IMPLEMENTING SMALL-GROUP ACTIVITIES IN LARGE LECTURE CLASSES

Ani Yazedjian and Brittany Boyle Kolkhorst

Abstract. This study examines student perceptions regarding the effectiveness of small-group work in a large lecture class. The article considers and illustrates from students' perspectives the ways in which small-group activities could enhance comprehension of course material, reduce anonymity associated with large lecture classes, and promote student accountability. In addition, strategies for incorporating these types of activities into the structure of a large lecture class are provided.

Keywords: *active learning, large lecture classes, small-group activities, teaching strategies*

Although many instructors now recognize the potential of instituting active-learning strategies in small classes, they often dismiss using these same strategies in large lecture classes. Yet, given that it is much easier for students in large lecture classes to maintain their anonymity and be more passive than in smaller classes, active-learning strategies can prove even more crucial in

Ani Yazedjian is an assistant professor at Texas State University–San Marcos, Department of Family and Consumer Sciences. Brittany Boyle Kolkhorst is a graduate student in the Family and Child Studies Department at Texas State University–San Marcos.

large lecture classes. This article examines student perceptions regarding the effectiveness of small-group activities as a strategy to promote active learning in a large lecture class. Specifically, we highlight an activity that was conducted in a human development and family studies course, examine students' feedback regarding its effectiveness, and, based on students' responses, suggest strategies for instructors to implement similar activities in their classrooms.

Literature Review

A growing number of universities have remedied rising college enrollment rates by offering more large, lecture-directed courses. Although these classes can accommodate a large amount of learners, they may ultimately deprive students of valuable learning experiences and interactions. In an effort to provide students with opportunities for optimal learning and growth throughout all university classrooms, an examination of large lecture class dynamics and procedures and methods for enhancing student experiences within these classes is necessary.

Anonymity

One of the most critical problems instructors of large lecture classes face is that students are often anonymous to both the instructor and to one another (McKeachie 1999). The lack of rapport that students feel with the instructor and with other students can prevent students' motivation to engage in the learning process. Students who believe they are anonymous often feel less personally responsible for learning, are less motivated to learn, and are less likely to attend class (Cooper and Robinson 2000). Furthermore, this lack of personal responsibility can be detrimental to promoting critical thinking and student learning in the classroom context. As a result, the anonymity associated with large lecture classes often allows students to disengage themselves from valuable resources such as the instructor and classmates (Cooper and Robinson). This disengagement may contribute to students'

lack of clarity about course concepts and information, thereby prompting them to lose interest in the course topics or perform poorly on exams.

In addition, a lack of student interaction with the course instructor and other students often reinforces the anonymity of large lecture classes (Michaelsen 2002). This lack of student interaction is most often associated with large classes where lecture is the primary mode of instruction. Instructors who use one teaching method, such as lectures, not only facilitate anonymity, but also may not accommodate the range of students' learning styles (Mbuva 2003). Such an instructional approach does not always account for the diverse ability levels, cultural backgrounds, and learning styles found in institutions of higher education. Consequently, it is imperative for instructors to take well-planned measures to combat students' lack of commitment to learning by decreasing student anonymity in class.

One strategy for increasing student engagement and enhancing students' learning experiences is active learning. Based on their interviews with faculty across the United States, MacGregor et al. (2000) concluded that instructors who used active-learning activities in their class curricula did so because they believed that having students actively examine course concepts would result in long-term learning, contribute to meaningful student engagement, and promote the formation of a student community.

Research has supported the impact of active learning by showing that the degree of retention and retrieval of knowledge are facilitated by active-learning exercises, such as discussion, practice, and/or application (Davis 1993). Furthermore, research has confirmed active-learning exercises allow students to get to know their peers and learn from one another (Davis). Regardless of classroom size, active-learning strategies transform the student from a passive recipient to an active participant in the transmission of information. Furthermore, the incorporation of active learning in the classroom creates a more equitable power dynamic whereby the student gains more power over the transmission of information and becomes more likely to take personal

responsibility in the learning process (Peters and Armstrong 1998).

Cognitive Benefits of Active Learning

As a result of the implementation of active-learning strategies, students become motivated to take part in the learning process, thereby becoming more engaged in classroom activities and content (McClanahan and McClanahan 2002; Michaelsen 2002; Wright 1996). This increased engagement is related to greater retention, greater understanding, and the development of thinking and application skills for students (Christopher 2003). For example, in a meta-analysis of thirty-nine studies focusing on small-group learning in undergraduate environments, Springer, Stanne, and Donovan (1997) found that small-group learning was effective in advancing not only student motivation but also academic achievement.

