



# Bryant University

HONORS THESIS

## The Role of Legal Studies in Undergraduate Business Curricula and Its Impact on Students' Problem- Solving Skills

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**ABSTRACT**

Although the presence of legal studies within undergraduate business curricula is continuously growing, there seems to be a lack of understanding and appreciation for the true value that legal studies coursework brings to undergraduate business education. This research aims to determine whether legal studies courses provide undergraduate business students with transferrable non-legal skills, such as problem-solving skills. The goal of this research is to explore the importance of legal studies in undergraduate business curricula by trying to determine if it provides students with valuable skills that can be utilized across disciplines. The methodology of this research is a posttest-only control group experiment using a 12-question multiple choice test made up of 6 practice LSAT questions and 6 practice GMAT questions. Participants were recruited through email, and the test results of 31 students from Bryant University's class of 2023 were collected. The results did not show a significant correlation between the number of legal studies courses and overall test score. In conclusion, the treatment group was not large enough to fully answer the research questions or accurately support or refute the hypothesis.

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**INTRODUCTION**

For many years now, numerous colleges and universities have integrated legal studies courses into their undergraduate business curricula (Buchanan, 1983; Childers, 1977; Klayman & Nesser, 1984; Siedel, 2000). To date, an abundance of research has been conducted to verify the importance of legal studies within a business education as well as examine how exposure to legal studies truly benefits the undergraduate business student following graduation (Siedel, 2000; Tanner et al., 2004). However, little research has been done to explore whether specific non-legal skills are strengthened by legal studies courses more so than other business courses. There is a need for this further research because it is important for both students and institutions to know whether legal studies coursework provides value to business students beyond mere content knowledge so they can better utilize this subject area to their advantage. More specifically, institutions may alter the way they integrate legal studies into their curricula, and students may complete legal studies courses with more care if they are aware of its other benefits.

To this end, the purpose of this paper is to examine whether the importance of legal studies courses in undergraduate business curricula goes beyond merely providing students with content knowledge. Specifically, the present study seeks to assess whether legal studies coursework strengthens business students' problem-solving skills, and if exposure, or lack thereof, to legal studies courses correlates to problem-solving abilities. This paper will begin by examining what existing literature has shown about the thinking styles of undergraduate business students among different majors. After examining the characteristics of undergraduate business students, this paper will then explore the role of legal studies within undergraduate business curricula and why it is important. Following the exploration of legal studies within undergraduate business curricula, this paper will delve into what skills and characteristics lead to strong group and individual problem-solving abilities to help later determine whether legal studies can enhance these skills and characteristics. Lastly, this paper will explore the need for business students to possess strong problem-solving skills, and how legal studies coursework can contribute to strengthening problem-solving skills. This study

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will then conduct an experiment using students' scores on practice LSAT and GMAT questions as a measure of students' problem-solving abilities.

## **LITERATURE REVIEW**

### Undergraduate Business Students

In order to explore how legal studies courses benefit business students, it is important to begin by understanding undergraduate business students and how they learn. There is little variation of the learning styles between business students with those of differing majors (Shoemaker & Kelly, 2015). Research by Shoemaker and Kelly (2015) shows one of the most prominent learning styles among business students is visual numerical, with finance majors being the largest percentage in this category. The authors define a visual numerical learning style as one which learns best by seeing numbers that represent information such as charts and graphs. However, research by Hostager (2018) offers competing findings, arguing that finance and accounting majors prefer more verbal learning styles whereas management majors prefer more visual learning styles. While research by Shoemaker and Kelly (2015) also shows that a high percentage of management majors have visual learning styles, the significant difference in the studies' findings of finance majors' learning preferences may suggest that there is little variance between learning styles among different business majors with many business majors having multiple learning styles.

Additionally, existing pedagogical research has found that business students perceive no difference in the effectiveness of different pedagogies (Garnjost & Brown, 2018). Specifically, business students have reported no perceived difference between the effectiveness of problem-based pedagogy and lecture-based pedagogy. Research by Barrows (2002) defines problem-based learning as learning through the utilization of group problem-solving activities and lecture-based learning as learning mainly through listening to lectures given by the instructor. The findings of Hostager (2018) and Shoemaker and Kelly (2015) may explain why business students think problem-based learning pedagogy and lecture-based pedagogy are equally effective (Garnjost & Brown, 2018; Hostager, 2018; Shoemaker & Kelly, 2015). If most business students have multiple learning styles, then it is easier for them

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to benefit equally from different teaching styles (Garnjost & Brown, 2018; Hostager, 2018; Shoemaker & Kelly, 2015). If problem-based learning pedagogy is just as effective in improving problem-solving skills as lecture-based pedagogy, then it is possible that strong problem-solving skills improve group performance but strengthening problem-solving skills comes more from the content of the course, not the method of teaching (Garnjost & Brown, 2018; Shoemaker & Kelly, 2015). Thus, the existing literature suggesting that problem-solving skills are improved by specific courses not by how the courses are taught further supports the need to explore whether legal studies courses strengthen business students' problem-solving skills.

