

FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

IS PRICE WHY STUDENTS DON'T GET THEIR BOOKS? UNDERGRADUATE
ACQUISITION OF CLASS MATERIALS

A dissertation submitted in partial fulfillment of the

requirements for the degree of

DOCTOR OF BUSINESS ADMINISTRATION

by

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2021

To: Interim Dean William Hardin
College of Business

This dissertation, written by Joseph Patton and entitled Is Price Why Students Don't Get Their Books? Undergraduate Acquisition of Class Materials, having been approved in respect to style and intellectual content, is referred to you for judgement.

We have read this dissertation and recommend that it be approved.

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ACKNOWLEDGMENTS

I wish to thank the members of my committee for their support: Dr. Karlene Cousins, Dr. Ravi Gajendran, Dr. George Marakas, and Dr. Fred O. Walumbwa. Their kind assistance and direction has been greatly appreciated. Dr. Walumbwa particularly provided direction and encouragement throughout the entire dissertation process, while Dr. Marakas has been instrumental in guiding the entire doctoral program from the beginning. Additionally, Dr. Miguel Aguirre-Ureta was particularly helpful in providing direction on valid statistical tools of analysis and Dr. Walfried Lassar helped to deepen my understanding and use of research techniques. I would also like to acknowledge my colleagues at Florida Atlantic University who assisted with data collection: Dr. David Herst, Dr. Kati Brant and Dr. William Paczkowski. Dr. Herst was additionally helpful as a sounding board and giving inspiration for the initial idea of this study. Finally, I would like to acknowledge my wife HavreDe and my 7-year-old son Graham, and thank them for supporting me and being understanding of the many hours away from the family that earning this degree required.

I have found the coursework and DBA program to be very stimulating and rewarding, and it provided me the tools with which to conduct social science research. I am very appreciative of the opportunity and grateful for the assistance I received.

ABSTRACT OF THE DISSERTATION
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A study of the acquisition of assigned textbooks and materials was conducted among 1,333 active undergraduates, exploring the widely reported phenomenon of two-thirds of students not getting all the books and materials assigned to them in their college classes. Current research focuses on high textbook & materials prices as the reason why students do not get assigned materials, and government policies are focused on bringing down these prices. This study's major focus was investigating whether it is true that high prices explain why undergraduates do not get their assigned class materials. The findings suggest that price is not the reason students do not get their books and that lower textbook prices will not lead to higher acquisition rates. The utility of the assigned materials appears to be the major predictor of whether or not students acquire the materials. The study confirmed that most students do not get their books and materials before the start of the semester; they delay the purchase until after the class begins, as they decide whether to get the materials or not. The longer these students delay, the less likely it is that they will acquire their assigned materials. Recommendations are offered for schools and other stakeholders in higher education.

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ABBREVIATIONS AND ACRONYMS

COB	College of Business
FAU	Florida Atlantic University
FAU COB	Florida Atlantic University College of Business
GPA	Grade Point Average
HEOA	The Higher Education Opportunity Act
LMS	Learning Management System
NACS	National Association of College Stores
OER	Open Educational Resources
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action

CHAPTER I. INTRODUCTION

Four recent studies in the US involving over 27,000 students confirm that about two-thirds of undergraduate students are failing to acquire all of the required instructional materials assigned to them in their college classes (Nagel & Vitez, 2020, Florida Virtual Campus, 2019; Martin, Belikov & Hilton, 2017; McMurtrie, 2017). This failure to acquire the required textbooks and materials may have significant influence on student performance and learning, and a stream of research shows the connection between having access to the textbooks and materials and the effect on students and their education (Gabriel, 2008; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005; Sanoff, 2006; Weimer, 2002).

Studies also report that faculty believe students need textbooks to succeed in their courses. 85% of faculty always or usually assign textbooks and other materials (Library Journal, 2019) and professors almost never see the course materials as optional (Zogby, 2005; Young, 2015). The fact that 2/3 of undergraduates are not getting all of the books and materials assigned to them is a problem.

The *price* of the textbooks and materials is generally assumed to be the reason why students don't get their materials (Florida Virtual Campus, 2018; Martin et al., 2017; McMurtrie, 2017). The National Association of College Stores report (2020) based on a survey of >14,000 students found that of the students who do not get their materials, the majority point to price as a reason for not obtaining their materials. The 2021 report of SPARC, an advocacy group states, “Expensive print textbooks... remain a barrier to college affordability ...the average undergraduate budget for books and supplies is \$1,240” (Scholarly Publishing and Academic Resources

Coalition, 2021). The US Federal government has addressed this phenomenon by encouraging a reduction in assigned materials costs. U.S. Code as of 2020 explicitly encourages a reduction in cost of college textbooks and has an entire section devoted to this purpose: “it is the intent of this section...to decrease the cost of college textbooks” (Higher Educational Opportunity Act, 2008).

The individual states have also addressed this issue. States have passed regulations mandating use of free materials, funding courses that use open access educational resources (OER), and mandating textbook price transparency, with the stated goal of bringing down textbook prices. For example, Florida HB 7019 (2016) states that “Each Florida College System Institution and state university shall adopt textbook and instructional materials affordability policies, procedures and guidelines in order to minimize the costs of textbooks.” This includes course instructors using open-access textbooks where possible, and instructors are encouraged to develop, adapt, and review open-access textbooks especially in high-demand general education courses. Nearly half of all states have passed legislation promoting free textbook materials as a solution to high textbook prices (Scholarly Publishing and Academic Resources Coalition, 2021).

These efforts have shown success in lowering textbook and materials prices. National Association of College Stores (2020) reports that the amount spent by students on books and materials continues to go down each semester, and that the average amount spent annually on books at a 4-year college has come down from a reported \$1,240 to about \$400 over the last 10 years. Despite these efforts, two-thirds

of students still continue to report that they don't get all their assigned books and materials. Why is this?

The government efforts and the research studies still conclude that that *price* of the books and materials is the primary factor in student's decision to not get their materials, and that students who do not get their books are probably doing so because of high prices or lack of financial resources (Nagel & Vitez 2020, Florida Virtual Campus, 2018; Martin et al., 2017; McMurtrie, 2017). However, these studies fail to consider the wider context in which books and materials are acquired and may be missing some of the factors involved in a student's decision. When evaluating whether or not to get their books, a student does not just look at price alone, they also weigh the benefits received by acquiring those materials, such as how much those materials are needed for the student to get the grade they want in the class. Other considerations might also come into play, such as the student's interest in the class, how important their grade is, and how entertaining they find the assigned materials, among other things. Unfortunately, the research focus to date has mainly been on the price of the materials as a major driving force at the expense of other potential important factors.

The current study seeks to look at the factors that lead to an undergraduate's decision not to acquire the required instructional materials assigned to them in their college classes. It will look at factors beyond the price and seek specifically to determine whether price is the main reason students don't get their books.

This study seeks to contribute to the literature by expanding the focus of research from considering the impact of high book prices in isolation to a more

comprehensive view that includes the cost/benefit ratio of the textbook acquisition.

Few studies have looked at this issue in this comprehensive manner. This study puts price into its larger context, and argues that a focus on price alone in the absence of other factors may miss a lot of insight. It proposes that looking at factors such as the utility received from the book, interest in class, importance of grades, and other factors should provide a more robust analysis of this phenomenon.

In doing so, this study seeks to provide insight with the following practical implications:

1) Helping instructors better choose their assigned class materials and have better chance of them being acquired.

2) Helping departments, colleges and universities and the state and federal government in setting policy on textbooks/materials.

3) Providing recommendations on reducing the emotional and financial burden on students around the textbook acquisition process in each class.

4) Providing useful information for textbook and content publishers.

Research Question(s)

- What are the factors that explain an undergraduate student's decision not to acquire all of the textbooks and instructional materials assigned in their classes?

CHAPTER II. LITERATURE REVIEW AND BACKGROUND

Establishing the phenomenon of students not acquiring materials

There are numerous recent studies showing that students are not getting the textbooks and other materials assigned to them in their classes (see Table 1). A survey of over 21,000 undergraduates at 40 public institutions throughout Florida in 2019 found that 66% did not purchase all of the assigned instructional material (Florida Virtual Campus, 2019). In a 2020 survey of 3,902 undergraduates, the U.S. Center for Public Interest Research Group found that 66% of students had not bought a textbook because of its high price (Nagel & Vitez, 2020). A 2016 study at Brigham Young University in Utah found that 66% of the students had not purchased a textbook due to cost. (Martin et al., 2016). A recent study in New Zealand also reported that 66% of respondents had not purchased a textbook due to cost (Stein, Hart, Keaney & White, 2017), leading to suspicion that this phenomenon could be happening worldwide.

Table 1

Studies Finding Students Not Purchasing All Assigned Instructional Materials

Location	Year	# of Students	% not purchasing all materials due to cost
USA, nationwide	2020	3,902	66%
Florida, Statewide	2019	>21,000	66%
New Zealand	2017	239	66%
Brigham Young University	2016	676	66%
USA, nationwide	2014	2,039	65%

Note: Sources: Nagel & Vitez (2020), Florida Virtual Campus (2019), Stein et al. (2017). Martin et al., (2017), McMurtrie (2017).

Why does this matter?

Many published research studies have concluded that the *price* of books and materials is the reason that the materials are not acquired. These studies find that high prices have a negative effect on student behaviors (e.g., Martin et al., 2017; Jhangiani & Jhangiani, 2017; Senack & Donoghue, 2016) and conclude that this is a serious problem and is affecting students' choice of courses and their academic achievement (Hilton, 2016; Martin et al., 2017; Senack, 2014).

Do students spend too much on textbooks?

It seems an article of faith among institutions and the media that students pay too much for textbooks. Often referenced is a controversial estimate from the College Board (2019) which for many years has reported that students spend over \$1,200 annually on books and supplies. This figure is prevalent in the media and government. The Affordable College Textbook Act, introduced into the US Senate in 2015 as S.2176 (but not passed) states, "According to the College Board, during the 2014–2015 academic year, the average student budget for college books and supplies at 4-year public institutions of higher education was \$1,225" (Affordable College Textbook Act, 2016). The U.S. Public Interest Research Group, a consumer advocacy group that is very active in this debate over textbook prices cites the number in their report on textbook prices: "To students and families already struggling to afford high tuition and fees, an additional \$1,200 per year on books and supplies can be the breaking point" (Senack, 2014, p. 4). The same report goes on to indicate that 65% of college students said they have delayed buying a textbook

because it was too expensive and in some cases, have done so even though they were worried the decision would hurt their grade.

There are passionate feelings around this issue and strong statements are common. A typical quote “The high cost of textbooks causes students to routinely forgo buying books, skip meals, or drop out of classes. No student should have to make choices that hurt their ability to succeed in school” said U.S. PIRG’s Higher Education Campaign Director Kaitlyn Vitez (U.S. PIRG, 2019, p. 1).

Government trying to mandate lower materials costs

The US federal government has acted on these concerns about price and has passed legislation to lower textbook and material prices. The Higher Education Opportunity Act (HEOA) is a higher education reform bill passed by Congress in 2008 that went into effect July 1, 2010. Among the provisions in HEOA was a set of regulations to help make textbooks affordable. According to this act, institutions are required to disclose, to the maximum extent practicable, textbook information including cost in their course schedules during the registration process. Some scholars say this transparency may help students to reduce costs (Cannon & Brickman, 2015). The HEOA also requires the publisher to make available information about copyright dates for the three previous editions, whether or not the textbook is available in any other forms, and the price of the textbook with and without bundled materials (Higher Educational Opportunity Act, 2008). Current US code as of 2020 directly encourages a reduction in cost of college textbooks, stating:

The purpose of this section is to ensure that students have access to affordable course materials by decreasing costs to students and enhancing transparency and disclosure with respect to the selection, purchase, sale, and use of course

materials. It is the intent of this section to encourage all of the involved parties, including faculty, students, administrators, institutions of higher education, bookstores, distributors, and publishers, to work together to identify ways to decrease the cost of college textbooks (Higher Education Opportunity Act, 2008).

State governments have also added their own legislation. Nearly half of all states and the U.S. Congress have passed legislation encouraging use of free materials (OER) as a solution to higher education challenges (Scholarly Publishing and Academic Resources Coalition, 2021). Individual state governments are also passing legislation to lower the amount that students spend on textbooks and materials. For example, The State of Florida requires that schools “shall adopt textbook and instructional materials affordability policies, procedures, and guidelines...that...minimize the cost of textbooks and instructional materials for students...” (Fla. Stat. § 1004.085, 2020). It has various mandates to enforce and encourage this, and it requires instructors to post course material details well in advance. New York has provided \$8 million toward the adoption of free materials in public colleges. Maryland has led a switch to OER in 66 new courses at 14 institutions across the state. And in 2016 the California Legislature allocated \$5 million to create zero-textbook-cost degrees at the state’s community colleges (McMurtrie, 2017).

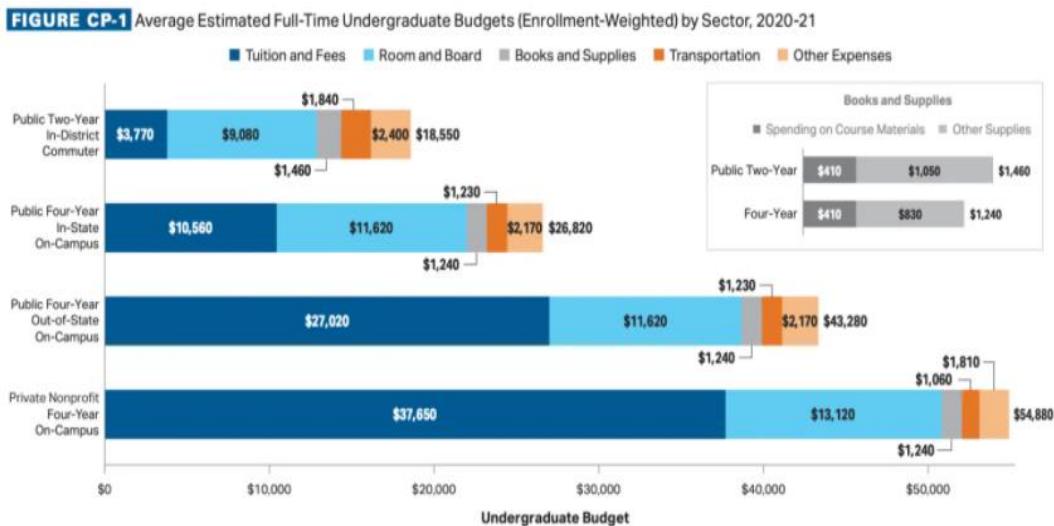
Textbook policy implications on price

These efforts to lower spending on textbooks and materials seem to have showed positive results. Data from the National Association of College Stores (NACS) and the Student Monitor consistently now show that students on average

spend between \$400-\$500 per year on textbooks or “required course materials.” It also shows that these expenditures are going down. In 2020 the National Association of College Stores reported that since 2007, every year (with one exception) has showed a significant decline in spending from the previous year, and that student spending on course materials has dropped about 41% since 2007, now standing at an average of \$413 per year (NACS, 2020). This suggests that the \$1,200+ spent on textbooks appears to no longer be true. In its more recent publications, the College Board (2020) clarifies that their \$1,200 estimate is the amount that students *budget* (not *spend*, as in earlier versions of the report) and now includes “supplies” which also may include the cost of a personal computer (See Figure 1). Nevertheless, despite this significant downward revision, the \$1,200+ number still seems to be the accepted figure in the media and government, and policy makers continue to worry about the price of books. For example, the 2021 report of SPARC, an advocacy group for OER, states “Expensive print textbooks... remain a barrier to college affordability ...the average undergraduate budget for books and supplies is \$1,240” (Scholarly Publishing and Academic Resources Coalition, 2021), and the Florida Department of Education states that the average cost for books and supplies in the Florida College System has increased over the last five years and in 2019-20 was up to \$1,479 (Florida Department of Education, 2020).

Figure 1

Average Estimated Full Time Undergraduate Budget 2020-21



NOTE: Expense categories are based on institutional budgets for students as reported in the College Board's Annual Survey of Colleges. Figures for tuition and fees and room and board mirror those reported in Table CP-1. Data for books and supplies, transportation, and other expenses are for 2019-20 and reflect the average amounts allotted in determining the total cost of attendance and do not necessarily reflect actual student expenditures. Books and supplies may include course materials such as hardcopy textbooks, online textbooks, textbook rentals, and other supplies such as a personal computer used for study.

Note: Source: College Board (2020).

Despite all these efforts, students still don't always get their books

Despite significantly lower recent textbook prices and the many efforts from the federal and state governments and schools, it still is a common problem that undergraduate students often do not get all of their books. The multiple studies cited at the beginning of this section all found that about two thirds of students reported not getting all of their books and materials (Nagel & Vitez, 2020; Florida Virtual Campus, 2019; Martin et al., 2017; Stein et al. 2017; McMurtrie, 2017). Why do students still continue to not get their books at such a high rate? What explains the continued phenomenon of most students reporting that they do not always get their assigned materials?

Why don't students acquire the books: Price

The literature is full of articles about the high prices of textbooks as a deterrent to acquisition (Buczynski, 2006; Florida Virtual Campus, 2018; Martin et al., 2017; Stein et al., 2017) and recommendations to use OER free materials as a replacement (Hilton, 2016; McMurtrie, 2017; Skinner, 2013). Surveys of students consistently show price to be an issue of concern, with often passionate feelings that the text prices are too high, unfair, and should come down (Book Industry Study Group, 2014; USPIRG, 2019; Nagel & Vitez, 2020; Florida Virtual Campus, 2019). For example, the National Association of College Stores 2020 report based on a survey of >14,000 students found that of the students who do not get their materials, the majority point to *price* as a reason for not obtaining their materials (NACS, 2020). This is consistent with classic consumer behavior, and makes sense intuitively. High prices tend to discourage acquisition for most products.

Reasons not to acquire: Beyond textbook price

There is some indication in the literature that other factors beyond price may be important in explaining why students might not get their materials (Hilton, 2016; NACS, 2020; Skinner & Howes, 2013). The following sections discuss these possible explanations.

View materials as optional. Students may simply skip buying required course materials if they view the assigned materials as optional. Young (2015) finds that students see the materials as recommendations rather than requirements. “Of those students who did not buy textbooks, a greater percentage than in the past said it was because “they believed them to be unnecessary” (Young, 2015, p. 1). The Book

Industry Study Group (2014) also finds that students “see the materials as recommendations rather than requirements”, while the NACS report (2020) finds that often, the students simply do not want the materials. Interestingly, a separate survey of professors on the same campuses found that the professors *do not* see the course materials as optional (Young, 2015).

Materials not needed in the class. It is possible that the books and materials assigned may not be needed in order for the student to get the desired grade in the class. Sometimes the course materials are unused by the professor. Florida Virtual Campus (2019) finds that the number of texts purchased by students that were never used by the professor has gone up significantly (to about 3.6 books) in their 2018 survey compared to their 2016 survey (which was about 2 books).

Student’s attitude toward the usefulness of the materials and the need to use those materials to get a desirable grade may therefore play a role. If the professor does not use the book, why get it? If you don’t need the book to do well in the class, why acquire it? Similarly, if instructors are not actually using the required materials, it would make sense that students might decline to buy them. If instructors require materials that are not necessary for getting the desired grade in the class, the materials are probably perceived as optional by students.