In addition, through the exploration of two national data sets, Umbach and Wawrzynski (2005) found that students on campuses where faculty used active learning techniques had increased levels of engagement, social development, general knowledge, and practical proficiencies more than students learning in environments that did not incorporate such exercises. Moreover, through national interviews with forty-eight instructors, Cooper, MacGregor et al. (2000) found that individuals who used small-group work reported increases in one or more student-learning indicators, including critical-thinking abilities, conceptual understanding, attendance, and student confidence.

Recent research suggests that through increased motivation and engagement, students become better able to use their higher order cognitive abilities and subsequently realize higher levels of achievement (Burrowes 2003; Railsback 2002). When compared with students who participated in traditional instructional methods, students who participated in active learning activities appeared to have greater abilities to connect abstract concepts to real world and practical applications (Ebert-May and Brewer 1997; Springer 1997). Furthermore, in a comparison of traditional lecture sessions and lab and discussion sessions that used active learning techniques, Christianson and Fisher

(1999) found that students gained a deeper understanding of course content in the lab/discussion sessions than lecture sessions. In addition, these abilities were further enhanced when students believed their institutions emphasized practical application of information and promoted the use of course material in situations beyond the classroom (Hu and Kuh 2002).

Strategies for Implementing Active Learning

Although active-learning strategies are effective in enhancing student learning, it is important for instructors who incorporate such activities in their classes to structure them in such a way that they support, rather than distract from, course content. McKeachie (1999) argues that one of the most useful strategies to promote active learning is asking questions. Yet, too often, instructors of large lecture classes can begin to rely on this method alone rather than incorporating alternative methods through which to encourage active learning.

Other useful strategies, including large-group discussions, brainstorming, debates, and subgrouping techniques such as write-pair-share activities, have been shown to be effective learning tools. These strategies enhance students' learning by not only providing the opportunity to move from passive to active learner, but also by providing them with social interactions within the classroom (McKeachie 1999). Consequently, providing students with opportunities to interact with one another, even in large lecture classes, is beneficial in the processing of course content (Davis 1993).

Although instructors should include activities that promote understanding and skills relevant to course content, they should not assume that students understand the value and purpose of those activities. Based on students' responses regarding the use of interactive activities in two biology lecture classes, McClanahan and McClanahan (2002) found that if the goals and objectives for an activity were not clearly stated to students, they were more likely to consider the activity a waste of time. Thus, when asking students to process new information, instructors should communicate what students are expected to learn from the activity, in addition to providing a framework within

which to fit new ideas (Davis 1993). Mac-Gregor et al. (2000) argue that students may need a context and foundation on which to base their active-learning participation and experience—especially when active learning activities are initially introduced to them. Thoroughly explaining the activity structure, objectives, and related course material may aid in ensuring that students remain on task and are personally accountable for participation.

Possible strategies preceding the active-learning activities for developing such a foundation may include lecture, required reading, and instructor modeling. In addition, instructors may provide appropriate directives before the active learning begins to assist students in the overall process. Examples include informing students of how to form their groups, providing discussion topics, designating a length of time, and affirming learning goals (Burrowes 2003; Cooper, MacGregor et al. 2000; Ebert-May and Brewer 1997). These directives will set a suitable framework for students to begin working together and help guide them toward the most meaningful active-learning experiences. It is important for instructors who incorporate active-learning strategies into the classroom to understand that students' previous knowledge can shape the way they process and absorb new information. Thus, providing a guiding framework and making material meaningful for students by using examples that are relevant to their lives can facilitate greater comprehension of course material (Davis 1993).

Barriers to Implementing Active Learning in the Classroom

Although active-learning strategies may be new to students, they may also be new to instructors. The novelty of such strategies may in itself be a barrier, as implementing active-learning strategies may, at first, involve more work, preparation, and new methods, which may create a degree of discomfort for the instructor. Further, the sheer size of the class enrollment or physical classroom layout may lead instructors to refrain from using group work for fear of a loss of classroom control (Cooper, MacGregor et al. 2000). Instructors often see the physical process of moving around to facilitate group work as too unorganized or time consuming. In addition to constraints in the classroom, instructors need to account during their lesson planning for the time it takes to organize students into groups to alleviate this barrier. Presumably, once students grow accustomed to getting into groups, they will be able to do so in a more organized and time-efficient manner, yet this process may at first be quite unwieldy. Implementing strategies to adapt to the physical surroundings, such as providing permanent group spaces and initiating procedural methods such as organizing group materials before class sessions, may support this transition into group-work activities (Michaelsen 2002).