Legal Studies Within the Business Curriculum

One of the most important purposes of teaching legal studies to undergraduate business students is to provide them with legal knowledge so they are better prepared for legal matters they may encounter in their future careers (Tanner et al., 2004). Taking legal studies courses can even be beneficial to businesspeople years after graduation to help update, refresh, and strengthen their legal knowledge (Siedel, 2000). Both current undergraduate students, as well as alumni, claim many of the topics covered in legal studies courses provide valuable knowledge to businesspeople throughout their careers (Siedel, 2000; Tanner et al., 2004). The value of legal studies within an undergraduate business education continues to grow and is in need of greater appreciation. The value of legal knowledge in business becomes increasingly helpful after graduation and throughout students' careers in the business world. Existing literature clearly proves the content knowledge and legal skills learned in legal studies courses contribute to the importance of legal studies in undergraduate business education (Siedel, 2000; Tanner et al., 2004).

There is also existing literature that acknowledges how legal studies courses likely provide non-legal skills. Legal studies courses can provide many important skills necessary for business students such as critical thinking and complex problem-solving skills (Bird, 2018; Bird & Kirschner, 2020). However, as mentioned by Bird and Kirschner (2020), what seems to be lacking is existing research to further prove legal studies courses provide non-legal skills that can be beneficial to business students. Thus, considering the existing literature, this study

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offers the following research question in an effort to dive deeper into why legal studies courses are important in undergraduate business education:

### RQ1

Does the presence of legal studies courses in the undergraduate business curriculum provide benefits beyond basic legal knowledge?

### Problem-Solving

Before exploring business students' problem-solving skills and whether legal studies coursework enhances business students' problem-solving abilities, it is important to first examine what skills and characteristics lead to successful group and individual problem-solving. Problem-solving skills are used by people in many different contexts ranging from informal situations, such as games, to formal situations, such as the workplace. Problem-solving follows a cycle of inquiry, and collaboration is key to enhancing this cycle and leading to group problem-solving success as it provides further explanations about the problem at hand (Jacques, 2020). However, skill level contributes to the effectiveness of group collaboration when problem-solving (Jacques, 2020). It is more effective for the communication to come from a less skilled person with a higher skilled person as the listener (Jacques, 2020). When people at a higher skill level communicate with people at a lower skill level, it tends to be more instructional and less explanatory (Jacques, 2020). As a result, if the more skilled person was communicating and the less skilled person was listening, the communication may not provide explanations, and therefore would be less beneficial to group problem-solving (Jacques, 2020). Knowing how groups collaborate most effectively is important because it suggests that research should examine whether there is a difference between the collaboration skills of students who have and have not taken legal studies courses when trying to determine whether legal studies coursework strengthens group problem-solving skills.

Research conducted by Herron and Hennessey (2019) further supported how inquiry benefits group problem-solving through the process of sharing knowledge with one another. Active participation by all group members is merely the first step to achieving problem-solving success. Additional literature provides further explanation of specific aspects of

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communication that contribute to the effectiveness of a group's problem-solving abilities, such as the quality of the content being communicated (Dowell et al., 2020). Groups containing people who take on more productive roles are more likely to succeed because they communicate through negotiation by comparing multiple ideas and discussing the rationale behind those ideas (Dowell et al., 2020). The presence of negotiation and conflict enhances the quality of the content being communicated among the group (Dowell et al., 2020). Merely discussing superficial information about the problem at hand is not enough to generate highly effective group problem-solving. Without the contribution and comparison of each group member's knowledge, ideas, and reasoning, a group's communication will lack purpose and be less likely to succeed (Dowell et al., 2020). The role that students tend to take on in a group is also beneficial when determining whether legal studies coursework enhances group problem-solving skills because students may learn to become more comfortable with conflict and negotiation through legal studies courses (Dowell et al., 2020).

In addition to communication, the presence of a leader within a group contributes to greater efficiency in coming to a solution (Herron & Hennessey, 2019). People who tend to take on a leadership role possess and contribute many valuable skills to group problem-solving. However, these people may focus so much on managing the communication of the other group members' ideas that they fall short in developing and integrating their own ideas (Herron & Hennessey, 2019). The roles students tend to take on in a group setting are not only important to understand when examining a group's problem-solving performance, but also important when examining what specific characteristics of students lead to both individual and group problem-solving success (Dowell et al., 2020; Herron & Hennessey, 2019). When determining how legal studies coursework impacts students' problem-solving abilities it is important to consider that exposure to legal studies may strengthen some students' problem-solving skills more than others.

Business Students and Problem-Solving

Next, it is necessary to determine the importance of problem-solving skills for business students before examining whether legal studies coursework enhances business students' problem-solving skills. Businesspeople are frequently confronted with problems and have to



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work with colleagues to generate a solution. To prepare business students for life after graduation, it is important for business students to develop strong problem-solving skills during their undergraduate education. Having high levels of problem-solving abilities is an extremely valuable skill for business students (Jones & Davidson, 2007). Students with high levels of problem-solving abilities are more competent in solving unstructured problems (Jones & Davidson, 2007). Having a strong ability to solve unstructured problems is more valuable to business students than having the ability to solve structured problems because a person who demonstrates high performance in solving complex problems provides more value to a business than a person who can only perform well when solving simple problems (Jones & Davidson, 2007).

In addition to exploring the importance of problem-solving skills for business students, this paper is also interested in exploring the interpersonal and cognitive skills possessed by undergraduate business students that lead to successful group and individual problem-solving. The existing literature has identified many interpersonal skills that lead to successful group problem solving including collaboration, communication, leadership, and negotiation skills (Dowell et al., 2020; Herron & Hennessey, 2019; Jaques, 2020). However, what the existing literature lacks is an examination of whether undergraduate business students tend to be consistently strong or weak in any of these specific skill sets. Presently, the existing literature also does not explore what level of assertiveness and decision-making skills undergraduate business students tend to possess.