Books and materials may be listed as “required” on a class syllabus, yet this does not mean that the books and materials are actually necessary. If students are able to figure this out, they would be less likely to get those books. The NACS report (2020) cites students thinking that the materials were not really needed, or learning from other students or professors that the materials were unnecessary. If students

believe that the books and materials are unnecessary in the course, it would make sense that they would decide not to acquire those books and materials regardless of whether they were officially required or not.

It seems possible that students sometimes obediently acquire the required book, then later learn that it is not necessary to use the book to get the desired outcome in the class. This would likely make students more wary of purchasing books in the future until they figure this out the actual necessity for that book in a given class. In support, I found in my pilot studies that students were indeed frustrated that they had purchased books that were unneeded and as a result resolved to not make that mistake again.

Lack of reading. It appears that often students do not read their books even if they have the book. The materials may go unused and unread. Many students are coming to class without reading the textbook. For example, Skinner and Howes (2013) found that 92% of the students surveyed reported reading their textbook less than three hours a week and 18% reported never reading the book. In a synthesis of 16 studies, Hilton (2016) finds that only 18% of the students frequently or always read before coming to class, while 53% never or rarely read the textbook before coming to class. The NACS (2020) report also suggests that students do not really want to read the materials. However, it is not clear from these studies whether the students have the book but don't read it, or do not have the book at all.

Boring materials. A desire for entertaining or less boring materials may also explain the phenomenon. Current students grew up in a world of sound bites, text messages, Twitter, and fast action video games. They may want highly illustrated

texts and quick reads that are more consistent with the graphics and content style of modern media and entertainment. New media, such as web content, social media and Twitter often have shorter and less dense content than the textbooks of a previous generation. Today's college undergraduates may find their textbooks boring, and their decision whether or not to acquire their assigned books and materials might be based on the entertainment level of the materials assigned. The literature does reference this idea, with one source stating that "materials need to be perceived for their entertainment value and not their education value. They would prefer their information comes in much smaller amounts rather than a 25-page textbook chapter" (Skinner & Howes, 2013, p. 136).

Waiting to acquire

Students may be waiting to see how much the materials are needed before deciding to purchase them. This leads to later acquisition dates, and may result in no purchase being made. A study of over 14,000 students in 2019-20 found that 62% of respondents acquired their materials *after* classes start. (NACS, 2020). Only 34% of these students had the majority of their materials before classes started. Of those students who did not have most of their materials by the first day, 67% said they delayed in order to find out if the materials were really necessary (NACS, 2020). Similarly, the Brigham Young study found 86% of students say that they have delayed purchasing a textbook because of cost (Martin et al., 2017).

As previously discussed, even though materials might be assigned, they are not necessarily used by the professor or needed for a good grade. In the first weeks of a class the student is not sure how important it is to have the books or materials,

therefore there is a value in delaying acquisition until this becomes clearer. As stated by Young (2015), “what we think is happening is students are waiting to see how much the material is used before they buy them” (p. 1). This period of investigation by the student can lead to later acquisition dates. It also may result in an increased likelihood that no purchase of the books and materials are ever made.

Acquiring class materials: A student’s perspective

Students have several motivations to get and read their materials. The student may have a desire for learning, gaining knowledge and entertainment. But usually it is even more important to the student that they actually pass the class and get the desired grade in their class. A likely hierarchy of importance for the average student would be first passing the class, then getting a good grade in the class, and then learning the content of the class. A declining proportion of students would fall into each subsequent level of importance. Almost all undergraduates want to pass their classes, most would prefer good grades, while some smaller share would want to actually learn the material.

Let us now look at the acquisition of required instructional materials from the point of view of a student. I suggest that the decision about acquisition of class materials takes place in 2 stages.

Stage 1: Before the class starts: Students have a “baseline” intention to acquire materials before they decide whether to acquire or not acquire in any given particular class. Students differ on their *usual acquisition rate* - the rate (0-100%) at which students have *previously* acquired the materials assigned to them in

their classes at the college level. This baseline intention comes from attitudes, personality, and the specific student's characteristics.

Stage 2: After the class starts. Once students begin a class they need to decide whether to get the required materials for *that particular class*. Past behavior gives a starting baseline, but this may or may not predict actual behavior for a particular class. This decision will be partly based on the specifics of that particular class and the materials assigned in that one particular class.

Instructional Materials: A unique purchase situation

The purchase/acquisition decision for assigned instructional materials has a bundle of characteristics that few other products have. This makes for an interesting and unique challenge for instructors and students. This purchase situation has: (1) *Required acquisition, without enforcement*, (2) *Unknown utility/value*, (3) *Deadlines for acquisition*, (4) *Unsought/unwanted good*, and (5) *Declining utility over time*.

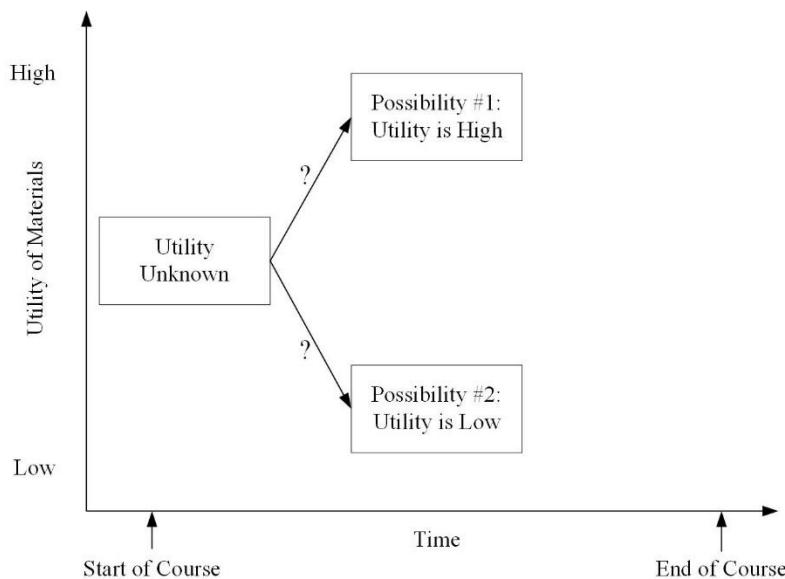
Below, I look at each of these factors in more detail.

Required acquisition (usually without enforcement). Students are told that they *must* acquire the assigned materials. They are not given a choice, nor can they choose brand, performance, or price level. Although required, the acquisition of the assigned textbook is not directly checked or enforced. Instead, the instructor typically evaluates a student based on completion of assignments and exams which *may or may not* be dependent on acquiring the assigned materials. There is no direct punishment or reward for getting the books. Acquisition of the textbook is typically not enforced and there is no direct penalty for non-compliance. Instructors teaching a class will assign the textbook and materials, but do not follow up to see if they have actually

been acquired or not. Logically, consumers will purchase a product more often if the purchase requirement is enforced vs not enforced.

Unknown utility/value. The utility of the required textbook and materials is unknown in the beginning of the semester. The materials may or may not be needed to get the desired grade in the course. Since this utility is unknown, there are benefits to delaying purchase and acquiring the materials at later date if needed. As the semester progresses, the true value of the materials becomes apparent. An example of this process is shown in Figure 2. If the value is less than the cost, there is no reason to acquire the assigned materials. A “no-acquisition” decision is a good one, since there is a financial loss in this transaction if students acquire an unneeded item. If the book is not needed to do well in the class, the student will have wasted their money if they buy the book. There is also a risk to not acquiring the materials. The student takes the risk that their grade will suffer if they do not acquire books and materials assigned to them.

Figure 2
Unknown Utility of Assigned Textbook



Deadlines for acquisition. College semesters only last a short time, typically a few months. The assigned books and materials are specifically used only in that one class. Assignments and exams which require those materials occur only between the fixed dates of the course. The student must decide whether to acquire their materials within a short window of time. There is no hard purchase deadline, but a purchase of the book after a certain point in time gives no value. Therefore, the textbook and class materials have a declining and perishable utility to the user. There is no price uncertainty nor price fluctuations that often come with other goods with purchase deadlines (such as airline tickets, hotel bookings) and no financial penalty to the student for delaying the purchase.

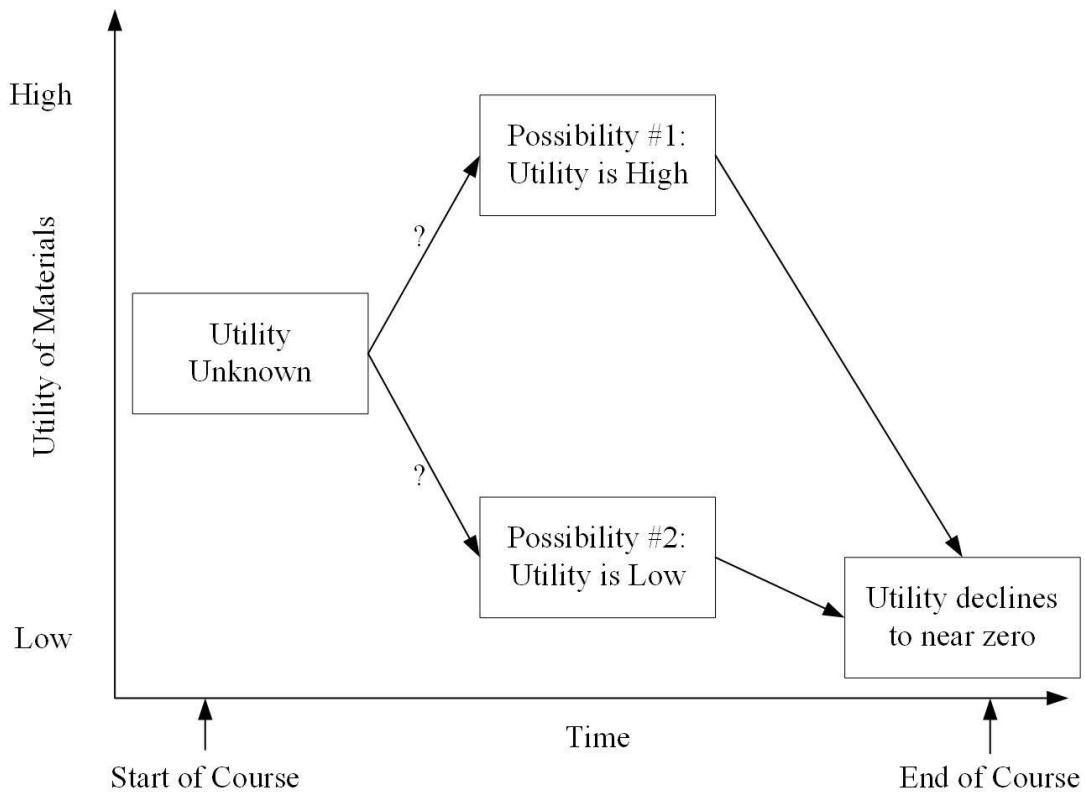
Unsought/unwanted good. Consumers (the students) often do not really want this product. Their desired outcome may be course credit, a desired grade, or gaining knowledge, but they typically do not specifically seek out the textbook for its own sake. The course materials may go un-acquired if not needed for student to achieve their goals in the course. The content itself might be gained from sources outside the required materials (e.g., lectures, PowerPoint slides, internet content, etc.). Hence, the materials purchase could be viewed as discretionary.

Declining utility over time. For many students, there is no value to the materials after the end of the class. While some students might consult their books in future, many undergraduates never look at the books after they are done with the course. In fact, many try to “sell back” their books at the end of the term. The value to the student typically exists only between the start and end dates of the class. This means that instructional materials can largely be viewed as perishable goods. The

resale value of used printed is low, while those of digital materials is typically zero. New edition releases also drastically reduce the resale value of used printed materials. At end of semester, the value of the books declines to resale value. A financial loss on the materials is assured. This declining utility over time is shown in Figure 3.

Figure 3

Declining Materials Utility Over Time



The decision choice

Since the student cannot control the choice of the assigned textbook, their only decision really is to *acquire or not acquire* the assigned materials. As shown in the preceding discussion, there is benefit to the student in 1) delaying a purchase decision, 2) investigating the actual utility of the materials, and 3) declining to acquire if price is greater than utility.

Textbook purchases can also be compared to the financial instrument called an “option”, which provides the option holder the right but not the obligation to acquire an asset at any point within a specified period of time. At any time before the end of the class, the student may choose to acquire the materials, paying the price and getting the benefit. Alternatively, they may let this option expire unused.

Utility of class materials

Utility is the economic term for the range of value and benefits received by consumer from the acquisition and consumption of a product. Utility is the ability of a good or service to satisfy a human need. The field of marketing typically uses the terms customer value and utility on an interchangeable basis (Kerin et al., 2014; Kotler & Armstrong, 2016; Kotler et al., 2009). These concepts can be applied to the assigned class materials.

Form utility is created by the design of the product or service itself and converting raw materials into the finished product. *The more specifically a good or service is targeted towards customer needs and desires, the higher its perceived added value* (i.e., form utility) will be. Assigned class materials have form utility because they contain specific content for the course. They also have additional form utility if they are *needed* for the student to do well in the class. A substitute product or alternative source of materials can replace the utility of *printed materials*, though not that of required *digital* subscriptions which are not shareable, and cannot be avoided without penalty by the student if their use is required.

Possession utility describes the benefits derived from owning and using a specific product. Generally speaking, the more “useful” a product is to an individual,

the higher its possession utility will be. Are these specific materials needed to do well in the class? If yes, then the benefits that can be derived from owning and using this specific product is high. If not, the opposite is true. This unknown utility can lead to stress, delayed decision making, and often a decision not to acquire. Students may potentially get the same utility from alternative and cheaper products, such as old editions or free online content.

Consumer decision making process for required class materials

The classic consumer behavior decision making process is *(1) problem recognition, (2) information search, (3) evaluation of alternatives, (4) purchase decision, and (5) post-purchase behavior* (Kerin et al., 2014; Kotler & Armstrong, 2016; Kotler et al., 2009). This decision-making process does not apply well to a situation of acquisition of required instructional materials. The student consumers are told what to acquire and are required to purchase it. Because the acquisition is compulsory, many elements of the classic consumer behavior decision making processes are skipped or irrelevant to acquisition decision. Let's look at these decision steps and their relevance to the purchase of assigned class materials:

1. *Problem recognition* – The student is given the problem (“These materials are required in this class, please get them”).
2. *Information search* – The information search by a student is limited. Students are told what products to acquire. There is little influence by friends, peers, advertisements, media, marketing promotion, or branding. There is no helpful information from the marketer. The student can investigate the utility of the product and the availability of substitutes.

3. *Evaluation of alternatives* – There is no evaluation of competing brands or products. There is no real consideration set, nor an evaluation of alternatives. Brand and edition of the textbook are specified. Alternatives can only be substitute products, such as content on the internet or older textbook editions. The consumer could search for resale products or substitutes at this stage, although this is not possible with digital content that expires or compelled use of an online learning platform that is often assigned.

4. *Purchase decision*

(A) *Whether to purchase?* At the end of this decision process the student must simply decide whether or not to acquire the instructional materials assigned in their class. This final purchase decision can be disrupted by two factors: negative feedback from other customers and the *level of motivation to comply* (Kotler, 2009). The student in this case really only has two choices: acquire or not to acquire the assigned materials.

(B) *When to purchase?* A student can also decide *when* they acquire the textbook and assigned materials. Normally the “when” question is affected by sales and discounts, the shopping experience, persuasiveness of the sales process, the time pressure, and financial circumstances. For textbooks and class materials, *time pressure* is likely to be the most influential of these abovementioned factors. If the student worries that this purchase will be a bad value, they may delay or decline purchase, taking a “wait and see” approach. On the other hand, if they need the materials for an assignment or exam, they would be encouraged to make the decision whether to get the book or not without further delay.

5. *Post purchase behavior* – Satisfied or dissatisfied students have little influence on future purchases. The satisfaction level with the textbook and class materials will be related to how much the materials helped the student achieve their goals in the course. That particular textbook however will likely never be assigned to the student again, so the student's satisfaction with the purchase will not affect a future purchase of that same product.

What type of consumer products are required instructional materials?

Convenience products are products that customers normally buy frequently, immediately and without great comparison or buying effort. *Shopping products* are products that the customer usually spend more time and effort in gathering information and comparing alternatives on attributes such as quality, price, and style.

Specialty products are products with unique characteristics for which some consumers are willing to make a special purchase effort and are less likely to be compared against each other. *Unsought products* are products the consumer either does not know about or knows about it but is not inclined to initially want it.

Unsought products require much more advertising, selling and marketing efforts than other types of consumer products (Kerin et al., 2014; Kotler & Armstrong, 2016; Kotler et al., 2009).

Consumers may purchase textbooks and materials very often, perhaps a dozen times per year, but they have never bought *that specific textbook* before and most likely never will again. This makes this product a unique “one-time purchase”. Since the student was instructed to acquire the textbook, and did not seek it out on their own, it can be thought of as an *unsought product*. The consumer has never

considered acquiring the textbook until it was assigned to them by an instructor. Normally unsought goods depend on heavy marketing and promotion, but in this case, the primary sales and marketing efforts are either to the instructors who teach the courses or directly to academic departments and colleges. Publishers do not market and sell directly to the students. The undergraduate students are thus left on their own to decide whether to or not to acquire this required product which they may not want at all (Kerin et al., 2014; Kotler & Armstrong, 2016; Kotler et al., 2009).

Price and required instructional materials

Basic pricing theory states that as price goes up, demand goes down. Because required instructional materials are mandatory, in theory there should be zero price elasticity and the demand within a class population should be perfectly inelastic (Kerin et al., 2014; Kotler & Armstrong, 2016; Kotler et al., 2009). However, because the purchase of the textbook is not directly enforced, we might expect to see movement towards a normal demand curve based on price. In this case, lower priced materials will be acquired at higher rates than lower priced materials. As price of materials go up, there would be less demand for them, and a lower acquisition rate of those materials.

Personality Influences

Personality traits such as conscientiousness, obedience, hedonism, utilitarianism and dutifulness may also influence students to acquire assigned materials in general. Indeed, much work has been done on personality and its connection to performance, including academic performance. For example, Zare and Flinchbaugh (2019) argued that personality is definitely associated with academic

performance and is an important component of students' willingness to perform. Of the “Big Five” personality factors, *conscientiousness* has been suggested to be the dominant factor in predicting success (McCrae & John, 1992). Conscientiousness is a domain that supports organization, determination, deliberate actions, and a sense of duty. These qualities are linked to scholastic and professional success, as a conscientious individual will do what is needed to complete the task at hand and meet required milestones. Conscientiousness has also been found to have the strongest association with academic performance of all the Big Five factors. Zare and Flinchbaugh (2019) found that of the Big 5 personality traits, conscientiousness was the dimension most closely linked to will-to-achieve, goal setting, compliance and concentration on homework. In summary, “Conscientiousness is the most valid universal predictor of task performance” (Zare & Flinchbaugh, 2019, p. 43)

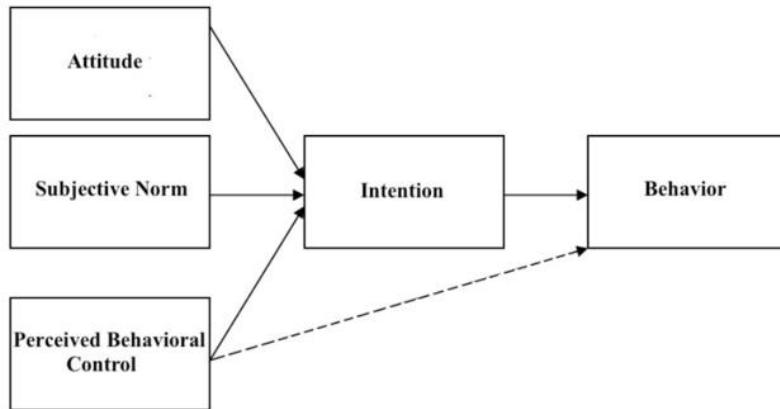
Although personalities are thought to be stable over time, individuals may exhibit different behaviors in different situations (the classic “personality paradox”). A behavior in one type of situation does not always predict the individual's behavior in a different type of situation (Mischel, 2004). A student who acquires their assigned instructional materials in some classes may not in another. However, it is important to note that personality influences may not provide much help in explaining the reasons why a student might acquire their material in some classes and not in others. If a student acquires all of their books in one class but not another, the explanation will probably be found in the specific characteristics of the classes taken and the materials assigned in them, and not the students' personality.

