1-26-2014

A Comparison of Active Leaming and Traditional Lecture Pedagogical Styles in a Business Law Classroom

LeVon E. Wilson
Georgia Southern University

Stephanie Sipe
Georgia Southern University, ssipe@georgiasouthern.edu

Journal of Legal Studies Education
AN OFFICIAL PUBLICATION OF THE AMERICAN BUSINESS LAW ASSOCIATION

Journal of Legal Studies Education
Volume 31, Issue 1, 89–105, Winter 2014

A Comparison of Active Learning and Traditional Pedagogical Styles in a Business Law Classroom

LeVon E. Wilson[*] *and Stephanie R. Sipe*[**]

I. Introduction

Do college students learn best by the traditional lecture[1] pedagogical style of delivery, or should university professors discard the traditional lecture and opt for an active learning[2] environment? The search for the answers to these questions prompted the researchers to experiment with two different pedagogical methods in the classroom to determine whether there was a significant difference in student learning as a result of the style of delivery. Specifically, the purpose of this study was to determine whether an active learning classroom environment is more effective in teaching university students certain concepts of business law than the traditional lecture environment. To generate data to answer this question, over a seven-semester period beginning in fall semester 2005 six classes of Legal Environment of Business students were instructed on the topic of employment discrimination by a lecture method of delivery, and nine classes of Legal Environment of Business students were taught the same topic by an active learning method of delivery. The learning outcomes of the student groups were then assessed using a standardized test that was designed to measure the levels of student learning under several categories of Bloom's Taxonomy.[3]

---

[*]Professor of Legal Studies, Georgia Southern University.

[**]Associate Professor of Legal Studies, Georgia Southern University.

[1]The traditional lecture method is commonly viewed as when professors talk and students listen.

[2]Active learning, sometimes referred to as collaborative learning or learning by discovery, may include a number of instructional techniques that are designed to actively involve students.

[3]*See* A Committee of College and University Examiners, *The Nature and Development of the Taxonomy*, in Taxonomy of Educational Objectives: The Classification of Educational Goals 10, 18 (Benjamin S. Bloom ed., 1956).

This study was conducted on university students in their first business law class, which was Legal Environment of Business. The groups were not told that they were being evaluated on how they responded to different teaching methods. After the chapter material was delivered to the students and they were assessed on their knowledge by way of the standardized test, their responses were evaluated to determine whether there was any significant increase in learning for students who were taught by the active learning method of instruction versus students who were taught by a lecture method of instruction.

II. Research Questions

1. As measured by test score, to what extent is an active learning classroom environment more effective in teaching university students certain concepts in a business law classroom than the traditional lecture environment?
2. To what extent is the learning of business law concepts impacted by the style of instructional delivery and other variables such as gender, class attendance, or class level?

III. Literature Review

The purpose of this study was to see if active learning does in fact produce a more successful learning outcome for the study of business law concepts. The authors, through their own learning experiences, had a subjective belief that active learning presentations can lead to more successful learning opportunities, at least for adult learners. However, the authors were aware of some controversy in the literature on the effects of active learning. For example, prior research by Brown and Pendlebury[4] points out that just because learners happen to be engaged in some kind of observable activity, this does not mean that they are necessarily the *subjects* of their own learning, rather than objective recipients of information, as active learning theories would have us believe. Further, other researchers think that there may be a problem in the aims of the active learning community. According to Kane,[5] the process may be as important as the product and basically color the

---

[4]*See* George Brown & Malcolm Pendlebury, Assessing Active Learning: Effective Learning and Teaching in Higher Education Module 11 1–5 (1992).