Although existing research lacks exploration of the interpersonal skills of undergraduate business students, there have been studies conducted to examine the cognitive skills of undergraduate business students. More specifically, research by Brown and Bielinska-Kwapisz (2015) examined the critical thinking abilities of undergraduate business students majoring in finance, accounting, management, or marketing. Critical thinking involves the use of metacognition and the ability to understand and analyze information and its context (Brookfield, 1987; Brown and Bielinska-Kwapisz, 2015; King & Kitchener, 1994; Kurfiss, 1988). Findings from Brown and Bielinska-Kwapisz (2015) showed that accounting and

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finance majors had stronger overall critical thinking abilities than marketing and management majors. Evidently, there is a correlation between critical thinking and problem-solving, so understanding undergraduate business students' critical thinking abilities is an important factor for the present study to consider when evaluating the impact of legal studies courses on undergraduate business students' problem-solving abilities. Similarly, research by Frantz and Wilson (2004) shows a correlation between finance and legal studies courses. The following section of this paper will further explore what these findings in conjunction with the findings of Brown and Bielinska-Kwapisz (2015) may suggest about the use of critical thinking and problem-solving in legal studies courses and how this may impact undergraduate business students with differing majors.

Although there is existing research that explores the cognitive skills of undergraduate business students (Brown & Bielinska-Kwapisz, 2015), there is a need for further research to further investigate these skills. Additionally, there is a lack of existing research regarding whether undergraduate business students tend to possess any of the interpersonal skills previously mentioned that lead to successful problem-solving. Lastly, there is a clear gap within existing literature in the lack of examination of whether any correlation exists between cognitive and interpersonal skills and how a combination of certain cognitive and interpersonal skills may impact problem-solving abilities. After discovering what existing literature has shown about interpersonal skills that commonly lead to successful problem-solving abilities and the critical thinking skills of undergraduate business students, this paper offers the following research question:

RQ2

Does exposure to legal studies courses positively impact undergraduate business students' problem-solving abilities?

Legal Studies and Problem-Solving

Legal studies courses often require students to utilize problem-solving skills to analyze and better understand different legal topics and situations. Solving legal problems is often a difficult skill for students to grasp and certain teaching methods may be more helpful to students when trying to strengthen this skill (Frantz & Wilson, 2004; Nathanson, 1994).

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Research conducted by Nathanson (1994) suggests that legal problem solving is unique as it differs from general problem solving, and it should be taught in a way that promotes the transfer of skills between varying contexts. Promoting the transfer of skills between varying contexts is essential for business students' success in undergraduate legal studies courses (Nathanson, 1994). As previously mentioned, the skills which can be learned from a legal studies course hold great value to business students, but only if the students are able to grasp and develop those skills (Siedel, 2000; Tanner et al., 2004). Since the transfer of skills to multiple contexts is an important factor to success, it is helpful to consider what similarities exist between legal studies courses and different business courses. Finding parallels between business and legal studies courses could offer a better understanding of how to teach and promote skills that can be transferred back and forth between business and legal studies courses.

A previous study examined connections between legal studies and business courses by considering a business student's major and comparing that to their level of performance in legal studies. When based on student performance, legal studies courses within business education are most similar to finance (Frantz & Wilson, 2004). Research by Frantz and Wilson (2004) explains that students tend to see legal studies coursework as like a numerical puzzle, which is why it is more similar to finance rather than other business majors, such as marketing. This finding in addition to the findings previously mentioned about many business students having visual learning styles suggests that legal studies coursework should align well with most business students' learning styles (Hostager, 2018; Shoemaker & Kelly, 2015).

A student's GPA is also likely to correlate to their level of performance in a legal studies course. Findings from Frantz and Wilson (2004) suggest that the students who perform the highest in a business legal studies course are likely to be finance majors and those with higher GPAs. These findings in addition to the previously discussed findings of Brown and Bielinska-Kwapisz (2015) show that finance and accounting students tend to have better critical thinking skills and tend to perform better in legal studies courses. Both of these findings support the presence and utilization of problem-solving in legal studies courses,

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which may be why students who already have strong critical thinking skills tend to perform well in legal studies courses (Brown & Bielinska-Kwapisz, 2015; Frantz & Wilson, 2004). Overall, there is existing literature that supports the idea that legal studies coursework potentially provides many skills that contribute to strong problem-solving skills, however; there is a lack of existing research that provides definite evidence that legal studies courses provide undergraduate business students with unique problem-solving skills, which leads to the hypothesis this paper proposes:

H1

Business students who have completed three or more legal studies courses will earn a higher overall score on practice LSAT and GMAT questions.

**METHODOLOGY**

This study will run an experiment to determine whether greater exposure to legal studies coursework impacts business students' problem-solving abilities. The design of this experiment will be a posttest-only control group experiment to determine whether there is any statistical significance between the problem-solving abilities of business students who have taken three or more legal studies courses and business students who have taken less than three legal studies courses.

Sample

The sample for this experiment included 31 undergraduate students from Bryant University's class of 2023. The purpose of only including students graduating in 2023 is to avoid possible discrepancies due to age and effects on learning due to distance learning during the COVID-19 pandemic. These students were recruited mainly through email.

