

Teaching Community Networks: A Case Study of Informal Social Support and Information Sharing among Sociology Graduate Students

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Abstract

Despite the prominence of teaching in academia, we know little about how graduate students learn to teach. We propose the concept of a teaching community network (TCN), an informal social network that facilitates the exchange of teaching-specific resources. We explore the role of TCNs through a case study of a sociology doctoral program at a large state university. Results reveal that students rely heavily on informal ties within the graduate student community and existing formal programs to share teaching-related resources (e.g., information and social support) and develop their identities as instructors. We suggest that graduate programs facilitate TCNs through formal teacher-training programs and structural conditions that encourage informal, one-on-one interactions (e.g., shared offices). By cultivating TCNs, graduate programs can assist students in developing their teaching skills and identities as instructors, thus training students to balance the demands of research and teaching within an academic culture.

Keywords

graduate student professionalization, social networks, communities

Teaching and conducting research are the two primary requirements of an academic career. Graduate school serves as the most important initial socializing force by providing the opportunity to learn the skills of a teaching scholar. Balancing the roles of researcher and teacher is a demanding task yet one that is crucial to master for future professional success (Austin 2002; Austin and McDaniels 2006). About 75 percent of sociology PhDs work in academia (American Sociological Association 2006), and many graduate students balance some type of teaching responsibilities with their course work while in graduate school (Austin 2002; Austin and McDaniels 2006). Despite the prominence of teaching in the lives of academics, many graduate students are not formally taught how to teach (Pescosolido 2008; Richlin and Essington 2004), which is

a skill that is crucial to the development of their professional identities as teachers and scholars. We explore this aspect of graduate student professionalization.

We expect that graduate students develop informal mechanisms, such as one-on-one supportive relationships or informal teaching groups, to replace or supplement any available formal teacher-training

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opportunities. Our research is influenced by the sociology of the college classroom, which connects sociological concepts and theories to issues related to teaching and learning (for a discussion, see Atkinson, Buck, and Hunt 2009). That is, we use sociological research on social networks and communities to inform our understanding of the ways in which graduate students learn how to teach. Informed by these literatures, we propose the concept of a teaching community network (TCN), an informal social network that exchanges teaching-specific resources, such as information and social support. We explore this concept through a case study of sociology graduate students at a large state university. Specifically, we gather closed-ended and open-ended survey data to explore the presence of a TCN and investigate the structure, origins, and types of resources exchanged. By fusing sociological and teaching research, we are able to view graduate student professionalization through a unique and more dynamic lens while exploring the implications of a TCN model.

LITERATURE REVIEW

Social networks and teaching/learning communities are important for graduate education because they provide a potential support system for students, may help reduce attrition, and encourage cooperation over competition among graduate students (Cox 2004; Egan 1989; Gaff 2002; Lovitts 2001). Furthermore, integration into the graduate program through structured opportunities, faculty mentoring, and peer support facilitates professional socialization (Davis, Bissler, and Leiter 2001; Keith and Moore 1995). As Rau and Heyl (1990:144) note, "isolated students do not learn as much or as well as students who are embedded in a network of informal social relations." A recent American Sociological Association brief (Spalter-Roth et al. 2010) highlights the limitations of teaching alone and suggests that social networks decrease isolation among instructors and increase social capital. In the academic setting, the department or university serves as a broad, formal structure for the social network, while interactions between instructors or graduate students compose informal community network ties. Therefore, we draw from the concepts of social network and

community to conceptualize a TCN and to explore teaching-specific resource exchange among a collection of sociology graduate students.

Learning in Context: The TCN

We suggest that graduate students learn how to teach through TCNs, or networks of individuals with common interests or obligations to teaching. In our conceptualization, a TCN of graduate students is narrower than the broader network of graduate students at a university. Nested within the formal university structure, a TCN likely has links to formal teaching programs at the department and university levels that help graduate students develop teaching skills, engage them in teaching-specific discussions with their peers, and build a bridge between graduate training and professional life (Adler and Adler 2005; Pescosolido 2008). However, many departments with doctoral programs may not have access to formal teacher training. Therefore, we propose that TCNs also contain informal teaching communities and/or mentoring relationships, which may benefit graduate student socialization and professional development by creating a culture of collaboration, connecting isolated graduate students, and establishing networks for those pursuing pedagogical issues (Austin 2002; Austin and McDaniels 2006; Burger and Buskens 2009; Cox 2004; DuFour 2004; MacDonald 2001). Glowacki-Dudka and Brown's (2007) findings suggest that even in the presence of formalized training opportunities, informal groups may emerge to provide additional support and mentoring and to encourage a dialogue around teaching and learning. Thus, formal teacher training and informal teaching groups may complement one another at multiple levels, creating TCNs for graduate students as they learn how to teach.

Despite the presence of formal and informal teaching groups, we believe that members of a TCN do not necessarily have to participate in either of these types of groups to form network ties. Instead, their teaching relationships may develop through one-on-one interactions with fellow students who teach. Therefore, we suggest that members of a TCN have more in common than simply being graduate students at a common university or department. Rather, TCN members are

learning how to teach as well as how to balance teaching with other tasks, and therefore their network interactions and exchanges are teaching specific.