[5]Liam Kane, *Educators, Learners and Active Learning*, 23 Int'l J. Lifelong Educ. 275 (2004).

judgment of the learners. He states that it sometimes seems that active learning is simply seen as a more efficient method of transmitting prepackaged knowledge than traditional instruction. In his examination of the effectiveness of active learning, Prince noted that "not all of this support for active learning is compelling. McKeachie himself admits that the measured improvements of discussion over lecture are small. In addition, Chickering and Gamson do not provide hard evidence to support active learning as one of their principles. Even studies addressing the research base for Chickering and Gamson's principles come across as thin with respect to empirical support for active learning."[6]

On the other hand, many researchers feel that an active learning environment is the best way to get information into the minds of students. According to Chickering and Ehrmann,[7] an effective learning environment requires opportunities for interaction and feedback. Many learning theories support the view that student learning is enhanced through opportunities to work collaboratively.[8] For example, cognitive theorists like Jecker[9] describe how learning takes place as students confront and discuss conflicting opinions with peers. For students to be involved in active learning, they must read, write, discuss, or be engaged in solving problems. Bonwell and Eison[10] report students must engage in higher-order thinking tasks and analysis, synthesis, and evaluation in order to be actively involved. In short, it is proposed that strategies promoting active learning result in instructional activities involving students in doing things other than simply listening and thinking about what they are doing.[11]

Tsay and Brady conducted a case study of cooperative learning, which, they suggest, is one of the most commonly used forms of active learning. Cooperative learning takes place through an individual's interaction with his or her peers. Such interaction with others, according to Tsay and Brady,

---

[6]Michael Prince, *Does Active Learning Work? A Review of the Research*, 93 J. Engineering Educ. 223, 225 (2004).

[7]Art Chickering & Stephen Ehrmann, *Implementing the Seven Principles: Technology as Lever*, Aahe Bulletin, Oct. 1996, at 1, 4.

[8]*See* Prince, *supra* note 5, at 225.

[9]John D. Jecker, *The Cognitive Effects of Conflict and Dissonance*, *in* Conflict, Decision, and Dissonance 21, 21 (Leon Festinger ed., 1964).

[10]Charles Bonwell & James Eison, *Active Learning: Creating Excitement in the Classroom*, *in* 1 Ashe-Eric Higher Education 1, 3 (1991).

[11]*Id.* at 2.

enables students to make better sense of what they are learning as they become responsible for articulating and discussing class content with their peers.[12] Results from the study support the notion that cooperative learning is indeed an active pedagogy that works to foster higher academic achievement.[13]

Bonwell and Eison also report that class discussion is one of the most common strategies promoting active learning.[14] They suggest that if the objectives of a course are to promote long-term retention of the information, to motivate students toward further learning, to allow them to apply information in new settings, or to develop their thinking skills, then discussion is preferred over lecturing.[15] These researchers cite several studies that have shown that students prefer strategies promoting active learning to traditional lectures.[16] In their study, Terenzini et al. sought to evaluate whether active collaborative teaching methods were more effective than conventional instructional approaches in promoting students' design skills. Results indicated that those students taking courses taught using active and collaborative approaches to teaching design reported statistically significant advantages in a variety of learning outcome areas.[17]

Other research studies evaluating students' achievement have demonstrated that while many strategies promoting active learning are comparable to lectures in promoting the mastery of content, active learning methods are superior to lectures in promoting the development of students' skills in thinking and writing. Further, some cognitive research has shown that a

---

[12]MinaTsay & Miranda Brady, *A Case Study of Cooperative Learning and Communication Pedagogy: Does Working in Teams Make a Difference?,* 10 J. Scholarship of Teaching and Learning 78, 79 (2010). The purpose of their study was to examine the relationship between cooperative learning and academic performance pertaining to higher education in the field of communication. The empirical analysis provided support for the fact that active participation in team-based learning has a positive relationship with students' academic performance.

[13]*Id.* at 85.

[14]Bonwell & Eison, *supra* note 9, at 3.