Study Design

The posttest-only control group experiment utilized a test compiled of practice questions from LSAT and GMAT exams. The practice standardized test results of students who have had sufficient exposure to legal studies coursework were compared to the practice standardized test results of students who have not had much exposure to legal studies coursework. The treatment group for this study was the group comprised of students who have completed at

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least three legal studies courses. The control group consisted of students majoring in business who have taken less than three legal studies courses.

The test included six questions from practice Law School Admission Tests (LSAT) and six questions from practice Graduate Management Admission Tests (GMAT). Three of the questions from the LSAT exam came from the analytical reasoning section and the other three came from the logical reasoning section. The questions from the GMAT exam included three problem-solving questions and three critical reasoning questions. All of the questions included in the test were multiple choice questions where the students were asked to select the best-fit response. The logical reasoning questions from the LSAT require the use of skills such as reasoning by analogy and recognizing different parts of an argument and how they relate to each other. An official LSAT practice test offers an example of a logical reasoning question: “Technician: Laboratory mice that are used for research aimed at improving human health are usually kept in small cages. Such an environment is neither normal nor healthy for mice. Moreover, the reliability of research using animals is diminished if those animals are not in an environment that is normal for them. Which one of the following can be properly inferred from the technician’s statements?”

The analytical reasoning questions from the LSAT measure several deductive reasoning skills. An example of an analytical reasoning question: “A chemistry class has six lab sessions scheduled over three days – Wednesday, Thursday, and Friday – one session being held each morning and one each afternoon. Each session will be led by a different lab assistant – Julio, Kevin, Lan, Nessa, Olivia, or Rebecca. The assignment of lab assistants to sessions is constrained as follows: Kevin and Rebecca must lead sessions that meet on the same day. Lan and Olivia cannot lead sessions that meet on the same day. Nessa must lead an afternoon session. Julio’s session must meet on an earlier day of the week than Olivia’s. If Lan does not lead a Wednesday session, then which one of the following lab assistants must lead a Thursday session?” All of the LSAT questions included in this experiment’s test and their answer options are provided in Appendix A.

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The critical reasoning questions in the GMAT evaluate a student's ability to analyze an argument and understand what the question is asking of them. As provided by an official GMAT review, an example of a critical reasoning question would be: "Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false. The argument is flawed primarily because the author..."

Lastly, the problem-solving questions from the GMAT measure a student's ability to utilize logic and analytical reasoning to solve the problem at hand. An example of a problem-solving question from a GMAT practice test is, "A bakery opened yesterday with its daily supply of 40 dozen rolls. Half of the rolls were sold by noon, and 80 percent of the remaining rolls were sold between noon and closing time. How many dozen rolls had not been sold when the bakery closed yesterday?" All the GMAT questions included in this experiment's test and their answer options are provided in Appendix B. Overall, the test aimed to evaluate students' logical, analytical, and deductive reasoning skills through four different types of questions, and the results were looked at as a representation of the students' overall problem-solving abilities. The full answer sheet for this experiment's test is provided in Appendix C.

### Procedure

Participants completed the test on their own time. In addition to answering the test questions, the students were asked to provide their major(s), concentration(s), and minor(s). The students were also asked how many legal studies courses they have completed and what year they graduate. The purpose of asking the participants these informational questions is to provide extra clarification that they fit the study sample criteria and to confirm whether they are part of the control or treatment group. After answering these questions, the students moved on to answer the LSAT and GMAT questions. When finished, the students submitted their responses which concluded their participation in the experiment. Upon completion, each student was scored from 0-12 depending on how many questions the student answered correctly. The students' scores were then analyzed as a representation of their overall problem-solving abilities.

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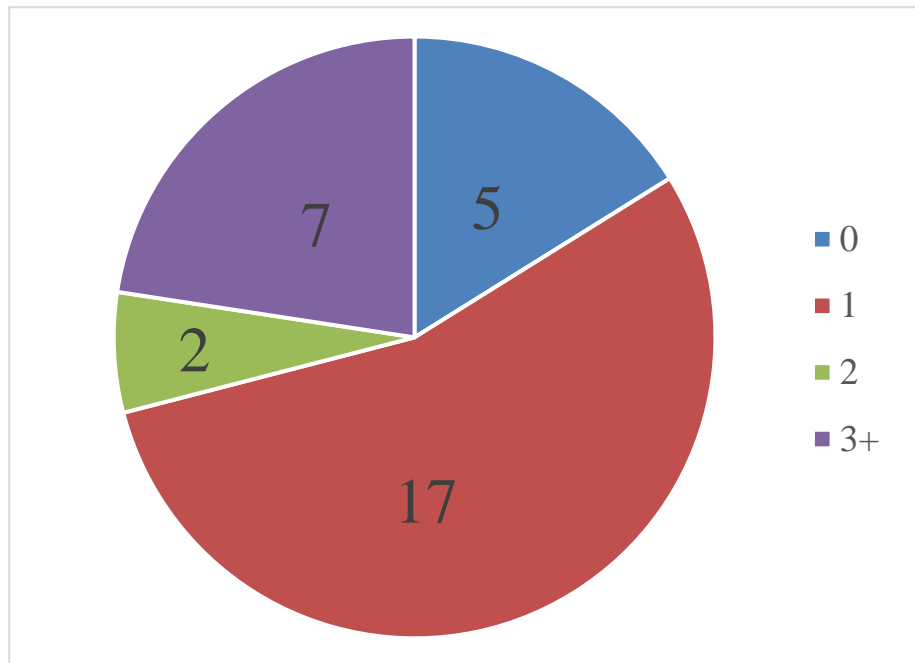
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**RESULTS**

The test results of the 31 participants were analyzed to find if the experiment provided any insight into the relationship between legal studies and business. Of the 31 participants, 7 were part of the treatment group, and the remaining 24 were part of the control group. The organization of participants based on how many legal studies courses they have completed is shown below in Figure 1.