CHAPTER III. RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

The research model in this study builds upon the Theory of Planned Behavior (Ajzen, 1991), a well-known theory in social science that states that intention to perform a behavior is the best predictor of actually performing that behavior. Figure 4 shows a graphic representation of this theory.

Figure 4

Theory of Planned Behavior Model



Note: Source: Ajzen (1991)

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA) developed in 1980. This theory is intended to predict an individual's intention to engage in a behavior at a specific place and time, and is intended to explain behaviors over which people have the ability to exert self-control (Ajzen & Fishbein, 1991). The TPB is based on the idea that individuals make reasoned, logical, decisions to engage in specific behaviors by evaluating the

information available to them. According to the TPB, the performance of a behavior is best determined by that individual's intention to engage in the behavior. These intentions are determined by three factors: *attitude toward the behavior*, *subjective norm* concerning the behavior, and *perceived behavioral control*. In the TPB, positive attitudes and supportive subjective norms provide the motivation to engage in the behavior but specific intention to do so is formed only when perceived control over the behavior is sufficiently strong. Application of the TPB to this research study on textbooks and class materials is discussed below.

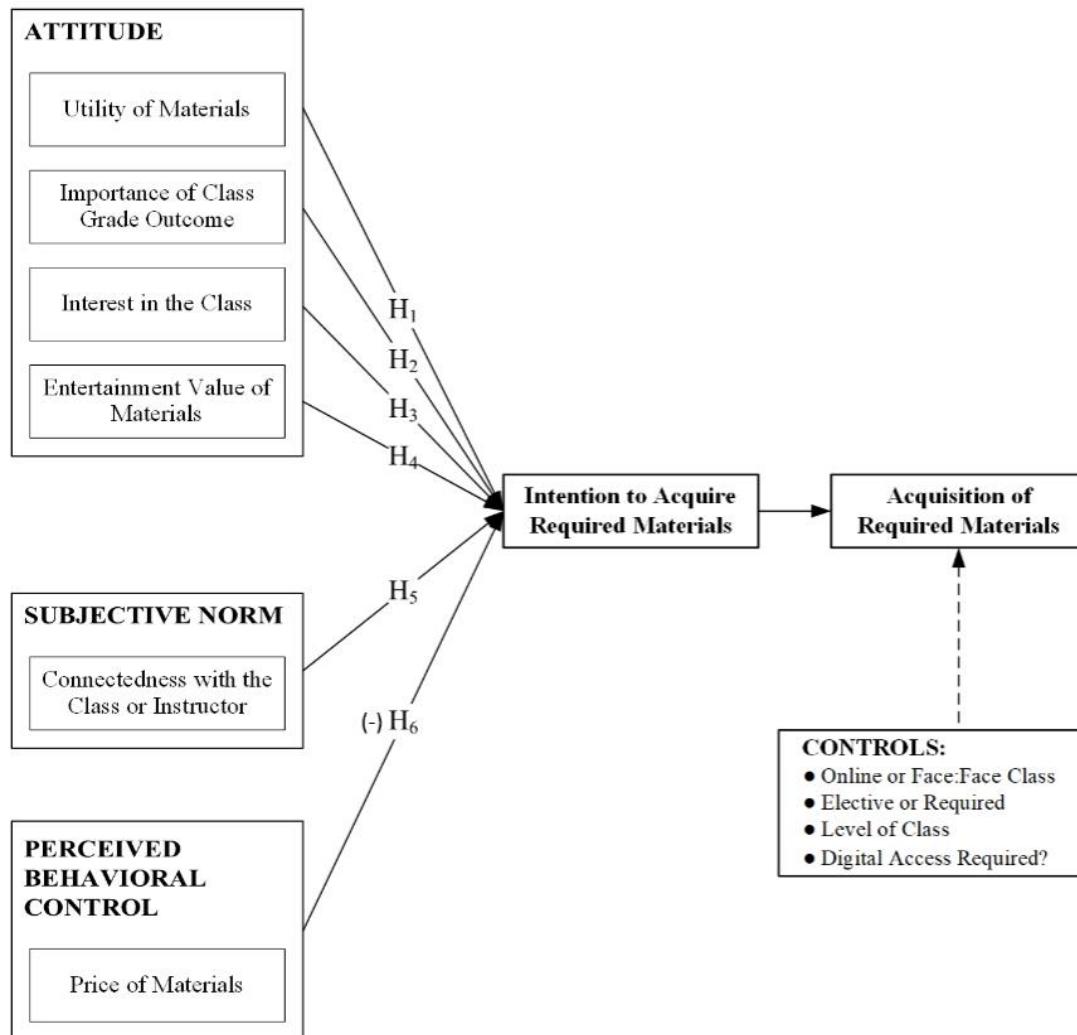
Attitudes toward the behavior: In the research model of this study shown below in Figure 5, the factor *attitude* will include elements that would contribute to the student's attitude around acquiring the assigned instructional materials in their undergraduate classes. The specific constructs used are the student's attitudes around the *utility of the assigned materials*, the *importance to the student of the grade* they receive in the class, *the interest in the class and the learning in the course*, and the attitude of the student about *how entertaining* they find the assigned class materials.

Subjective Norms refers to the overall perceived social pressure to engage in the behavior. In the research model of this study, the factor of *subjective norms* will include the feelings of *connectedness* that a student has with the professor, and the how connected the student feels to the class or the program in which the class is part of. Finally, *Perceived Behavioral Control* is assumed to be based on beliefs that the behavior in question is under the control of the individual. Factors that can facilitate or impede performance of the behavior include required skills and abilities, time, money and other resources, or cooperation by other people. In this study, perceived

behavioral control will be the *price of assigned materials* in the class, as higher prices make it more difficult for the respondent to perform the activity in question.

Figure 5

Research Model – Undergraduate Acquisition of Required Instructional Materials



Hypotheses development

A review of the literature and pilot data collected by this author in 2019 and 2020 provided provisional evidence that textbook price is not the most important

factor that students consider when deciding whether to acquire their assigned instructional materials. Instead, students are significantly more likely to acquire the assigned class materials if they find them useful and necessary to get the grade they want in the course.

There is some indication in the literature that supports the idea of students weighing the utility of the assigned materials in a decision whether or not to acquire them. Recall from the literature review that Young (2015) found that students sometimes see the assigned materials as optional and may therefore decide not to get them. Students may decide that this is a reasonable course of action, based on their observations and previous experience with their assigned books. Some professors may assign books and materials, but never use them in their classes, which gives validity to a student's view of a book as optional. Florida Virtual Campus (2019) found that students had on average purchased 3.6 books that were never used by the professor. The materials might also be used, but not really needed for the student to get a desirable grade in a course, for example a professor might assign chapter readings but that material is not needed to get good grade on exams and assignments. If you don't need the book, why acquire it? Interviews with students and early pilot studies by this author found a high level of frustration by students when they waste money by getting a book that is not needed.

It is often possible that a student can do well in the class *without* acquiring the required books and materials. They can use the materials provided by the instructor (such as PowerPoints or study guides) or they may be able to find the needed information on the internet. The weighting of the graded items may also matter. For

example, if a student does need the textbook for exams, but exams only comprise 20% of course grade, a student could probably not get the textbook and still do well in the course. The value or *utility* of the textbook and class materials goes up based on how much those materials are needed to get the desired grade in the class. If materials are not needed to get the desired grade in the class, their value to the student is lower. As the value to the student falls, it becomes increasingly less likely that the item will be acquired. Therefore, I offer the following hypothesis:

H1a: The higher the utility of the materials assigned in a class (as perceived by the student), the more likely the materials are to be acquired by that student.

There is wide variation among classes in how necessary the assigned materials are to get the desired grade. Some classes will assign materials that are essential to getting a good grade in the class, while other classes will assign materials that are not needed to get a good grade and therefore may be viewed as discretionary by the student. Classes that assign materials with a high value to the user will likely see those materials acquired at a higher rate. I therefore propose the following:

H1b: Classes that assign materials with a high perceived utility will have higher acquisition rates than classes that assign materials with lower perceived utility.

The grade received in some classes is more important to the student than others. A good grade may be needed for admission to upper level courses, or is a prerequisite for permission to declare a major. Grades in certain classes might affect

applications to graduate schools or perceived desirability by hiring managers. A student may want a better grade in related to future career and area of study.

For example, at Florida Atlantic University (FAU) if a student wants to declare a major in accounting, finance, international business or marketing, the student must have achieved a minimum 2.5 GPA in specific pre-business foundational courses, such as statistics, and calculus. Figure 6 below shows these requirements. Additionally, the FAU College of Business students may not attempt any course more than twice; third attempts are not permitted.

Figure 6

Minimum C grade required in classes at FAU

Business Core Programs (BBA or BS)

To declare Accounting, Economics with a Concentration in Business Economics, Finance, Hospitality, International Business, Management, Management Information Systems, or Marketing, students must have earned 60 credit hours, satisfied the foreign language admission requirement (FLEN)**, and achieved a minimum 2.5 GPA in the Pre-business Foundation Courses below.

Pre-Business Foundation Courses (Minimum grade of "C")		
Course Title	Prefix and Number	Pre-requisites (Minimum grade of "C")
College Writing I	ENC1101	
College Writing II	ENC1102	ENC1101
Accounting I (Financial)	ACG2021	30 credits
Accounting II (Managerial)	ACG2071	ACG2021
Macroeconomics	ECO2013	30 credits
Microeconomics	ECO2023	30 credits
Methods of Calculus	MAC2233	MAC1105 or ALEKS score 45
Introductory Statistics	STA2023	MAC1105, MGF1106, MAC2233, or ALEKS score 45
Information Systems Fundamentals	ISM2000	

Note: Source: <https://business.fau.edu/images/business/undergraduate/files/AdmissionToTraditionalPrograms.pdf>

In such an instance, it is critical that the student has an acceptable grade in these classes. This need for a good grade in certain courses would raise the risk of deciding not to get the materials. A student would likely be more risk averse in these classes, and more likely to acquire the required materials. Based on this discussion, I offer the following hypothesis:

H2: The more important the final grade in a class is to the student, the more likely it is that the assigned materials for that class will be acquired.

Some students are interested in the classes that they take. Students might place a high value on the educational knowledge gained in certain classes. In many cases students want to actually learn the course content. Even if the materials are not needed for a good grade, they still might have a high educational value, and using the materials will likely have an educational benefit.

Classes related to future career and area of study for a student may have more value to a student than other classes. For example, a student planning a career in accounting or finance would likely consider the knowledge gained in those classes important, separate from the grade they receive in the course. A student planning on doing research would need to learn research techniques. A student who does not learn enough in their foundational courses is taking a risk and may hurt him or herself by not learning as much as possible about the subject. Therefore, I propose the following hypothesis:

H3: The more interested a student is in the class and the content of the class, the more likely it is that the assigned class materials will be acquired.

You will recall from the literature review that a desire for entertaining or less boring materials may also explain student acquisition of course materials. Current students grew up in a world of text messages, Snapchat, Twitter, and video games. They may want quick reads and highly illustrated materials, with studies suggesting that perhaps course materials are evaluated on their entertainment value and not their education value (Skinner & Howes, 2013). Therefore, I offer the following hypothesis:

H4: The more entertaining the materials are to use (as perceived by the user), the more likely the materials are to be acquired.

Feelings of connectedness or affinity may affect acquisition behavior.

Students may like and feel connection with the professor. They may feel connected to the department or a program of study that they are part of, such as “the accounting honors program”. Students with feelings of connectedness or affinity may be influenced by social norms or have more motivation to comply, factors shown in the Theory of Planned Behavior to influence the intention to perform a behavior (Azjen, 1991). These feelings may influence the student’s decision to acquire the materials in a class. Therefore, I propose the following:

H5: The greater feelings of connectedness around that class on the part of the student, the more likely they are to acquire the materials assigned in that class.

The price of course textbooks and materials is a major focus of this study. Basic pricing theory states that as price goes up, demand goes down. This would imply that higher priced texts and materials will be acquired at a lower rate. However, textbooks, like other mandatory purchases, are often looked at as price inelastic. Since required instructional materials are required, there should be no price elasticity. Demand within a class population should be perfectly inelastic, and the materials acquired at a rate of 100% by all students.

However, as we have discussed, at times this logic does not hold, and we have seen that not all students acquire the assigned materials. Consistent with Hypothesis 1, if materials have a low utility, then they are less likely to be acquired, *irrespective*

of price. If they have a high utility and are needed to get the desired grade in the course, they will be acquired at a higher rate *irrespective of price*. Pilot data showed that students reported that they usually had sufficient money to buy the books and materials if it was necessary. While they were opposed to wasting money, more important than the price was their grade and successfully completing the course. Students reported that they would acquire the materials if necessary to get the desired grade in the course, irrespective of price. It may therefore be that price is less important than utility, and thus not a primary driver of demand. Nevertheless, higher prices should lead to lower acquisition rates, *ceteris paribus*. I therefore advance the following hypothesis:

H6: The higher the prices of the assigned instructional materials, the less likely the materials are to be acquired.

Pilot study and final instrument development

To arrive at the final survey instrument described in the following chapter, a pilot survey was developed and tested. This pilot was developed after analysis of numerous interviews and written responses by undergraduate students in 2019 and 2020. Informed pilot and pilot studies in 2020 were conducted to arrive at the final study instrument and research design used in this study. These pilot studies are briefly described next.

Informed Pilot. This current study was initially developed based on information gained from interviews and informed pilot studies conducted in 2019 and 2020. The author conducted interviews and gathered written responses from students

individually or in small groups. Most of these were informal and open ended and intended to gather their thoughts on the textbook acquisition process, and student decision making during that process. The corpus of written responses was analyzed and coded for presence of individual concepts. Some of the common concepts were expense, value, need, financial resources, utility, delaying acquisition, alternative materials, sharing materials, professor supplying materials. The concepts that had the highest frequencies and seem to have the most explanatory value were included in the pilot instrument, and combined with other concepts from the literature review. More details on these interviews and coding of responses are included in Appendix 1.

A survey instrument was developed and tested in small informed pilot studies.

Pilot Study. A formal pilot test took place with 362 participants in 2020 at Florida Atlantic University (FAU). This study had the approval from the Institutional Review Boards (IRB) at Florida International University (FIU) and at FAU. The pilot study was administered as part of an optional class assignment for extra credit and was completely anonymous.

The survey was administered to a sample of 362 undergraduate students at FAU who were either business or pre-business majors. The sample consisted of 25% Freshmen, 24% Sophomores, 37% Juniors, and 15% seniors. Three hundred fifty two complete responses were retained.

Results from Pilot Study

Three hundred fifty two students reported on 549 classes that they had taken at FAU. 155 students (44%) were able to report on one class only (of these, 92% say they always get 100% of materials). One hundred ninety seven students (56%) were

able to report on two classes (1 class with 100% acquisition + 1 class with less than 100%) = 394 classes

These 394 classes were then analyzed in SPSS 25 using correlation analysis and regression, with the dependent variable being “Acquisition rate of the assigned instructional materials in the class” (0-100%).

Results showed strong support for Hypotheses 1 and mild to moderate support for the other hypothesis. Hypothesis 6 was not supported, and the study actually found that prices were *positively* correlated with the acquisition rate. This was an interesting finding, and the author was curious to see if this held in a study with a larger sample.

Based on the results obtained in the pilot, the following three constructs were dropped from the model, as they showed no predictive ability on the dependent variable:

Perceived appropriateness of materials Definition: The extent that the student believes the assigned materials were appropriate for the subject and level *of the class*

Perceived ease of accessibility of material. Definition: "the degree to which a person believes that the materials would be easy to acquire."

Perceived ease of use. Definition: "the degree to which a person believes that using the materials would be free of effort."

The completed survey instrument is described in the next chapter, and is included as Appendix 2 at the end of this document.

CHAPTER IV. METHODOLOGY

This study consisted of three parts:

1) *Main study: analysis of 1286 classes.* This was a cross sectional study of 1286 individual classes, based on responses about two different classes taken by each student: one class where they acquired all (100%) of the assigned instructional materials and one where they did not acquire all assigned materials (<100%). The primary tools of analysis used were binomial logistic regression, correlation analysis and difference of means T tests . The dependent variable was whether or not the respondent acquired 100% of the instructional materials assigned to them in their class, and the independent variables were the constructs included in the research model.

2) *Experiment.* This was an experiment comparing the acquisition rate of the assigned instructional materials across all students in one class (Group 1 - Control) vs all students in another nearly identical class (Group 2 – Manipulated). The statistical tool of analysis used was a T-test, which was used to compare means between the two groups.

3) *Additional analysis of 1333 students and their usual acquisition rate.* This was a cross sectional analysis of 1333 students and their usual acquisition rate of assigned materials in all of the classes they have taken in college. It looked at how demographics, attitudes, personality and other factors impact the usual rate (0-100%) at which students acquired the assigned materials in their college classes. It also looked at when and why they usually acquire the assigned materials. The primary

tools of analysis were linear regression and correlation analysis and difference of means T tests.

Participants and Setting

Participants in this study were undergraduate students enrolled in undergraduate business courses at Florida Atlantic University (FAU) in Boca Raton, Florida USA at the time they were surveyed.

Florida Atlantic University is a large, public university with over 25,000 undergraduates and over 37,000 enrolled students. Table 2 shows that the FAU student body is diverse, and the school is somewhat more diverse than the United States as a whole.

Table 2

2019 Racial & Gender Makeup of FAU Student Body

	White	Latino	Black	Male	Female
FAU	42%	26%	20%	43%	57%
FAU COB	44%	26%	18%		

Notes: Source: Brewer et al. (2020)

The vast majority of the respondents were either business or pre-business majors. The sample represented a wide variety of the students enrolled in the college of business, regardless of their specific major. The survey completion rate was over 90%, suggesting that the sample was of respondents was representative of the FAU College of Business. It is important to note that the population of interest is this study is undergraduate students in the US, and that this sample of FAU undergraduate business students is somewhat representative of the larger US undergraduate

population. Therefore, the results of this study should have some generalizability to the population of interest.

