International Forum
Vol. 15, No. 2
October 2012
pp. 42-56

FEATURE

Effects of Teaching Methods and Students' Attitude on Academic Performance

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Abstract. *This study explored the effects of teaching methods in business instruction and students' attitude toward the class on students' academic performance. The respondents were 135 college students from an Indonesian university. Both the experimental and the comparison groups took the same course taught in two different sections. For two weeks, one teacher taught the two sections of the same course using different teaching methods. In the experimental group (n=58) the teacher used directed small group activities and lectured in the comparison group (n=77). Two-way ANCOVA statistics and t-tests results showed that while both teaching methods had a significant effect on students' academic performance, the small group study group performed better. The results also showed that students' attitude toward the class did not affect academic performance; however, students' attitude were affected by the teaching methods used in the class.*

As an educator, the researcher has always been fascinated by the relationship between teaching methods and students' academic performance; especially when it comes to applications in the context of 21st century education. It seems that there is something in teaching that opens the gate of learning. It is true that successful learning depends on various factors that are not all teacher-related, but the methods that a teacher uses continue to play an important role in student learning and in their academic achievement. The challenges that educators face in the 21st century are so diverse that using better teaching methods is more crucial now than ever before.

Gibbs and Jenkins (1992) bring the argument that the context of class and society has changed, but the teaching methods have remained unchanged. Various

recent studies attempting to address the issues that affect teaching methods and student learning today include educational technology integration (Abbitt, 2011), teachers' roles (Webb, 2009), the class environment (Doll et al., 2010), understanding the adult learner (Kisamore, Aldridge, Alexander, & White, 2008), length of the class session (Coskun, 2011), increasing class size in schools (Gibbs & Jenkins, 1992), students' attitudes (Akkuzu & Akcay, 2011), as well as the increased interdependence of society today (Schul, 2011). These phenomena are affecting higher education globally, including developing countries such as Indonesia where this study is situated. This is true especially when considering how students should be taught.

Studies on teaching methods are not something new in educational research. A large number of studies have been done on this area. Pascarella and Trenzini (2005) have written a compendium of research studies conducted in this area over the past three decades. Even before that, Feldman and Newcomb (1973) mentioned decades of similar research studies in the area of teaching methods. These show both increased interest and knowledge in the area of teaching strategies and learning theories. Svinicki (2000) suggests that these studies on teaching methods conducted in the past decades are so overwhelming that it would be impossible to go over them all in detail. For many decades, the search for better teaching methods to provide the best learning has been the goal of education. However, teaching method is not a one-size-fits-all proposition. Flexibility is crucial in adapting teaching methods in the class. Since all teachers are different, the strategies they use, and the way they use them will depend on the context and situation of their class (McCornac & Phan Thuy, 2005), as well as their own personality and biases.

The main question that still lingers, even after the large number of studies that have been done is, What are the most suitable teaching methods, and how do they impact students' learning in today's setting, especially in large classes? Can cooperative learning provide better results than just lecture in this situation? Do students' attitudes toward the class have any relationship with teaching and learning?

The effect of teaching methods on students' learning should be the interest of every teacher and student. In the field of business teaching, there have been various studies done in an attempt to measure teaching methods. Robinson and colleagues (1990) conducted a case study on several teaching methods in business studies to explore the reasons for their use, and perceptions of effectiveness. The result of their study suggested that various methods do influence teaching effectiveness. Another study by McAlister-Kizzier and the Delta Pi Epsilon Society (1999) suggested that case studies were an effective teaching method for business instruction. This led to further studies on teaching methods in the area of business. Recently, more research in business studies has suggested that teaching

methods that involve small group learning have a positive effect on student learning. For example, a study conducted by Bell, Quazi, and Jasper (2004) suggested that students prefer student group study for better learning in the class. Xu and Yang (2010) acknowledged the positive impact of social interaction in groups. Hosal-Akman and Simga-Mugan (2010) stated that cooperative learning had better potential compared to other teaching methods. This is not surprising since research has shown that cooperative learning has good potential for increasing learning (Ahles & Contento, 2006; Bennett, Hogarth, Lubben, Campbell, & Robinson, 2010; McLeish, 2009; Schul, 2011).