The combination of informal and formal ties within a TCN also provides a strong foundation for resource exchange (Bankston and Zhou 2002; Lin 2002). Sociologists refer to the resources exchanged within a social network or community as social capital (Lin 1999, 2002; McDonald, Lin, and Ao 2009). In this study, we focus on two primary types of resources—social support and information.

We define social support as emotional care, intellectual reassurance, or another type of companionship (Wellman and Wortley 1990). Social support is most commonly exchanged between strong ties, such as those formed informally (Uehara 1990; Wellman and Wortley 1990). Information can take the form of tips, advice, or informal knowledge about teaching and is important to a community network because possessing information can lead to greater professional success and higher status in a social network (Burt 1997, 2004; Coburn and Russell 2008). Information can be transferred between strong ties but is also commonly transmitted through weak ties (Granovetter 1973, 1985; Lin 2002; Portes 1998), which are more likely found through formal groups. Social support and information serve as resources that may be particularly important in an environment like graduate school where students learn how to balance teaching and research responsibilities within a network of both strong and weak ties. Therefore, a more diverse network with a wide range of ties based on a shared interest in teaching may help students learn to balance their responsibilities and also alleviate strain through the exchange of support and information (Erickson 2003).

To summarize, we identify a number of traits that we believe are associated with TCNs and review the types of resources exchanged. First, we suggest that both informal and formal groups are involved in TCNs. Second, individuals cluster in networks based on shared qualities or interests and may create smaller communities of stronger ties within that broader network. Finally, all types of ties can provide resources to one another, but for-

mal, weak ties are more likely to exchange information while informal, strong ties are more likely to provide social support.

Motivation and TCN Context at North Carolina State University (NCSU)

Austin (2002) and Austin and McDaniels (2006) both recognize that graduate student professional development is contextual and occurs within specific institutions and disciplines. “Disciplines vary in the research questions, methods, and scholarly outcomes that are valued, the relationship between teaching and research, and the patterns of interaction among scholars” (Austin and McDaniels 2006:398). Although disciplines such as science, technology, engineering, and mathematics are more likely to possess large-scale grants for equipment and graduate student research positions, fields outside of science, technology, engineering, and mathematics—such as sociology—are more likely to fund doctoral students via teaching responsibilities (e.g., supporting faculty teaching or independent teaching). Therefore, sociology departments in which graduate students are particularly involved in teaching provide an ideal opportunity to explore how graduate students learn to teach.

Because this study is exploratory in nature, we focus on a case study of a sociology graduate department with a particular emphasis on graduate student teaching. The sociology department at NCSU, for example, has a number of special features that involve graduate students in the teaching process and therefore serves as an informative exploratory case study regarding the potential role of TCNs in facilitating graduate student instruction in teaching.

First, sociology graduate students at NCSU are highly involved with undergraduate education and have a great deal of autonomy in course planning. Of the 74 sociology graduate students in the department, approximately 95 percent work with undergraduate classes, either as teaching assistants or as instructors of record, at some point during their time in the department. As instructors of record, doctoral students have a great deal of autonomy. They choose their own textbooks and readings, design their own syllabi, and create their

own lectures and activities. Typically, classes taught by sociology graduate students have enrollments of about 40 undergraduates. Because nearly all students participate in teaching in some fashion, teaching is a commonly shared experience in the sociology graduate student community at NCSU.

Second, the department is connected to a number of informal and formal teaching groups. Informal teaching groups are housed within the department, as graduate students create and lead various interest groups about teaching. Formal teaching groups are department-specific (e.g., an elective graduate class on how to teach sociology), university-wide (e.g., a teacher-training program for instructors in a first-year program and a university program that provides a special certification in teaching), and interinstitutional (e.g., a teaching certification program that allows training opportunities at other universities; see Jones, Davis, and Price [2004] for a discussion). An additional department-specific distance education (DE) teaching circle began formally and now functions informally as a graduate student–led online group that shares DE-specific resources.

Because of the emphasis on teaching in sociology graduate programs, we conduct a case study that explores the existence, formation, perceived outcomes, and perceived utility of a TCN among sociology graduate students at NCSU. Graduate student instructors' autonomy and teaching experiences in this department, as well as the availability of informal and formal teaching groups, provide an interesting case study on the existence, formation, purpose, and utility of TCNs. Yet the department is not unlike those in other PhD-granting universities in that faculty tenure and promotion are heavily dependent on research productivity (NCSU 2010). While our case study is nested within a particular institutional and disciplinary context, we hope to identify emergent themes regarding TCNs that scholars can later investigate within other settings and across disciplines.

Hypotheses

To address how graduate students learn to teach, we draw from the literature on social network theory to develop the concept of a TCN. We suggest the following broad research hypotheses to guide our exploration of TCNs:

1. There is a TCN at NCSU that is defined as narrower than the broader university or departmental community (due to its teaching-specific focus) and consists of both informal and formal teaching groups (see Figure 1A).
2. A TCN originates from preexisting ties within the broad graduate student network as well as those within informal and formal teaching groups (see Figure 1B).
3. A TCN facilitates the exchange of social support and information sharing among graduate students (see Figure 1C).