Accessing the participants. Contact with these participants was made in the undergraduate classes in which the participants were currently enrolled at the time of the study. These classes were scheduled business classes taught by the Department of Management Programs, one of the departments in FAU's College of Business. Students were offered extra credit to complete an anonymous survey hosted on the Qualtrics platform. A link to the survey was posted on the Learning Management System (LMS) called "Canvas" for that student's class.

Appropriate number of participants. In order to err on the side of too many participants, data was requested from approximately 1600 students, which resulted in the collection of 1333 acceptably completed surveys. The supplemental experiment was conducted in two classes, with approximately $N = 40$ respondents per group. Although the size of these two groups in the experiment would be sufficient to detect a large effect size (with a power level of .80 and level of significance (alpha) of .05), the sample was not necessarily sufficient to detect a medium or small effect size (Rudestam & Newton, 2015).

Research Design

Main study of classes. The study collected responses from each student about two different classes they had taken: one class where the student *did* acquire 100% of required materials and one class where they *did not*. Some students always got all materials, and so about half of the respondents were able to provide a completed response about two classes. A data set was then built that contained completed

responses from 643 students, resulting in a data set of $n = 1286$ classes. Precisely 50% of these 1286 classes therefore had full 100% acquisition of the assigned instructional materials and 50% had less than 100% acquisition of assigned materials.

Sub study: Experiment. A similar version of the survey used in main study was used to conduct an experiment between students in two nearly identical classes. These students were specifically asked to answer about their acquisition of assigned materials in their MAN 4720 class where the survey was administered. Overall acquisition rates were compared between the control group and the manipulated section.

Sub Study: Analysis of Students. The same survey used in main study was used. Data about demographics, personality, attitude, and textbook acquisition behavior was used to examine the relationships between these variables and their usual acquisition rate of materials in their college classes.

Instrumentation and Measures

The final version of the survey instrument was arrived at based on interviews, the informed pilot and the pilot study, and is attached as Appendix 2.

The following procedures were followed in designing the survey instrument, as recommended by Rudestam and Newton (2015). Based on a reading of the literature and interviewing experts and students, an initial pool of items was developed. These items were shared with members of colleagues and also students who represented the target population, who were asked to rate these items for appropriateness and clarity. The structure and reliability of the instrument and its subscales was determined using exploratory and confirmatory analysis, and using the

reliability measures of the coefficient alpha. The item pool was then reduced to its final form. Some constructs were dropped and not included in the final version, as was described in the previous chapter.

Constructs and Variables in Survey Instrument

Definitions

Materials are defined as textbooks, books, eBooks, access to digital platforms, simulations, or any other materials the student is asked to acquire for their class that is not provided by the instructor.

Acquisition is defined as obtaining access to the materials. Whether the materials were rented, borrowed, found, purchased or copied, these methods all counted as acquiring the materials.

Set up question for dependent variable:

Number of Materials:

Definition: The number of materials assigned in the course that the student was expected to acquire

- “How many required materials such as textbooks, simulations, digital platforms or eBooks were you asked to get in this class?” 1,2,3 or more

Dependent Variables:

Class acquisition rate:

Definition: The percentage of the assigned instructional materials that the student acquired in a specific class

Measurement – 1 item:

- “What % of the assigned materials in this class did you get?” (2 to 5-point scale, depending on how many materials were assigned)
0/33/50/67/100%

Usual acquisition rate

Definition: The percentage of the assigned class materials that the respondent has usually acquired across all of their college classes.

Measurement – 1 item:

- “Thinking about all the classes you have taken in college, what % of your assigned class materials do you usually get?” 0-10%, 11-20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, 91-100%

Independent Variables:

Utility: Perceived utility of materials

Definition: The perception of a user about the extent to which particular class materials would contribute to accomplish tasks important to the user (adapted from Paravastu, Ramanujan, & Ratnasingam, 2016)

Measurement: 4 items, adapted from Davis (1989) (1-5 Likert)

- Utility 1 – I needed to use the assigned materials to be able to pass the class
- Utility 2 – I needed to use the assigned materials to get the grade I wanted in the class
- Utility 3 – I needed to use the assigned materials to complete assignments or quizzes
- Utility 4 - It would be difficult to get the grade I wanted without the assigned materials

Importance: Perceived importance of class grade outcome

Definition: How important to the respondent is the grade received in the course

Measurement- 1 item (1-5 Likert)

- Importance 1 –“How important to you was the final grade you received in this class?”

Interest: Interest in the class and the content

Definition: The degree to which respondent is interested in the course and the knowledge gained in the course

Measurement: 2 items (1-5 Likert)

- Interest 1 - “It was important to me to gain knowledge and learn about the subject covered in this class”
- Interest 2 - “I am interested in the subject area of this class”

Entertainment: Perceived entertainment value of materials

Definition: the degree to which a person believes that using the materials would be entertaining or enjoyable

Measurement: 1 item adapted from Papacharissi and Rubin (2000) (1-5 Likert)

- Entertainment 1 - “The assigned materials were enjoyable or entertaining to use”

Connectedness

Definition: a feeling of belonging to or having affinity with a particular person, group, or subject area

Measurement: 2 items adapted from Waters & Cross (2010) (1-5 Likert)

- Connectedness 1 – “I like and respect the instructor of this class”
- Connectedness 2 – “I feel a connection with the program / department that offers the class”

Price: Total price of class materials

Definition: The combined price of all of the materials assigned in the class

Measurement – 1 item:

- What was the total cost of the materials assigned in this class?
\$0-30/\$31-60/\$61-90/\$91-120/\$121-150/>\$150)

When usually acquire?

Measurement – 1 item:

- “When do you usually get your assigned class materials?”
Before the first class/During the first week of class/After the first week of class

Why usually acquire

Measurement – 1 item:

- “Why do you usually get the materials assigned for your classes?
Instructor asked me to/I cannot pass without them/I need them to get grade
I want/To learn more about the subject)

Conscientiousness

Definition: The extent to which one tends to be responsible, organized, and hard-working; to be goal-directed; and to adhere to norms and rules

Measurement: 4 items from Donnellan, Oswald, Baird & Lucas (2006) (1-5 Likert)

- In general, I...
 - ...Get chores done right away.
 - ...Often forget to put things back in their proper place. (RC)
 - ...Like order.
 - ...Make a mess of things. (RC)

Control variables:

- *Online/face to face/hybrid class (0/1/2)*
- *Elective or required class (0/1)*
- *Level of class (1000/2000/3000/4000)*
- *Digital access required? (0/1)*
“Was a digital access code required to complete assignments or exams in this course?”

Demographic & Other Variables:

- *Gender (female/male/other)*
- *Age (18-24/25-34/35-44/45-54/>54)*
- *GPA(<2.0, 2.0-2.25, 2.26-2.50...>4.0+)*
- *Respondent level (Freshmen, Sophomore, Junior, Senior)*
- *Major (quantitative, non-quantitative, undeclared/other)*
- *How often do you receive financial aid (1-5 Likert)*

Procedures

The survey was distributed to approximately 1600 undergraduates enrolled in business classes at Florida Atlantic University over a period from May 2020 to

January 2021. These surveys were collected either by this author or his colleagues. A total of 1,508 surveys were collected. About 60% of these were collected in classes taught by this author, while about 40% were collected in classes taught by three other instructors in the Department of Management Programs of the FAU College of Business (instructor names available upon request). The collaborating instructors were personally known to the investigator and are full time faculty members in the Department of Management. Their official course schedules were checked to confirm they were teaching the classes that the stated they were teaching.

The survey was hosted on the Qualtrics experience management platform (“Qualtrics”). No identifying information about the respondents was collected. The respondent’s name, email addresses, or any other personal information were not known to the investigator. It was hoped that the total anonymity of the survey would encourage honest answers.

The survey was distributed to students near the end of the semester. This was done by posting the URL link to the survey on the Canvas LMS pages for that class. A student could click the URL link from any device and web browser of their choice, though they were encouraged to take it on a computer instead of a phone. Students could take the survey at the time and place of their choosing, as long as they completed the survey by the due date. Students were typically given about 10-day window in which to complete the survey. The survey took about 6-10 minutes to complete. Data collection ended in January 2021.

No financial compensation was given to the respondents. To encourage participation, extra credit was given to the student respondents. To receive this extra

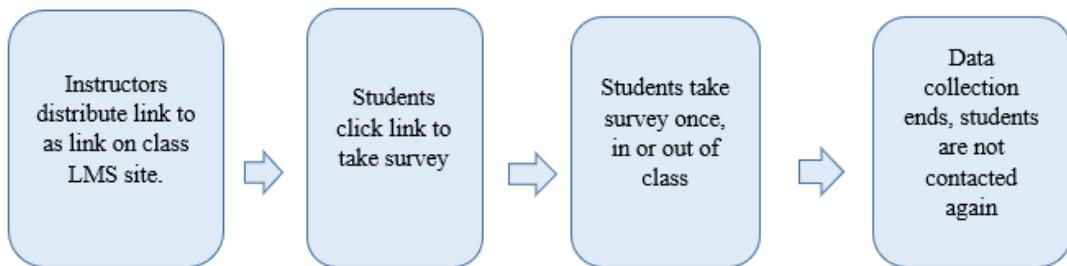
credit, students provided to their instructor a dated screen shot of the final “thank you” page of the completed survey. The date on this thank you page was updated regularly to keep the date current. In order to comply with IRB guidelines students were offered the alternative to complete another assignment for extra credit instead of taking the survey if they preferred. No students chose this option. Because of this extra credit opportunity, over 90% of the students of the participating classes took the survey.

Efforts were made to ensure that students did not take the survey more than once. In the surveys administered by this author, no students who took the survey had previously been in a class where I had administered the survey. In the case of the surveys administered by other instructors: about 40% were freshmen in an Introduction to Business class, and therefore would not have taken any other business courses in a previous semester and would not have been offered the survey. For the remaining, students were asked to inform their instructor if they had already taken a class with this author (Instructor Joseph Patton), in which case they could receive the extra credit without completing the survey. No such incidence occurred. Grade rosters were also checked for duplicates. If any were found, they were to be offered an alternative assignment if extra credit was offered. No such incidence occurred.

Figure 7 below outlines the flow of the data collection.

Figure 7

Flowchart of Data Collection Procedures



Survey Flow

Respondents answered questions about their attitudes, demographics, and their usual purchasing behavior of assigned class materials. Respondents were also asked to answer questions about the assigned instructional materials in any one class of their choice. After writing the name of a class of their choice, the respondent was asked how many materials were assigned in that course. Based on that answer, they were presented with appropriate choices as to how many materials they acquired. For example, if the class had one (1) instructional material assigned, the options presented for acquisition rate were 0% or 100%. If the class had 2 materials assigned, the options presented were 0%, 50%, 100%. If the class had 3 or more materials assigned, the options presented were: 0%, 33%, 50%, 67%, 100%, and respondents were asked to choose closest acquisition rate.

Students were then asked questions about that particular class and the materials assigned in that class. These questions were about the level, subject, and format of the class, and the constructs listed in the hypotheses: utility, importance,

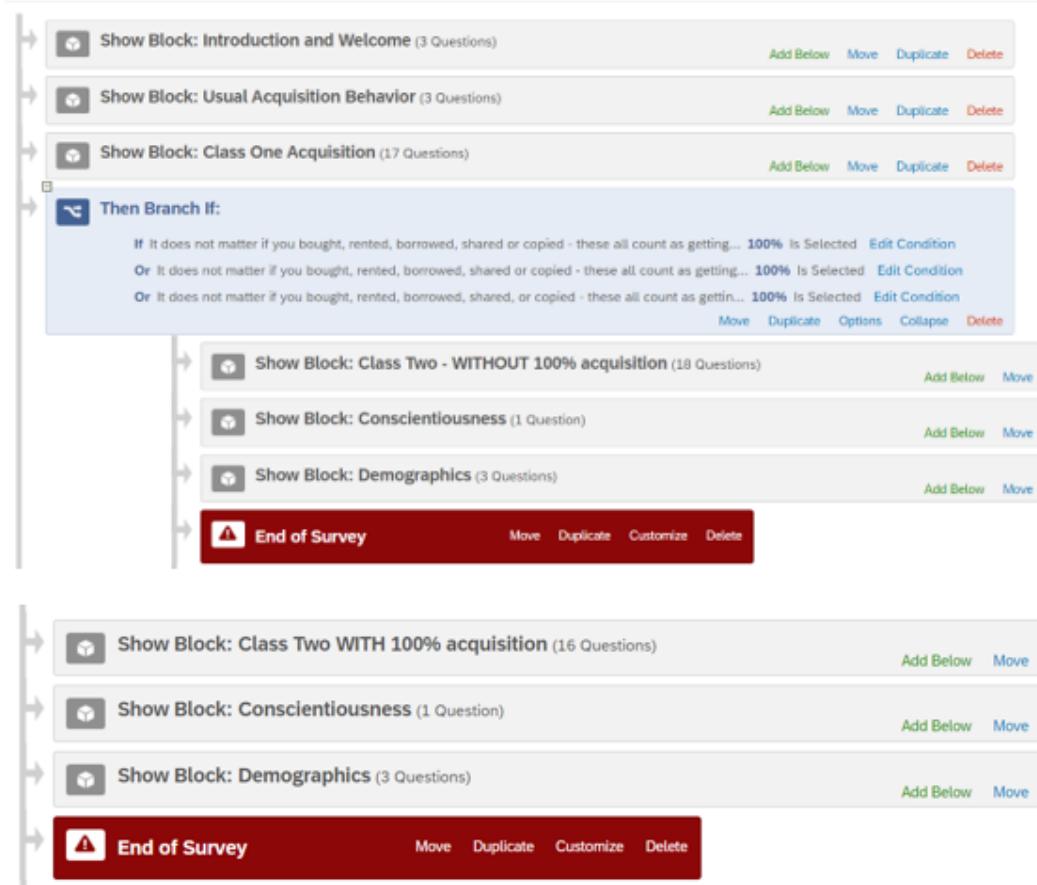
interest, entertainment value, connection to the class, and price of the assigned class materials.

After the respondents completed their answers for one class, they were then asked to answer about a second class of their choice. If their acquisition rate in the first class was 100%, students were asked if they had ever taken a class where they did *not* acquire at 100% of the assigned materials. If they answer *yes*, then using display logic they will be asked to answer the same questions about a class where they did not acquire at 100%. If they answer *no*, they do not answer for a second class and go to the final section of the survey.

If their acquisition rate in the first class was *not* 100%, students were asked if they had ever taken a class where they *did* acquire 100% of the assigned materials. If they answer *yes*, then using display logic they will be asked to answer the same questions about a class where they did acquire at 100%. If they answer *no*, they do not answer for a second class and go to the final section of the survey. This branch process from the Qualtrics survey is shown in Figure 8 below

Figure 8

Survey Instrument Flow with Display Logic



About half of the respondents were able to answer about one class with 100% acquisition and one without 100% acquisition. These respondents each contributed two individual classes to the main data set. Of the 1333 students who provided initially acceptable answers to the survey, 643 (48%) were able to provide two classes to the final data set (n = 1286 classes total).

The remainder of the students (about 52%) answered that they never or always acquire all of their materials. No pairs of classes were available from these students;

however, their demographics, attitude, and personality were collected and are used in the section of the study analyzing usual acquisition rates of the materials in all of their college classes taken to date. These procedures resulted in two different data sets: 1,286 classes and 1,333 individual respondents.

Methodology and Procedures: Experiment

Using a version of the same survey instrument, an experiment was conducted between students in two different classes taught by this author. The variable manipulated was the utility of the materials, specifically, the necessity to use the assigned materials in order to get a good grade in the class. The dependent variable *was the % of students who acquired all assigned materials in the class.*

The experiment was conducted at FAU in 2020 between two nearly identical online sections of the class MAN 4720 - Global Policy and Strategy, which is a senior level “capstone” course required for all business majors. Both sections of the class were approximately the same size ($n = 42, 40$). Both sections of the course were taught online in an “asynchronous” format, meaning there were no specific class meeting times. The control group (Group 1) class took place in Summer 2020 and the manipulated group (Group 2) class took place in Fall 2020. There was no substantial difference in the population between the two sections. A prerequisite for this class is senior level standing, and normally students take this class in their last semester. The population within the classes was therefore very similar.

In the control class (Group 1), the textbook was needed in order to complete assignments and exams, and in the manipulated class (Group 2), the materials were not needed. The only variation between the two classes was the variable manipulated,

which was that the required materials in the manipulated class were not needed to complete any assignments or exams in the course. Students were not told that the materials were unneeded. Both classes were taught in the same way and had the same required textbook and the same course content. The syllabus and assignments were nearly identical. This author made specific efforts to control the conditions as much as possible, and therefore did not alter any of the readings, requirements or language he used in communicating to the students.

A modified version of the survey described in this document was distributed to the students during the last two weeks of the course. The only changes to the survey were that: 1) all students had to answer about the MAN 4720 class where the experiment took place and 2) some questions about that class were removed, as the answers to these questions were already known to the investigator. (for example, the level of the class, the number of materials assigned and price of the materials). All other questions were the same. Due to a different survey length and the fact that I had sufficient responses for my main survey, these results were not combined with the main survey data. Figure 9 below shows the course listings of each of the two classes where the experiment took place.

Figure 9

Listings of Classes Where Experiment was Conducted

The screenshot shows the FAU Self Service interface for the Faculty Detail Schedule. It displays two course listings with detailed information and enrollment counts.

Global Strategy and Policy - 11392 - MAN 4720 - 100

Status:	Active
Available for Registration:	Mar 23, 2020 - May 22, 2020
College:	College of Business
Department:	Online BBA
Part of Term:	I
Course Credits:	3.000
Course Levels:	Graduate, Undergraduate
Campus:	Distance Learning
Override:	No
Syllabus:	Add
Rosters:	Classlist
Office Hours:	Add

Enrollment Counts

	Maximum	Actual	Remaining
Enrollment:	40	41	-1
Cross List:	0	0	0

Scheduled Meeting Times

Type	Time	Days	Where	Date Range	Schedule	Type	Instructors
Class	TBA	TBA		May 16, 2020 - Aug 11, 2020	Lecture	Joseph Todd Patton (P)	(S)

Global Strategy and Policy - 13284 - MAN 4720 - 100

Status:	Active
Available for Registration:	Mar 23, 2020 - Aug 28, 2020
College:	College of Business
Department:	Online BBA
Part of Term:	I
Course Credits:	3.000
Course Levels:	Graduate, Undergraduate
Campus:	Distance Learning
Override:	No
Syllabus:	Add
Rosters:	Classlist
Office Hours:	Add

Enrollment Counts

	Maximum	Actual	Remaining
Enrollment:	40	39	1
Cross List:	0	0	0

Scheduled Meeting Times

Type	Time	Days	Where	Date Range	Schedule	Type	Instructors
Class	TBA	TBA		Aug 22, 2020 - Dec 18, 2020	Lecture	Joseph Todd Patton (P)	(S)

The manipulation

Group 1 (control section): One required material was assigned to the students in this class. This was a customized eBook published McGraw Hill using the “Create” feature (ISBN #9781307420166). This book was needed in order to complete

assignments for the class. Assignments and exams both required answers found in the text. The written assignments in the course required citing page numbers from the text and the exam questions came largely from the textbook.

Group 2 (manipulated section): The same eBook used in the control class was required, but was *not* needed in order to complete assignments for the class.

