



TEXAS SOUTHERN UNIVERSITY  
JESSE H. JONES SCHOOL of BUSINESS

## **30<sup>th</sup> Annual Southwestern Business Administration Teaching Conference**

**February 23-24, 2023.**

***Conference Theme:***

***“Incorporating business topics trending in the industry into the  
curriculum.”***

***Conference Chair:***

***Dr. Mayur S. Desai, Professor of MIS***

***Conference Abstracts/Papers***



TEXAS SOUTHERN UNIVERSITY  
JESSE H. JONES SCHOOL *of* BUSINESS

## Keynote Speakers



**Ms. Evelyn Anderson**

**IBM Distinguished Engineer, IBM.**

*Topic: Modern Security Solutions for Today's Business Challenges.*



**Ms. Danielle A. Davis**

**Vice President and segment lead, J.P. Morgan Chase**

*Topic: The Future of Work: Why We Should See Students as Powerful Changemakers.”*



**Ms. Cheri Green**

**Community Manager, J.P. Morgan Chase**

*Topic: The Role of Teachers and Learners in Community Services.*

## **Developing Open Data Projects For Undergraduate Business Students.**

Emese Felvegi

[efelvegi@uh.edu](mailto:efelvegi@uh.edu)

Office of Digital Learning, C.T. Bauer College of Business, University of Houston.

Sorosh Malekzad

[smalekza@cougarnet.uh.edu](mailto:smalekza@cougarnet.uh.edu)

Office of Digital Learning, C.T. Bauer College of Business, University of Houston.

A faculty teaching 2,220 students annually co-presents with an instructional assistant about creating and deploying open data assignments based on sources from data.gov, Kaggle, and in-class data collections. Our practical case highlights best practices and lessons learned about quickly creating assignments to keep course content fresh and exciting for students.

## **Modernizing Course Delivery Methods In An Undergraduate Accounting Course.**

Mary Sykes  
Department Of Accountancy And Taxation  
University of Houston  
[Msykes@Uh.Edu](mailto:Msykes@Uh.Edu)

Sri Harsha Piduru Vardhan  
Office Of Digital Learning, C.T. Bauer College Of Business, University Of Houston.  
[Spiduru@Cougarnet.Uh.Edu](mailto:Spiduru@Cougarnet.Uh.Edu)

A senior professor of practice and an instructional assistant discuss keeping course content accessible with comprehensive multimodal content as the institution migrates from one LMS to another. An overhaul of the video management systems, and updated approach to content curation, and regular weekly announcements round out the changes in this mass section course.

**Breaking Barriers In Asynchronous Online Courses: Using Lms Tools To Engage Online Students And Increase Student Interaction.**  
**A workshop with presentation, discussion, and real-world examples.**

Alan D. Lish, D.B.A.

Department of Marketing & Entrepreneurship

University of Houston

The recent pandemic only accelerated a trend of migration to online classes that has been steadily increasing over the last five to ten years. Many of these classes are asynchronous in which the students don't even meet with instructors or interact with their fellow students on a regular basis. The challenge with these online classes—especially asynchronous online classes—is the barrier to communications and engagement created by the very nature of how these classes are conducted. The objective of this workshop is to provide and discuss techniques for overcoming these barriers, increasing student engagement and improve learning.

This workshop explores the lessons learned over fifteen years of creating, deploying and leading online classes, both synchronous and asynchronous. Using extensive video introductions and lectures, discussion forums, blogs, wikis and other techniques, the presenter has explored several methods to create engagement—both between the student and the instructor, and among the students themselves. Some of these techniques worked, and some did not. These techniques were used in asynchronous classes that ranged from smaller graduate classes to undergraduate classes with 100 students per section.

The workshop consists of an introductory PowerPoint presentation, followed by examples from existing Blackboard courses and a working discussion. While Blackboard is used in the demonstration, the same techniques work in Canvas. We will discuss how these techniques can be implemented in any course, and explore the results using validation from course evaluations.

# **Using Simulations For Experiential Learning In Online Asynchronous Business Courses: Advantages And Lessons Learned.A Workshop In Experiential Learning.**

Alan D. Lish, D.B.A.