[15]*Id.*

[16]*Id.*

[17]*See* Patrick T. Terenzini et al., *Collaborative Learning vs. Lecture/Discussion: Students' Reported Learning Gains,* 90 J. Engineering Educ. 123, 129. The authors concluded that the findings from their study provided empirical support for beliefs about the greater effectiveness of active and collaborative learning when compared with more traditional approaches to developing students' engineering skills.

significant number of individuals have learning styles that are best served by pedagogical techniques other than lecturing.[18]

Research consistently has shown that despite the studies promoting active learning, the traditional lecture method is still viewed as the dominate method of delivery in college and university classrooms.[19] In the traditional classroom, students are exposed mostly to verbal lectures given by their instructors where students are passive listeners and note takers. According to McManus, "[s]tudents are assumed to enter the course with minds like empty vessels or sponges to be filled with knowledge."[20] However, in a critique of the traditional approach to education, Nilson maintains that there is significant evidence that at the college level, active learning methods ensure more effective, more enjoyable, and more memorable learning than do passive methods such as the lecture. Most people, according to Nilson, neither absorb nor retain material very well simply by reading or hearing it. The best methods permit learning by doing, by acting out, by experiencing first hand, or by thinking through the realization. Citing studies by McKeachie et al.[21] and Bligh,[22] Nilson acknowledges that the lecture is as effective as any other method in conveying factual knowledge. However, it is not as effective in the development of thinking and problem-solving skills. The lecture, according to Nilson, also falls short when it comes to transfer of knowledge to new situations, student satisfaction with the course, motivation for further learning, and postcourse retention of knowledge.[23]

Thornton and Sokoloff conducted a research-based multiple-choice assessment of student conceptual understanding of Newton's Laws of Motion in introductory physics courses. Their study revealed that student understanding of dynamics concepts were significantly improved when active learning

---

[18]Bonwell & Eison, *supra* note 9, at 3

[19]Linda Nilson, Teaching at Its Best: A Research-Based Resource for College Instructors 93 (2d ed. 2003).

[20]Dean McManus, *The Two Paradigms of Education and the Peer Review of Teaching*, 49 J. Geoscience Educ. 423, 424 (2000).

[21]Wilbert McKeachie et al., Teaching Tips: Strategies, Research, and Theory for College and University Teachers 58–59 (14th ed. 2012).

[22]Donald Bligh, What's The Use of Lectures? 8 (1998).

[23]Nilson, *supra* note 18, at 93.

strategies were substituted for traditional ones.[24] Cavanagh is a strong advocate for incorporating active engagement and cooperative learning activities into lectures. His study used a student questionnaire to investigate students' perceptions of the value and importance of the active learning and cooperative activities they undertook during what he refers to as "lectorials."[25] According to Cavanagh, students offered many explanations for why they thought that the cooperative learning activities had helped them understand the unit content. The most common reasons to emerge in the study related to the ways in which the lectorials provided numerous opportunities for students to become active participants in their learning. He indicated that "students recognized that discussions promoted a much deeper analysis of the subject matter than if they had simply copied down notes."[26] Even Cavanagh acknowledged that "it is important to note that the questionnaire was designed only to capture students' perceptions about their learning; no attempt was made to investigate the impact of the lectorial activities on how well students actually learned the content."[27] This study indicates, at best, that students place a value on being productively engaged during lectures.

Based on these theoretical differences on the outcomes of active learning, the authors of this study sought to test on a comparison basis the effects of an active learning environment versus curriculum delivery through lecture. The authors were interested in discovering not only whether there was a difference in learning outcomes between these two styles of instructional delivery, but also whether there was a noticeable effect on higher-order learning skills as defined in Bloom's Taxonomy that was associated with presentation design.

---

[24]Ronald K. Thornton & David R. Sokoloff, *Assessing Student Learning of Newton's Laws: The Force and Motion Conceptual Evaluation and the Evaluation of Active Learning Laboratory and Lecture Curricula*, 66 Am. J. Phys. 338, 346 (1998).