Assignments only required answers from PowerPoint slides, articles and other content, all of which was provided by the instructor. There were no exams in the course.

All other assignments, videos, recorded lectures and assigned article readings were the same in both classes, and took place during the same weeks in the course. Syllabus language was identical. The course schedule was identical with the exception that there were no exams in the manipulated section. Students in the manipulated class were not told that the book was not needed or that the text was not required to complete assignment and answer exam questions. The syllabus for both courses was posted at least 10 days before the start of classes so that students had ample time to review. No student asked this author about the need for the materials. If any student did ask, I was prepared with my answer that “the book is required, the readings are required” and would direct them to the syllabus for more information on how grades were calculated.

CHAPTER V. DATA ANALYSIS AND RESULTS

After data was collected on Qualtrics, responses were imported into Microsoft Excel for data cleaning. Data was then analyzed using IBM's statistics program SPSS, version 27. 1508 responses were received. 54 incomplete responses were discarded, as were an additional 121 survey with nonsense answers on conscientiousness or acquisition measures. This resulted in 1333 completed acceptable responses. Of these, 643 respondents (48.2%) were able to provide answers about two different classes that they had taken (with and without 100% material acquisition). Three separate analysis were then conducted:

1) *Analysis of 1286 individual classes*

This data set was composed of 1286 individual classes, half of which had 100% materials acquisition, half of which did not. The primary tool of analysis used was binomial logistic regression. This type of regression predicts the probability that an observation falls into one of two categories of a dichotomous dependent variable based on one or more independent variables. This regression tool is appropriate to use when your dependent variable is not continuous nor normally distributed (Agresti, 2018). Initially I had planned on using linear regression for this analysis. Linear regression, however, requires that the data be both normally distributed and continuous. In theory, the rate of acquisition could have been continuous, and students could have acquired any percentage of materials between 0% and 100%. In reality, however, a student would be limited in their acquisition rate by the number of materials assigned by the instructor, hence the only correct responses for the vast majority of respondents would be 0, 33, 50, 67, or 100%. It would be nearly

impossible, for example, to have an acquisition rate of 14% or 72%. Correlation analysis and comparison of means using unpaired T test was also used.

A dependent variable was created that measured whether or not the respondent acquired 100% of the instructional materials assigned to them in their class. Answers from respondents about their acquisition rate in a specific class were coded into either 1 or 0. Responses of 100% were coded as 1 (acquired all (100%) of materials), all other responses were coded as 0 (did not acquire all materials, acquisition rate of <100%). This resulted a data set with 643 classes with the dependent variable coded as 1, and 643 with the dependent variable coded as 0.

2) Experiment

This experiment compared the acquisition rate of the assigned instructional materials across all students in one class (Group 1 - control group) vs all students in another nearly identical class (Group 2 - manipulated group). The statistical tool of analysis used was unpaired T-test, which was used to compare means between the two groups and test whether the difference in means was statistically significant. If H1b was supported in this study, the mean of the acquisition rate of the required materials was expected to be higher in Group 1 (control) than Group 2 (manipulated).

3) Analysis of 1333 students and their usual acquisition behavior

This section of the study looked at the demographic, personality, acquisition behavior, and other factors that might impact a students' usual acquisition rate of their assigned instructional materials. This analysis was not based on answers to any one individual class, instead it looked at the usual rate at which students acquired the assigned materials in all their college classes they have taken so far. The dependent

variable was the *usual acquisition rate* (0-100%). The primary tools of analysis were linear regression, correlation analysis, and comparison of means using T tests.

Results

This section is organized as follows: First, the results of the main study of the classes and a review of the hypotheses are presented. Based on the results, I present some post-hoc analysis to dive deeper into some of the interesting results. I then present the additional analysis and results of the experiment conducted between two classes. Finally, I present the analysis and results of all students who participated in the study and their usual acquisition rate of assigned materials in all of the classes they have taken in college.

Table 3 shows the various frequencies and percentages of the sample of respondents.

Table 3*Descriptive Characteristics of Study Participants*

Variables	n	%	Usual Acquisition
			Rate (1-10)
Class Level			
Freshmen	294	22.1%	7.9
Sophomore	267	20.0%	7.9
Junior	464	34.8%	8.0
Senior	308	23.1%	7.8
Total	1333	100.0%	7.9
Major			
Quantitative	424	31.8%	8.1
Non-Quantitative	707	53.0%	7.9
Not Declared or Other	202	15.2%	7.8
Total	1333	100.0%	7.9
Age			
18-24	1128	84.6%	7.8
25-34	136	10.2%	8.4
>34	69	5.2%	8.5
Total	1333	100.0%	7.9
Gender			
Female	676	50.7%	8.0
Male	653	49.0%	7.9
Other Choice	4	0.3%	7.0
Total	1333	100.0%	7.9
GPA			
<2.50	78	5.9%	7.3
2.50-2.74	94	7.1%	7.6
2.75-2.99	195	14.6%	7.7
3.00-3.24	296	22.2%	7.8
3.25-3.49	268	20.1%	8.0
3.50-3.74	197	14.8%	8.1
3.75-4.0+	204	15.3%	8.4
Total	1333	100.0%	

The survey was completed by 1333 participants. Six hundred forty three of these respondents were able to provide further information about two different classes that they had each taken, meaning that there were $n = 1286$ individual classes in the data set. Each class had a variety of materials acquisition rates, which were transformed into a dependent variable classified as “1” (acquired all materials) or as “0” (did not acquire all materials). The distribution of acquisition rates and the classification of each class as 0 or 1 is shown in Table 4 below.

Table 4

Acquisition Rate of Materials in Individual Classes

% of materials acquired	n	%
0%	346	27%
33%	26	2%
50%	234	18%
<u>67%</u>	<u>37</u>	<u>3%</u>
Total of <100%	643*	50%
100%	643**	50%
Total	1286	100%

Note. *coded as 0, **coded as 1

Differences among classes with and without 100% full materials acquisition are shown in Table 5. Some interesting patterns can be seen. Full materials acquisition is higher in classes that are required for the student, and acquisition is much higher in the classes that require digital access to complete assignments and exams. These latter classes have full acquisition at nearly twice the rate of the others (60.6% vs 36.7%). No clear patterns are seen with class level or format.

Table 5*Descriptive Characteristics of 1286 Individual Classes*

	<100% acquisition		100% acquisition		full sample	
	n	%	n	%	n	%
Class Level						
1000	115	54.8%	95	45.2%	210	16.3%
2000	220	52.8%	197	47.2%	417	32.4%
3000	219	46.0%	257	54.0%	476	37.0%
<u>4000</u>	<u>89</u>	<u>48.6%</u>	<u>94</u>	<u>51.4%</u>	<u>183</u>	<u>14.2%</u>
Total	643		643		1286	100%
Required Class?						
Yes	533	48.8%	559	51.2%	1092	84.9%
<u>No</u>	<u>110</u>	<u>56.7%</u>	<u>84</u>	<u>43.3%</u>	<u>194</u>	<u>15.1%</u>
Total	643		643		1286	100%
Digital Access Required?						
Yes	282	39.4%	434	60.6%	716	55.7%
<u>No</u>	<u>361</u>	<u>63.3%</u>	<u>209</u>	<u>36.7%</u>	<u>570</u>	<u>44.3%</u>
Total	643		643		1286	100%
Scheduled Format						
Online	259	48.3%	277	51.7%	536	41.7%
Face to Face	307	55.5%	246	44.5%	553	41.7%
<u>Hybrid</u>	<u>77</u>	<u>39.1%</u>	<u>120</u>	<u>60.9%</u>	<u>197</u>	<u>15.3</u>
Total	643		643		1286	100%
Quantitative class?*						
Yes	157	45.5%	188	54.5%	345	42.2%
<u>No</u>	<u>204</u>	<u>43.1%</u>	<u>269</u>	<u>56.9%</u>	<u>473</u>	<u>57.8%</u>
Total	361		457		818	100%

Note: *818 classes were able to be quantified into “quantitative or non-quantitative”. This was only done with College of Business classes which the investigator was familiar.

Before beginning further analysis, the data was tested for sampling adequacy. The data met the standards of sampling adequacy, with a KMO score of .859, $p < .001$. This is considered adequate.

A confirmatory factor analysis was then performed on the variables in the constructs. These variables lined up along three main categories: the importance of the grade, utility, and the interest and connection with the class. Together, these variables accounted for 70.63% of the variance. The construct “*conscientiousness*” was also tested. Reliability statistics showed acceptable Cronbach’s alpha levels for utility (.931), Interest (.745), Connection (.631) and Conscientiousness (.661).

Correlations were examined among the study variables. All independent variables showed a positive relationship with the dependent variable. These results are shown in Table 6 below.

Table 6*Correlation for Full Acquisition of Materials in a Class*

	Utility	Interest	Importance	Entertainment	Connection	Price
Interest						
coefficient	.174**					
Sig.	.000					
Importance						
coefficient	.143**	.234**				
Sig.	.000	.000				
Entertainment						
coefficient	.182	.345**	.109**			
Sig.	.000	.000	.000			
Connection						
coefficient	.115**	.561**	.180**	.344**		
Sig	.000	.000	.000	.000		
Price						
coefficient.	.213**	-.016	.052*	-.061**	-.074**	
Sig	.000	.459	.017	.007	.001	
Acquisition Rate***						
coefficient	.417**	.109**	.049*	.118**	-.086**	.150**
Sig	.000	.000	.047	.000	.000	.000

Notes: Coefficient is Kendall's Tau B. All n=1286, *.Correlation is significant at the 0.05 level (2-tailed) ** Correlation is significant at the .01 level (2-tailed), ***Acquisition rate was either 1 or 0.

A comparison of means was conducted to determine the differences between classes that had full acquisition of materials, and those that did not. Table 7 shows the different mean scores in these two groups of classes. These classes differed significantly on all measures in the hypotheses. Classes where materials were acquired at 100% had statically significantly higher scores on all of the variables included. Notably, classes with full acquisition have materials with much higher utility, and the classes with 100% acquisition had materials that were significantly higher priced.

Table 7*Mean Differences Between Classes with Full Acquisition and <Full Acquisition*

Measure	<u>Rate of Acquisition</u>		<u>CI (95%)</u>			
	100%	<100%	Diff.	Sig.	LL	UL
Utility	4.25	2.96	1.29	.000**	1.16	1.41
Importance	4.07	3.96	.10	.032*	.01	.20
Interest	3.83	3.54	.28	.000**	.16	.40
Entertainment	3.04	2.73	.30	.000**	.17	.43
Connection	3.92	3.73	.19	.001**	.08	.30
Price	3.67	3.15	.51	.000**	.34	.67

Note. *significant at the 0.05 level ** significant at the .01 level.

A binomial logistic regression model was fitted to the data to test the hypotheses and the relationship between the independent and dependent variables. Binomial logistic regression predicts the probability that an observation falls into one of two categories of a dichotomous dependent variable based on one or more independent variables. This regression tool is appropriate to use when your dependent variable not continuous nor normally distributed and will fall into one of two categories (Agresti, 2018).

This model on the full data set correctly predicted nearly 73% of cases with an R^2 of .335 using the Nagelkerke measurement and had a significant association between the independent variables and acquiring all the assigned materials ($\chi^2(df = 11, N = 1286) = 371.54, p < .001$). The unstandardized Beta weight for the Constant was $B = 3.033, SE = 0.48, Wald = 40.05, p < .001$.

Table 8 below shows how accurate the model was in correctly classifying the outcomes, measured by how often the model predicted the true outcome. If a class

had 100% full acquisition of assigned materials and the model predicted as it would, that is an accurate prediction, showing as a Yes/Yes in the table. Values in the off-diagonal show misses. In the below model, 208 classes were predicted to have purchased all materials, but in fact they did not, which were therefore inaccurate predictions. The table shows both the overall percentage of accuracy, 72.6% as well as by each outcome. The model is better at predicting full acquisition at 77.6%, than less full acquisition of materials at 67.7%.

Table 8

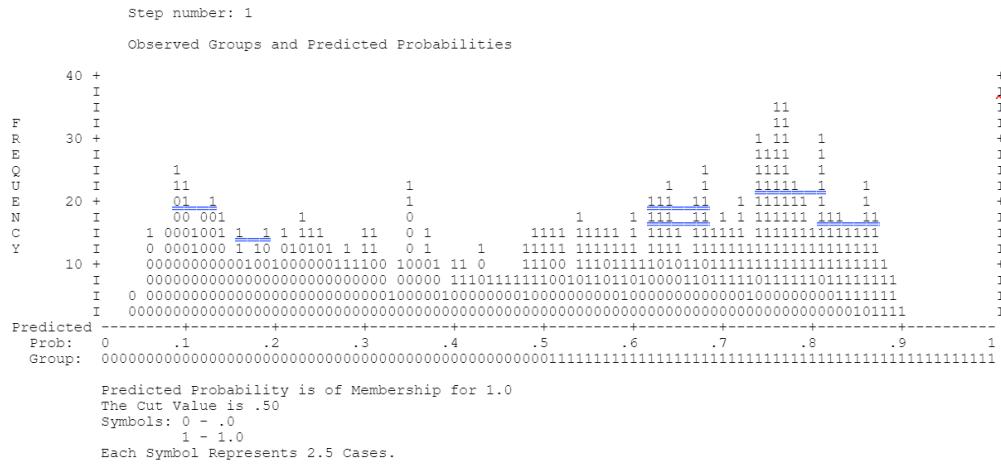
Classification Table of Predictions for Binomial Logistic Regression

Predicted:	<100% acquisition		% Correct
	n	n	
Observed			
<100% acquisition	435	208	67.7%
100% acquisition	144	499	77.6%
Overall Percentage			72.6%

A graphical representation of the model's predictions compared to the actual observed data is shown in Figure 10. The “1” figures represent accurate predictions, while the “0” figures were incorrect predictions.

Figure 10

Observed Groups and Predicted Probabilities for the Binomial Logistic Regression



The individual predictors in the binomial logistic regression were examined further. Of the variables included in the hypothesis, *utility* ($B = .856$, $\text{Wald} = 179.74$, $p < .001$) and *cost* ($B = .130$, $\text{Wald} = 7.40$, $p = .007$) were significant predictors in the model. Additionally, the control variables *# of materials* ($B = -.604$, $\text{Wald} = 34.10$, $p < .001$) and *digital access* ($B = .390$, $\text{Wald} = 6.93$, $p = .008$) were also found to be significant predictors in the model.

Of the variables included in the hypotheses, *importance of grade*, *entertainment value of materials*, *interest in the class*, and *connection with the class* did not significantly predict whether materials were fully acquired. Among control variables, *level of the class*, *format of the class*, and whether the *class was required* also did not significantly predict whether materials were fully acquired. Table 9 below shows the results of the individual predictors as well as the constant in the model.

Table 9*Results of Binomial Logistic Regression*

Variables	B	SE	Wald	df	Sig	CI (95%)		
						Exp(B)	LL	UL
Control Variables								
Digital Access	.039	.15	6.93	1	.008**	1.48	1.11	1.98
Level	.053	.07	.52	1	.472	1.06	.91	1.22
Format	.115	.09	1.53	1	.215	1.12	.94	1.34
Required Class	-.001	.19	.00	1	.997	1.00	.69	1.45
# of Materials	-.604	.10	34.10	1	.000**	.55	.45	.67
Independent Variables								
Utility	.856	.06	179.75	1	.000**	2.36	2.08	2.67
Importance	-.088	.08	1.18	1	.277	.92	.78	1.07
Interest	.005	.09	.00	1	.955	1.01	.85	1.19
Entertainment	.051	.06	.63	1	.427	1.01	.93	1.19
Connection	.026	.09	.08	1	.771	1.03	.86	1.22
Price	.130	.05	7.40	1	.007**	1.14	1.04	1.25
Constant	3.033	.48	40.05	1	.000**	.05		

Note. *significant at the 0.05 level ** significant at the .01 level.

Individual predictors were further analyzed examining the Exp(B) which is the B coefficient exponentiated. This is the most common coefficient interpreted in binary logistic regressions. It means that a one-unit increase in the predictor will multiply the likelihood of the base outcome by Exp(B). When this value is greater than 1, it means an increase in the predictor makes the outcome more likely; a value less than 1 makes it less likely. These analysis of individual predictors are described below.

A binomial logistic regression analysis to investigate if there is a relationship between *utility* and *acquisition* was conducted. The predictor variable, *utility* was tested a priori to verify there was no violation of the assumption of the linearity of the logit. The predictor variable *utility* in the logistic regression was found to contribute to the model. The unstandardized Beta weight for the predictor variable was $B = .856$, $SE = 0.06$, $\text{Wald} = 179.75$, $p < .001$. The estimated odds ratio favored an increase in likelihood [$\text{Exp}(B) = 2.35$, 95% CI (2.08, 2.67)] for *acquisition* for every one unit increase in *utility*. In the model, every 1-unit increase in *utility* would make it 2.35 times as likely than the constant that the students will acquire all assigned materials.

The predictor variable *price* in the logistic regression was found to contribute to the model. The unstandardized Beta weight for the predictor variable was $B = .130$, $SE = 0.05$, $\text{Wald} = 7.40$, $p = .008$. The estimated odds ratio favored an increase in likelihood of about 14% [$\text{Exp}(B) = 1.14$, 95% CI (1.04, 1.25)] for *acquisition* for every one unit increase in *price*. In the model, every 1-unit increase in *price* would make it 1.14 times as likely than the constant that the students will acquire all assigned materials.

The predictor variable *# of materials* in the logistic regression was found to contribute to the model. The unstandardized Beta weight for the Constant was $B = 3.033$, $SE = 0.48$, $\text{Wald} = 40.05$, $p < .001$. The unstandardized Beta weight for the predictor variable was $B = -6.04$, $SE = 0.10$, $\text{Wald} = 34.10$, $p < .001$. The estimated odds ration favored a decrease of nearly half [$\text{Exp}(B) = 0.55$, 95% CI (.45, .67)] for *acquisition* for every one unit increase in *# of materials*. In the model, every 1-unit increase in the # of materials would make it 0.55 times as likely than the constant that

the students will acquire all assigned materials, therefore, approximately only half as likely. The predictor variable *digital access* in the logistic regression was found to contribute to the model. The unstandardized Beta weight for the predictor variable was $B = .390$, $SE = 0.15$, $\text{Wald} = 6.93$, $p = .008$. The estimated odds ratio favored an increase in likelihood of nearly 50% [$\text{Exp}(B) = 1.48$, 95% CI (1.11, 1.98)] for *acquisition* for every one unit increase in *digital access*. In the model, every 1-unit increase in *digital access* would make the odds 1.48 times as likely than the constant that the students will acquire all assigned materials.

Discussion of Hypotheses:

Hypothesis 1 suggested that classes that assigned materials with higher utility would have higher acquisition. *Utility* was positively correlated with *acquisition rate*. Analysis of means showed that classes with full acquisition had materials with significantly higher *utility* than the other classes. In the regression model, every 1-unit increase in *utility* would make it 2.35 times as likely than the constant that the students will acquire all assigned materials. Hypotheses 1 was therefore supported.

Hypotheses 2, 3, 4, and 5 suggested that *importance of grade*, *interest in the class*, *entertainment value of materials*, and *connection with the class* would positively affect the acquisition rate. Each of these variables were positively correlated with acquisition rate, while analysis of means showed that classes with full acquisition had had significantly higher scores in each of these measures. However, in the regression model, these variables did not significantly predict whether materials were fully acquired. Hypotheses 2, 3, 4, and 5 were therefore not supported.

