A Qualitative Investigation of Mentor Experiences in a Service Learning Course

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Abstract

Mentoring is often considered a gift of time and resources that a mentor gives to a mentee. However, research suggests that mentoring has benefits specifically for the mentor. This study analyzes written reflections of twenty-five mentors who took part in a National Science Foundation-funded program that encouraged middle-school girls to engage in math and science. To implement the program, the service learning course utilized college-age mentors enrolled in a 300-level course about middle-school adolescent development. Qualitative analyses revealed several themes from the mentors' experiences: valuing the setting, awareness of culture, negotiating group dynamics, affirmation of abilities, and career guidance. Implications for future research include intentionally measuring perceived mentor benefits as part of program evaluation.

Keywords: mentoring, service learning, single-sex education, science education

A Qualitative Investigation of Mentor Experiences

Mentoring is most often considered a gift of time and resources a mentor gives to a mentee. However, research has suggested that mentoring holds benefits specifically for the mentor. For example, students who served as chemistry mentors performed better in their courses and enrolled more often in subsequent chemistry courses (Amaral and Vala 2009, 630–33). In general, research suggests that acting as a mentor enhances skill

development (Jackling and McDowall 2008, 447–62) and that effective mentoring includes knowledge and skills (Bullough 2005, 143–55). A mentor assumes and serves many roles, which might include acting as a teacher, role model, coach, and confidant (Semeniuk and Worrall 2000, 405–27; Sullivan 1996, 226–49). Such relationships can be limited, especially among adolescents, when the role of mentor becomes rigid. Therefore, a strong mentorship program can strike a balance between serving as a source of inspiration and as a unidirectional force for instruction (Sullivan 1996, 226–49). The current study will examine reflections on mentoring by students enrolled in a service learning course.

Service learning courses, specifically courses that get students out of the ivory tower and engaged in the community, have been increasing in number on college campuses for several decades. The concept has been described as a course-based, credit-bearing educational experience in which students a) participate in an organized, relevant service activity and b) reflect on the service activity to further understand course content, gain an appreciation of the discipline, and enhance civic responsibility (Bringle and Hatcher 1995, 112–22).

Research has found that service learning courses can enhance academic and student social adjustment (Stavrianopoulos 2008, 703–12). Despite the uncertainty that can accompany leaving the classroom, service learning has been found effective (Stenberg and Whealy 2009, 683–706). In particular, understanding cultural dynamics is an outgrowth of community-based service learning (Boyle-Baise 2002, 317–31). Qualitative investigations of service learning experiences have found that the learning involved is both personal and academic and that the paradigm often challenges students to re-shape their beliefs (Boyle-Baise and Kilbane 2000, 54–64; Dunlap 1998, 58–67). Given the opportunity for such rich growth, mentoring in the context of service learning provides a particularly exceptional experience worth examining.

The GO-GIRL Program, which supplied the mentor data analyzed in this essay, is a mentoring initiative focused on encouraging middle-school girls to participate in math and science (Reid and Roberts 2006, 288–304). Single-sex educational settings have seen a resurgence, possibly due to changes in Title IX that have made single-sex classrooms an option in public schools (Gurian, Stevens, and Daniels 2009, 234–45). Research suggests that single-sex settings lessen the perception of math and science as masculine and improve girls' attitudes toward those subjects (Haag 2002, 647–76). A recent study of such settings suggests that they have improved girls' attitudes toward science, with stereotypes becoming less rigid

and girls reporting an increased sense of capability (Kitts 2009, 159–64). Research also suggests that exposing students to role models in math and science alters students' attitudes toward women's engagement in such subjects (Clewell and Ginorio 2002, 609–46). However, barriers to girls' careers in math and science include low levels of perceived competence (Beghetto 2007, 800–14) and lack of role models (Gilmartin et al. 2007, 980–1009). The proposed program attempted to address those barriers by pairing middle-school girls with college mentors who would instruct them in research methods and data analysis.

The program was funded as part of a National Science Foundation dissemination grant (Reid and Roberts 2006, 288–304). Through learning the scientific method and social science framework, middle-school girls were able to answer real-life questions relevant to their lives. Beyond their increased confidence and positive attitudes toward math and science found by pre- and post-course measures, the qualitative analysis suggests that growth also occurred for the college-age mentors involved in the program.