[25]Cavanagh defines "lectorials" as a combination of lecture and tutorial. Lectorials are structured so that the activities change every ten to fifteen minutes, so that there are typically two or three cooperative learning tasks interspersed between some traditional lecturing in each session. The key feature of the design of the lectorials is the inclusion of segments of traditional lecturing blended with activities designed to engage students actively in their learning and provide sufficient time for them to process ideas. Michael Cavanaugh, *Students' Experiences of Active Engagement through Cooperative Learning Activities in Lectures*, 12 Active Learning in Higher Educ. 23, 25 (2011).

[26]*Id.* at 27.

[27]*Id.* at 30.

IV. Methodology

The population for this study consisted of 563 students enrolled in business law courses taught by two of the authors during a seven-semester period beginning in fall 2005.[28] The authors taught these sections primarily using the lecture method of instruction throughout the semester. When there were approximately four weeks remaining in the semester, the authors deviated from their traditional lecture method and taught the topic of employment discrimination to some of their sections using an active style of learning. The active learning classes were instructed using the Cognitive Inquiry Design of Instruction.[29] The instructors did not use PowerPoint slides or lecture during the active learning sessions. Instead, students were given a series of problems to solve, either individually or collaboratively, in order to *discover* content as opposed to being *told*.[30] In contrast, other sections of this course continued to use a lecture method of delivery. During those sections, the authors used

---

[28]The initial classes were taught either by Dr. LeVon Wilson or Dr. Stephanie Sipe during fall semester 2005. Each professor taught three sections of the same course. Both Drs. Wilson and Sipe taught these sections primarily using the lecture method of instruction throughout the semester. With approximately four weeks left in the semester, Dr. Sipe deviated from her traditional lecture method and taught the topic of employment discrimination to two of her sections and one of Dr. Wilson's sections using an active style of learning designed under the Cognitive Inquiry Design of Instruction. Dr. Sipe used a lecture method of delivery for her third section of students, and Dr. Wilson delivered the same lecture to his two remaining sections. Drs. Sipe and Wilson attempted to control the personal factors associated with university classroom instruction. Dr. Sipe taught all three sections of the active learning classes, and she and Dr. Wilson used the same PowerPoint slide presentation prepared by the authors of their textbook to lecture to the remaining three classes. For subsequent semesters beginning fall 2007, all class sections were taught by Dr. Wilson.

[29]Instruction based on the cognitive inquiry theory is learner centered and problem based, as opposed to instructor centered and solution based. P. Pallesen, *Cognitive Inquiry*, *in* Models and Strategies for Training Design 193–211 (Karen L. Medsker & Kristina M. Holdsworth eds., 2001).

[30]In *Activity 1*, students were asked to work in pairs to make a list of all classes of persons that have been historically discriminated against. Once the pairs had created these lists, the instructor compiled the responses on the board, and the students were able to group them into classes of persons with "immutable characteristics" (characteristics that cannot be fundamentally changed) versus those with nonimmutable characteristics. Next, *Activity 2* required students to work in different pairs to make a list of all types of employment decisions that are made in the regular course of business that might provide opportunities for discrimination. Following this activity, the instructor again compiled the responses on the board and asked students to identify which classes of persons were protected by employment discrimination laws and what types of employment practices are prohibited. During *Activity 3*, students worked individually on a worksheet that asked them to match the names of antidiscrimination statutes or significant

the same PowerPoint slide presentation that was prepared by the publishers of their textbook.

The classes taught by traditional lecture pedagogy using the PowerPoint slide presentation was instructor centered and solution based. There was little dialogue between the instructor and the students or among the students themselves during the lecture. The PowerPoint slides covered the same material as did the active learning sessions, but students were told what the law was, to whom it applied, and how it applied. Both approaches took place during two ninety-minute class periods, and at the beginning of the third class period, the students were given the same eighteen-question multiple-choice test on employment discrimination.[31]

The eighteen-item multiple-choice test that was used to assess student learning was created from a test bank that accompanied the course textbook. In selecting questions to be used from the test bank, the authors attempted to choose questions that assessed students' knowledge, comprehension, application, analysis, and evaluation skills. Given the introductory level of the class and the limited time for testing, the questions tended to fall in the lower-level learning categories of knowledge, comprehension, and analysis. In all, the test contained four knowledge questions, two comprehension questions, seven application questions, one analysis question, one synthesis question, and two evaluation questions. Of the students who took the test, 241[32] were instructed by the lecture method, and 322[33] were instructed by the active learning method.

