Gender Schemas Within Homogenous Secondary Agricultural Classrooms

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Foremost in 2001, the No Child Left Behind (NCLB) Act began to allow public schools to offer same-sex classes, which led to the 2006 amendment to the Title XI regulation that removed the ban on single-sex public education. Since NCLB, over 1,600 school districts across the United States have implemented some degree of single-sex education (Klein, Lee, McKinsey, & Archer, 2014). These changes in educational reform and legislation have resulted in a desire for educational research to identify if same-sex classrooms are optimal for public education classrooms (Pahlke, Hyde, & Allison, 2014).

Researchers within agricultural education have also recognized differences among girls and boys enrolled in school-based agricultural education programs in motivation (Chumbley, Haynes, and Stoffe, 2015; Velez, Lambert, and Elliot 2015), leadership development (Ricketts, Osborne, and Rudd, 2004; Kagay, Marx, & Simonsen, 2015; Rosch, Simonsen, and Velez, 2015), and interests in career development events (Ricketts, Osborne, and Rudd, 2004). These findings have led to recommendations for future research to indicate methods to combat observed gender differences for secondary students enrolled in school-based agricultural education (Enns & Martin, 2015). Therefore, a study aimed to explore homogeneous classrooms within school-based agricultural education programs is justified and needed.

Theoretical Framework

Gender schema theory (Bem, 1981) guided this study (see *Figure 1*). *Sex* is a binary classification between male and female whereas *gender* is a nonbinary, socially constructed continuum between masculinity and femininity (Lindsey, 2015). As early as age two, children can dictate differences in gender (Woolfolk & Usher, 2018). Scholars have suggested that as children age, they are exposed to more sociocultural factors and influences that are increasingly difficult to change. According to Woolfolk and Usher, children begin to understand what it means to a male or female through sociocultural influences that form networks of knowledge, or gender schemas.

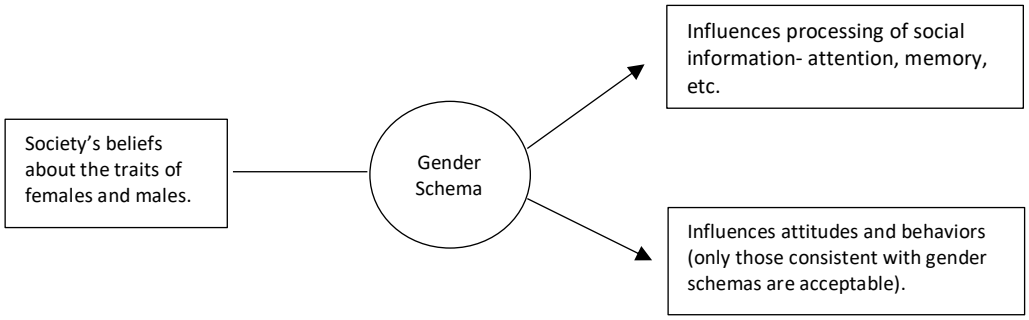

Figure 1. Gender schema theory (Bem, 1981). Adapted from *Educational psychology* (13th ed.) by A. Woolfolk and E. L. Usher, 2018, p. 241. Copyright 2018 by Pearson.

As such, students in secondary agricultural education conceptualize correct behaviors and attitudes in effort to fulfill what it means to be masculine or feminine. Teachers also contribute to learning gender. Woolfolk and Usher (2018) suggested these biases were often unintended and teachers are not aware of their subconscious, implicit behavior. For instance, the way teachers group students, give response opportunity, and their gendered speech are examples of how teachers can demonstrate gender bias without realizing it. In science laboratories, scholars found

grouping students without purposively assigned responsibilities result in “girls ending up as secretaries, boys as technicians” (Woolfolk & Usher, 2018, p. 246). As result, male students may gain more skill development in science than their female student counterparts. Researchers proclaimed that current educational pedagogy, methodology, and environments have contributed to the underachievement of boys and was declared, "one of the most pressing educational equality challenges of current times" (Hartley & Sutton, 2013, p. 1716). As such, implications from the gender schema theory (e.g. how teachers are sociocultural influencers of gender beliefs and attitudes) serve as possible enhancements in teaching practice.

Methodology

The research described in this study was a part of a larger research program that included teachers (n = 8) and students (n = 211). The purpose of this study was to explore gender schema development in single-sex classrooms and coeducational classrooms in Kentucky. The primary method of investigation was a multi-site, collective case study (Yin, 2012). Data were collected over two weeks in September, 2019 at four sites. Sites were purposefully selected because of the single-sex classrooms. Preliminary data included observations, photographs of classrooms, documents available at the site, and researcher field notes. Teachers and students were observed during instruction. Data were organized by typing field notes, cataloguing all visual material, and sorting data by collection type. Emergent coding was employed and themes were cross-referenced with each site (Yin, 2012). Multiple validity procedures, as suggested by Yin, were employed in effort to enhance the accuracy of the findings. Data from multiple sources were used to achieve triangulation. Peer debriefing was used to enhance the accuracy of accounts. A peer examiner, unfamiliar with the research project, validated accuracy of themes.

Results

Three themes emerged relating to differences in same-sex classrooms: *warmness*, *humor*, and *instructional design*. For example, female teachers who instructed the all-girl classes were observed to be warm in their greetings and encounters with students. Also, photographs of classrooms revealed more vibrant colors in female teachers’ classrooms. *Humor* surfaced when one male teacher said, “we all know this class is ‘uglier’ than normal.” Another male teacher told jokes to transition between learning objectives. Both male teachers and female teachers demonstrated differences in *instructional design*. For example, female teachers used collaboration more often while male teachers used competition in instructional design. During a competitive activity, one male student said to his classmates, “Imma beat you so bad!” Other male students said to their classmates, “you’re so slow”, “you’re weak”, and, “no one can do this as good as me.”

Conclusions/Implications

The findings suggest how teachers enact gendered differences when teaching homogenous classrooms. This supports Pahlke et al. (2014) claim that teachers are responsible for observed gender differences in classrooms. As such, our findings are reinforced by the gender schema theory whereas teachers serve as a social influence on students understanding of gendered behavior and attitudes. While this study presents preliminary findings on *how* teachers enact differences in homogeneous classrooms it does not address *why.* For example, this study does not reveal if teachers are purposefully amending their pedagogy or if their input is implicit. Future research is needed to more thoroughly address these questions. Qualitative interviews are recommended to investigate these qualitative inquiries (Yin, 2012).

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