Method

Community and program information

The program took place in a predominantly White (90%), Midwestern area with a population of approximately 150,000. The sponsoring university is a predominantly White (80%) liberal arts institution with approximately 2,100 students. Students are encouraged to engage in the surrounding community, yet the school offers only a handful of service learning courses. Therefore, in providing students with knowledge of and hands-on experience with middle-school girls, the program fits within the institutionally sanctioned service learning paradigm.

Despite the composition of the community and university, the racial make-up of the middle-school girls in the program was relatively diverse. Overall, twenty-two middle-school girls participated: fifteen were African American, five were White, and two were of South Asian Indian descent. Their ages ranged from eleven to fourteen, with almost half the girls (n = 10) reporting an age of thirteen. All the girls came from the local public school districts. Parent reports were missing data; however, the residential mobility reported by the girls can be used as a rough proxy for stability (Scanlon and Devine 2001, 119–38). The majority of middle-school girls (76%, n = 16) moved "none" or "one time" in the "past three years."

The twenty-five mentors consisted of twenty-three White American women, one Asian American woman of Indian descent,

and one African American woman. They were pursuing a variety of majors, although psychology was predominant. The course was listed as a 300-level advanced seminar within the psychology department, and all mentors were juniors or seniors.

Mentor interviews

The data for this study came from two semesters of the service learning course. At the culmination of each semester, mentors were required to interview one another based on an interview guide that included several standard questions and others developed collaboratively in class. Questions consisted of critical assessment of strategies for communicating with the girls, scenarios describing mentoring challenges and successes, and program feedback. Representative items included:

- "Describe an interaction with your mentees when you put to use something you learned from your readings."
- "What strategies did you discover for working with and communicating with middle-school girls?"
- "What did you learn about yourself during this class?"

After completing the interviews and attending a class debriefing on the learning experience, mentors were each required to write a reflective essay incorporating data from the interviews. For further material, they were encouraged to carefully review their mentoring journals, which they had been required to maintain throughout the semester.

The twenty-five essays, based on the interviews, were analyzed qualitatively without a priori categories and with grounded theory (Glaser 2002). The researcher developed themes after reading through the documents multiple times, recognizing patterns, chunking relevant passages, and grouping like material. Therefore, the data were approached with the expectation that themes would emerge particular to those data. A research assistant then independently coded the data based on the patterns. After a round of code checking and refinement of the themes, reliability reached 90% (Miles and Huberman 1994).

Results and Discussion

Several themes emerged across the reflections of the mentors in the GO-GIRL Program. The first two themes, "valuing the setting" and "recognizing culture," represent the mentors' evolving understanding of external dynamics. The remainder of the themes, "abil-

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ity to navigate group dynamics," "affirmation of ability," and "career guidance," reflect internal processes.

Valuing the setting

This theme represents the recognition of value in single-sex settings. Because the program was the first single-sex experience for many mentors, some were skeptical about its benefits. Theoretical and empirical readings on the topic made up part of the pre-program reading. Therefore, mentors had both academic and personal encounters with the topics of single-sex settings and, in particular, all-female settings.

> This program definitely opened my eyes to the importance of all-girl experiences. I will admit that I have always been somewhat skeptical about keeping boys and girls apart. I came into the program with the belief that separate is not always equal, and if we isolate girls this puts them at some sort of disadvantage to their male counterparts. Yet through participating in this program I have seen that being in a group of all girls gave the mentees and my classmates the freedom to be ourselves and work together in a special environment.

Some mentors spoke explicitly of feeling less "social pressure." Those observations speak to research that has found females' self-worth in single-sex schools to be based on academic factors; in mixed-sex schools, physical appearance best predicts self-worth (Haag 2002, 647–76). One mentor observed:

> With having all girls, the group became their place, a place where it was all about them and tailored to fit them as middle-school girls. I feel like this made them feel more comfortable and free to be themselves, which is important for girls to experience because I think it really did help them to build their confidence, especially in their own intelligence and hopefully in themselves in general.

Mentors also thought that the program would have been quite different had boys been present, perhaps serving as a distraction from the work and as a deterrent to the girls' ability to develop relationships among themselves.

> Now after the course is over, I think having the program be all girls was extremely important. Not only does it fit in with the research and concepts behind the program, but it also created a special atmosphere for the girls that would not have been the same if it was co-educational. For my

mentee especially, I think this atmosphere was crucial to its success.