---

terms in or provisions of the statutes with their definitions. The instructor then facilitated a class discussion in which the right answers were generated and discussed by the students. *Activity 4*, the last activity, required students to identify impermissible employment decisions that were read to them by the instructor from hypothetical cases. Again, the responses were discussed and debated by the class members. During fall 2005, at the time of the initial data collection, these activities were spread over the period of two ninety-minute classes. At the beginning of the third class, students were given an eighteen-question multiple-choice test on employment discrimination.

[31] In subsequent semesters of data collection, although the materials covered were the same, the number of days devoted to the topic and the number of minutes per class meeting varied. This occurred as a result of some classes being taught during a Monday/Wednesday/ Friday schedule, a Tuesday/Thursday schedule, or a daily five-week summer session. Also, rather than administer the test during the class meeting immediately following the delivery of the instruction, the same eighteen items were provided as embedded questions in the students' final exam.

[32] This represents 43 percent of the total population.

[33] This represents 57 percent of the total population.

Table 1: Total Scores—Frequencies, Percentages, Means, and Standard Deviations

Score	*Frequency*	*Percent*	*Cumulative Percent*
4	2	00.4	00.4
5	5	00.9	01.2
6	21	03.7	05.0
7	47	08.3	13.3
8	74	13.1	26.5
9	88	15.6	42.1
10	96	17.1	59.1
11	82	14.6	73.7
12	69	12.3	86.0
13	44	07.8	93.8
14	23	04.1	97.9
15	10	01.8	99.6
16	2	00.4	100.0
Total	563	100.0	
Mean = 10.01	Standard Deviation = 2.23		

V. Data Analysis

Once the tests were graded and case numbers assigned, responses were coded into an Excel spreadsheet and imported into the SPSS statistical software program. With the data integrated into SPSS, descriptive statistics for the sample as a whole, and descriptive statistics for the population of lecture students and the population of active learning students were run. Correlations were run to determine the relationship between demonstrated learning (correct test answers) and the style of instructional delivery. A t-test was performed to note the difference in means for each test question. Means of each group were computed. An ANOVA was conducted to determine if the two group means differ at the .05 level of significance. Pearson correlation coefficients were computed to obtain correlations between individual items and test score as well as to determine if class attendance was positively linked to overall test score. Significance was sought at the .05 level. Results from data analyses are presented in Tables 1 through 8. Because no demographic data were collected during fall 2005 at the time of the initial data collection, no analyses were performed to examine the relationship between demographic characteristics and test score for those data. However, analyses were conducted on demographic data that were collected during subsequent semesters.

Table 2: Overall Percentage of Correct Answers

Question Number	*Question Type (Bloom's)*	*Overall (%)*	*Lecture (%)*	*Active (%)*
1	Application	67	72.3	63.9
2	Knowledge	22	21.1	23.4
3	Knowledge	82	80.2	82.6
4	Application	98	97.9	97.8
5	Synthesis	64	66.9	62.6
6	Application	77	74.4	79.8
7	Application	80	80.6	78.8
8	Analysis	25	16.1	32.1
9	Application	56	62.4	51.1
10	Evaluation	39	37.2	41.1
11	Knowledge	71	74.4	68.2
12	Knowledge	42	51.2	34.9
13	Evaluation	58	54.5	60.1
14	Application	70	68.2	70.7
15	Application	32	32.6	32.1
16	Application	28	26.4	29.9
17	Comprehension	38	38.8	36.8
18	Comprehension	53	55.4	51.1

VI. Findings

Test scores for the entire population ranged from a high of 16 to a low of 4 with an overall mean score of 10.01 and a standard deviation of 2.23. Lecture scores spread from a high of 16 to a low of 5 with a mean score of 10.10 and a standard deviation of 2.24. Active learning scores spread from a high of 16 to a low of 4 with a mean score of 9.95 and a standard deviation of 2.22. Table 1 presents raw scores, frequencies, percentages, cumulative percentages, means, and standard deviations for total test results.