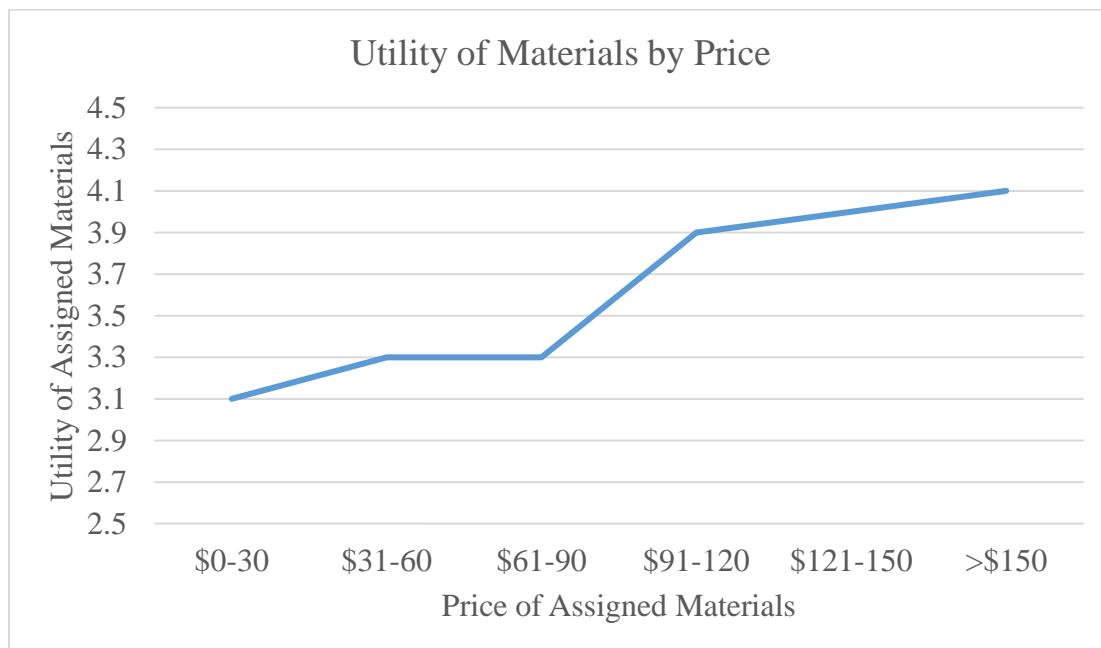
Hypotheses 6 predicted that higher prices of materials lead to lower acquisition of those materials. Prices did significantly influence acquisition, and price was positively correlated with acquisition rates. The average materials price was significantly higher in classes that had full acquisition. In the regression model, every 1-unit increase in price would make it 1.14 times as likely than the constant (i.e. about 14% more likely) that the students will acquire all assigned materials. Therefore, Hypotheses 6 was not supported.

Post Hoc Analysis

Further analysis was conducted on the finding that *price* was found to *positively* predict acquisition. Because higher priced materials were counterintuitively acquired at a higher rate than lower priced materials, additional analysis was done to test if these higher priced materials had a higher utility value to the user. If so, this might help explain why higher priced materials result in higher acquisition rates. The results showed a significant difference in utility between the lower priced materials and the higher priced materials, with higher priced materials having a significantly higher utility than lower priced materials. This results are shown in Table 10 and graphically in Figure 8.

Table 10*Price and Utility of Materials*

Price of materials	N	Mean of Utility	SE	<u>CI (95%)</u>	
				LL	UL
\$0-30	192	3.1	.10	2.86	3.24
\$31-60	192	3.3	.09	3.12	3.49
\$61-90	239	3.3	.09	3.15	3.50
\$91-120	347	3.9	.07	3.76	4.03
\$121-150	195	4.0	.09	3.80	4.14
<u>>\$150</u>	<u>121</u>	<u>4.1</u>	<u>.10</u>	<u>3.88</u>	<u>4.27</u>
Total	1286	3.6	.037	3.53	3.68

Figure 11*Price and Utility of Materials**Note.* Utility measured on 1-5 Likert scale

Additional Analysis: Results of Experiment

Acquisition rates between the two classes in the experiment were compared to determine whether manipulating the variable *utility* in the manipulated class had an effect on the acquisition rate of that group. The results are shown in Table 11. There was a difference between acquisition rates among the two groups; however, the difference was not significant.

Table 11

Differences in Acquisition Rates in Experiment

Group	<u>Acquired materials?</u>				SE	Diff.	Sig.
	<u>Yes</u>		<u>No</u>				
	N	%	N	%			
Control	39	92.9%	3	7.1%	.04	.08	.261
Manipulated	34	85.0%	6	15.0%	.04	-.08	.261
Total	73	89.0%	9	11.0%			

The control group had a higher rate of acquisition than did the manipulated group, however this difference was not significant [(MD =.08, SE .04, p = .261, CI 95% (-.06, .28)]. The number and percentage of students who did not acquire the assigned materials was twice as high in the manipulated section than in the control group. 15% of students in the manipulated group failed to acquire the materials, while only 7% of the control group failed to acquire their materials, however the small sample size was not large enough for this difference to be significant.

Results of additional analysis of about students and their usual acquisition rate

In this section of the study, analysis was done to examine the effect of demographics, personality, and attitudes on a student's *usual acquisition rate* of assigned materials. The interest here was at the rate at which the respondents usually acquired their assigned instructional materials in their undergraduate classes (0-100%). It was not connected to any specific classes that the student took. This part of the study also looked at *when* and *why* the students acquire the materials and examined if there was any connection to their *usual acquisition rate*.

About half of all students reported that they acquire 80% or more of assigned materials, with about half reporting they usually acquire less. About 2/3 of these students (67.3%) reported not getting all of their materials. This number is consistent with the findings of the studies described in the literature review. Table 12 below shows the frequencies and percentages of the rate at which students usually acquire their assigned materials.

Table 12*Usual Acquisition Rate of Assigned Materials*

	n	%	cum %
0-10%	22	1.7%	1.7%
10-20%	23	1.7%	3.4%
20-30%	34	2.6%	6.0%
30-40%	75	5.6%	11.6%
40-50%	65	4.9%	16.5%
50-60%	96	7.2%	23.7%
60-70%	104	7.8%	31.5%
70-80%	200	15.0%	46.5%
80-90%	278	20.9%	67.3%
<u>90-100%</u>	<u>436</u>	<u>32.7%</u>	<u>100.0%</u>
Total	1333	100.0%	

Correlations showed significant positive correlations between the usual acquisition rate and the students age, GPA, and conscientiousness. An increase in each of these variables is correlated to a higher acquisition rate, as seen in Table 13 below.

Table 13*Correlation Table: Usual Acquisition Rate and Demographic/Personality Variables*

Characteristic	Level	Major	Age	GPA	Gender	Fin Aid	Conscientiousness
Major							
	coefficient		-.021				
	sig		.387				
Age							
	coefficient		.261**	-.092**			
	Sig.		.000	.000			
GPA							
	coefficient		-.090**	-.078**	-.063**		
	Sig.		.000	.001	.007		
Gender							
	coefficient		-.015	-.080**	-.087**	-.038	
	Sig.		.562	.002	.001	.115	
Fin aid							
	coefficient		.023	-.008	.016	.027	-.035
	Sig		.382	.784	.579	.288	.225
Conscientiousness							
	coefficient		.065**	-.017	.090**	.096**	-.081**
	Sig		.003	.440	.000	.000	.001
Usual acquisition rate							
	coefficient		-.006	-.043	.101**	.124**	-.051*
	Sig		.773	.066	.000	.000	.037
						.327	.007

Notes: Coefficient is Kendall's Tau B. *Correlation is significant at the 0.05 level (2-tailed), ** Correlation is significant at the .01 level (2-tailed)

Correlations were also examined between when and why a respondent usually acquires their assigned materials, and the respondent's usual acquisition rate. The results appear to suggest that later dates of acquisition correlate with lower acquisition rates (see Table 14 below).

Table 14*Correlations Between Usual Acquisition Rate and When/Why Acquire*

Item		Why usually acquire	When usually acquire
When usually acquire	coefficient	-.012	
	Sig.	.614	
Usual acquisition rate	coefficient	.056*	-.263**
	Sig	.013	.000

Note. Coefficient is Kendall's Tau B. *Correlation is significant at the 0.05 level (2-tailed),

** Correlation is significant at the .01 level (2-tailed)

A linear regression analysis was run to examine the effect of the demographic variables and other controls on the usual rate of acquisition in their college classes. It also examined students' responses about when and why they usually acquired their assigned materials. These results are shown in Table 15. The only variables that appear to significantly predict the usual acquisition rate is grade point average (GPA), and *when* a student usually acquired their materials.

Table 15*Linear Regression Model Coefficients – Student Usual Acquisition Rate.*

Effect	B	SE	p
Student Level	-.015	.07	.823
Major	-.105	.11	.327
Age	.169	.12	.174
GPA	.413	.04	.000**
Gender	-.106	.14	.449
Conscientiousness	.038	.09	.673
When acquire	-.836	.11	.000**
Why acquire	.124	.07	.094

Note: DV is Usual Acquisition Rate. **significant at the .01 level

Other findings

Students who usually acquired 80% or more of their materials had statistically significantly higher GPA and conscientiousness, though the differences were small. This is shown in Table 16 below.

Table 16*GPA and Personality Differences Between Students - Usual Acquisition Rate*

Measure	<u>Usual Acquisition Rate</u>			<u>CI (95)</u>			
	$\geq 80\%$	$< 80\%$	Diff.	SE	Sig.	LL	UL
GPA	5.71	5.22	.48	.09	.000	.30	.67
Conscientiousness	3.89	3.77	.12	.04	.006	.03	.20

When and why a student usually acquires their materials?

An investigation was performed to look at whether there is a connection between *when* a student obtains their materials and their usual acquisition rate. Further analysis showed that there are significant differences among student's acquisition rate based on *when* they acquire materials. The findings suggest that the later a student gets their materials, the lower their usual acquisition rate. These differences are significant, and seem to provide evidence that the later a student usually gets their materials, the less amount of materials they get on average. These results are presented below in Table 17 and graphically in Figure 12.

Table 17

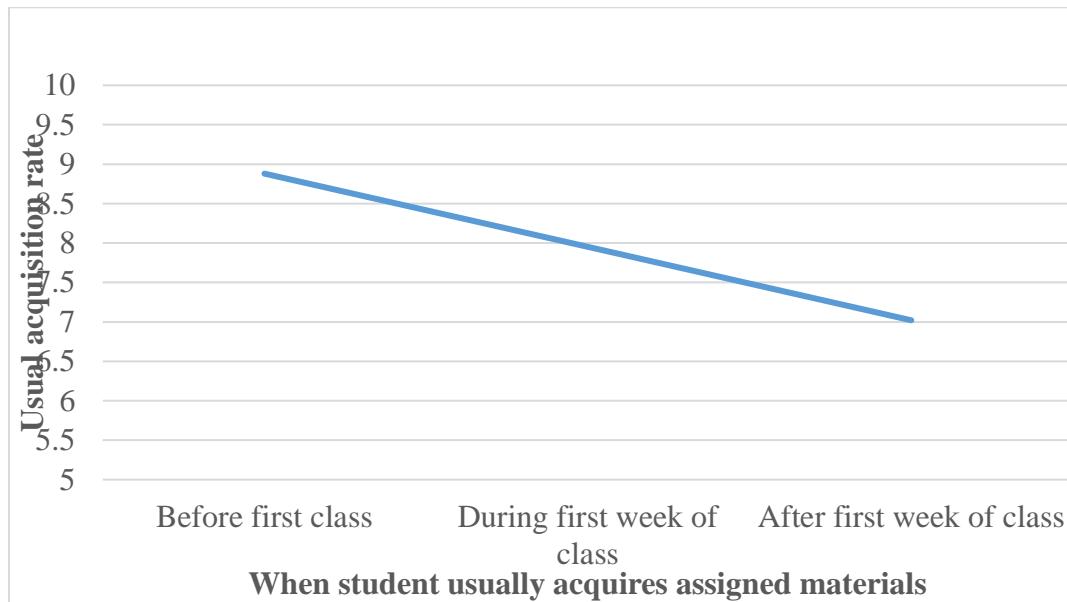
When Student Acquires Materials vs Usual Acquisition Rate

When student usually acquires materials	n	%	Usual Rate	SD	SE
Before the first class	256	19.3%	8.88	1.910	.119
During the first week of class	779	58.4%	7.95	2.245	.080
After the first week of class	<u>298</u>	<u>22.3%</u>	<u>7.02</u>	2.399	.139
Total	1333	100.0%	7.92		

Note. Usual rates for all groups were significantly different from one another ($p < .001$ at 95% CI)

Figure 12

Relationship Between When a Student Acquires and Usual Acquisition Rate



Note. For usual acquisition rate, 9=90-100%, 8=80-90%, 7=70-80%

Finally, an investigation was done into *why* a student obtain class materials and whether there is an effect on the usual acquisition rate. The results suggest that why the student obtain class materials does affect the acquisition rate. Students who get the materials because they are interested in learning about the subject tend to acquire at the highest rate, while those that get materials because they cannot pass the class without them tend to acquire at a significantly lower rate. These results are presented below in Table 18.

Table 18*Why Student Acquires Materials vs Usual Acquisition Rate*

Why do you acquire materials?	n	%	Usual rate	SD	SE
Because I am interested in learning more About the subject	84	6.3%	8.5	2.00	.22
Because I need them to get the grade I want	447	33.5%	8.36	2.07	.10
Because the instructor asked me to	429	32.2%	7.97	2.39	.12
<u>Because I cannot pass the class without them*</u>	<u>373</u>	<u>28.0%</u>	<u>7.32*</u>	<u>2.41</u>	<u>.13</u>
Total	1333	100.0%	7.92		

Note. *this group measured significantly lower than each of the other groups, ($p < .001$ at 95% CI)

CHAPTER VI. DISCUSSION AND CONCLUSIONS

The purpose of this study was to investigate the factors that influence the undergraduate student's acquisition of their required instructional materials. Numerous research studies have reported that about two-thirds of students are not getting all of their books due to textbook cost. I was particularly interested in answering the question *are high prices the primary reason students don't get their required class materials?* The results of this study suggest that the answer to this question is no. When students decide not to get the books and materials assigned to them, price or cost of the materials appears not to be the primary reason. It appears that the focus on price is somewhat misguided and imply that the efforts to keep down textbook prices are not addressing the root causes of students not getting their materials. In fact, the results show that classes that assign higher price materials were *more* likely to have those materials acquired than were classes with lower priced materials. The utility of the materials, i.e. how much they are needed to pass or do well in a class, appears to be the driving force determining whether a student acquires the assigned instructional materials or not.

Summary of Major Findings

High prices are not the reason students do not get their books. Higher priced materials were acquired at higher rates by students, and classes that had higher priced materials had higher acquisition rates than classes with lower priced materials. Our findings suggest that the utility of the assigned materials is the primary determinant of acquisition and more powerful than any other factors evaluated in this study.

This study also found that students often delay getting their materials while they go through an investigative process for each class to determine need and value for the materials in that class. “When” in the semester a student usually gets their books is important; the longer a student delays getting their materials, the less likely they are to actually acquire the materials.

Review of Results

Hypotheses 1 stated that the more useful the student found the materials to do well in the class, the more likely it was that the student would get those materials. This hypothesis was supported. Classes that assigned high utility books and materials had those materials acquired at a much higher rate than classes that assigned lower utility materials. This was a powerful predictor, and in the regression model accounted for a large part of the student’s decision. The classes in which students acquired at 100% rate had materials with significantly higher utility than the other classes. Classes that assign materials with high utility make the class much more likely to have 100% acquisition by the students.

Hypotheses 2, 3, 4, and 5 examined the predictive ability of other factors that would lead to full materials acquisition in a class. These hypotheses suggested that interest in the class, importance of final grade, the entertainment value of the materials and the connection with the class and instructor would be able to influence and predict the acquisition rate in a class, with higher the scores on these measures leading to higher acquisition rates. Classes that had 100% acquisition did have significantly higher mean scores on these measures than those classes that did not. However, these factors were not predictive in the regression model, suggesting that

these factors may be secondary issues of concern to the students. Theses hypotheses were not supported.

Hypotheses 6, which stated that higher materials prices would lead to lower rates of acquisition by students was at the core of this study. The price of assigned materials was found to be correlated with acquisition rates and was a significant predictor in the regression model. However, contrary to expectation, higher prices predicted *higher* acquisition rates, not lower, and the Hypothesis 6 was not supported. Classes with higher priced materials were more likely to have all of their materials acquired. Classes with full acquisition had materials that were higher priced than those materials in classes with less than full acquisition. The average materials price was significantly higher in classes that had full acquisition. In the regression model, every 1-unit increase in price (about \$30) would make it 14% more likely that the students will acquire all assigned materials. Additional analysis showed that the materials with higher prices also had significantly higher utility to the user. These materials were likely acquired due to high utility *despite* the price. Thus, higher prices appear to be a characteristic of higher value materials in this study and of secondary concern.

The experiment between classes failed to show significant differences in acquisition rate. Although the rate of non-acquisition was twice as high in the manipulated group, this difference was not found to be significant, perhaps due to small sample size. Future research may consider a much larger sample to see if the results would be different.

The analysis of a students' usual acquisition rate found some interesting conclusions. One thousand three hundred thirty three students reported on their usual acquisition rate of the materials in all their college classes to date, unrelated to any specific classes. The results suggest that student's demographic characteristics, attitudes, and personality did not play a significant role in predicting their usual acquisition rate. The exception was the finding that students with higher GPAs had higher usual acquisition rate of materials. Interestingly, the time frame in the semester when the students usually got their books did have a major predictive effect on the rate of acquisition. Only 19% of students usually got their books before classes started and nearly a 1/3 waited until after the first week of classes to get their books. These students who wait to get their books often decide not to get them. The longer students wait to acquire their books the less likely they are to acquire the books.

Other Results

Our results showed that classes that assign multiple materials have an increased likelihood that students will not acquire all the materials. These results suggest that assigning multiple materials give students more opportunity to "pick and choose" which materials they will acquire. Interestingly, classes that require digital access for the student to complete assignments and exams have a significantly greater likelihood of materials being fully acquired. This makes sense, as digital access codes usually cannot be re-used or shared, and access to the digital platforms is impossible without a valid access code.

Theoretical and Practical Implications

The study found that higher prices lead to higher acquisition, a counterintuitive finding. Why would higher prices result in higher rates of acquisition? There is no prestige value in a higher priced textbook and it is extremely unlikely that higher prices actually drive higher acquisition on their own. It seems far more likely that the reason that higher priced materials are acquired at a higher rate has nothing to do with the price itself. Rather, the materials that are higher priced tend to be more useful to the student and they are acquired because of the higher utility. In this study, we found that the more expensive materials were more valuable in helping the student to pass or do well in the course.

Those useful, high-utility textbooks, happen to cost more in this study. They are not more valuable *because* they are more expensive, they are more valuable because they are more helpful to the student in passing and doing well in the course. In this study, materials that were valuable tended to be higher in price. It is not hard to imagine examples of this. Think of a heavy accounting or finance book, dense with complicated content and formulas. A book like this would tend to be more expensive, but likely to be needed to pass a class, whereas a student might be able to get by in a general business course without an expensive textbook.