**Figure 1**

*Data Sample: Total Sample of 31 Students Organized by Number of Legal Studies Courses Completed*

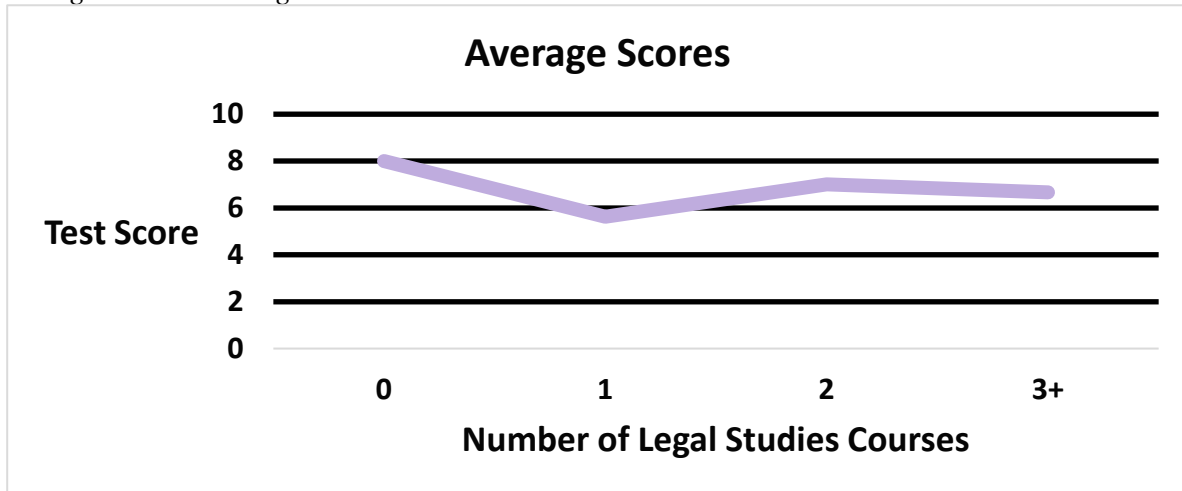


After obtaining an understanding of the makeup of the sample, the participants' scores were then analyzed in relation to the number of legal studies courses they had completed. As shown in Figure 2 below, the average scores relative to the number of legal studies courses completed was highest within the group of students who had completed zero legal studies courses, and lowest within the group of students who had completed one legal studies course. Additionally, when comparing the treatment group to the control group, the average score within the treatment group was 6.66 and the average scores among the control group ranged from 5.6 to 8.

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**Figure 2**  
*Average Scores vs. Legal Studies Courses*



When looking at the individual types of questions, the results showed that students performed much better on the GMAT questions than the LSAT questions. Out of the LSAT questions, the question where the highest percentage of students got it correct was in the logical reasoning section and 54% of students got it correct. The question within the LSAT questions that the least number of students got correct was in the analytical reasoning section and 26% of students got it correct. Out of the GMAT questions, the question the most students were able to get correct was in the problem-solving section and 90% of students got it correct. The GMAT question that the least students got correct was in the critical reasoning section and 39% of students got it correct. A table showing the percentage of students that got each question correct is shown below in Figure 3.

**Figure 3**  
*Results by Question*

LSAT		GMAT	
<i>Logical Reasoning</i>		<i>Critical Reasoning</i>	
Question 1	54%	Question 7	26%
Question 2	31%	Question 8	71%
Question 3	44%	Question 9	71%
<i>Analytical Reasoning</i>		<i>Problem Solving</i>	
Question 4	44%	Question 10	39%
Question 5	43%	Question 11	90%
Question 6	45%	Question 12	71%