METHOD

Data and General Procedure

Data were collected from sociology graduate students at NCSU. We obtained approval from the university's institutional review board (project number 1882) to conduct this study and collected informed consent from each participant. To maintain anonymity and confidentiality, we did not collect names, e-mail addresses, or demographic information (e.g., gender, age, year in program) that could potentially identify the respondents. Graduate students were contacted via e-mail on a department-specific sociology graduate student listserv with information about the aims of the study and a link to the online informed consent and survey. Students had the option to skip any question they did not wish to answer. Of the 74 students currently enrolled in the sociology graduate program, 52 students consented to the study, yielding a 70 percent response rate. The sample size varies for both the closed-ended and the open-ended portions of the survey, depending on the applicability of the questions and the willingness of the respondent to provide responses.

Measures

The survey consists of closed-ended and open-ended questions regarding students' communications about teaching-related topics and participation in informal and formal teaching groups. We begin by asking students to report what they do if they have a question about a teaching-related topic. Options include the following: consult written resources (e.g., books, Web sites) about teaching, talk to a fellow graduate student, talk to a faculty member, never have questions about teaching, and don't know. Students have the option to check all

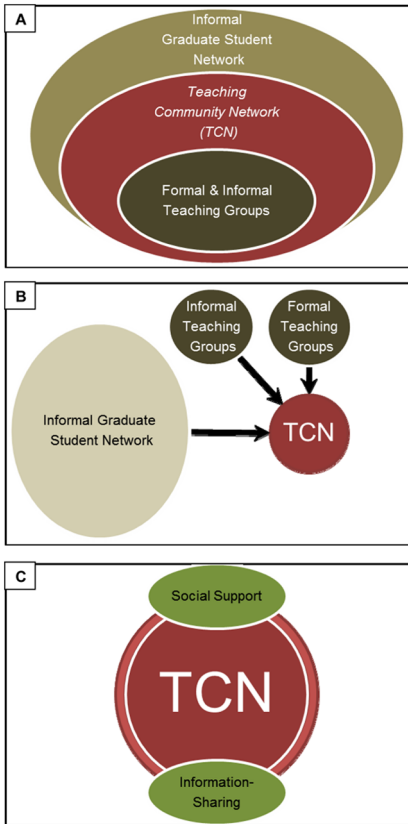


Figure 1. Hypothesized structure, origin, and function of a teaching community network

responses that apply and also to write in a response not listed. To assess teaching-related interactions in more detail, we ask students to consider the person they most recently and most commonly interact with about teaching-related topics and to rank how close they are to that individual using a Likert-type scale ranging from 0 = *not close at all* to 4 = *very close* with an option for *not applicable/don't know/refuse*.

Students are asked how they typically communicate with other graduate students about teaching-related topics and select all of the responses that apply from the following: while participating in formal teaching programs at the department and university level, in-person conversations outside of formal teaching programs, and electronic communication (e-mail, Facebook, etc.). Students have

the option of writing in a response or indicating that they do not know or that they do not communicate with other graduate students about teaching-related topics.

To assess participation in formal and informal teaching groups, we ask students if they have “participated in a formal teaching program while enrolled as a graduate student at North Carolina State University (e.g., teacher-training program for instructors teaching first-year students, special certification in teaching provided by a university program, etc.)?” and “participated in any informal teaching groups while enrolled as a graduate student at North Carolina State University (e.g., interest group or support group)?” We also collect data on the types of resources exchanged in these relationships. Students are asked to reflect on the last time they initiated a teaching-related discussion with another graduate student and the last time a fellow graduate student initiated a discussion about teaching with them. In both cases, students indicate the topic of discussion. Responses are not mutually exclusive, measure information sharing (e.g., recommendations for readings or activities and information or clarification about teaching policy/norms), and measure social support (e.g., emotional support about a teaching-related problem or stress and sharing a positive teaching experience). Students have the option of writing in a response, indicating that they do not know, or indicating that they have not initiated a discussion about teaching with another graduate student or that a graduate student has not initiated a discussion about teaching with them.

Finally, we explore open-ended questions about students’ experiences in these interactions. We ask students to indicate how often, on average, they initiate a discussion about teaching with another graduate student and how often another graduate student initiates a discussion about teaching with them. Furthermore, students are instructed to “Please think of the person or group of people that you most commonly contact to discuss a topic related to teaching. How did a teaching-related relationship originally develop with those individuals?” For students who indicate they participated in formal teaching groups and also formed relationships through those formal groups, we ask, “Explain how these relationships originally formed,” “Describe to

what extent you currently utilize these relationships for teaching-related purposes,” and “Describe any suggestions you might have for better facilitating the formation of teaching-related relationships in these types of programs.” For students who indicate they participated in informal teaching groups, we broadly ask, “Describe your experience with informal teaching groups.”

ANALYSIS

Before beginning descriptive analysis, we coded all closed-ended and open-ended survey items. The coding process for closed-ended survey items was straightforward, and we retained the original categories from the survey. For open-ended survey items, the first and second authors systematically and independently reviewed responses, identified emergent themes, and created codes based on those themes. We began this process with the first author’s reading through open-ended survey responses and identifying major themes. The second author reviewed the same open-ended responses, separately identified major themes, and critically examined the themes identified by the first author.