Overall, more than 50 percent of the students gave correct answers for 11 of the 18 questions. Table 2 shows the question number, the question's designation under Bloom's category of learning, and the percentage of students who answered the question correctly, while Tables 3 and 4 show the question designation and percentage of correct answers by delivery style.

The questions for which the students showed the greatest number of correct answers (more than 70 percent correct) were questions 3 (knowledge) and 4, 6, 7, and 14 (application). The questions for which the students showed the least number of correct answers (less than 40 percent) were 2 (knowledge), 8 (analysis), 10 (evaluation), 15 and 16 (application), and 17 (comprehension).

Table 3: Question Designation and Percentage of Correct Answers (Greater than 50 Percent) by Delivery Style

Question Number	*Question Type (Bloom's)*	*Overall (%)*	*Lecture (%)*	*Active (%)*
1*	Application	67	72.3	63.9
3	Knowledge	82	80.2	82.6
4	Application	98	97.9	97.8
5	Synthesis	64	66.9	62.6
6*	Application	77	74.4	79.8
7	Application	80	80.6	78.8
9*	Application	56	62.4	51.1
11*	Knowledge	71	74.4	68.2
13*	Application	58	54.5	60.1
14	Application	70	68.2	70.7
18	Comprehension	53	55.4	51.1

*= point spread greater than five percentage points

Table 4: Question Designation and Percentage of Correct Answers (Less than 50 Percent) by Delivery Style

Question Number	*Question Type (Bloom's)*	*Overall (%)*	*Lecture (%)*	*Active (%)*
2	Knowledge	22	21.1	23.4
8*	Analysis	25	16.1	32.1
10	Evaluation	39	37.2	41.1
12*	Knowledge	42	51.2	34.9
15	Application	32	32.6	32.1
16	Application	28	26.4	29.9
17	Comprehension	38	38.8	36.8

*= point spread greater than five percentage points

Analyses were conducted based on class attendance. These analyses were designed to help determine if students who had better attendance also performed better on the test. Student attendance ranged from zero to two days for both lecture and active learning sessions. The mean score for students who attended one or fewer days was 9.75, while the mean score for students who attended more than one day was 10.12. Tables 5 and 6 provide a breakdown of scores based on class attendance.

A Pearson r was run to determine if class attendance was positively linked to overall score. A correlation coefficient of .010 indicated significance at the .05 level. Thus, we concluded that students who attended more classes were more likely to perform better than those who attended fewer classes. Table 7 represents those results.

Table 5: Students Who Attended One or Fewer Classes—Frequencies, Percentages, Means, and Standard Deviations

Score	*Frequency*	*Percent*	*Cumulative Percent*
5	4	02.5	02.5
6	7	04.3	06.8
7	18	11.1	17.9
8	24	14.8	32.7
9	22	13.6	46.3
10	28	17.3	63.6
11	23	14.2	77.8
12	14	08.6	86.4
13	13	08.0	94.4
14	5	03.1	97.5
15	3	01.9	99.4
16	1	00.6	100.0
Total	162	100.0	
Mean = 9.75	Standard Deviation = 2.32		

Table 6: Students Who Attended More Than One Class—Frequencies, Percentages, Means, and Standard Deviations

Score	*Frequency*	*Percent*	*Cumulative Percent*
4	2	00.5	00.5
5	1	00.2	00.7
6	14	03.5	04.2
7	29	07.2	11.5
8	50	12.5	23.9
9	66	16.5	40.4
10	68	17.0	57.4
11	59	14.7	72.1
12	55	13.7	85.8
13	31	07.7	93.5
14	18	04.5	98.0
15	7	01.7	99.8
16	1	00.2	100.0
Total	401	100.0	
Mean = 10.12	Standard Deviation = 2.18		