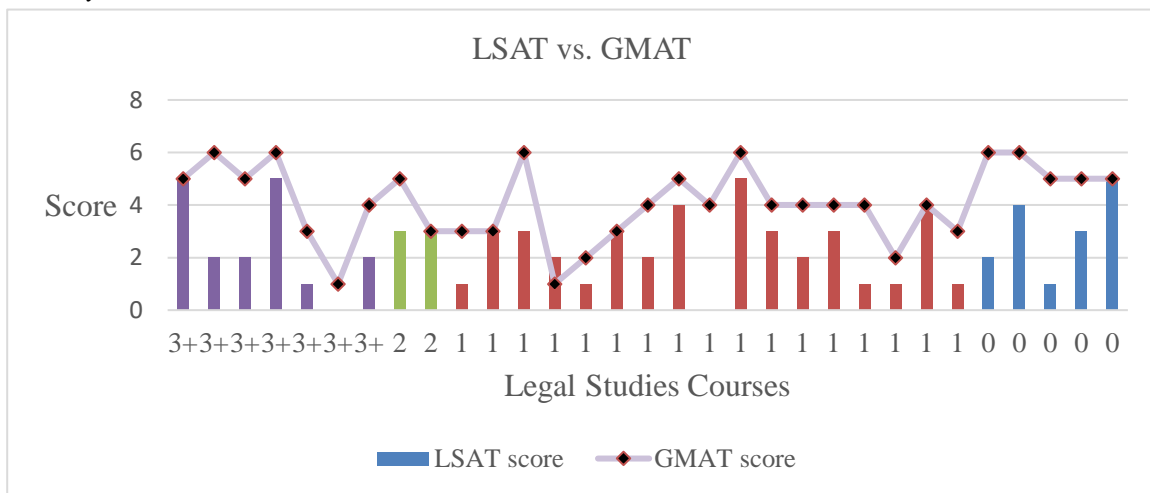


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After examining the results of each individual question, the participants’ scores were then looked at for the LSAT and GMAT individually. The results reiterated that the students struggled more with the LSAT questions than the GMAT questions. As shown below in Figure 4, all the students got the same number of LSAT questions and GMAT questions correct or got more GMAT questions correct than LSAT questions except for one student. Additionally, the chart shows that there is no correlation between the participants’ scores on the LSAT and GMAT questions and how many legal studies courses they have completed.

**Figure 4**  
*Scores by Test*



**CONCLUSION**

In conclusion, the results did not show any correlation between the number of legal studies courses students completed and their scores on LSAT and GMAT questions. Due to this, the answers to the research questions asking whether legal studies courses provide benefits beyond basic legal knowledge and whether legal studies courses positively impact business students’ problem-solving abilities are inconclusive. Additionally, the size of the treatment group relative to the control group was too small to determine whether the hypothesis can be supported or refuted. The main conclusion that the data provides is that students seem to struggle more with LSAT questions than GMAT questions.

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**DRAWBACKS**

Sample Size

The sample size of the data was compiled of 31 students from Bryant University's Class of 2023 with 7 students in the treatment group and 24 students in the control group. Not only is this sample size too small to provide accurate or significant findings in general, but the treatment group is too small relative to the control group to accurately compare the two. It was difficult to obtain a treatment group sample closer to the size of the control group because at Bryant University most students are required to complete at least one legal studies course, and a very small percentage of students complete three or more legal studies courses. Due to the control group being more than double the size of the treatment group, the treatment group was not nearly large enough to represent potential impacts of legal studies courses on students' problem-solving abilities. This drawback was the main reason why the results were inconclusive.

Method

The method was another large drawback to the experiment. The experiment involved sending students a survey compiled of 12 standardized test questions. Based on the amount of time people are given on an actual LSAT and GMAT exam, people have about 1.5 minutes per question on the LSAT and about 2 minutes per question on the GMAT (Davisson, 2020; Kennedy & Prep, 2020). Since this survey was made up of 6 LSAT questions and 6 GMAT questions, students could spend at least 20 minutes completing the questions. Not only did this test take much longer than most surveys students are asked to participate in, but it also required a lot of focus and cognitive endurance. Most surveys that students complete take between 1-10 minutes and require little to no deep thinking. The long duration and extensive focus required by this survey caused many students to end their participation in the survey before completing the test. This is shown in the way that a total of 53 students started the survey, but only 31 students made it past the 5<sup>th</sup> test question and completed the entire survey.

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**CONTRIBUTIONS**

Further research can be done by redoing the experiment with a larger sample where the treatment group and control group are equally accounted for. Additionally, the experiment can be done by including less test questions and reducing the duration of the test. Research can also explore more specific skills in more depth such as communication and leadership skills. Other factors can also be considered such as how long it has been since a student took the legal studies course(s).

## **APPENDICES**

### Appendix A – LSAT Questions

1. Technician: Laboratory mice that are used for research aimed at improving human health are usually kept in small cages. Such an environment is neither normal nor healthy for mice. Moreover, the reliability of research using animals is diminished if those animals are not in an environment that is normal for them.

Which one of the following can be properly inferred from the technician's statements?

- (a) The conditions under which laboratory mice are kept are not likely to change in the near future.
  - (b) If the laboratory mice were kept under better conditions, it would be appropriate to use them for research aimed at improving human health.
  - (c) Research using laboratory mice that is aimed at improving human health is compromised by the conditions under which the mice are kept.
  - (d) Those who conduct research aimed at improving human health will develop new research techniques.
  - (e) Laboratory mice that are used for research that is not directly related to human health are not usually kept in small cages.
2. "Dumping" is defined as selling a product in another country for less than production cost. Shrimp producers from Country F are selling shrimp in Country G below the cost of producing shrimp in Country G. So, Country F's producers are dumping shrimp.

In order to evaluate the argument above, it is necessary to determine whether

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- (a) “production cost” in the definition of dumping refers to the cost of producing the product in the country where it originates or in the country where it is sold.
  - (b) there is agreement among experts about whether dumping is harmful to the economy of the country in which products are sold for less than the production cost.
  - (c) shrimp producers from Country F charge more for shrimp that they sell within their own country than for shrimp they sell in Country G.
  - (d) shrimp producers from Country F will eventually go out of business if they continue to sell shrimp in Country G for less than production cost.
  - (e) shrimp producers from Country F are selling shrimp in Country G for considerably less than production cost or just slightly less.
3. Scientist: Venus contains a hot molten core, like that of Earth. Also, like Earth, Venus must expel the excess heat the core generates. On Earth, this occurs entirely through active volcanoes and fissures created when tectonic plates separate. Yet Venus has neither active volcanoes nor fissures caused by the movement of tectonic plates.
- Which one of the following, if true, does the most to resolve the apparent discrepancy described by the scientist?
- (a) Rock on the surface of Venus remains solid at much higher temperatures than does rock on Earth.
  - (b) The surface of Venus is relatively thin, allowing internally produced heat to radiate into space.