The first and second authors compared and discussed the identified themes and generated a list of coding options. For example, the first and second authors explored responses to the question, “Please think of the person or group of people that you most commonly contact to discuss a topic related to teaching. How did a teaching-related relationship originally develop with those individuals?” One response indicated, “Just being in the same office and later through social activities.” This response was coded 1 for two categories, officemates and acquaintances. Another respondent indicated, “They are in the same office and they are friends,” which was coded 1 for officemates and friends. Other responses, however, were less clear and required further discussion. For example, three other responses to the same question included, “We are roommates. We began discussing teaching as a part of everyday conversation regarding our day”; “Through discussions about how their day is going, or in discussions about what they are currently working on”; and “Informal discussions at the bar.” The first and second

authors discussed the differences between the friends and acquaintances codes, concluding that for many responses the distinction was unclear. Therefore, the authors decided to collapse these categories to friends/acquaintances. Because sharing an office was consistently mentioned separately from friendship or social activities, the authors kept the officemates category distinct from friends/acquaintances. Other separately coded responses, such as “teaching same class” and “similar teaching styles” both indicated interactions based on similarity, or homophily, in the daily teaching experience and were thus also collapsed to reflect this commonality. This reviewing, theme-identifying, categorizing, jointly discussing, and jointly recategorizing process continued for all open-ended survey items, resulting in a coding scheme for every open-ended question that was systematically generated and approved by the first and second authors.

With a coding scheme in place for all closed-ended and open-ended survey responses, the authors continued with their analysis of the data set by tabulating the percentage of respondents in each category for each of the survey items used. In other words, the authors generated descriptive statistics of closed-ended and open-ended survey responses (see Table 1). Next, the first and second authors went back to the original open-ended responses (i.e., not coded) and examined each person’s responses across all survey questions. This allowed the authors to gain a broader picture of each respondent as a whole rather than simply to analyze his or her response to one separate question at a time. This method allowed the authors to identify an additional set of emergent themes. Specifically, individuals’ responses to questions about the initiation of teaching conversations, experiences in informal and formal teaching groups, and the types of resources exchanged in teaching groups, taken together, indicated different teaching-related goals and perspectives. Three groups were identified and coded: (1) respondents seeking teaching-based information (information-seekers), (2) respondents still seeking teaching-based information and also seeking to develop a teaching-based identity (identity-seekers), and (3) respondents seeking to maintain a teaching-based identity (identity-maintainers). We thoroughly review qualitative examples

Table 1. Descriptive Results for Closed-ended and Open-ended Questions, Grouped by Hypothesis (in Percentages)

Closed-ended Questions	Frequency	Open-ended Questions	Frequency
Hypothesis 1: There is a teaching community network at North Carolina State University that is defined as narrower than the broader university or departmental community and consists of both informal and formal teaching groups.			
When you have a question about a topic related to teaching, do you (check all that apply) . . .	(n = 47)	On average, how often would you say that YOU initiate a discussion about teaching with another graduate student?	(n = 41)
Consult other graduate students	98	Daily	10
Consult written resources	72	Weekly	37
Consult faculty	47	Monthly	37
Other (Internet, students, outside department)	17	Situational	17
How do you typically communicate with other graduate students about topics related to teaching? (check all that apply)	(n = 44)	On average, how often would you say that another graduate student initiates a discussion about teaching with YOU?	(n = 41)
In person	100	Daily	2
Electronically	73	Weekly	54
Through formal programs	32	Monthly	32
Other (social settings)	7	Situational	12
Please think about the person(s) that you most commonly communicate with about topics related to teaching. How close would you say your relationship is to that graduate student(s)?	(n = 44)		
4) Very close	45		
3)	32		
2)	18		
1)	5		
0) Not close at all	0		
Hypothesis 2: A teaching community network originates from preexisting ties within the broad graduate student network as well as those within informal and formal teaching groups.			
Have you participated in a formal teaching program (e.g., teaching class, PFF, or certificate in teaching) AND/OR have you participated in any informal teaching groups (e.g., interest group or support group) while enrolled as a graduate student?	(n = 45)	Please think of the person or group of people that you most commonly contact to discuss a topic related to teaching. How did a teaching-related relationship originally develop with those individuals?	(n = 39)
Formal groups	53	Friends/acquaintances	69
Informal groups	33	Officemates	46

(continued)

Table 1. (continued)

Closed-ended Questions	Frequency	Open-ended Questions	Frequency
Participated in both formal and informal groups	20	Teaching same class/similar teaching styles	23
		Same cohort	15
		Graduate course on teaching sociology	13
		Through faculty	8
If you (participated in a formal teaching program while enrolled as a graduate student), did you form any teaching-related relationships through those programs?	(n = 25)	(If you participated in any informal teaching groups while enrolled as a graduate student), please describe your experience with informal teaching groups.	(n = 14)
Yes	64	Student-led groups	79
No	36	One-to-one groups or with friends	21
		Distance education teaching circle	7
		If you (participated in a formal teaching program while enrolled as a graduate student) and you (formed teaching-related relationships through formal programs), please explain how these relationships originally formed.	(n = 15)
		Graduate course on teaching sociology	67
		Through university-level programs	20
		Graduate program in general	13
		Through teaching assistantship	7

Hypothesis 3: A teaching community network facilitates the exchange of social support and information sharing among graduate students.