In addition to physical space and time constraints, students with limited experience participating in group or class discussions might have trouble contributing to group work at first (Peters and Armstrong 1998). Educators must not pass judgment on the effectiveness of group activities during their initial sessions. In time, experience with group work will allow students to participate in more student-directed, rather than instructor-directed, group discussions and activities (Peters and Armstrong). Given the barriers instructors associate with implementing active learning in large lecture classes, it is important to examine from students' perspectives the usefulness of small group activities for promoting student course engagement and motivation.

Method

This study was based on a small-group activity that was assigned in a lecture for a survey course in human development and family studies titled Comparative Family Organization. This course enrolled one hundred students and met for two hours once a week. The lecture was supplemented with a one-hour discussion section the following day. The topic for the particular lecture was "The Effects of Industrialization," and the content addressed the move from rural to urban to suburban living. Before the class content was covered, students were asked to answer the following questions in their notes: What are the differences among rural, urban, and suburban communities? What are the pros and cons of living in each? Course content was then addressed in lecture format with questions interspersed.

The small-group activity took place toward the end of the lecture period. Students were asked to move to three different sections of the room based on the type of communities in which they grew up. Students were instructed that once they were in their respective parts of the room, they were to break into groups of four or five and discuss the following series of questions: Where were you raised? How does the community you live in influence the way your family interacts? How does it influence the way your family interacts with the community at large? What kind of community would you like to live in after you graduate and why?

After approximately fifteen minutes, students returned to their seats and the instructor asked students from the various community types to share their experiences. As the students were commenting, the instructor related their responses to the course content and to other students' statements. As the discussion ensued and more students commented, they also began to make connections and discuss the similarities and differences between their responses and those of other students. After the course content was covered and the activity was completed, students were once again asked to revisit the original questions regarding different community types and asked to answer the questions again given their new understandings. Students were also asked: How has this activity changed your thinking about this topic? Students' responses were collected at the conclusion of the lecture.

During discussion sections the following day, teaching assistants administered the activity assessment sheet consisting of five forced-choice responses assessing students' perceptions of the activity and two open-ended questions regarding the positive aspects of the activity and suggestions for improvement. Overall, ninety-four (ninety-four percent response rate) assessments were collected from students.

Results

In-Class Writing

Following the debriefing session, students were asked to write briefly how

their thinking changed regarding the pros and cons of living in each community type as a result of the small-group activity. Many students stated that their thinking about the pros and cons did not change as a result of the activity. Yet, many individuals, even those who stated that their thinking did not change, stated that the activity made them more aware of the incredible variation that existed in people's life experiences. Many students stated that they were now able to point out similarities across community types and differences within community types. Other students wrote that the activity made them realize that there was no singular experience based on community type, and that the ensuing discussion allowed them to reconsider some stereotypes of what life in a particular community may be like. Thus, students' responses revealed that although most did not change their thinking about the pros and cons of different community types, they became more aware of the variation that existed within community types and the similarities that existed across communities.

Forced-Choice Questions

The results of the five Likert items revealed that, for the most part, students felt neutral about the learning experience (table 1). Students' mean score for the statement, "This activity helped me learn more than I would have by myself," was 2.89 (out of a possible five points). For the statement, "This activity kept me interested in the course content," the mean student response was 3.46. For the statement, "I like working in groups during a large lecture class," the mean student response was 2.59. For the question, "How useful was this activity compared to a standard lecture?" the mean student response was 2.96. Finally, for the statement, "I enjoyed this activity," the mean student response was 3.19. These findings show that students were neither overly excited nor overly in disagreement about the effectiveness of the activity. Yet, the highest positive response from students (M = 3.46) was regarding the question assessing engagement in course content. Therefore, it appears that the activity was most effective in keeping students interested in the particular lecture topic. Thus, students' responses revealed that overall, the activity did not harm their learning experience, increased their engagement in course content, and was considered enjoyable.

