellow mathematics educator in his department; however, his colleague's interests were in secondary and post-secondary mathematics education: “So with my focus on K-8 mathematics education, my interest in joining mathematics education research groups stemmed from finding colleagues who shared my specific research interests and have more experience publishing it.” Although we are surrounded by researchers (e.g., mathematicians, science educators, etc.) in our respective departments, these views delineate the importance for us to interact with fellow researchers in our field on a regular basis.

In addition to finding a community of scholars who share common interests, the working group is also an outlet for collaboration. Danielle expressed that developing collaborations was one of her reasons for joining the working group: “As the only mathematics educator at a large university, I sought opportunities outside of my university to collaborate and receive support from other mathematics educators.”
Similarly, Keith wanted to increase his potential collaborators: "I also hope to expand my circle of collaborators and to find ways to derive strength from our numbers." Unna specifically identified the type of collaborator she was seeking: "My hope was to connect with potential collaborators whose strengths complement mine." Zoe also saw her participation in MERGiNT as an opportunity for collaboration: "When David invited me to join MERGiNT, that confirmed that I would be in a better situation because not only would we make an effort to collaborate with one another, but I would also have the opportunity to work with mathematics educators from other institutions, making the experience that much richer."

Over time, the collaboration within the working group has become twofold. We support each other on our individual projects as well as collaborate on projects together. Tanya notes the dual role of the collaboration: "The group not only assists me in my individual endeavors, but has also engaged in new projects. MERGiNT has transitioned from being supportive of my personal projects to additionally being productive on collaborative endeavors." The community that has developed has enabled different types of collaboration to exist as summarized by David: "As our community has taken shape, I have enjoyed seeing more specific, concrete and short-term goals emerge in support of everyone's individual goals, which have in common a thread of collaboration."

One of the aforementioned individual goals pertains to advancement of scholarship. Dana noted her need for support in this area: "New to higher education, I chose to join a mathematics education research group to be a part of a collaborative team that would assist in my publishing goals." Danielle, who was approaching her tenure decision, mirrored Dana's thoughts: "My interest was in successfully publishing my research." Unna expressed the desire to learn how others have shared their research: "Since I am tenure-track, it has been very helpful for me to hear how others have presented their mathematics education activities to best reflect their scholarship." Since requirements for tenure and promotion include substantive scholarship evidence, receiving support in this realm addresses this strong need and provides a crucial part of our professional development. The unique situations of each member surface in their various reasons for belonging to a mathematics education working group.

**Benefits of Participating in the Working Group**

The benefits of being a part of the working group reflect how we set up our working group. We have monthly face-to-face meetings designated for informal conversations and discussions about our manuscripts, each of which at least one member of the group has critiqued in detail. The feedback on manuscripts includes guidance on article content and form as well as potential outlets for manuscript submission. Unna describes the benefit of having the regular meetings: "The MERGiNT meetings give me the opportunity to formally set aside time each month for those informal professional conversations." Tanya highlights how the structure of the meetings provides her with discipline: "By sharing our manuscripts, I am encouraged to write on a regular basis and am provided with feedback from someone in the same discipline." Xiaira also writes about the benefit of receiving feedback: "The critiques of my writing from MERGiNT members and the dialogue at our meetings have been beneficial as I prepare manuscripts for publication." Dana describes the process of providing support with manuscripts as one of the goals of MERGiNT: "In the year I have been a member, I feel
there has been a clear vision to help each other edit manuscripts we hope to send for publication.”

Through critique and feedback of each other’s work, members provide invaluable encouragement, another common theme throughout the narratives. Tanya expressed how she did receive encouragement: “The other members of the group provide support for me in the area of scholarship by sharing their knowledge of and experiences with the writing process from idea inception through publication.” Danielle agreed: “I received energy and encouragement from the group.” Unna believes that the encouragement enabled her to be productive with her research agenda: “The monthly opportunity to have manuscripts reviewed by MERGiNT colleagues has been a strong motivator to move forward on projects that have languished.” Xiaira expressed that she wanted encouragement to remain a critical component of the working group: “It is my goal that MERGiNT members continue to encourage each other to publish and conduct collaborative research.”

In addition to the tangible benefits with respect to our individual goals, we have also been productive on our collaborative projects, presenting at a conference and writing this paper. Unna wrote about our conference presentation: “The accomplishment of publishing a refereed proceeding article with the MERGiNT group in our first year was incredibly rewarding.” Danielle expressed the need for the dual goals of individual and collaborative projects: “Quickly the function of the group needed to move beyond being a manuscript reviewer. ... I believe this is occurring through presentations, research, and writing. Future possibilities include collaborations on grant funding.”

A final benefit was that through MERGiNT we were all able to find mentors in our field. The role of the MERGiNT mentor varies. The obvious mentors were senior faculty, Keith, David and Xiaira, who shared their expertise with pre-tenured faculty. David and Xiaira also served as mentors by recruiting new faculty members into MERGiNT. However, depending on the situation, unexpected mentoring roles exist. Although David was recently promoted to full professor, he “socialized more quickly into the research environment in mathematics” and expressed his desire to work with colleagues who have experience with mathematics education research. Danielle views herself as a potential mentor: “As I go forward in the tenure process, I see my role changing to being more supportive of new faculty who are navigating their way at their university to make tenure.” Like Danielle, all of us will ideally become mentors to new faculty as a result of our experiences in the working group where our roles continually shift between mentor and mentee, depending on our needs.

Conclusion
Development of a community comprises one of the key components for our working group. Based on our professional needs, we sought out mathematics educators from local universities with an understanding of the unique aspects of our field. The community has not come naturally; members of the working group have had to make a commitment to establishing a community and contributing to its continued existence. Evidence of our commitment unfolds by regularly attending monthly meetings, providing manuscript feedback, and contributing to collaborative projects. Establishing goals for our working group is a second critical component of our collaboration, as Danielle wrote: “A true collaboration happens when there are common goals.” Initially,
we viewed the working group as a source of support for our individual research. However, we later determined that this single goal could not sustain this group and decided to incorporate joint work on collaborative projects as a second goal. Our experience with delineating our goals and then making adjustments to those goals supports the notion that goals and purposes for a successful working group will evolve over time. Although our working group is specific to mathematics education researchers, the characteristics involving the formation of a community with shared goals apply to other collaborative groups and provide an example of an organic professional community group that integrates diverse interests and common goals.

References