Please think of the last time YOU initiated a discussion about teaching with another graduate student. What was that discussion about? (check all that apply)	(n = 44)	(If you participated in any informal teaching groups while enrolled as a graduate student), please describe your experience with informal teaching groups.	(n = 14)
Recommendation or information about teaching	70	Share resources	64
Social support	34	Provide social support	36
Share experiences	30	Negative experiences	14
Have not initiated discussions	2		
Other (scholarship of teaching and learning project)	2		

Table 1. (continued)

Closed-ended Questions	Frequency	Open-ended Questions	Frequency
Please think of the last time a fellow graduate student initiated a discussion about teaching with you. What was that discussion about? (check all that apply)	(n = 44)	(If you formed teaching-related relationships through formal programs), please describe to what extent you currently utilize these relationships for teaching-related purposes	(n = 15)
Recommendation or information about teaching	57	Share resources	73
Social support	52	Provide social support	53
Share experiences	27	Still utilize, but unclear how	13
Other (serve as guest lecturer)	2	Utilize other people	13

Note: With the exception of *yes/no* and 0 to 4 responses, response categories presented here are not mutually exclusive. To streamline the table, "don't know" categories are not presented, and skip patterns are presented as simplified questions. PFF = Preparing Future Faculty.

of these group distinctions in our Results section. To explore these three groups in more depth quantitatively, we conducted bivariate analysis of responses to key variables by group (see Table 2).

RESULTS

The Existence of a TCN

In Table 1, we provide descriptive statistics for all relevant closed-ended and open-ended survey items and categorize our results thematically by hypothesis. To explore the existence of a TCN (see Table 1, Hypothesis 1), we explored respondents' preferred sources of teaching-related information, preferred methods of communication, closeness to the people they communicate with about teaching, and frequency of communications related to teaching. Although most students (98 percent) report that they consult fellow graduate students when they have a teaching-related question, a proportion also consult other sources. For example, 72 percent consult written resources while 47 percent consult faculty. A small portion (17 percent) indicated that they consult other sources such as the Internet, their own students, and people outside of the department. Discussions about teaching occur on a fairly regular basis, with approximately half of students indicating weekly teaching-related discussions with other graduate students. Nearly half of students

report being "very close" to those they most commonly communicated with about a teaching-related topic. Graduate students mostly communicate in person or electronically about teaching-related questions, with only about one third communicating directly through formal programs.

Origin of TCN Ties

Next, we investigate the origin of TCN ties by examining respondents' participation and experiences in informal and formal teaching groups (see Table 1, Hypothesis 2). More than half of the sample participated in formal teaching groups, and nearly a third participated in informal groups. Only 20 percent participated in both formal and informal teaching groups. When asked how their most commonly used teaching relationships originally developed, 69 percent of students who provided responses reported that these strong TCN ties originated from preexisting social relationships (e.g., friends/acquaintances), typically from within the department. Sociology graduate students at NCSU "spend a good chunk of their time involved in teaching so teaching becomes a regular topic of discussion." Relationships were also formed through structural components of the graduate program. For example, 46 percent described strong TCN ties as originating from spatial proximity in shared offices, and 15 percent indicated relationships formed through their cohort.

Table 2. Selected Descriptive Results, Grouped by Perspective on Teaching (in Percentages)

Question	Information-Seekers	Identity-Seekers	Identity-Maintainers
Participation in teaching groups	<i>n</i> = 27	<i>n</i> = 13	<i>n</i> = 3
Formal groups	44	69	100
Informal groups	15	69	33
Participated in both formal and informal groups	7	46	33
Formed teaching relationships through formal teaching groups	42 (<i>n</i> = 12)	89 (<i>n</i> = 9)	67 (<i>n</i> = 3)
Why you initiated teaching-related discussion	<i>n</i> = 27	<i>n</i> = 13	<i>n</i> = 3
Recommendation or information about teaching	85	46	67
Social support	39	31	67
Share experiences	19	54	33
Formation of most commonly used teaching relationship	<i>n</i> = 24	<i>n</i> = 12	<i>n</i> = 3
Friends/acquaintances	71	58	100
Officemates	46	42	67
Teaching same class/similar teaching styles	13	33	67
Same cohort	8	17	67
Graduate course on teaching sociology	4	33	0
Through faculty	8	8	0

Note: With the exception of yes/no, response categories presented here are not mutually exclusive. To streamline the table, “don’t know” categories are not presented, and skip patterns are presented as simplified questions.

A total of 23 percent indicated that the sociology graduate students whom they most commonly talk to within the department have similar teaching styles or teach the same classes. As one student noted, “we knew each other well before our teaching-related relationship began, but have grown closer both professionally and personally as a result of our shared interest in teaching.” Another student “started teaching the same class the same semester, for the first time” with a fellow graduate student.

Out of those who participated in formal programs, 64 percent formed teaching relationships through these programs. Yet respondents were less likely to report those formal groups as the source of commonly contacted (strong) ties (e.g., when asked about the source of most commonly contacted TCN ties, only 13 percent mentioned a formal group). Although formal teaching groups are not a prominent source of commonly contacted TCN ties, when asked specifically about ties formed through formal groups, respondents indicate that they formed teaching relationships through the graduate course on teaching sociology (67 percent), followed by

university-level programs (20 percent), the graduate program in general (13 percent), and then through teaching assistantships (7 percent). Qualitatively, students describe the elective graduate course on teaching sociology as a place where they “developed relationships,” “worked together,” and “shared their experiences” and a more general setting for less experienced information-seekers. More specifically,

The teaching class was partly a way for us to recognize each other as people interested in teaching. In-class demonstrations of activities or techniques led me to later ask questions about those activities or techniques of the people who presented them.