With this general background, this study sought to further develop a better understanding of the role of cooperative learning teaching methods in business education and students' attitude on students' academic performance. The focus was on discovering related variables in actual class settings that may help us understand teaching and learning better. In developing countries where class sizes are usually large and teacher-directed class are considered the norm, it is important to see how cooperative learning method can play a role in students' academic performance.

Review of the Literature

Cooperative learning has been found to be a popular choice of teaching methods in recent years. Cooperative learning allows students to work well together for specific tasks (Slavin, 1990). The core point of cooperative learning is the positive interdependence-learning atmosphere created as the students work in a group (Kagan, 1990). Numerous studies indicate that cooperative learning is a favourable teaching approach for academic and social gain when used responsibly (see for example Ediger, 2011; Sharan, 2010; Tarim, 2009; Yu-Fen, & Kai-Wen, 2009). Nagel (2008) urged that class should go beyond lecture and include active learning where collaboration is encouraged. Cooperative learning is also considered to help students develop the requisite skill of knowing how to work together in today's pluralistic society. It is also seen as an integrative and holistic approach to learning, with a focus on social implications (Schul, 2011).

For use with large classes, which are particularly common in the developing world, cooperative learning is also seen as a favourable approach, but far fewer studies have been done on its direct effect on students' academic performance. A study by Coskun (2011) supports this idea that student grouping in the class does have some positive on unique and original ideas of the student.

Bell et al. (2004) studied thirteen teaching methods. These were suggested by empirical studies on teaching methods and students' perception for best learning. The result suggested that cooperative learning and small group activities are closely correlated with students' learning.

The traditional teaching method, lecture, also has strong literature support. Various research studies have concluded that lecture is still the most widely used teaching method today (Berrett, 2012; Kauffman, 2012; Omatseye, 2007). A recent study by Covill (2011) on college students' perceptions of the traditional lecture method suggests that lecture is of great value and receives positive responses from students. Covil further suggests that the lecture method may carry learning characteristics such as problem solving, critical thinking, etc., usually found only in active learning.

Lecture is seen as the most convenient teaching method even though it may not have the greatest impact on student learning (Jones, 2007), because it seems to be the easiest to prepare compared to other methods. Nevertheless, the impact of lecture should not be underestimated. Tormey and Henchy (2008) argue that the effect will be even greater when lecture is revised and combined with other teaching methods or used with educational technology. This sort of enhanced lecture does contribute to student learning (Berry, 2008; Burke, James & Ahmadi, 2009; Campbell, & Mayer, 2009)

Literature supporting small group learning and lecture as a teaching method is vast. There have been many studies conducted to support each method. But few studies have discussed the comparative effect on students' academic performance of these two teaching methods. One study that comes very close to this found that the mean scores of the cooperative learning group were slightly higher than the lecture group (Hosal-Akman & Simga-Mugan, 2010). Another study showed that teaching methods did have a significant effect on students' scores on achievement test (Sadi & Cakiroglu, 2011).

Several studies showed that students' attitude have a relationship with teaching method and academic performance. Litke's (1995) study showed that students have various attitudes that are closely related to teaching methods. Sadi and Cakiroglu's (2011) study also found that the method used seemed to affect students' attitude toward the class, and this may be the factor that most influences learning. A study by Akkuzu and Akcay (2011) showed a relationship between students' attitude and their academic performance. They suggested that students' positive attraction toward certain kinds of teaching may help increase their academic performance. Eastman, Iyer, and Eastman (2011) suggest that when students have a positive attitude toward something, they will do the task well.

The current study sought to examine the relationship between selected teaching methods, students' attitude toward the class and their academic performance. Specifically, the goal was to study the effects of teaching methods and students' attitude toward the class on students' academic performance.

