Cooperative Learning Structure: Catalyst For Effective Learning For Adult Learners In Higher Education

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ABSTRACT

In this research study, the impact of cooperative learning structures on adult education student's engagement and learning outcomes were examined. The goals of the study are to (1) examine the impact of participation in cooperative learning structures on student's learning outcomes, (2) examine the impact of participation in cooperative learning structures on student's engagement, and (3) determine student's attitude towards cooperative learning structures. The results from the descriptive and inferential statistics indicate that there were statistically significant differences in the learning outcomes of students that participated in the cooperative learning structures. The results from the qualitative analysis show that students who participated in the cooperative learning environment were actively engaged with peers and teacher.

Keywords: Cooperative Learning; Cooperative Teams; Learning Teams; Research Teams

INTRODUCTION

There is a growing concern regarding the quality of students admitted to most graduate programs (Cabrera, Nora, Crissman, Terenzini, Bernal, & Pascarella, 2002). The author further concluded that most graduate students complete their studies with limited skills and abilities that can be attributed to their graduate preparation. Hart (2002) emphasized that the poor quality of today's graduate students can be attributed to the poor undergraduate preparation. Given these research findings, it is necessary to implement strategies that will improve the quality of learning that occurs at the graduate level. Cooperative learning is a strategy that has been used in K-12 schools and is now being applied in higher education. Literature is replete on the impact of cooperative learning in K-12 arena but, research is limited on the use of cooperative learning in graduate adult education program (Brooks & Khandker, 2002; Bruffee, 1995; Slavin, 1995). According to Slavin (1995), despite limited research on cooperative learning at the collegiate level, there is evidence of its positive effects on learning at the K-12 setting. Dansereau (1983) concluded in his study of over 300 college students that cooperative learning arrangements were consistently more effective than individual learning strategy for promoting retention of course materials. Frierson (1986) found that black nursing students scored higher on a state based board examination when students were instructed to engage in cooperative learning and studying relative to a comparable group.

Johnson and Johnson (2000) defined cooperative learning as an instructional use of small groups where students work together to maximize their learning. The purpose of this study is to examine the impact of participation in cooperative learning structures on African-American adult education student's learning outcomes and engagement. The following research questions guide the focus of the study:

1. What is the impact of cooperative learning structures on graduate students' learning outcomes?
2. What is the impact of cooperative learning structures graduate students' engagement?
3. What are graduate students' attitudes towards cooperative learning structures?

THEORETHICAL FRAMEWORK

The study relied on several core values deemed essential for the development of constructivist and learner-centered instructional environment designed to produce quality graduates (Kuh, Gruce, & Shoup, 2008). These core values such as the need for instructionally focused classroom leaders that promote quality teaching and learning, the need for classroom leaders with clear articulation of learning objectives with constructive feedback mechanisms, the need for students to actively engage in peer and teacher interactions, and the need for a classroom environment with collaborative relationships among stakeholders. These values are also part of student engagement constructs (Zhao & Kuh, 2004). Student engagement is an indicator for successful classroom instruction as well as a value outcome for school reform (Chapman, 2003). Cooperative learning is a teaching/learning strategy that strives to create a new type of learning environment. The theoretical framework supporting cooperative learning includes social learning theory, cognitive development theory, and behavioral theory. The social learning theory is grounded in the work of Bandura which begins with the premise that social interaction is essential for human survival. In the learning context, social interdependence refers to students' ability to achieve, adjust psychologically, show social competence, and develop positive relationships. Specifically, positive interdependence, or cooperation, must be structured in the class room (Johnson & Johnson, 2000).

Cognitive Developmental theory, another theory undergirding cooperative learning, is grounded in the work of Jean Piaget and Lev Vygotsky. Vygotsky presents learning as a societal process and product, while the Piagetian perspective suggests that sociocognitive conflict occurs when individuals work together, and this creates cognitive disequilibrium, that triggers perspective-taking ability and reasoning. Finally, Behavioral Learning theory presupposes that cooperative effort is fueled by intrinsic motivation to earn group rewards (Johnson & Johnson, 2000).

Essential Elements of Cooperative Learning

There are five essential elements necessary for successful implementation of cooperative learning (Figure 1) according to Johnson and Johnson (2000). These elements include positive interdependence, individual accountability, face-to-face promotive interaction, small group social skills, and group processing (Johnson, Johnson, & Smith, 2007). According to the authors, positive interdependence which is from social interdependence theory views cooperation as a positive link for individuals to accomplish a mutual goal through division of labor, roles, and by making sure that each student's grade depends on the performance of the entire group. Individual accountability is essentially the knowledge that not only will the group's product be evaluated, individual contributions will also be measured in determining the final grade for each student. The basic tenet of this element is that while students learn together, they perform alone to ensure that no one rides on the work of others. The need for face to face promotive interaction among members of the group is very important. Although some of the groups' work may be done on an individual basis, most of the tasks are performed through an interactive process where group members provide feedback, challenge one another, teach each other based on their expert knowledge, and encourage their teammates. Students must use appropriate collaborative skills that are positively reinforced by the instructor to allow group members to interact in meaningful and productive way. Both in-class time as well as outside class time should be provided for students to develop and implement trust-building, leadership, decision making, communication, and conflict management skills.

Group processing is basically a metacognitive awareness of the group's goals and progress. It is crucial for the facilitator of a cooperative learning classroom to establish classroom evaluation techniques for the group's functioning process and to use it to maximize members' effectiveness. The group processing evaluation looks at what work, what didn't work, and changes that need to occur (Johnson & Johnson, 2000).

Figure 1: Elements of Cooperative Learning
*Adapted from Johnson & Johnson, 2000

METHOD

Participants

The sampling frame for this concurrent mixed-method research design study consisted of forty-four adult learners enrolled in two graduate research classes in the graduate adult education program at a doctoral granting historically Black college in the southeastern United States. There were twenty-two students in the control group and twenty-two students volunteered to participate on the experimental group. After receiving the Institutional Review Board (IRB) approval to conduct the study, students were asked to sign the approved consent letter to participate in the study. Only those students that voluntarily agreed and signed the consent form were selected for the study. Equal number of students (22) enrolled in the two classes that were used in the study. The majority of the participants were female for both groups (Control, 91.0%; Experimental, 64.0%) as illustrated on Table 1. About 81.8% of the control group members were full-time graduate students while 77.5% of the experimental group members were full-time graduate students. The majority of the participants on both groups were over thirty years of age and fully employed (See Table 1).