Though not significant, it was interesting to find that students who were exposed to the lecture method of delivery had a higher mean score than those who were exposed to the active learning method. Other interesting findings include the fact that women had a slightly overall higher

Table 7: Correlation—Relationship of Class Attendance on Overall Score

Correlation		*CLASATND*	*RAWSCR*
CLASATND	Pearson Correlation	1.000	.109**
	Sig. (2 tailed)		.010
	N	563	563
RAWSCR	Pearson Correlation	.109**	1.000
	Sig. (2-tailed)	.010	
	N	563	563

**Significant at $p < .05$.

Table 8: Student Classification and Overall Mean Scores

CLASS	*Mean*	*N*	*Standard Deviation*
Freshman	9.60	35	2.10
Sophomore	10.02	271	2.27
Junior	10.28	67	2.28
Senior	10.50	12	2.02
Graduate	11.67	9	2.83
Total	10.08	394	2.27

mean score than men, 10.15 and 10.04, respectively.[34] Men who were exposed to the lecture method of delivery had a higher mean score than women at 10.32 compared to 10.00. Conversely, women who were exposed to the active learning delivery method had a mean score of 10.21, which was higher than the 9.86 mean score registered by men. The analysis revealed that women were more likely to attend class than men. Additionally, as evidenced by a Pearson r correlation coefficient of .012, there was a positive correlation between student classification and mean score. Graduate students performed better than undergraduate students; seniors outperformed juniors; juniors registered a higher mean score than sophomores, and sophomores scored better than freshmen. Table 8 provides a breakdown of those results.

[34]Based upon a sampling of 394 students for whom we collected demographic data, 253 or 64 percent were male, and 141 or 36 percent were female. Men scored higher on ten out of eighteen items; while women scored higher on eight out of eighteen items on the test instrument.

Table 9: ANOVA—Method of Delivery with Overall Score

Source	*df*	*Mean Square*	*F*	*Sig.*
Between Groups	1	3.064	.618	.432
Within Groups	561	4.957		
Total	562			

Significant at $p < .05$.

VII. Results Based on Instructional Style

A t-test revealed the difference in means for each question. The results revealed that students who were exposed to the lecture method scored higher on ten out of eighteen test items. The type of questions that the lecture students performed best on include five application questions, two knowledge questions, two comprehension and one synthesis question. Students who were exposed to active learning methods outscored those exposed to the lecture method on eight of the eighteen test items. The type of questions that the active learning students performed best on included three application questions, two knowledge questions, one analysis question, and two evaluation questions.

An ANOVA was conducted on the means of the two groups (lecture and active learning) to determine if their means differed significantly at the .05 level. The results indicated no significant difference in the mean scores of students exposed to the lecture method (10.10) and those exposed to the active learning method of instruction (9.95). Table 9 represents the ANOVA results.

As evident, the results conform to no discernible pattern. If there was a significant difference in learning based on the method of curriculum delivery, the researchers would have expected to find more consistency in the way the two groups scored on the questions. As it stands, the groups were fairly evenly divided on their performance on comprehension and application questions. Their differences in performance on most of the questions are too slight to be able to draw any reasonable inferences. While not statistically significant, as indicated by the p value of .432, the results invite further study.

VIII. Limitations of the Study

The authors have identified several limitations of this study that may have an impact on the results that were generated. First, students who were tested may or may not have attended all lecture or active learning sessions. Students

who may have been absent for one or more of the lecture or active learning modules were permitted to take the test if they were in attendance when the instrument was administered. Second, participating instructors may have different levels of mastery, different instructional preferences and styles, as well as different comfort levels with one delivery method versus another, which could affect student understanding of the material. Further, no consideration was given to the number of students in each class and whether or not it may have some bearing on the overall results of the study. Finally, no consideration was given to whether or not students completed any assigned readings prior to being tested.

