Beyond Copy Room Collaboration: A Case Study of Online Informal Teacher Professional Learning

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Abstract: With the ubiquity of social media and the access to information instantly, teachers, like the rest of society, are turning to the internet for support. This study investigates how a public Facebook group mediates contextually relevant professional learning. Using a qualitative case study research design, a Facebook group tailored to mathematics education is analyzed based on 1) how group members share knowledge, and 2) the use of discourse structures to support professional learning.

Teaching is a dynamic profession with many factors influencing change and growth. There are new standards every decade, new students every year, and new technology adopted before full integration of old technologies. Teachers must regularly develop to keep up with change. Unfortunately, when teachers reflect on their professional development, only 25% report satisfaction with what their schools offer (Gates Foundation, 2014). They are dissatisfied with the insufficient time included for professional development during the school year, and the content of professional development is not contextually relevant (Gates Foundation). To combat inadequate development, teachers look outside of their school for learning opportunities.

Teachers often enter online environments to find professional learning opportunities. They are finding communities where they can participate in critical reflection of their practice, learn about new methodologies, access experts outside their personal network, and develop their teaching identity through discussion (Macia & Garcia 2016). Through these virtual interactions, teachers are expanding their social network, finding connections to professional learn communities, and combating isolation often felt in their day-to-day practice. When reflecting on professional development opportunities for teachers online, when do we know learning is possible? Ball and Cohen (1999) emphasize teacher learning occurs when discourse is centered in teacher practice, learning activities consist of investigations of teaching practice, and learners engage in intentional professional discourse structures. Using the characteristics outlined by Ball and Cohen, this paper seeks to better understand the discourse structures available to teachers within online environments.

Methods

This research project is approached using a qualitative revelatory case study design (Yin, 2003). A revelatory case study is used to illuminate the interaction among a group of individuals that have rarely been studied or have not been examined through the current theoretical lens. The case study is intended to illuminate detailed examples of discourse among teachers within a public Facebook group intended to support mathematics education.

The group used in this study, is a public Facebook group intended to support mathematics teachers. All posts, comments, interactions, and member activity were collected in October 2016, which was 39 months of activity for the group. There are 1476 original posts to the group, which included 5950 comments. With the intention of looking for instances of teacher's help seeking, the data set was initially partitioned into questions and non-questions. Questions posed by members were indicators of a member's desire to tap into the collective knowledge of the group and are used for this analysis.

Findings

Four discourse structures were identified during the coding process and are detailed in the cases below.

Case #1: Provide desired help – Collecting online math games. The first type of discourse observed was in direct response to what was requested. Interactions that fall in this discourse category provide the teachers with exactly what they asked. A majority of the responses are short and directly tied to what is requested, rarely do individuals ask clarifying questions of the requester. This discourse structure often occurred when an individual requested a list of resources such as the following teacher, *"I am writing a P.D. on Math Games to support Learners. What might be some good online games that support a more constructivist pedagogy? Thank you!"*

Case #2: Reframe help – Deficit-minded request. The second discourse structure occurred when ideas offered by group members is not what the requester asked for, but rather, it is what the community feels the requester should have requested. Requests such as *"I teach 7th grade math at a small private school. This class scores very low in number sense. I would like to find an appropriate assessment that I can administer periodically to measure their growth in this area. Any suggestions?"* produce discourse structures that attempt to reframe help. The responder, after evaluating what has been requested, decides to offer an alternative piece of knowledge that

can meet the same outcomes desired by the requester. In the above example, members join the discussion to reframe how the teacher is addressing building number sense and both recommend not using assessment, but rather use activities that have students practice these skills. While this interaction only includes three individuals, it highlights how the community quickly responses to a deficit-minded comment and reframes knowledge that they want to share.

Case #3: Challenge help - Deconstructing a Common Core standard. The third type of professional discourse move that occurs within this public Facebook group includes instances when group members challenge or debate the requester's, or other responder's, ideas. Often times in these interactions, the challenger, along with highlighting what is wrong, will also provide a countering idea to help redirect the conversation, as in the reframing move. The challenge move often results in a debate among multiple members of the group. In one post, the original requester is looking for help with aligning his old teaching practice with the new requirements of Common Core. The requester provides how he has taught the concept in the past, the teaching idea that he would like to enact moving forward, and also a case that might cause his new idea not to work. The thread starts with many responders agreeing with him and sharing his frustration. Then, a challenger highlights that many respondents are providing shortcuts to teaching simplifying expressions without teaching conceptual understanding. His challenge is countered by two other members who believe that their way of teaching helps students "read" the mathematics. The debate lasts for 12 comments.

Case #4: Collaborative help – Building understanding of a resource. Collaboration between members was the final type of professional discourse move observed within this public Facebook group. This interaction occurred when individuals worked together to build a common understanding of an idea. It could be that an individual asked a clarifying question of a previous responder, or they could provide additional information to develop a better understanding of a previous proposed idea. One interaction between five individuals as they discuss enrichment activities for elementary mathematics exemplifies this discourse pattern. One respondent offers an activity by brand name including that they use it with students to make the mathematics visible. Following this response, another member joins the conversation and agrees with the resource and mentions that they enjoy using the app on the iPad. The first responder did not know an app existed and reflected that it would be a great activity to use on an iPad. This is an example of how the community collaborated to build a more complete understanding of a resource.

Conclusion

Through this case study of a public Facebook group focused on mathematics education, interactions among group members provide opportunities for professional learning. The final characteristic of teacher learning, and the focus of this study, highlighted by Ball and Cohen (1999) reflected that the interactions among members of the group should sustain professional discourse. Questioning, investigating, analyzing and criticizing are types of discourse that are reflective of a community of teacher learners. These discourse moves provide a learning environment that is centered on thoughtful discussion, which allows for individual reflection and co-construction of knowledge. With only 25% of teachers satisfied with the current professional development offered by their schools, online collaboration platforms, like the Facebook group studied, can become places where teachers network together virtually to build communities of learners. The findings of this study highlight the existence of informal teacher learning online providing proof that teachers can find their own professional learning opportunities outside the confines of school offered professional development.

References

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