Creating a Sense of Belonging in Small Groups

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Group work is an integral component of the active learning classroom; establishing an individual's sense of belonging in small groups is an important aspect of learning as it allows students to feel more engaged with the class and to feel more comfortable asking questions. The question posed by this study was: to what extent does the way in which groups are formed influence an individual's sense of belonging in the group? Groups were either formed randomly and changed biweekly, or formed intentionally based on surveyed learning styles and maintained throughout the semester. While no differences in belongingness were found between the groups, strongly positive correlations between feeling safe to share opinions or understanding the class content and a students' sense of belonging emerged. This data solidifies the importance of developing a student's sense of belonging to facilitate course engagement and content understanding.

Background

The idea that students take in knowledge and learn new concepts through active construction rather than dissemination in not a new idea[1]. Studies have found that students learn best when they are teaching one another and working to solve compelling problems[1]. The benefits to student learning include the development of higher order thinking skills, such as critical thinking and problem solving,[2] which has led to the incorporation of teamwork training and team-based learning into some medical school curriculum[3]. Not only do successful small groups enhance student learning, they also promote a sense of belonging that can ultimately enhance student experience[4]. Yet the negative associations of group work, the unshared distribution of work, the interdependence on grade, the lack of preparedness and motivation, often prevents instructors from implementing team-based learning[5]. Implementation of successful small groups should encourage communication and cooperation, enabling students to develop a sense of belonging within their group and to the overall course. Students understand the importance of belonging to learning as it allows them to feel "more comfortable engaging with others and the material" (student response). While belonging is often examined in terms of retention in college, it is equally important for a student to feel belonging within the classroom as it relates to retention in their major program[4,6]. The purpose of my work is to evaluate how creating learning communities can enhance a sense of belonging in the classroom by fostering a sense of belonging within small groups with an overall goal of decreasing course and/or content-based anxiety.

Methodology

Students in two upper level Biology courses participated in this study.

- Microbiology Course
  - Students were randomly placed into nine groups of 3-4 students.
  - Groups worked together for one unit, ~3 weeks, for a total of 4 units.
  - Groups were tasked with 5 minute reviews at the beginning of each class and data analysis PSETs once per week
- Cell Biology Course
  - Students were placed into nine of 3-4 students based on their results from a Learning Styles Survey[7,8] and their preferred team role (i.e. leader, co-leader, follower).
    - Groups were homogeneous based on Active/Reflective score and heterogeneous or homogeneous on Global/Sequential score based on students' perceived preference[9].
  - Students remained in their group for the entire semester.
  - Groups were tasked with completing one data analysis PSET per week.
- All students were asked to complete a Likert-scale based survey regarding their group work experience with each exam.

Results

Groups	N	Males	Females
Active	15	7	8
Reflective	16	10	6
Homogeneous	18	10	8
Heterogeneous	13	7	6
Random	28	9	19

Table 1: Demographics of student participants. It is important to note that students in the Cell Biology course (N = 31) are counted twice in this table based on their active/reflective and homogeneous/heterogenous grouping. Students in Microbiology (N = 28) were all in randomized groups.

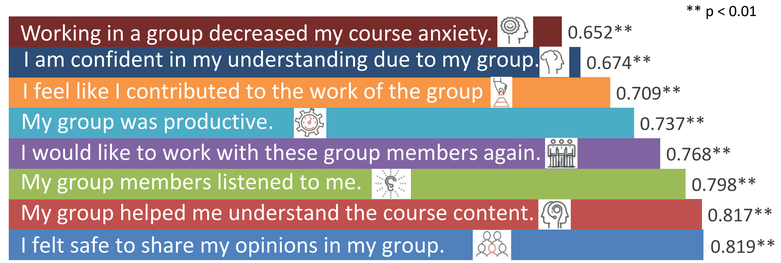

Figure 1: Correlations between a sense of belonging in my group and group variables averaged across all courses and group styles.

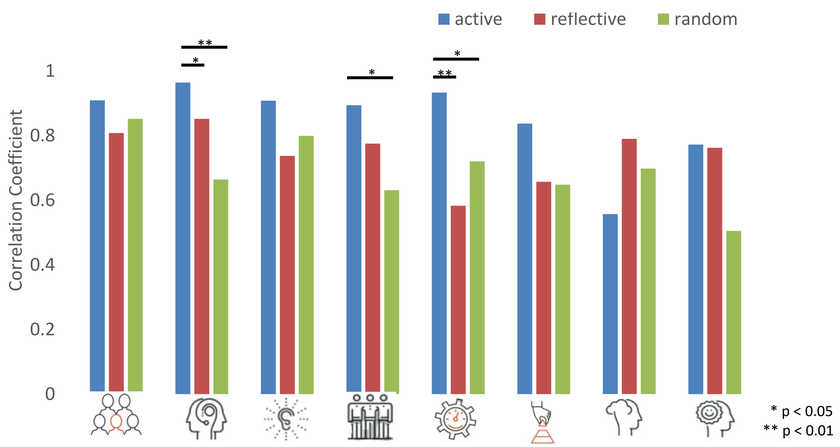

Figure 2: Correlations between a sense of belonging in my group and group variables separated by active, reflective or random grouping styles.

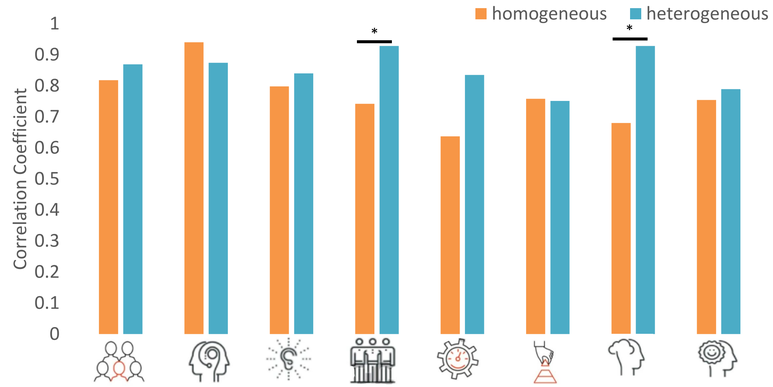

Figure 3: Correlations between a sense of belonging in my group and group variables separated by homogeneous or heterogeneous grouping styles on the global/sequential scale.

Conclusion

- Students in active, reflective and homogeneous groups felt the strongest sense of belonging in groups that help with their understanding of course content (Fig. 2 & 3.).
- Students in randomly selected groups felt the strongest sense of belonging in groups where they felt safe to share their opinions (Fig. 2).
- Students in heterogeneous (mixed) groups felt the strongest sense of belonging in groups where they felt confident in their understanding of course content (Fig. 3).
- Overall a sense of belonging was strongly positively correlated with groups where students felt listened to, safe to share their opinions, and where the group helped them understand course content (Fig. 1).
- Conclusion: factors contributing to belonging within a group varied by group style; thoughtful group formation is important for establishing and maintaining productive groups where members feel that they are contributing to the work.

References:

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