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- (c) The interior of Venus undergoes greater fluctuations in temperature than does that of Earth.
- (d) Though Venus lacks active volcanoes and heat-diffusing fissures, it has surface movement somewhat like that of Earth.
- (e) The atmosphere of Venus is significantly hotter than that of Earth.

*December 2012 (Law School Admission Council, 2014)*

Questions 4-6:

A chemistry class has six lab sessions scheduled over three days – Wednesday, Thursday, and Friday – one session being held each morning and one each afternoon. Each session will be led by a different lab assistant – Julio, Kevin, Lan, Nessa, Olivia, or Rebecca. The assignment of lab assistants to sessions is constrained as follows:

Kevin and Rebecca must lead sessions that meet on the same day.

Lan and Olivia cannot lead sessions that meet on the same day.

Nessa must lead an afternoon session.

Julio's session must meet on an earlier day of the week than Olivia's.

4. If Lan does not lead a Wednesday session, then which one of the following lab assistants must lead a Thursday session?
- (a) Rebecca
  - (b) Olivia
  - (c) Nessa
  - (d) Kevin

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- (e) Julio
5. Which one of the following could be an accurate assignment of lab assistants to morning and afternoon sessions, respectively, on the three days?
- (a) Wednesday: Rebecca, Kevin  
Thursday: Julio, Lan  
Friday: Nessa, Olivia
- (b) Wednesday: Olivia, Nessa  
Thursday: Julio, Lan  
Friday: Kevin, Rebecca
- (c) Wednesday: Lan, Kevin  
Thursday: Rebecca, Julio  
Friday: Olivia, Nessa
- (d) Wednesday: Kevin, Rebecca  
Thursday: Julio, Nessa  
Friday: Olivia, Lan
- (e) Wednesday: Julio, Lan  
Thursday: Olivia, Nessa  
Friday: Rebecca, Kevin
6. If Julio leads the Thursday afternoon session, then for how many of the other lab assistants can one determine which sessions they lead?
- (a) One

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- (b) Two
- (c) Three
- (d) Four
- (e) five

*June 2012 (Law School Admission Council, 2014)*



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Appendix B – GMAT Questions

7. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

- (a) fails to distinguish between purchasing and consuming.
  - (b) does not supply information about homeowners in age groups other than 40 to 50.
  - (c) depends on popular belief rather than on documented research findings.
  - (d) does not specify the precise amount of ice cream purchased by any demographic group.
  - (e) discusses ice cream rather than more nutritious and healthful foods.
8. According to a prediction of the not-so-distant future published in 1940, electricity would revolutionize agriculture. Electrodes would be inserted into the soil, and the current between them would kill bugs and weeds and make crop plants stronger.

Which of the following, if true, most strongly indicates that the logic of the prediction above is flawed?

- (a) In order for farmers to avoid electric shock while working in the fields, the current could be turned off at such times without diminishing the intended effects.
- (b) If the proposed plan for using electricity were put into practice, farmers would save on chemicals now being added to the soil.
- (c) It cannot be taken for granted that the use of electricity is always beneficial.

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- (d) Since weeds are plants, electricity would affect weeds in the same way as it would affect crop plants.
  - (e) Because a planting machine would need to avoid coming into contact with the electrodes, new parts for planting machines would need to be designed.
9. The Maxilux car company's design for its new luxury model, the Max 100, included a special design for the tires that was intended to complement the model's image. The winning bid for supplying these tires was submitted by Rubco. Analysts concluded that the bid would only just cover Rubco's costs on the tires, but Rubco executives claim that winning the bid will actually make a profit for the company.

Which of the following, if true, most strongly justifies the claim made by Rubco's executives?

- (a) In any Maxilux model, the spare tire is exactly the same make and model as the tires that are mounted on the wheels.
- (b) Rubco holds exclusive contracts to supply Maxilux with the tires for a number of other models made by Maxilux.
- (c) The production facilities for the Max 100 and those for the tires to be supplied by Rubco are located very near each other.
- (d) When people who have purchased a carefully designed luxury automobile need to replace a worn part of it, they almost always invariably replace it with a part of exactly the same make and type.

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- (e) When Maxilux awarded the tire contract to Rubco, the only criterion on which Rubco's bid was clearly ahead of its competitors' bids was price.
10. A bakery opened yesterday with its daily supply of 40 dozen rolls. Half of the rolls were sold by noon, and 80 percent of the remaining rolls were sold between noon and closing time. How many dozen rolls had not been sold when the bakery closed yesterday?
- (a) 1  
(b) 2  
(c) 3  
(d) 4  
(e) 5
11. A rope 40 feet long is cut into two pieces. If one piece is 18 feet longer than the other, what is the length, in feet, of the shorter piece?
- (a) 9  
(b) 11  
(c) 18  
(d) 22  
(e) 29

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12. John has 10 pairs of matched socks. If he loses 7 individual socks, what is the greatest number of pairs of matched socks he can have left?