Methodology

To explore the relationship between teaching methods, students' attitude and academic performance, an experimental research design was chosen. Experimental research provides the best results for the cause and effect correlation of the experiment and comparison groups. The sample was randomized by design. The respondents came from two sections of the same course that had been randomly self-selected during enrolment. The reason the class was divided was simply because of the large number of students who needed the class. The groups were equally distributed for both gender and grade point average (GPA).

The study was conducted in a Christian university in Indonesia. The class was a business course and the respondents were all business students. One teacher taught the two sections at two different times of the day. The students who agreed to participate in the study wrote a pre-test and a post-test, and filled out the *Attitude Toward the Class Scale*.

At the beginning of the study, the researcher and the teacher made an arrangement as to how the two sections of the class would be taught differently with the same materials. One of the classes used traditional lecture teaching methods. The other class used small group study teaching methods. The duration for this small, experimental study was 3 one-hour meetings, covering only one chapter. The classes had a one-hour class period every meeting. The chapter coverage was divided equally over 3 meetings for both classes to provide equal distribution of the lessons that the experiment covered. A pre-test and a post-test were conducted for both classes before and after the intervention to test for students' academic performance.

The Instruments

For this study, the *Attitude Toward the Class Scale (ACS)* was revised and adapted. The ACS was adapted from the *Computer Attitude Scale (CAS)* developed by Mangowal (2008) for her doctoral research. The Cronbach's alpha in her study was .82. The adaption was done by changing the focus of the items from asking respondents about their perceptions toward the computer to their perceptions toward the class. The scale contained 12 items designed to measure response rate using Likert-type responses (Strongly agree, agree, neutral, disagree, and strongly disagree). The ACS was administered after the experiment for both the comparison and the treatment group with a possible score range from 12 to 60. Higher scores show more positive students' attitude toward the class, and lower scores demonstrate more negative student attitudes.

The Procedure

The data for the academic performance variable for this study was retrieved from the pre-test and post-test score differences. The GPA's of the students were taken as the control variable.

The pre-test and post-test. Students' academic performance for this study was measured through the pre-test and post-test. The tests were designed with 10 multiple-choice items. The range of the questions was carefully chosen to cover the whole chapter. The pre-test and post-test questions were the same, but the arrangement of the questions was different. The scores for the pre-test and post-test were 1 point for each question to give a maximum of 10 or a minimum of 0 on each test. The data used from these instruments was the difference between the pre-test and post-test scores. The possible score for the tests, therefore, ranged from 10 to -10. The higher the score, the more improvement there was in the students' academic performance. A negative score demonstrated negative improvement (they forgot what they had apparently known before) after the experiment. There was no mention as to when the pre-test and post-test would be conducted. This was to avoid students studying ahead of time, in order to make sure that the effects from the experimental teaching interventions were maximized.

Small group study worksheet. For the treatment group, three group study worksheets were created to cover the whole chapter. In this class, all the students were divided into groups of three. For three meetings, these groups used the instruments. There was no lecture used in this class at all. The teacher's role was to coach the small groups, provide guidance and make sure each group moved at a similar pace and completed the worksheet on time. The worksheets were used as tools for collaboration. The main point of the small group study worksheet was to give purpose and direction to the small group study. Through these worksheets, the cooperative learning was guided.

In the other class (the comparison group), the teacher used traditional lecture teaching methods. The teacher made sure that the coverage of the lecture for each meeting was the same as for the treatment group. No group learning activities were part of the comparison group.

GPA. With permission from the administrative committee of the school, the accumulated GPA's from previous semesters of the students were retrieved. The GPA of this university was based on a 4.0 scale, with 4 as the highest. The GPA of the students was used as a covariate variable in this study since student GPA is already expected to be a predictor for students' academic performance (Hargrove et al, 2008; Dunegan, 2010).

Theoretical Framework

The variables used in this study are teaching methods, students' attitude toward class, students' GPA's, and students' academic performance. Teaching methods were compared through an experimental design with small group study as the treatment and lecture as the comparison group. Students' attitude was measured using the ACS instrument. The 4.0 scale was used for students' GPA's as a control variable. Students' academic performance in this study was measured by using the difference between students' pre-test and post-test scores. Figure 1 shows a diagram of the theoretical framework of this study.