I enjoyed spending class time talking with other grad students about teaching. It wasn’t that I didn’t know who these people were, just that because of those classes, I now know more people who are interested and

passionate about teaching, and that I can talk to them about questions I have.

We talked about teaching strategies in the teaching soc class. Generally the class dealt with several general topics but I came to see the people in the class as fellow grad students interested in teaching so I felt comfortable approaching them with topic or concerns. Sometimes it was just to ask if they had any favorite activities for a given topic etc.

Resources Exchanged in the TCN

Following our exploration of informal and formal teaching groups, we attempted to document the types of resources that students exchange within their TCNs by exploring questions about the content of their teaching-related discussions, their experiences in informal teaching groups, and their current utilization of ties originally formed through formal groups (see Table 1, Hypothesis 3). Two thirds of the sample initiated discussions for information sharing, while only one third initiated discussions for social support or sharing a teaching-related experience. In contrast, slightly more than half of the sample indicated that other graduate students initiate discussions with them for information and/or social support. Nearly one third of the sample reported that other graduate students initiate discussions to share teaching-related experiences.

Respondents draw on both formal and informal groups for teaching-related resources. Of respondents who participated in formal teaching groups, 73 percent currently utilized those ties for information sharing, while 53 percent utilized those formal ties for social support. For example, a student who participated in a university-level teacher-training program sought advice from the director and indicated that “she has observed my teaching. She has also given me feedback on papers related to the scholarship of teaching and learning.” Another student who completed the departmental course on teaching sociology described the relationships formed through this course as ones where “we exchange ideas and provide support for one another. Should I be sick, or unable to attend class, I know they would help me. I consider them one of

the most important resources informing my teaching.” Others were more general in their descriptions, indicating that they use ties from formal teaching groups primarily for “suggestions for activities or feedback about how activities worked in each other’s classes.”

Informal groups are also associated with information sharing (64 percent) and social support (36 percent). The following two examples are illustrative of students’ experiences with informal teaching groups:

I would get together with a couple friends at a coffee shop and we would hear each other’s teaching issues out, recommend ideas/activities, clarify policies, etc.

I exchange activities and syllabi with a number of other graduate students in the department—this is very informal. However, I work with a small group of people to talk about problems and challenges we face as sociology teachers. We also share activities, ideas, inspiration and plan on working on future publications together as well.

Although a majority of respondents indicated that informal groups were useful for resource exchange, some students described informal teaching groups as less helpful. For example, one student wrote, “This was a little intimidating to me, just because, again, I had not actually taught yet,” and another student said the usefulness of the informal teaching groups “is often very dependent on . . . how much teaching experience you have.” Others noted that they “found it somewhat helpful, but not helpful enough that I wanted to keep attending. It was too formal for me to feel as if I could just ask or share anything, but not formal enough to have credibility” and that they “thought it was interesting and informative, but it wasn’t consistent.”

Emergent Group Distinctions

Unexpected patterns emerged through the examination of the closed-ended and open-ended survey questions as a whole that illustrated graduate students’ socialization into their teaching role.

Specifically, one group of students (63 percent) primarily sought basic teaching information; we refer to them as information-seekers. Another group (30 percent) also seeks information but indicates a more intensive, personal connection to teaching. We designated these students as identity-seekers. The remaining 7 percent of respondents in the sample appear to have teaching-centered identities already and are primarily concerned with continuing to cultivate and maintain those identities. Thus, we designated these students as identity-maintainers (see Table 2).

Information-seekers indicated that they needed "suggestions for activities" and "practical teaching advice." Yet information-seekers had the lowest participation in both formal and informal teaching programs. They were more likely than those in the identity-seeking and identity-maintaining groups to initiate discussions with other graduate students about recommendations or information about teaching. They often initiated discussions due to a "general interest in teaching strategies and topics" and were more likely to "gather information" about teaching rather than contribute because they see themselves "as still in the learning process." Information-seekers described informal graduate student teaching groups as not being very helpful to students with less teaching experience, using words and phrases such as "intimidating" and "too formal for me to feel as if I could just ask or share anything." Some respondents' comments suggested students may feel alienated from informal teaching networks that emphasize a teaching identity over the practical application of teaching. One felt "a small number of people present were more interested in bragging about their . . . ideologies than communicating practical teaching advice in an affirming way for all students," and another reported that others were "judgmental" of those who are "trying to figure out surviving teaching."

Identity-seekers (30 percent) were still accumulating teaching-related information (e.g., resources and activities) but referred to teaching in a different manner than did information-seekers. Identity-seekers were just as likely to initiate discussions with other graduate students about teaching-related experiences as they were to initiate discussions about recommendations or other teaching-related information. They had high participation rates in both formal and informal groups, with nearly half of

identity-seekers participating in both types of teaching groups. They sought out other graduate students "interested in teaching" and often disseminated information to others. For example, one student described, "The last time she stopped by I gave her a book I used to use for the course she is now teaching and we discussed how to integrate a concept from this book into an exercise she was going to do with her class." These respondents also reported discussing a wide array of information-related and identity-related topics such as "technique," "formal training," "pedagogy," and "philosophies" in their interactions. Identity seekers were aware that "the usefulness of these [informal teaching groups] is often very dependent on where you are at in the program, who is doing them, and how much teaching experience you have." As such, they desired more formalized teacher training such as "something along the lines of a mentorship, where during your first year or term teaching a course you have to work collaboratively with another graduate student who is teaching that course and has taught it before" or a "first year teaching seminar."