(a) 7

(b) 6

(c) 5

(d) 4

(e) 3

*(John Wiley and Sons, 2012)*

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Appendix C – Answer Sheet

<b>Question #</b>	<b>Answer</b>
1	c
2	a
3	b
4	e
5	e
6	c
7	a
8	d
9	d
10	d
11	b
12	b

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**REFERENCES**

- Barrows, H. (2002). Is it truly possible to have such a thing as DPBL? *Distance Education*, 23(1), 119–122. <https://doi.org/10.1080/01587910220124026>
- Bird, R. C. (2018). On the future of business law. *Journal of Legal Studies Education*, 35(2), 301–320. <https://doi.org/10.1111/jlse.12079>
- Bird, R. C., & Kirschner, C. (2020). Special report: The summit on the academic profession of business law. *Journal of Legal Studies Education*, 37(1), 87–109. <https://doi.org/10.1111/jlse.12102>
- Brookfield, S. (1987). *Developing critical thinkers challenging adults to explore alternative ways of thinking and acting*. Jossey-Bass.
- Brown, F. W., & Bielinska-Kwapisz, A. (2015). Understanding the nature and determinants of critical thinking among senior business undergraduate students. *Journal of Education for Business*, 90(7), 359–368. <https://doi.org/10.1080/08832323.2015.1068156>
- Buchanan, M. A. (1983). The Legal Environment Requirement: How Is It Being met? *American Business Law Journal*, 21(2), 237–247. <https://doi.org/10.1111/j.1744-1714.1983.tb00079.x>
- Childers, B. K. (1977). Introductory law courses in a college of business? a change in emphasis. *American Business Law Journal*, 15(1), 82–87. <https://doi.org/10.1111/j.1744-1714.1977.tb01099.x>
- Davisson, K. (2020, October 23). *Gmat timing strategy: Your ultimate guide (video)*. Magoosh Blog - GMAT® Exam. Retrieved April 19, 2023, from <https://magoosh.com/gmat/gmat-timing-strategy/>
- Dowell, N., Lin, Y., Godfrey, A., & Brooks, C. (2020). Exploring the relationship between emergent sociocognitive roles, collaborative problem-solving skills and outcomes: A Group Communication Analysis. *Journal of Learning Analytics*, 7(1), 38–57. <https://doi.org/10.18608/jla.2020.71.4>

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---

- Frantz, P. L., & Wilson, A. H. (2004). Student performance in the legal environment course: Determinants and comparisons. *Journal of Legal Studies Education*, 21(2), 225–240.  
<https://doi.org/10.1111/j.1744-1722.2004.tb00318.x>
- Garnjost, P., & Brown, S. M. (2018). Undergraduate business students' perceptions of learning outcomes in problem based and faculty centered courses. *The International Journal of Management Education*, 16(1), 121–130.  
<https://doi.org/10.1016/j.ijme.2017.12.004>
- Herron, J. P., & Hennessey, M. N. (2019). Organizational Processes of Problem Solving Groups. *Open Journal for Educational Research*, 3(2), 39–52.  
<https://doi.org/https://doi.org/10.32591/coas.ojer.0302.01039h>
- Hostager, T. J. (2018). Revenge of the Nerds Revisited: Do Accounting and Finance Majors Differ from other Business Majors in Their Learning Styles, and do They Earn Higher Grades in a General Business Course? *International Journal for Business Education*, (158), 24–40.
- Jacques, L. A. (2020). Proximal Processes While Problem Solving in Formal and Game Environments. *Open Journal for Educational Research*, 4(1), 1–14.  
<https://doi.org/https://doi.org/10.32591/coas.ojer.0401.01001j>
- John Wiley and Sons. (2012). *Gmat® Review: 13th edition*.
- Jones, S. H., & Davidson, R. A. (2007). Measuring the problem-solving abilities of accounting and other business students: A comparison and evaluation of three methods. *Accounting Education*, 16(1), 65–79. <https://doi.org/10.1080/09639280600826034>
- Kennedy, A., & Prep, L. S. A. T. T. (2020, December 17). *How much time do you spend on each LSAT logical reasoning question?* LawSchooli. Retrieved April 19, 2023, from <https://lawschooli.com/how-much-time-do-you-spend-on-each-lsat-logical-reasoning-question/>

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---

- King, P. M., & Kitchener, K. S. (1994). *Developing reflective judgment: Understanding and promoting intellectual growth and critical thinking in adolescents and adults*. Jossey-Bass.
- Klayman, E., & Nesser, K. (1984). Eliminating the disparity between the business person's needs and what is taught in the basic business law course. *American Business Law Journal*, 22(1), 41–66. <https://doi.org/10.1111/j.1744-1714.1984.tb00390.x>
- Kurfiss, J. G. (1988). *Critical thinking theory, research, practice, and possibilities*. Ashe-Eric Higher education report no. 2, 1988. ERIC Clearinghouse on Higher Education.
- Law School Admission Council. (2014). *10 Actual, Official Lsat Pretests*.
- Nathanson, S. (1994). Developing Legal Problem-Solving Skills. *Journal of Legal Education*, 44(2), 215–231.
- Shoemaker, N., & Kelly, M. (2015). How college business students learn with emphasis on differences between majors. *Journal of College Teaching & Learning (TLC)*, 12(3), 223–230. <https://doi.org/10.19030/tlc.v12i3.9314>
- Siedel, G. J. (2000). Six forces and the legal environment of business: The relative value of business law among Business School Core Courses. *American Business Law Journal*, 37(4), 717–742. <https://doi.org/10.1111/j.1744-1714.2000.tb00283.x>
- Tanner, J., Keaty, A., & Major, C. (2004). A survey of Business Alumni: Evidence of the continuing need for law courses in business curricula. *Journal of Legal Studies Education*, 21(2), 203–224. <https://doi.org/10.1111/j.1744-1722.2004.tb00317.x>