This study also found that the higher priced materials had more utility to the user. It is possible that in a different study, lower priced materials could have higher utility, and we would expect that those materials would be acquired more. Since utility seems to drive the acquisition, we can think of utility as the primary factor that causes students to acquire a book. How necessary is that book for the student to

accomplish their goals in the class? If the book is valuable in helping the students do well in the course, the students are likely to acquire the materials. If students need the materials to do well in the class, they tend to get them. When students don't get their materials, it appears to be because the materials are not needed to get desired results in the course.

Students have two conflicting motivations in deciding whether or not to get their materials. They want to save money and they want to succeed in their college classes. When forced to decide, students seem to care more about passing the class than cost of the books. Having spent the money to enroll in a college class, they want to succeed in the class and will likely not make a decision that would prevent them from doing so. Our results suggest that students will acquire the book when needed and will spend the money necessary to acquire the materials, perhaps saving money elsewhere. It would seem foolish to pay for a college course but then fail the class while trying to save the money spent on a textbook. Our findings appear to suggest that if students really need the books and materials, they will acquire them, irrespective of price. Students would probably prefer to spend less money on textbooks, however it seems that having registered and paid for classes, a student will spend the money necessary to acquire the books and protect that investment. The student wants to earn the credits and the grade desired in the class and if the materials are needed to accomplish this, it appears that the students will find a way to come up with the money. They will still try to save money where they can. One obvious and easy way? Do not acquire books that are not needed. This is a perfectly rational decision and has little to do with conscientiousness. We would all like to pay less for

everything we buy. In reality, however, we make tradeoffs and perform a cost benefit analysis with most of our purchases. We constantly ask ourselves, “is buying this item worth the time and money I will spend?”.

It is important to note that many courses are just required steps on the path to a college diploma. A student may have no interest in the subject but is required to take the class to get the degree. They may view the assigned textbooks in these courses as means to an end and only acquire them if needed. Imagine an accounting student who may have no interest in freshmen English or biology but is required to take classes in these subjects. This student may decide to get the book only if and only if it is helpful in getting the desired grade in the class.

Students are usually keen to save money. Many do not have large incomes or discretionary purchasing power and often live on a limited “student budget.” They seek to save money where they can and spend money in a way that makes sense to them. Frustration with book prices often is related to the lack of benefits they receive from that book. Students get quite upset when they get the book “for no reason”, e.g. the books are not used by the professor or not needed for assignments and exams. Indeed, it is frustrating to purchase an expensive book then later in the course discover it is not really needed. Student frustration may be less about nominal textbook prices and more about acquiring expensive materials that are not used or are underused.

Students face a choice and must decide on their books in every class they take. It is easy for the instructors to assign a textbook; they simply indicate the book is required and put this requirement in the syllabus. The burden then falls on the

students who must use their time and energy trying to figure out if the book is actually needed and worth their limited money. Students must make this choice in every class they take. This need to investigate the actual utility of the books and materials means that many students do not get the book before their classes begin, but instead wait until they have more information. In this study, only 19% of students reported that they get the book before class starts, consistent with other studies cited in the literature review. It seems that students are delaying their purchase because they go through an investigative process trying to figure out whether the materials are “worth it” or not. This delay ultimately leads to lower acquisition rates. There is a connection between when a student acquires their materials and whether they acquire them at all; the later a student gets their materials, the lower their usual acquisition rate of materials. This is stressful on the student and frustrating to instructors.

It seems unfair to make the students go through this process in each class. Instructors should shoulder some of the blame for this behavior by students. In the undergraduate business classes that I teach, I try to reduce the stress on students by making it very clear when the assigned materials are needed in the class, noting where older and cheaper textbook versions are acceptable, and strongly encouraging the students to get their books early. I give advance notice, emailing students a month or so before the term starts so that they have time to seek out cheapest or best version of the content. Students have indicated to me that they appreciate this clarity.

Various state governments require faculty to submit the name of their adopted textbooks well in advance. Supposedly this is to give students ample time to shop around and look for lower cost options. However, these long lead times do nothing to

fix the reality that students still do not know if the book is actually needed or valuable until after the class begins. As we have seen, less than 20% of students get the textbook before the class starts. Because of this, the impact of these legislative policies is limited. A student trying to save money will not just want a cheaper version of the book, they would also want to know if the book could be foregone altogether if not needed. Early textbook adoption dates do nothing to help with solving this problem, since the importance of the book in a class only becomes known to the student after the class begins. Government guidelines and school textbook policies do little to address this.

The findings of this study therefore suggest that a continuing focus on the cost of textbooks in isolation without considering their utility may be misguided. Mandating lower materials prices might have a beneficial purpose, but seems to have little effect on acquisition rates. The oft quoted figure of \$1,200+ spent per year on materials appears to not be accurate, and costs are down to a little more than \$400 per year. However, students still often fail to acquire the assigned materials. Faculty should expect that materials that are not needed to get a good grade may not be acquired by the student. Unneeded and underused materials will often not be acquired by the student, even at lower prices.

Discussion of Experiment

The experiment failed to show a significant difference in acquisition rates between the classes, although it did give indication that it could have been successful with a larger sample size. Both groups were given the same instructions that the materials were required, and the manipulated group was not actually told that the

materials were not needed to complete assignments and exams. I have taught this class for over 10 years and the assigned book was always needed to do well in the class, so it is possible that students had learned from their peers that the book was needed and should be acquired. It is also possible that students did not trust the anonymity of the survey. These students were all currently in my class at the time of survey, so they perhaps worried that I would be able to see their answers and judge them if they did not get the book for our class. Finally, the experiment had a small sample size. It is possible that if the classes had been bigger, this difference in acquisition rates would have been significant. In fact, a sample size of 3x what I used (approximately 125 students per group) would have shown significant results ($MD = .079$, $(n = 126, 120)$, $p = .049$). This may indicate that there indeed was a difference in acquisition rate due to the manipulation in this experiment

Specific Theoretical Contributions

The previous studies on this subject appear to have been looking at this issue in a very narrow way, largely focused only the high price of textbooks and ignoring the concept of utility. They therefore may not have captured the full picture. These studies asked questions in isolation about textbook prices, but do not connect those textbooks to the actual classes where they were assigned or looked at how those materials have costs and benefits like any other product. Indeed, some of the studies appear to have decided in advance that books are too expensive. They go on to “lead the witness” e.g. asking students “what they would do with savings if they did not have to spend so much on textbooks?” then offering optional answers such as “spend more on food” and “spend more on entertainment”. Most of the studies conducted

focused on price only and did not include the concept of utility or cost-benefit analysis which would give a more robust and nuanced view into the students purchasing behavior. This study contributes to this body of knowledge by including the concept of utility, showing that price is not the primary driver of acquisition, and describing how the textbook purchasing decision making process by students includes more factors than simply the price.

Recommendations for Practice

This section discusses some specific recommendations that can be implemented by governments and schools to help students reduce their expenditures on unneeded materials and to reduce the stress around their textbook acquisition decision.

Students, like most consumers, want a return on their investment. Students who are trying to conserve resources spend a lot of time and mental energy trying to figure out if the assigned materials are needed or not. It would be helpful to relieve students of that burden. Student delays in getting their books have no educational benefit and carry the risk of missed learning. Instructors can help by taking the guesswork out of this process and make it clearer to students how much they will need the assigned textbook. They could let students know when the materials are really necessary to pass, or that the exams and test will require knowledge and content from the assigned textbook. Alternatively, if the professor is going to supply all of the content themselves via PowerPoints or if no content is on the exam from the books, the instructor could let the students know that the textbook is not absolutely necessary. This could become a best practice to communicate to students. Schools

and faculty could also make sure to only assign materials that are needed to accomplish the learning objectives of the course and recommend, instead of require, other suggested materials. Schools could easily insist or encourage instructors to be more transparent with the actual use and need for the materials. Schools could consider adding in the cost of books and materials to a tuition or technology fee. Books and materials would then be provided to each student at the beginning of the semester. This would relieve the students of having to make these investigation and decisions class by class, each and every semester.

Study Limitations

This study was primarily conducted among business or pre-business majors and not necessarily generalizable to students of different majors without further investigation. Far more business students were surveyed than students in any other discipline. The study was conducted among undergraduate students, and therefore these results may not be generalizable to the graduate students without further investigation. The study was conducted at one location: a large state university in Florida. FAU is a large public institution and does not serve any “niche” or narrow populations. It is a large and diverse school and its student body is somewhat representative of the undergraduate population in the United States, though moderately more diverse. There is no guarantee that this sample is representative of the whole United States nor that the findings would be applicable to the entire undergraduate population of the United States. These results could be investigated using a larger study that encompasses a wider geographic scope and a wider spectrum of school types, including private, liberal arts, and smaller schools.

The study did not ask students about which individual materials they acquired, but rather asked about their aggregate acquisition. Similarly, it did not ask about constructs such as utility for each individual material, but rather about the materials for that class overall. In this study, classes with full textbook acquisition had higher textbook prices, but this might not be true in studies using different samples. The experiment was conducted between two relatively small groups, consisting of only about 40 students each.

Suggestions for Future Research

The process by which a student decides class by class when to get their assigned books and when not to can be further examined. Is the class-by-class investigation process suggested by this author the one actually used by students all over the country? More work could also be done in investigating the phenomenon of books assigned but not used by the professor, and of materials acquired by the student but never read. Further research could also investigate whether higher priced materials are consistently more useful to the student. Might there be OER and lower priced materials that have the same utility as higher priced materials?

Conclusions

When I started this exploration of the phenomenon, I initially thought that students who did not get their books were probably lazy, low in conscientiousness, or lacked the funds to get the books. In this thinking I was wrong. I assumed that the price of books would be a factor and that when a student did not get all of their books for a class, those books were probably higher priced than books in the class where they did get them. Results of this study seem to tell a different story: highly

conscientious and motivated students might still make the decision not to acquire their books if the cost of those books is greater than the benefit received from them. This is a perfectly rational decision that even very responsible students might make. Price does not seem to be the most important factor in determining whether the undergraduate acquires their books. Nevertheless, good policies could help students to lower the amount they spend on textbooks. The focus from governments and schools has been on providing cheaper or free materials and lower the price of textbooks. This is likely not sufficient. To truly help the students, governments and schools could reduce the incentives that lead students to delay textbook purchase while investigating the utility of the assigned materials in each class that they take.

Faculty could be more helpful in providing information on the utility of the materials in addition to the textbook costs. To help students save money, it is not enough to provide price transparency and assign cheaper materials. It would also involve requiring purchase of only those materials that are actually necessary for the learning objectives of the class.

The recommendations presented in this study could serve as a first step in this process. A more transparent communication of utility of the assigned books would lower the stress on students, lower the total amount spent on textbooks, and perhaps actually increase student adoption of textbooks when it needed. These steps might be greatly appreciated by students who could then give more attention to learning in – and perhaps enjoying - their undergraduate college courses.

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APPENDICES

Appendix 1 – Summary of results of 2019 pilot data collection

Appendix 2 - Survey instrument

Appendix 1

Summary of Results of Informed Pilot Data Collection

Pilot data was collected from over 450 undergraduate students at Florida Atlantics University in Summer and Fall 2019. Primary data was collected via a 30-question survey with several open-ended questions. Additional data was collected via short interviews with some students, several small focus groups, and several class discussions.

Research Site:

Site is the College of Business, Florida Atlantic University in Boca Raton, Florida. Research subjects were undergraduate students majoring in business or pre-business. Access to the students was available as I was the instructor for courses that these students were enrolled. Students were given the opportunity to take the survey in return for extra credit. I wanted to maintain the absolute anonymity of the respondents in the hope of getting the most honest data possible.

Data Collection:

The primary data collection technique was open ended questions that were part of a 30 questions survey about this topic. The survey was informed by several pilot qualitative surveys conducted in early 2019 which gave some insightful data that helped in construction. This data was supplemented with follow up interviews with small groups of selected students.

Responses were collected from approximately 460 students. This was done in two separate surveys, one in April 2019 and one in December 2019.

Survey 1: 257 undergraduates enrolled in business or pre-business classes
April 2019 – Florida Atlantic University
40% Freshmen, 27% Sophomores, 5% Juniors, 26% Seniors

Survey 2: 203 undergraduates enrolled in business or pre-business classes

Dec 2019 - Florida Atlantic University.

30% Freshmen, 27% Sophomores, 13% Juniors, 30% Seniors

I distributed the survey by providing an anonymous link to the Qualtrics survey. To get the most honest and accurate responses, it was a completely anonymous survey and had no connection to respondent's name or email address.

Quantitative portion of survey: The survey contained about 30 questions

Findings: (agree = strongly agree + agree + somewhat agree)

Students are trying to figure out the utility of the materials before acquiring them.

75% agree – I wait until I see how much I need the materials before deciding whether to acquire them or not

Often, students do not need to get materials to pass or “do well” in the course

In about half of the classes (48%), students did NOT need to get materials in order to get “an acceptable grade” (determined by respondent)

Price is not most important criteria in deciding whether to buy materials?

Only 3% report that prices is the most important.

The most important factor to decide whether to get materials is “if they are needed to do well in the class”

67% agree - If I think I will not need materials to do well in class, I don't get them

69% agree - If I can do well in the class without getting the materials, I usually don't get them

Students usually do get their materials – 72% said they usually get materials, (confirmed, as 75% disagree with the statement that “I usually don't get my assigned materials”)

Is money an issue? Maybe so. But only 22% strongly or somewhat disagree with this statement “I have enough money to get my required materials”.

Qualitative portion of survey: The following open ended questions were asked:

“In your own words please tell us: How do you decide whether or not to get the class materials assigned to you? What makes you get them or not? Please give as much detail as possible”. (Surveys 1 and 2 both)

Students were also asked ***“Have you ever taken a class where you did NOT acquire all of the assigned materials?” (Yes/No)*** (Survey 2 only)

Using display logic, students who answered “Yes” were then asked this open ended question: ***“Why did you not get all of the materials for this course? Please give enough detail so that we understand what you mean.”***

Approximately 420 usable responses were received for Question 1, and 90 useable responses for question 2.

Data analysis

Initial coding scheme data

First the entire corpus of responses was read to get an idea of the patterns and common responses. Each written response was then coded by the researcher. Each student’s written response was given a code to indicate the presence of the following themes:

Coding Scheme: Question 1:

“How do you decide whether or not to get the class materials assigned to you?”

- A. **Get if assigned** – If they get the materials required by instructor
- B. **Get only if needed** – If they need materials to get the grade they want in the class (such as to complete assignments and exams, if they include a required access code that is needed to complete assignments online)
- C. **Investigate** – if they investigate the need for the materials by talking to professor, other students, looking at ratemyprofessor.com, etc.
- D. **Delay** – if they wait some period of time before they decide, so that they may gather more information on the need for the materials
- E. **Seek Alternatives** If they investigate alternative cheaper sources of content such as borrow, copy, internet content, professor provided materials

F. **Get if interested** – if they are interested in the class or subject of materials.

Coding Scheme: Question 2:

“Why did you not get all of the materials for this course?

- A. Cost/Expense/Value**
- B. Not needed**
- C. Investigated the need**
- D. Sought alternative materials**
- E. No interest**
- F. No money**
- G. Shared with other students**
- H. Professor provides materials**

1. Preliminary Results:

All written responses were reviewed and coded for the presence of the indicated concepts. Frequency tables appear below.

Figure 3:

Question 1: “How do you decide whether or not to get the class materials assigned to you?”

Concept mentioned	Study 1 n=257	Study 2 n=203	Total
I get if assigned	62	68	130
I get only if needed	105	90	195
I Investigate need	22	33	55
I Delay	16	9	25

I Seek Alternative materials	16	9	25
I get if interested	-	4	4

Figure 4:

Question2. “Why did you not get all of the materials for this course?

Concept mentioned	Study 2 n=203 90 students answered
Cost or value	20
Materials not needed	66
Need was investigated	3
Sought alternative materials	11
No interest in course	2
No money	2
Shared with another student	4
Professor provided sufficient materials	10

Common themes in the responses are discussed below:

Many students just get materials assigned

A little less than half of students responded that they usually get the assigned materials if the instructor assigns them, often based on risk aversion. This is typified by statements such as:

“I always get the materials before a class starts. I read the syllabus and try to get everything I need so I do not fall behind. Falling behind is what scares me so I try to stay on top of things.”

“I am someone who follows the ideal “it is better to be safe than sorry” so I typically always get the assigned class materials to make sure I will do well in the course.”

“I get them for every class because I do not want to fail a course just because I didn’t buy the textbook”.

“I always get all of the materials assigned for the class. I feel like I won’t learn the material properly without them, and I also won’t get the grade I aim to get. I aim to learn and understand the material to the best of my ability, and I don’t think that is possible without having the appropriate materials. Even with the access that we have available through the internet, I think it would cost too much time to try to search for alternatives to the assigned materials. It is far more effective and efficient to use the assigned materials.”

Most students only get the materials if they are needed in the course

The majority of students (just over half) only get the materials if they are needed to get the grade the student wants in the course:

“If they are needed to pass the class I will purchase them otherwise I will not waste the money on them”

“If the materials are needed in order for me to complete my assignments I will get them, otherwise not.”

“Everything is so expensive that I try to only get materials that I really do need.”

“If I absolutely need the class materials to complete my assignments, then I will go ahead and buy them. I will only get the materials absolutely needed for the class. I will not get anything more because it can become too costly to buy everything that might be recommended.

If they are very expensive but I think I won’t be able to get a passing grade without them, I will still get them.”

“I get the class materials if I need them to pass the class. If I can get around without spending hundreds on books I make do without them”.

“I usually only get the materials if they are online 3rd party homework websites like MindTap, Connect, etc.”

“Unless the book/online portion of the class requires a subscription to a service in order to complete homework assignments I don’t bother getting the book.

Students frustrated by paying for unused materials

Many students report a phenomenon where they are asked to get an expensive book, but it is never used in the class. This is a source of much frustration.

“Would be nice to not have to spend the money on it if I knew we weren’t going to use it. That seems to be the case for most of them I buy, never even open them.”

“Book was not on the list of needed materials on the syllabus but teacher said we needed it. As the weeks went on I never got the book, and as she put the week’s plans up and it was never a part of it. Turns out we never ever opened it.”

“As a college student I don’t have money to spare on pricey materials that won’t be used.”

Students try to prevent this by investigating the need for the materials

“I decide what materials I need based on the teacher’s syllabus, rate my professor, and my classmates/colleagues who previously have taken the course.”

“Students who have already taken the class before me are a good source of information, whether or not I get the materials needed in class.”

“I ask people who have previously taken to the class to see what is required and what is basically pointless.”

They also seek out alternative sources for the materials, either internet etc. or professors

“I’m not going to waste my money getting materials for studying purposes when I can find all the material for free on Quizlet and Khan Academy”.

“I see what additional free material will be provided by the professor in powerpoints, video lectures”

“Are there materials available online? Can I borrow from someone or rent for cheaper than schools price?”

Students delay acquisition to investigate need and alternatives

“I decide by observing the first two weeks of class. If material isn’t discussed or incorporated in class within the first two weeks to me it makes sense leaving it out all together”.