IX. Recommendations for Further Study

The authors have identified several ways in which this study could be expanded to generate more universal results and conclusions. The authors suggest that the test instrument could be refined to reflect a balance of all of Bloom's Taxonomy designations. They also recommend that the study should be expanded to include a full semester rather than a single topical area. Some consideration should also be given to conducting a longitudinal study.

Further, this study presents no clear indication of the variables that affect the outcomes that have been identified. Limited demographic data were collected from students in the current study. For example, the instrument did not take into consideration the participants' field of study. This variable should be studied to determine the extent to which it contributes to overall knowledge. No distinctions were made based on student leveling (i.e., freshman, sophomore, junior, senior, or graduate) or gender for the initial data collection in 2005.[35] A more robust study might look at the relationship between the students' knowledge level and those demographic variables on the entire population.

Finally, additional study is needed to validate the findings of this and previous studies. The instrument could be expanded to a regional or national audience. The current study focused on an introductory business law course. Students in other business disciplines should be surveyed as well.

---

[35]No demographic data were collected from students during fall semester 2005. Thus, no such data were available for 169 students who were among the participants during the initial data collection. This matter was addressed in subsequent semesters as these data were collected for the most recent data set, which consisted of 394 students.

Although numerous questions still remain as to the impact of an active learning environment on student learning in the university setting, this study does suggest that successful active learning is not achieved simply by the participation in a classroom activity. Students may report a more favorable experience from an active learning class, but for learning to occur, the active learning method requires more from both the instructor and the students than traditional lecture style pedagogy.

X. Conclusion

An interesting result of the findings from this study is that, in contrast to the authors' own hypotheses and research done by Bonwell, Eison, and others, there were no indications that an active learning classroom environment is any more effective in teaching university students certain business law concepts than the traditional lecture pedagogical style, at least in this particular study. The data collected by the study showed no difference in levels of student learning at the .05 level of significance. Not only was there no significant increase in learning for students who were taught by the active learning method of instruction versus students who were taught by the traditional lecture method of instruction, overall students who were exposed to the lecture method of delivery performed slightly better than those who were instructed by active learning methods. Students who were exposed to the lecture method scored higher on ten out of eighteen test items. Students who were exposed to active learning methods outscored those exposed to the lecture method on only eight of the eighteen test items. The scores were identical on one test item.

One might surmise that these results may be due to student attitude and expectation. Many students believe that their responsibility is to be passive learners. They believe that it is the responsibility of the instructor to tell them the *important* information, usually in the form of a traditional lecture. University students may be unfamiliar with or confused by active learning where they are required to take on the role of instructor and learn the material through their own discovery. Further, in order for active learning to be successful, students must *actively participate* in the learning process, which starts with doing the reading and being prepared for class. This is especially true in topical areas where students are likely to have little to no personal knowledge or experience on the subject to bring with them into the classroom.

Perhaps the results favoring the lecture method of delivery are due to the fact that the PowerPoint slides used for the lectures and the questions on the test were prepared by the authors of the textbook from which the test questions were drawn. Thus, students were at least exposed to some of the materials that were included on the test instrument. Conceivably, active learning students, through their own discovery, may not have stumbled onto the *most important* materials (as determined by the instructors), which would have better prepared them for the test. Further, the fact that some students performed better with one style of instruction as opposed to the other may also be reflected in their personal preferred learning styles.

Our results do not overwhelmingly favor one particular style of delivery over another. Instead, they show a need to experiment with employing different curriculum delivery techniques depending on content and class rather than a single pedagogical style. Further, if instructors choose to use an active learning environment in the classroom, there should be some controls put in place to ensure that students are knowledgeable and prepared before their arrival in the classroom. University professors divided by their advocacy for one learning style over another may be united on at least one issue: just because the material has been assigned does not mean that students will actually read it. This then begs the question that if students are not prepared to learn, does it really matter at all which method instructors use to teach them? The answer to that question is certainly one more area for further study by sometimes baffled educators.