Those comments suggest a solidified understanding of the potential benefits of single-sex settings (Gurian, Stevens, and Daniels 2009, 234–45). Recognition of the benefits rather than anachronism of within-group contexts is an important lesson learned, especially given the resurgence of single-sex educational settings (Gurian, Stevens, and Daniels 2009, 234–45).

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Recognizing culture

Several mentors reflected on the contrast among the mentors and mentees. As a group, the mentees were predominantly African American; the mentors, predominantly White. Although none of the mentors reflected personally about what it meant for White women to be teaching young girls of color, they did seem to become more aware of cultural dynamics. One mentor noted an increased awareness of the "racial and socioeconomic differences between groups of middle-school girls [that] I had never thought about."

The danger of conflating issues of race and class and related issues of access and experience were addressed in readings (Leadbeater and Way 1996) and class discussions. Although mentors were invited to reflect on their personal racial identities in class discussions and on how culture might affect intergroup interactions, personal reflection in the interviews was scarce. One mentor did mention that the contrast between the diversity of the mentees and the homogeneity of the mentors came up in their paired interview:

> [Amy] also feels that it was interesting to see her mentee react to being the minority in the classroom, because [she] was the only white girl in the program. There was no outward expression of feeling one way or the other about it, but it was a situation that they weren't used to.

In one semester of the program, the eleven mentees included only one White girl. Intriguingly, that mentee and her mentor discussed the mentee's race in contrast to the mentees of color yet did not reflect on their own experience in this context. That finding seems consistent with research that finds White students more likely to evince naïvete about racial issues (Helms and Carter 1990, 67–80) and less likely to attend to race as a relevant personal construct (Tatum 1994, 462–76).

The mentors were much more willing to reflect on socioeconomic differences with detailed examples:

Intertwined with our mentoring program were some racial and socioeconomic issues. The girls were quick to notice that the mentors were much less diverse than the group of mentees we had. The girls also varied in their socioeconomic status. Some of the girls did not have access to a computer at home or had problems finding someone to bring them to and from the program.

Research on service learning and multicultural education suggests growth based on working and learning in the community is essential to understanding cultural dynamics (Boyle-Baise 2002, 317–31). In fact, the experience can present an opportunity to create relationships across lines of difference. Results suggest that future iterations of the program need to be more explicit about reflecting on the cultural dynamics of the group.

Negotiating group dynamics

Another theme that emerged was learning how to negotiate varied personalities and skill levels. Quotes from this theme suggest that the program helped mentors develop the skills to manage, simultaneously, multiple students at varying ability levels. One student reflected, "Working with this small group gave me great respect for teachers who have classes filled with twenty children who may all be at different levels. I had no idea how truly difficult it is to teach children with different ability levels."

Serving as a mentor is partly about skill development (Semeniuk and Worrall 2000, 405–27). The skills cannot be developed solely through book learning: they require a hands-on component, such as this course. The two quotations below provide examples of how mentors navigated dynamics within their groups.

> My most consistent challenge was trying to strike a balance between my two mentees' different personalities. . . . I struggled with making sure both of my girls had equal opportunities to participate. My mentees were also on somewhat different academic levels, which created difficulties during a few sessions.

> When working with [Holly], one of the shyer girls in my group, I noticed that by speaking to her directly I was able to test her knowledge of the material. By calling her out I was allowing her to voice her opinions, and because we were still in a small group setting she didn't appear to be scared by the thought of speaking. [Beth] on the other hand was the complete opposite. She had no trouble speaking

in the group and oftentimes would overpower her peers. To help manage this extreme, my mentoring partners and I attempted to give her non-speaking roles in the group such as typing or researching.

Those excerpts demonstrate the interaction of dual goals: academic and experiential learning. The mentors were pushed to balance multiple, competing demands while remaining on task to complete projects. By providing the opportunity to apply book knowledge, service learning courses can round out students' college experiences (Stavrianopoulos 2008, 703–12).

Affirmation of abilities

Several mentors reflected on the influence the program had on their self-confidence, especially in the realm of statistics:

- "I learned that we knew more about research and statistics than we thought and that we were able to remember and understand enough to teach it to the girls."
- "I realized that my statistical skills were much stronger than I had thought and got even stronger by the end of the program."

The process of solidifying knowledge through application can be seen in the students' increasing confidence as they taught the concepts as part of the program.

Others worried more about being able to translate concepts in ways that middle-school girls could understand.