Of our sample, 7 percent appeared to have already integrated teaching into their personal and professional identities and thus were pursuing identity maintenance within the TCN. These responses indicated an identity-based connection to the subject of teaching, which structured the types of ties and resources they sought. While identity-maintainers indicated participation in formal and informal teaching groups, their strongest teaching relationships were with officemates or friends from the sociology graduate program. Identity-maintainers described seeking professional and emotional support from individuals who possessed the following traits: "a teacher-scholar," "published extensively on teaching," "are committed to and enjoy teaching," and "are interested and passionate about teaching." For this group, general information about teaching was not the primary resource sought. Rather, they connected based on "their shared interest in teaching" and perceived commitment and passion for teaching. Therefore, although the distinction between identity-seekers and identity-maintainers was subtler than was the difference between information-seekers and identity-seekers, identity-maintainers emerged as a group with a developed sense of teaching identity and thus negotiated their TCN ties and resources accordingly.

DISCUSSION

The Presence of a TCN

Our findings from the closed-ended and open-ended survey questions provide support for the existence of a TCN among sociology graduate students at NCSU. Furthermore, this TCN was based on peer interactions between graduate students. Nearly all respondents reported that they consulted fellow graduate students in one-on-one interactions. Most respondents described themselves as “very close” to the graduate students with whom they discussed teaching most recently or most commonly. However, the structure of the TCN was different than we expected. Although we hypothesized that informal and formal teaching groups were nested within the TCN (with some but not all of the students participating in these types of groups), we did not conceptualize these as relatively separate entities in our original model (see Figure 1A). In the TCN studied, informal and formal teaching groups appeared to operate separately, with some students participating in both types of groups (see Figure 2A). Informal groups appeared to operate more casually on the fringe of the department, were loosely organized, and were difficult to sustain, whereas formal groups were more structured and consistent. Of course, it is possible that students who did not participate in any type of group and thus may have been less integrated into the TCN chose not to fill out survey questions, resulting in a sample that was biased toward students who were integrated in a TCN.

Broad TCN Origins

Where do TCN ties originate? We found mixed support for our second hypothesis. While students did report some involvement in informal groups, this TCN appeared to originate primarily from preexisting ties in the broad sociology graduate student network and from formal teaching groups. Although formal group ties did not constitute a significant source of commonly contacted (strong) TCN ties, they continued to be a source of weaker TCN ties that facilitated information exchange and social support. This finding is consistent with established social network research that suggests weak ties promote diverse information sharing (Granovetter 1973). Thus, we revised our model to reflect these nuances (see Figure 2B), and we explore the characteristics of formal groups in the next section.

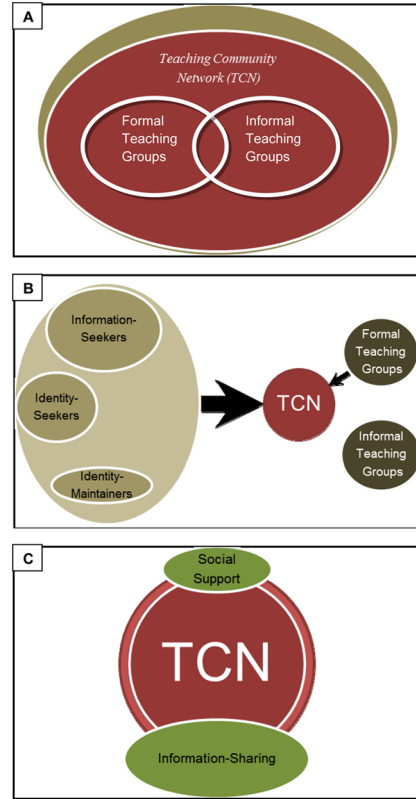


Figure 2. Revised structure, origin, and function of a case study teaching community network

Formal Teaching Groups and the Exchange of Information and Support

Although we found support for our third hypothesis that this TCN facilitated information sharing and social support, the majority of the TCN interactions were motivated primarily by information sharing. Interesting to note, informal groups not only were used for social support as existing research suggests (Uehara 1990; Wellman and Wortley 1990) but were used primarily for information sharing. In addition, it is important to note that formal teacher-training programs are not required for doctoral students in this department and that the graduate course on teaching sociology is an elective. Furthermore, students are more likely to take the course on teaching sociology when they are seeking basic information and/or trying to find their teaching style, while the informal groups seem to

involve students from multiple levels of experience who may already be familiar with teaching basics. Based on our findings, we adjust our model to illustrate that information is the most common resource exchanged in the TCN (see Figure 2C).

Differing Perspectives and Goals about Teaching

We did not hypothesize the gradient distinction between information-seekers, identity-seekers, and identity-maintainers in our conceptualization of TCNs and found this to be an important nuance to consider in our revised model (see Figure 2B). Because this was a case study of a particular TCN, other TCNs may differ in terms of the proportion of students in each group or the exact nature of the distinctions. These findings, however, are consistent with Adler and Adler's (2005) description of the professional socialization of graduate students into academic sociology. They state that

for those who did not find teaching a calling, they dissociated from the role, distanced themselves as teachers, and played up the rhetoric that they were primarily scholars who had to teach to keep their jobs. For most, though, this transformation signified that they had arrived, that they were genuine, and that they had a position that their relatives could understand. (Adler and Adler 2005:21)

Therefore, TCNs at other institutions and in other disciplines may also yield emergent distinctions based on students' teaching goals, experience, and subsequent identity development.