Participants

The sample of this study consisted of 135 respondents out of 160 students enrolled in both classes. Students participated in both the pre-test and post-test, and the ACS. The experimental group (N=58) was taught using small group study teaching methods and the comparison group (N=77) was taught using the traditional lecture teaching method. Of all the research participants, 81 were female (60%) and 54 male students (40%). And for gender distribution by group, there were 31 female (53%) and 27 male respondents (47%) in the experimental group. In the comparison group, 50 were female (65) and 27 male respondents (35%). The course was Consumer Behavior, one of the business courses in the university where this study was conducted.

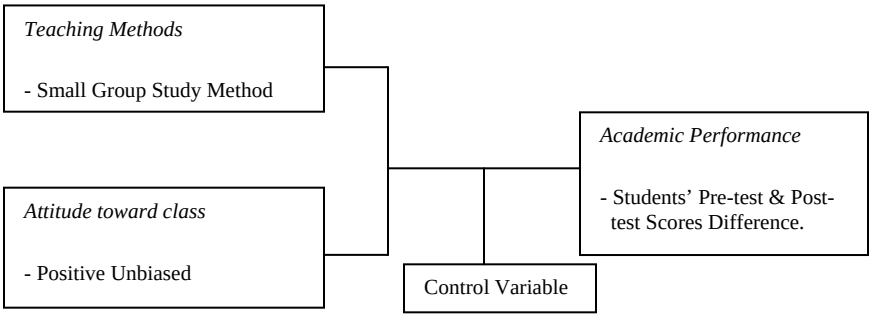

Figure 1. Theoretical framework.

Table 1

Effects of Teaching Methods and Attitude on Academic Performance

Source	Mean Sq.	F	Prob.
DV: Academic Performance			
Model*	8.123	3.208	0.015
Error	2.533		
GPA	4.369	1.725	0.191
Method*	13.735	5.423	0.021
Attitude	4.690	1.852	0.176
Method & Attitude Interaction	9.177	3.624	0.059

* Significant (model p = .015, method p = .021)

Results

Two-way ANCOVA was used to test the relationship of teaching methods and students' attitude toward the class on students' academic performance. The result of the test of normality showed that the q-plot graph falls within the normal distribution. The reliability test for the ACS was a Cronbach's alpha of .78.

Using ANCOVA statistical test, the result as displayed in Table 1 showed that the model was significant (p = .015) and that teaching methods (p = .021) had a significant direct effect on students' academic performance, whereas their attitude did not (p = .176).

This result confirms claims from some studies that have suggested that teaching methods have a direct effect on students' academic performance (e.g., Bell et al., 2009; Weldy & Turnipseed, 2010). The results also showed that students' attitude toward the class had no significant effect on their academic performance. This could mean that students' perceptions toward the class whether positive, unbiased, or negative, did not determine their academic performance. This contradicts the study by Akkuzu and Akcay (2011) where the results showed that students' attitude toward the class significantly affected their academic performance.

When teaching methods and students' attitude toward the class were considered, he students accumulated GPA from previous semester in this study did not influence academic performance. In other words, the students' academic performance in this study was significantly affected by the teaching method regardless of what GPA level the students had.

Table 2

Teaching Methods Group Statistics on Academic Performance

	Teaching Methods	Mean	SD
Academic Performance	Small Group Study	1.86	1.492
	Lecture	1.21	1.704

To know which type of teaching methods had a better effect on academic performance, independent *t*-tests were performed to compare the effect of teaching methods on academic performance. Levene's test showed that equal variance for academic performance was assumed and the result of the *t*-test for teaching methods was significant ($p = .021$). The result also showed that small group study had a higher mean than lecture, as seen in Table 2.