I feel sometimes we underestimate how smart we are ourselves. As a result, it was initially difficult to explain certain subjects in a way that the middle-school girls could understand the material. With practice, I was able to figure out a way to break down the material and relate it to subjects that pertained to the adolescent girls' lives.

Some mentors were hesitant to take on the role of teacher-mentor. Again, the concept of service learning was relatively new for this institution. Many volunteer youth interactions offered through campus were more informal—e.g., playing games and doing arts and crafts, which are low-stakes exercises compared to imparting knowledge. In addition, most of the students involved in those activities were not education majors. Those two variables could have contributed to the mentors' lack of confidence in conveying the lessons. However, students apparently believed they grew in their ability and comfort with the task.

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Career guidance

For a handful of mentors, involvement in the program reinforced their career choices. That theme matches research suggesting that exposing students to people engaged in a field helps improve attitudes toward that career option (Clewell and Ginorio 2002, 609–46). Several students desired to enter counseling and education; the program thus afforded them close, personal interactions with their professors and other fellow students pursuing that goal. Several students stated that being a mentor in the program reaffirmed their career goals:

- "I realized that going into education is definitely a good path for me."
- "I was reassured that these are the individuals that I want to work with for the rest of my life."

Other mentors spoke more elaborately about the way their mentoring experiences linked to future course work or allowed them to gain a deeper understanding of this age group.

> It was through the process of trying to get her interested and engaged in the program that I gained experience which I know will help me in my future education classes. I am interested in becoming a school psychologist, and I work as a daycare teacher over the summer. So just the experience of working with these girls has benefited me in that I have gained more confidence in my ability to work affectively with middle-school students.

For those moving on in the field, the mentoring experience might have helped temper the default perspective of teachers as authoritarian figures. Research has stressed the importance of bi-directionality and inspiration, which are important as a mentor (Sullivan 1996, 226–49). In many ways that bi-directionality was modeled in the course structure: by allowing students to exert influence on course structure, the teacher-mentor thus attempted to learn from them and to inspire independence and creativity.

However, although the program seemed to solidify career choices and invigorate some mentors, involvement in the program was a sobering reality check for several others. One mentor stated: "For me, I learned a lot about what it takes to be a teacher and work with young girls on a day-to-day basis. And I know that is not the type of life for me." Such hands-on experiences helped student mentors navigate their career options.

Implications

The principal finding here is the richness of providing students with an academic and experiential understanding of a topic. Service learning courses facilitate hands-on experiences, which can often shape students in definitive ways (Boyle-Baise and Kilbane 2000, 54–64; Dunlap 1998, 58–67; Stavrianopoulos 2008, 703–12), and they can make book-learned concepts and theories real and tangible. For example, the mentors were able to grasp, intellectually and personally, the value of single-sex settings. Because access is no longer limited legally, young women today may think that coed experiences are the hallmark of education. The mentoring opportunity helped mentors to see that single-sex environments can serve a function and empower them.

Other findings of the study suggest that future mentor programs should consider internal and external dynamics. For example, this program appears to have informed mentors' concepts of single-sex educational settings and culture. Such external, institutional constructs are complex, yet consistent with previous research conclusions (Boyle-Baise and Kilbane 2000, 54–64; Dunlap 1998, 58–67) that the service learning paradigm can facilitate development in those areas. The program also affected mentors' thinking about internal constructs such as personal abilities and direction. With those aspects of development in mind, future iterations of similar programs can be intentional and systematic about fostering reflection and growth in a particular area through exercises, assignments, or community-based projects.

One limitation of this study is that although it measured pre- and post-program perceived ability for the middle-school girls, such data were not collected for the mentors. The themes explored in this study suggest that involvement in the GO-GIRL Program benefited mentors' perceived ability and confidence in their knowledge of statistics. Given what is known about mentoring experiences' capacity to enhance mentors' grades and skills (Amaral and Vala 2009, 630–33; Jackling and McDowall 2008, 447–62), it is reasonable to expect that the perceived confidence of the GO-GIRL mentors will increase.

For future editions of this specific program, data on perceived confidence in math and science should be collected from mentors. One tangible perceived benefit of the program for mentors is the increase in perceived confidence. Even though that was not the motivation to enroll as mentors, it seems to augment the academic and experiential goals of the service learning course. Further research on mentorship should build on that work by intentionally measuring gains and benefits accrued by mentors as a part of program evaluation. The mentors are worthy of investigation in their own right.

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