Positive Aspects of the Activity

Given the somewhat neutral responses on the forced-choice questions, it was surprising that many students identified several positive aspects of the activity. Interestingly, students' narratives were easily classified into three broad themes. The first theme, and the one most commonly expressed by students (n = 44), was the opportunity to hear about the experiences of other students who had grown up in different types of communities. One student wrote, "The positive aspect of the activity was to hear the other students' experiences of growing up in different types of settings/environments. It was interesting to hear the differences and similarities between the different types of communi-

ties." Because group discussion centered on experiences based on community type, students were able to hear both similarities and differences of others' experiences. Some of these students stated that this opportunity allowed them to learn about the ways other people live and relate it to course material, although these types of comments were relatively infrequent. Mostly students commented on how they enjoyed hearing about the variety of experiences once the class regrouped.

Second, students (n = 34) expressed enjoyment about the ability to meet with other classmates from similar communities and discuss both their shared experiences and differences within a specific community type. For example, one student wrote, "I enjoyed meeting other people who came from the same background as I do. It was fun to talk about what it was like living in this area." These statements involve a more social aspect and contributed to a decrease in anonymity with others in the class.

Finally, students (n = 22) stated that the activity broke up the lecture and provided them with a chance to move around the classroom. They stated that the activity allowed them to take a break from taking notes and made the time pass more quickly. This student's statement illustrates that sentiment: "It was a good 'intermission' and allowed us to stand up, walk around a bit so that we could better focus on the continuation of the lecture. Also, it helped us meet and get to know some of the other people in our class." Overall, students' responses indicated that they appreciated the opportunity to interact with others in the class and hear about their experiences. Their comments revealed that students recognized the usefulness of the activity in decreasing the anonymity that is often experienced in a large class.

Suggestions for Improvement

In addition to the positive aspects of the activity, students were asked to comment on suggestions they felt would improve the activity. In this instance, students' responses were more varied. First, students (n = 21) stated that the activity would be better suited to discussion sections rather than a large lecture class. For example, one student wrote, "Don't do it in lecture because it's too disorganized.

TABLE 1. Response Scores to Forced Choice Items

Question/Statment	Number of Responses					Mean
	5*	4	3	2	1	
This activity helped me learn more than I would have by myself.	6	18	39	22	9	2.89
The activity kept me interested in the course content.	11	42	24	13	4	3.46
I like working in groups during a large lecture class.	6	16	26	24	21	2.59
How useful was this activity compared to a standard lecture.	7	22	35	20	10	2.96
I enjoyed this activity.	6	30	39	14	5	3.19

Note. *Responses ranged from 5 (strongly agree or very useful) to 1 (strongly disagree or not useful).

This would be a better activity had it been done in discussion." Four of these students stated that they did not feel that students knew each other well enough to open up and talk about their personal lives and that they would feel more comfortable having such conversations in their discussion sections. "My group didn't really seem that eager to share because they didn't know each other—people in discussion section do." The rest of the students did not provide further justification for their sentiments.

Another group of students ($n = 17$) stated that they found the physical setup of the room to be too constraining for the activity. They stated that there were too many people and not enough space to maneuver, that it was difficult to separate into groups, and that it was difficult to hear their group mates: "It was too hard and awkward to move around and try to discuss the topic. The lecture hall isn't really set up well for that kind of setting."

Six other students provided a suggestion closely related to the previous one, stating that if the activity were to be replicated, the instructor should ask students to break up into groups with other students who were seated near them. Their comments indicated that this would minimize movement yet also permit the exchange of ideas between students. "The lecture is kind of big. It was hard getting into groups because we can't turn chairs around to face each other. I think if we just talked to our immediate neighbors it might have been a little better." Yet another suggestion ($n = 8$) was to conduct the activity as a large-group discussion without having individuals break into smaller groups. "I liked the discussion at the end. I think just talking as a large group would do just as well as getting in small groups and then going back to the large group." Although such a strategy would not have permitted discussion with peers, these students felt that they benefited enough from the ensuing group discussion.

Twelve students enjoyed the activity but suggested that the next time the instructor should split students into mixed groups so that they could hear within their small groups, rather than solely during the large-group discussion, the experiences of individuals growing up in communities different from their own. "I think the groups would have been more effective if they were mixed, not divided into experiences that were kind of similar because people tend to group with those people on a regular basis."