“I wait a week into class to see if I need the materials. I wait after the first test to get the materials. On the test if I do well then I don’t get the materials.”

“I will wait until the first or second week to see if it used”

“I decide by waiting until there is a point in the semester where I need the material to complete an assignment”

“I do not get them until I realize I actually need them. Complete waste of money otherwise”

“Honestly, it comes down to the first two weeks of the course. Some professors require us to get books that we never use. In order to avoid that, I wait and see if we actually will use the required materials”

Interestingly, they rarely mention that they don't have the money. In fact, more common is to report that they don't want to waste the money that they have, hence the investigation into the utility of the materials.

When the students do not get materials in a course

When students do not acquire the materials for a class, far and away the most common theme is that it is because the materials were not needed to get the grade the student wanted. They mention costs a lot - usually in the context that the purchase is not worth the cost and was a bad value, usually because the materials were not actually needed in the course.

“I did not need the materials (the textbook) because my professor provided notes for us [students] to follow and learn the necessary concepts.”

“They were very expensive and were not needed to pass the course text book was \$180 and students who had the teacher the previous year sent me a link to the book as a PDF and said 99% of the information necessary for papers and tests were things he said during note taking portions of the class.”

“All of the content on the exam was covered in class.”

“It was not necessary since all of the information needed to pass the class could be found for free (online).”

“I checked on Rate My Professor and majority of students said you did not need the assigned materials for the class”

Appendix 2

Survey Instrument

Standard: Introduction and Welcome (3 Questions)

Standard: Usual Acquisition Behavior (3 Questions)

Standard: Class One Acquisition (17 Questions)

Branch: New Branch

If

If It does not matter if you bought, rented, borrowed, shared or copied - these all count as getting... 100% Is Selected

Or It does not matter if you bought, rented, borrowed, shared or copied - these all count as getting... 100% Is Selected

Or It does not matter if you bought, rented, borrowed, shared, or copied - these all count as gettin... 100% Is Selected

Standard: Class Two - WITHOUT 100% acquisition (18 Questions)

Standard: Conscientiousness (1 Question)

Block: Demographics (4 Questions)

EndSurvey:

Standard: Class Two WITH 100% acquisition (16 Questions)

Standard: Conscientiousness (1 Question)

Block: Demographics (4 Questions)

EndSurvey:

Page Break

Start of Block: Introduction and Welcome

consent

A Study about Textbooks and Class Materials In Undergraduate Classes

Hello, my name is Joseph Patton, a researcher at Florida Atlantic University. I am conducting a research study about textbooks and other materials assigned to students in their undergraduate classes.

Participation in this study is voluntary. All of your responses are completely anonymous and no personally identifiable information will be collected. If you decide to participate, you will be one of about 1000 students in this research study.

There are no foreseeable risks to you for participating in this study. If you have questions while taking part, please stop and contact the researcher by e-mail at jpatton6@fau.edu.

This survey will take no more than 10 minutes to complete. You can see how far along you are by the red progress bar at the top of this survey which goes from 0-100%

The purpose of this survey is to understand what students (like yourself) do and think about your assigned textbooks and materials, so please be as accurate as you can and do not rush through the survey.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device. Please do not use the 'Back' and 'Forward' buttons on your browser. Instead, use the 'Next' or 'Back' buttons at the bottom of each screen.

Thank you for agreeing to participate in this survey.

Joseph Patton



level

Which of the below best describes you?

Freshman (1)

Sophomore (2)

Junior (3)

Senior (4)



Major What is your current / future major?

Accounting, Finance, Economics, or MIS (1)

International Business, Hospitality, Management: Leadership & Entrepreneurship, Health Admin or Marketing (2)

Not declared or other (3)

End of Block: Introduction and Welcome

Start of Block: Usual Acquisition Behavior



acq rate usual

Most of your courses assign materials that you are supposed to get, such as

- Textbooks
- eBooks
- access to online digital platforms where you take quizzes or complete assignments (such as MindTap, McGraw Hill Connect, or Pearson MyLab)

It does not matter if you bought, rented, borrowed or copied these materials - these all

count as getting the material.

Thinking about all the classes you have taken in college, what % of your assigned class materials do you **usually** get?

▼ 0-10% (1) ... 90-100% (10)

X→

why aquire Why do you usually get the materials assigned for your classes? Choose one best answer.

- Because the instructor asked me to (1)
- Because I cannot pass the class without them (2)
- Because I need them to get the grade I want (3)
- Because I am interested in leaning more about the subject (4)

X→

when usual When do you usually get your assigned class materials? Choose one best answer.

- Before the first class (1)
- During the first week of class (2)
- After the first week of class (3)

End of Block: Usual Acquisition Behavior

Start of Block: Class One Acquisition

class_1 Now we would like to ask you about the course materials in two of your classes.

First, please write the name of one recent class of yours that had books or other materials assigned. (eg "MAN 4024" or "Accounting")

X→

Q44 What was the level of this class? (example: MAN 3025 is a "3000" level class)

- 1000 (1)
- 2000 (2)
- 3000 (3)
- 4000 (4)

X→

Q46 This class was originally scheduled as a

- Online class (1)
- Face to face class (2)
- Hybrid class - mix of online and face to face (3)

X→

Q47 Was this a required class for you?

Yes (1)

No (0)

Page Break

X→

Q21 Please indicate how much you agree with this statement:

"I needed a **minimum of C** grade in "\${class_1/ChoiceTextEntryValue}" for it to count for my major"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q75 As long as you got the minimum passing grade, **how important** to you was **your grade** in "\${class_1/ChoiceTextEntryValue}"?

- Not at all important (1)
 - Slightly important (2)
 - Moderately important (3)
 - Very important (4)
 - Extremely important (5)
-

Page Break

X→

Q54 In "\${class_1/ChoiceTextEntryValue}", did you need **access to online digital platforms** to take quizzes or complete assignments? (such as MindTap, McGraw Hill Connect, or Pearson MyLab)

Yes (1)

No (0)

* X→

Q48 In your course "\${class_1/ChoiceTextEntryValue}", how many **different materials were assigned** that you were asked to get (such as textbooks, digital platforms, ebooks, simulations)?

0 (0)

1 (1)

2 (2)

3 or more (3)

Page Break

Display This Question:

If In your course "\${q://QID105/ChoiceTextEntryValue}", how many different materials were assigned t... = 1



AR 1 - 1 mat

It does not matter if you bought, rented, borrowed, shared, or copied - these all count as getting the materials.

For your course "\${class_1/ChoiceTextEntryValue}" what % of the assigned materials in the class did you get?

- 0% (0)
 - 100% (100)
-

Display This Question:

If In your course "\${q://QID105/ChoiceTextEntryValue}", how many different materials were assigned t... = 3 or more



AR 1 - 3 mats

It does not matter if you bought, rented, borrowed, shared or copied - these all count as getting the materials.

For your course "\${class_1/ChoiceTextEntryValue}" about what % of the assigned materials in the class did you get?

- 0% (0)
 - 33% (33)
 - 50% (50)
 - 67% (67)
 - 100% (100)
-

Display This Question:

If In your course "\${q://QID105/ChoiceTextEntryValue}", how many different materials were assigned t... = 2



AR 1 -2 mats

It does not matter if you bought, rented, borrowed, shared or copied - these all count as getting the materials.

For your course "\${class_1/ChoiceTextEntryValue}" what % of the assigned materials in the class **did you get?**

- 0% (0)
 - 50% (50)
 - 100% (100)
-

Page Break

X→

utility class Please indicate how much you agree with this statement:

In my course "\${class_1/ChoiceTextEntryValue}" I **needed to use the assigned materials...**

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
...to pass the class (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to get the grade I wanted (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to complete assignments or quizzes (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

X→

cost class What was the **total cost** of the materials assigned in "\${class_1/ChoiceTextEntryValue}"?

- \$0-30 (1)
- \$31-60 (2)
- \$61-90 (3)
- \$91-120 (4)
- \$121-150 (5)
- over \$150 (6)

X→

Q80 Please indicate how much you agree with this statement:

"It would have been difficult to **get the grade I wanted**
in "\${class_1/ChoiceTextEntryValue}" **without** the assigned materials"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q53 The assigned materials in "\${class_1/ChoiceTextEntryValue}" were **enjoyable or entertaining** to use"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

Page Break

X→

Q33 These are the last few questions about this class. Indicate how much you agree with this statement:

"For me, it was important to gain knowledge and learn about the subject covered in \${class_1/ChoiceTextEntryValue}"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q52

For "\${class_1/ChoiceTextEntryValue}" please indicate how much you agree with these statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am interested in the subject area of this class (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like and respect the instructor of this class (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a connection with the program / department that offers this class (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

End of Block: Class One Acquisition

Start of Block: Class Two - WITHOUT 100% acquisition



Q58 Thank you! We want to ask about 1 more class.

In the previous section you indicated that you **did** get all of the assigned materials in that class.

Did you ever take a class where you **did not** get 100% of the assigned materials?

Yes (1)

No (0)

Skip To: End of Block If Thank you! We want to ask about 1 more class. In the previous section you indicated that you d... = No

Q169

Please write the name of a class where you **did not** get 100% of the books or other materials assigned. (eg "MAN 4024" or "Accounting")



Q172 What was the level of this class? (example: MAN 3025 is a "3000" level class)

1000 (1)

2000 (2)

3000 (3)

4000 (4)



Q170 This class was originally scheduled as a

Online class (1)

Face to face class (2)

Hybrid class - mix of online and face to face (3)



Q171 Was this a required class for you?

Yes (1)

No (0)

Page Break

X→

Q78 Please indicate how much you agree with this statement:

"I needed a **minimum of C** grade in "\${Q169/ChoiceTextEntryValue}" for it to count for my major"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q77 As long as you passed the class, **how important** to you was **your grade** in "\${Q169/ChoiceTextEntryValue}"?

- Not at all important (1)
 - Slightly important (2)
 - Moderately important (3)
 - Very important (4)
 - Extremely important (5)
-

Page Break

X→

Q173 In "\${Q169/ChoiceTextEntryValue}", did you need **access to online digital platforms** to take quizzes or complete assignments? (such as MindTap, McGraw Hill Connect, or Pearson MyLab)

Yes (1)

No (0)

* X→

Q174 In your course "\${Q169/ChoiceTextEntryValue}", how many **different materials were assigned** that you were asked to get (such as textbooks, digital platforms, ebooks, simulations)?

0 (0)

1 (1)

2 (2)

3 or more (3)

Page Break

Display This Question:

If In your course "\${q://QID169/ChoiceTextEntryValue}", how many different materials were assigned t... = 1



Q175

For your course "\${Q169/ChoiceTextEntryValue}" you indicated that you **did not** get all of the assigned materials.

It does not matter if you bought, rented, borrowed or copied.

Please confirm what % of the assigned materials in the class **did you get?**



0% (0)

Display This Question:

If In your course "\${q://QID169/ChoiceTextEntryValue}", how many different materials were assigned t... = 2



Q176 For your course "\${Q169/ChoiceTextEntryValue}" you indicated that you **did not** get all of the assigned materials.

It does not matter if you bought, rented, borrowed or copied.

What percentage of the assigned materials in the class **did you get?**



0% (0)



50% (50)

Display This Question:

If In your course "\${q://QID169/ChoiceTextEntryValue}", how many different materials were assigned t... = 3 or more



Q177 For your course "\${Q169/ChoiceTextEntryValue}" you indicated that you **did not** get all of the assigned materials.

It does not matter if you bought, rented, borrowed or copied.

About what % of the assigned materials in the class **did you get?**

0% (0)

33% (33)

50% (50)

67% (67)

Page Break

X→

Q178 Please indicate how much you agree with this statement:

In my course "\${Q169/ChoiceTextEntryValue}" I **needed to use the assigned materials...**

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
...to pass the class (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to get the grade I wanted in the class (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to complete assignments and exams (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

X→

Q183 What was the **total cost** of the materials assigned in
"\${Q169/ChoiceTextEntryValue}"?

- \$0-30 (1)
- \$31-60 (2)
- \$61-90 (3)
- \$91-120 (4)
- \$121-150 (5)
- over \$150 (6)

Page Break

X→

Q82 Please indicate how much you agree with this statement:

"It would have been difficult to **get the grade I wanted** in
"\${Q169/ChoiceTextEntryValue}" **without** the assigned materials"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q83 The assigned materials in "\${Q169/ChoiceTextEntryValue}" were **enjoyable or entertaining** to use

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

Page Break

X→

Q87 These are the last few questions about this class. Indicate how much you agree with this statement:

"For me, it was important to gain knowledge and learn about the subject covered in \${Q169/ChoiceTextEntryValue}"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q85

For "\${Q169/ChoiceTextEntryValue}" please indicate how much you agree with these statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am interested in the subject area of this class (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like and respect the instructor of this class (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a connection with the program or department that offers this class (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

End of Block: Class Two - WITHOUT 100% acquisition

Start of Block: Conscientiousness



Q48 Thank you for telling us about your classes. There are only a few questions left.

Please indicate how much these phrases describe you (as you are now, not as you wish to be)

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Get chores done right away (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often forget to put things back in their proper place (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Like order (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a mess of things (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Conscientiousness

Start of Block: Demographics



age

Last questions:

What is your age?

- 18-24 (1)
- 25-34 (2)
- 35-44 (3)
- 45-54 (4)
- Over 54 (5)



GPA What is your current GPA?

▼ below 2.25 (1) ... 3.75-4.0+ (8)



sex Which best describes you?

- Female (1)
- Male (2)
- Other (3)



Q63 How often do you receive financial aid that pays for your books and other class materials?

- Never (1)
- Sometimes (2)
- About half the time (3)
- Most of the time (4)
- Always (5)

End of Block: Demographics

Start of Block: Class Two WITH 100% acquisition



Q186 Thank you! We want to ask about 1 more class.

In the previous section you indicated that you did not get all of the assigned materials in that class.

Did you ever take a class where you **did** get 100% of the assigned materials?

- Yes (1)
- No (0)

Skip To: End of Block If Thank you! We want to ask about 1 more class. In the previous section you indicated that you d... = No



Q187

Please write the name of a class where you DID get 100% of the books or other materials assigned. (eg "MAN 4024" or "Accounting")

X→

Q190 What was the level of this class? (example: MAN 3025 is a "3000" level class)

- 1000 (1)
 - 2000 (2)
 - 3000 (3)
 - 4000 (4)
-

X→

Q188 This class was originally scheduled as a

- Online class (1)
 - Face to face class (2)
 - Hybrid class - mix of online and face to face (3)
-

X→

Q189 Was this a required class for you?

Yes (1)

No (0)

Page Break

X→

Q79 Please indicate how much you agree with this statement:

"I needed a **minimum of C grade** in "\${Q187/ChoiceTextEntryValue}" for it to count for my major"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q76 As long as you passed the class, **how important** to you was **your grade** in "\${Q187/ChoiceTextEntryValue}"?

- Not at all important (1)
 - Slightly important (2)
 - Moderately important (3)
 - Very important (4)
 - Extremely important (5)
-

Page Break

X→

Q191 In "\${Q187/ChoiceTextEntryValue}", did you need **access to online digital platforms** to take quizzes or complete assignments? (such as MindTap, McGraw Hill Connect, or Pearson MyLab)

Yes (1)

No (0)

* X→

Q192 In your course "\${Q187/ChoiceTextEntryValue}", **how many different materials were assigned** that you were asked to get (such as textbooks, digital platforms, ebooks, simulations)?

0 (0)

1 (1)

2 (2)

3 or more (3)

Page Break

Display This Question:

If In your course "\${q://QID187/ChoiceTextEntryValue}", how many different materials were assigned t... != 0



Q193 For your course "\${Q187/ChoiceTextEntryValue}" you indicated that you **did** get all of the materials assigned.

Please confirm what % of the assigned materials in the class did you get?



100% (100)

Page Break

X→

Q196 Please indicate how much you agree with this statement:

In my course "\${Q187/ChoiceTextEntryValue}" I **needed to use the assigned materials...**

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
...to pass the class (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to get the grade I wanted (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to complete assignments or quizzes (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

X→

Q201 What was the **total cost** of the materials assigned in
"\${Q187/ChoiceTextEntryValue}"?

- \$0-30 (1)
- \$31-60 (2)
- \$61-90 (3)
- \$91-120 (4)
- \$121-150 (5)
- over \$150 (6)

X→

Q81 Please indicate how much you agree with this statement:
"It would have been difficult to **get the grade I wanted** in
"\${Q187/ChoiceTextEntryValue}" **without** the assigned materials"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q84 The assigned materials in "\${Q187/ChoiceTextEntryValue}" were **enjoyable or entertaining** to use

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

Page Break

X→

Q88 These are the last few questions about this class. Indicate how much you agree with this statement:

"For me, **it was important to me to** gain knowledge and learn about the subject covered in \${Q187/ChoiceTextEntryValue}"

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

X→

Q86

For "\${Q187/ChoiceTextEntryValue}" please indicate how much you agree with these statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am interested in the subject area of this class (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like and respect the instructor of this class (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a connection with the FAU program or department that offers this class (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Class Two WITH 100% acquisition

VITA

JOSEPH T. PATTON

EDUCATION AND EXPERIENCE:

1990	Certificate, Spanish Universidad de Salamanca (Spain)
1991	BA - Bachelor of Arts, Spanish Florida State University
1992	3M Olympic Host
1993	MA - Master of Arts, International Affairs University of Miami
1994	MS - Master of Science, Int'l Business University of Miami
1994	MBA - Master of Business Administration University of Miami
1994 - 1997	Colgate-Palmolive Company Product Manager
1998 - 1999	Remy Amerique Inc. Brand Manager
1999 - 2001	CBS Sportsline.Com Brand Manager
1999 - 2003	University of Miami School of Business Instructor, Management Department
2001 - pres.	Management Consultant
2010 - 2013	Sunshine State News VP of Sales & Business Development
2010 - 2014	University of Miami School of Business Instructor, Management Department

2010 - pres. Florida Atlantic University College of Business
Instructor, Department of Management Programs

2021 (expected) DBA – Doctor of Business Administration
Florida International University

REFEREED ACADEMIC CONFERENCES

- 2019 Academy of Business Education Conference, Savannah GA, Sep 19-21, 2019
Herst, D., Patton, J. Searcy, D. (2019). *Teaching in the digital age: Large Classes, Distracted Students, and Shifting Expectations*
- 2020 AIB Latin America Chapter 2020 Conf. Miami FL, June 30-July 1, 2020
Patton, J., Arias, J., Liu, W., Vilayil, A. (2020). *Quick Service Restaurant Industry in Latin America and the Caribbean (LAC): Predicting Entry Mode Choice using Dunning's OLI Framework.*
- 2020 Academy of International Business Conf., Miami FL, July 2-6, 2020
Arias, J., Liu, W., Patton, J., Vilayil, A. (2020). *Entry mode choice of Quick Service Restaurants (QSR) in MENA and Asia: How does a MNE's ownership advantage, location advantage and internalization influence its choice of entry equity modes?"*
- 2020 Engaged Management Scholarship Conf., Cleveland OH, Sep 10-14, 2020
Patton, J. (2020). *Is It True That High Prices Are the Reason College Students Don't Get Their Books? Investigating the Undergraduate's Decision Not to Acquire the Assigned Instructional Materials. (Best Poster Winner)*