Although the differences between these groups in our TCN may be driven by experience and the types of resources sought, differences were perceived by members as largely ideological. Information-seekers described the participants in the informal teaching groups as "pretentious" and regarded teaching as "a spiritual awakening." This feeling may have arisen because information-seekers were still learning teaching basics and thus may have been overwhelmed by the approach of identity-seekers and identity-maintainers. Identity-seekers and identity-maintainers were less direct in their assessments of information-seekers but

sought teaching relationships based on "passion," "interest," and those who "take the craft seriously," indicating that they may have viewed information-seekers as having less serious interest in or passion for teaching.

Consistent with research on homophily (e.g., McPherson, Smith-Lovin, and Cook 2001), which describes a tendency of social network members to form ties with those most similar to themselves, the divisions between those who primarily seek information and those who clearly are embracing their teaching identities suggest that members of the TCN flocked toward like-minded and like-experienced individuals. This division played out not only in the general sociology graduate student body but also within informal teaching groups and, to some extent, formal teaching groups. In this manner, students' perceived ideological divisions, in turn, may have reinforced the dual homophily. Social ties originally formed through students' needs for information versus identity may have developed into ideological divisions, which were then reinforced through friend circles (Klepper et al. 2010). Although the observed differences between information-seekers, identity-seekers, and identity-maintainers may be due to years in the graduate program, levels of teaching experience, and faculty mentoring, these distinctions may also have arisen from different intended career paths. For example, students desiring positions at research-intensive universities may seek only basic teaching skills, as they must learn to cultivate both teaching and research/publishing expertise while in graduate school. On the other hand, students seeking careers at teaching-oriented institutions may be more likely to emphasize the development of the craft of teaching skills and teaching as an identity.

In this way, students planning to pursue a teaching-based career path versus a research-based career path may display different versions of professional preparedness in informal teaching groups. Haas and Shaffir (1977) identify a process they refer to as "cloak of competence," in which students in professional schools present behaviors and symbols that indicate expertise through their network interactions, thereby legitimating their professional identity. Identity-seekers and identity-maintainers may enact this process within informal teaching groups, which may intimidate students

with less teaching experience. Although our study focuses on teaching-based interactions, information-seekers planning to pursue a research-based career trajectory may very well present a research-oriented cloak of competence in their community networks of informal research groups.

ATCN MODEL

Other institutions seeking to foster a TCN should focus on both structure and culture by providing formal training opportunities, providing appealing workspaces where students come into the office to work, and encouraging social networking opportunities for students so that they are fully integrated into the department. Our findings indicate that informal, peer-led groups are not always the most supportive environments for less-experienced information-seekers, may be a site of conflict, and (perhaps as a result of these features) do not endure in the long term. In contrast, formal groups led by faculty might be more of an equalizer and appear to be related to TCN formation, unlike informal groups. Formal groups come with a basic level of credibility, potentially reducing within-network conflict, and are more likely to be attended by information-seekers (who also compose the majority of our sample). For example, the DE teaching circle within the department began as a formal group of individuals who were less experienced in a particular teaching method (online DE) and who later continued as informal connections facilitating DE-specific resource exchanges. While Hutchings (1996) describes teaching circles as comprising faculty members, the DE teaching circle brought together faculty and advanced graduate students in a collaborative group with a common goal of gaining the skills needed to teach DE. Teaching circles such as this may serve as an “ideal type” of professional development group that facilitates the formation of a TCN (Atkinson and Hunt 2010). Students report a similar phenomenon with the graduate course on teaching sociology.

Formal groups, such as seminars on teaching, may encourage the development of TCNs by emphasizing cooperative activities. If one of the goals of a class is the creation of a TCN, students may be more likely to recognize the value of such networks and seek them out independently. When students are given the opportunity to share their

own skills and competencies, they identify others who have valued information. Departments can also encourage TCNs by providing resources and specific tasks of interest. For example, at NCSU, the DE teaching circle originated when resources were made available to develop DE versions of courses. Departments might encourage other information-seekers to come together to learn specific teaching approaches or to develop content courses. Universities often provide resources to those willing to create course content that meets general education requirements. Those resources could be distributed to graduate students willing to work together to meet these specific goals.

CONCLUSION

We acknowledge that this study is limited by the sample size, is from a specific department from a single institution, is not randomly selected, and provides only a cross-sectional slice into students' teaching relationships and expectations. However, a number of interesting patterns emerge that we believe can provide important insight into how to design models that facilitate TCNs at other institutions. Specifically, in a community where teaching is common among individuals with a range of teaching experience, there is high demand for information sharing. Sharing of teaching-related information is best facilitated through one-on-one interactions of choice or within formal teaching groups at the department level led by faculty. We encourage departments to create formal opportunities for information sharing, which then often lead to informal groups of students with similar needs. Finally, our research illustrates how sociological concepts and theories can inform our understanding of issues related to teaching and learning (Atkinson et al. 2009) and provides us with a stronger foundation on which to build TCNs. With these circumstances and recommendations in mind, we believe that TCNs can be cultivated to offer a sociologically relevant support system for graduate student instructors learning how to teach.

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