Another eight students stated that they would have preferred more structure to the activity by having more explanation ahead of time and more guiding questions. "Perhaps give more specifics as to what we should talk about. In my group, no one got specific but then hearing other people in class I understood more what was being looked for." Overall, students' suggestions indicated that their discomfort about the activity revolved around negotiating social interaction with others who for the most part were strangers, and around dealing with the physical constraints of a classroom with a hundred students and fairly limited space.

Strategies for Implementation

Given students' assessment of the activity, this next section highlights strategies that instructors can use in planning and implementing small-group activities in large lecture classes. Overall, students' feedback indicated that they appreciated the opportunities to interact with other students and hear their perspectives. These findings support previous thought that such active-learning activities decrease anonymity and can motivate students to become more engaged in course content (Cooper and Robinson 2000; McClanahan and McClanahan 2002; Michaelsen 2002; Peters and Armstrong 1998; Umbach and Wawrzynski 2005). Therefore, regardless of the specific strategy, these results support that instructors should provide students opportunities to interact with one another during class time.

Furthermore, incorporating active learning strategies, especially in large classes, involves more planning and time than a traditional lecture format. Although the problem was experienced by only a few students, feedback revealed that the purpose of the activity and the directions should have been more explicitly stated. In large lecture classes in particular, instructors should recognize that students possess a range of skills and aptitudes. Therefore, directions should be written and expressed with that in mind.

For example, one student suggested that the activity be set up from the beginning of the class session. She or he stated that the instructor should assign students to sit in particular sections of the classroom as they are walking into the class and that the instructor should explain the activity's purpose at the beginning. Such a strategy would address several students' suggestions for improvement. First, students would not have to navigate the physical constraints of the room if such a seating assignment were used. Second, students would have a clear idea of the purpose of the activity from the beginning of the lecture. Such findings support the importance of thorough preparation, instruction, and monitoring of the active-learning process in an effort to promote student understanding, on-task learning, and accountability (Cooper, MacGregorm et al. 2000; Davis 1993; McClanahan and McClanahan 2002).

Instructors should also pay careful attention to the kinds of questions they are asking students, as these directives will often explicitly guide students' learning experiences. One example that became evident based on the responses from the day of the assessment was that the question, "How did your thinking change as a result of this activity?" did not direct students appropriately. For the most part, students' responses to this question appeared more visceral in that several stated that their thinking did not change and that they still *felt* the same way about the pros and cons of living in various community types. These were not the type of responses the instructor hoped to receive.

In processing the responses, it became apparent that a more appropriate question may have been, "What is one thing that you learned as a result of this activity?" The more concrete nature of this question would have directed students to think about what new information they were hearing in speaking with their peers, rather than writing their opinions about their initial ideas. Because students' opinions about the pros and cons will not necessarily be changed in fifteen minutes, the questions should have directed them to think more objectively about the information they were hearing rather than their subjective feelings about life experiences in the various community types.

Implications for Practice

To fully institute active-learning exercises into course curricula, instructors may have to take steps to streamline course content to allow appropriate time for student engagement (Cooper, MacGregor et al. 2000; McClanahan and McClanahan 2002). Yet, too often instructors attempt to teach the same amount of material while *adding* active-learning activities. In doing so, they do not provide adequate time for students to benefit from the active-learning process. Furthermore, instructors should schedule into the activity adequate time for students to debrief their experiences. Such a strategy provides closure for students and involves guiding discussion so that the most appropriate responses emerge from the group discussion (McClanahan and McClanahan 2002). Students' feedback supported this notion because the most frequently stated positive aspect of the activity was the opportunity to hear about others experiences. This was done as a large group and served as an opportunity for students to debrief the experience and be exposed to the experiences of others' in the class.

Finally, despite students' suggestions that such activities be conducted solely in discussion sections, their feedback revealed that their understanding was indeed challenged and deepened as a result of the activity. Overall, students' comments provided support for the usefulness of active-learning strategies in large lecture classes. Consequently, instructors who choose to incorporate active-learning strategies into their teaching repertoires should make such activities a recurring portion of their courses so that students, despite their initial resistance, can have the opportunity to get to know one another and become more comfortable interacting with both their peers and their instructor as the semester progresses. The discomfort students feel at the beginning of this process will be outweighed by the benefits of learning about and processing new information as a result of such activities. In sum, small-group activities in large lecture classes, although requiring more work on the part of the instructor, can be an effective strategy for promoting classroom engagement in that they compel students to take on a more active role in the learning process.

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