This finding suggests that while both teaching methods had a significant effect on the academic performance of the students, small group study teaching method could help students perform better than just lecture. This result also confirmed the study by Bell et al. (2004) stating that small group teaching methods helped students perform better academically than did lecture. This also confirmed a study on lecture teaching by Jones (2007) and Allen and Cockman (2009) suggesting that while it is not the best teaching method, lecture still has an effect on student learning.

Other Findings

There was also another significant finding. While students' attitude toward the class showed no direct effect on their academic performance, it did show a direct effect based on teaching methods. Using ANOVA, a statistical analysis of variance was performed to see the effect of teaching methods on students' attitude toward the class. The result showed that there was significant relationship ($F = 6.261$, $p = .014$). It shows that there was an effect of teaching methods on students' attitude toward the class.

Using *t*-test analysis, the result showed that the mean ACS score for the group using the small group study method ($M = 43.29$) was significantly higher than the mean of the lecture method group ($M = 41.33$).

This shows that the small group study participants had more positive attitudes than the lecture group. The difference was not large, but the teaching methods used in the class did affect the perception of students toward the class. This is similar to results by Sadi and Cakiroglu (2011), where they found a significant relationship between teaching methods and students' attitude, and to Dugan and

Letterman's (2008) study that suggested that students prefer teaching methods that use collaboration.

Conclusion

The result of this small experiment study suggest some ways of providing effective business teaching and of meeting the 21st century needs for social interdependence, as established at the beginning of this study. Having been done in business school at an Asian university where large class sizes are common and the most frequently used teaching method is lecture (McCornac & Phan Thuy, 2005), the study gives a glimpse of what better instruction might look like in this setting.

The result suggests that cooperative learning methods can have a better effect on students' academic performance even in large classes. This result suggests that, even in a setting where lecture is dominant, students score higher when they work in groups. This shows that students from this study respond well to group work. This study differs from another study done in Turkey; a similar context, where the lecture method is dominant. Hosal-Akman and Simga-Mugan (2012) found that group learning methods did not affect students' academic performance. They mentioned, however, that "a possible reason for not finding this is that students might not be ready for such an environment as traditional teaching methods have dominated their schooling" (pp. 258-259). So it is a possibility that the students' acceptance of group learning was higher in the current study. And it could also be that the school climate in this study is already promoting cooperative learning. Or perhaps there are other factors that are not explained in this study that could be considered for further study.

This study also found that students' attitudes toward the class do not affect students' academic performance in this specific research setting, even though several studies had shown such a relationship. Litke (1995) described that students' positive attitude may affect their academic success. Sahin and Erkal (2010) suggested that the attitude of the student toward the class environment affects their responsibility toward academic studies. Recently, the study by Akkuzu and Akcay (2011) showed that student attitudes have a direct effect on their academic performance. But all these studies did not include teaching methods as part of their framework. Perhaps one possible answer to this result is that students' attitudes toward class may have an indirect effect on academic performance through teaching method. This shows in the result of this study that teaching method has direct effect on student attitudes toward the class. This would explain the studies indicating that teaching methods and attitude are closely related (Gottschall & Garcia-Bayonas, 2008; Hong, 2010; Sadi & Cakiroglu, 2011).

The findings of this study should also be taken with precaution, since the study was only focusing on the two selected teaching methods. Perhaps a similar study can be done with additional teaching methods. Or perhaps various other factors that can play role in this students' academic performance can be considered. The length of the experiment could be extended to a semester to increase the impact of the teaching methods. Additionally, a delayed post-test could be administered to evaluate the lasting effect of each teaching method. Last, this study can open up further studies on teaching methods and attitude for business studies.

In conclusion, the contribution of this study to research is its analysis of the relationship among teaching methods, students' attitudes toward the class and students' academic performance. The findings are that teaching methods affect students' academic performance and students' attitude toward the class. The small group study method resulted in better academic performance and also in better student attitudes toward the class than the lecture method. It is hoped that this study will open up further discussion and research on how to provide better instruction for business students and assist in finding better ways of addressing the various associated educational issues.

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