Department of Marketing & Entrepreneurship  
University of Houston

“Experiential learning is a philosophy and methodology in which educators purposefully engage with students in direct experience and focused reflection in order to increase knowledge, develop skills, and clarify values.”<sup>1</sup> It is also one of the most meaningful teaching techniques in business courses, as students get to test out or implement the concepts taught in classes. But how to you use experiential learning in online asynchronous business classes? By using online simulations.

This workshop presents lessons learned in using online simulations in asynchronous business classes, both undergraduate and graduate classes. This presenter has used online simulations in business classes for over fifteen years and has used them in both face-to-face, asynchronous and synchronous online classes.

The workshop will explore the advantages of online simulations and present some ideas on how to use them in your classes, and the various techniques that can be employed to incorporate them. These range from simple, one-hour simulations for short graduate courses to semester-long simulations that require written submissions and analysis. The presenter uses four different simulations in both graduate and undergraduate courses and will explain and demonstrate how they reinforce the concepts in the course, create increased student engagement in asynchronous online courses, and improve overall learning.

The workshop will consist of a PowerPoint presentation, examples from actual completed simulations, student submissions, followed by a working discussion and demonstration.

1 Retrieved from <https://www.aee.org/what-is-experiential-education> 1/30/2023

# Effective Time Management Strategies to Enhance Academic Performance.

Ali Syed

University of Houston Downtown

[Alis@uhd.edu](mailto:Alis@uhd.edu)

Shohreh Hashemi\*

University of Houston Downtown

Hashemis@uhd.edu\*

## Abstract

According to the PMBOK (Project Management Body of Knowledge), a project is defined as a “temporary endeavor with a beginning and an end, and it must be used to create a unique product, service or result.” Accordingly, earning a college degree is a project, and as such, like project managers, students must continuously manage project’s triple constraint of cost, time, and scope.

Like projects, earning a college degree has its beginning to completion phases, and students are advised to enroll in a prescribed sequence of courses, to ultimately complete their degree program within a time span of four to five years. However, in some cases, students abandon their academic goals because of underestimating the required time to complete coursework and their lack of time management skills. The authors believe that including coverage of time management skills coupled with assignments on the topic in freshman courses can help students with defining appropriate timelines and managing their time effectively, resulting in enhancing their academic performance and increasing their chance of completing coursework and eventually earning a college degree.

In a freshman course, time management strategies including realistic goal setting, prioritizing tasks, identifying task dependencies, and establishing milestones and timeframes for each task are covered. Additionally, students are required to complete self-reporting coursework in which they report their daily activities in a time log for the first week of the semester. Students, identify times spent on various tasks, analyze how their time was spent, determine black holes in their daily activities, outline wasted time, rank tasks deemed to be hindering their ability to complete coursework, and finally describe time management strategies that would help them manage their time more effectively.

This paper focuses on “Time Management” and discusses how covering time management skills in freshman courses can help students with managing time effectively, resulting in increasing their chances of achieving their goal of earning a college degree and establishing lifelong time management habits that would enhance their success in college and beyond.

\* Corresponding author



## **General Data Protection to Global Data Protection: Challenges and opportunities in between.**

Syed, Ali: Lecturer, FNIS

University of Houston Downtown-Marilyn Davies College of Business

Dr. Ruth Robbins: Professor, FNIS

University of Houston Downtown-Marilyn Davies College of Business

This presentation will look at the European Union's (EU's) 2016 General Data Protection Regulation (GDPR). We will look into the technical aspects of "data ownership" and some of the specifics of the law dealing and other provisions of the law. We will discuss the power of international companies from multidimensional perspectives and specifically their possession of personal data; we will discuss privacy and data protection regulations that covers both public and private companies, and will also discuss why US and EU are not on the same page when considering the EU-style privacy law,

The global conversation around privacy has shifted since 2018 and so have the laws. It's a human right in the US. In this presentation, we will look at some of the new privacy laws in the US which went into effect, due to GDPR.

**Note:** EU is the 2nd largest economy in the world with a GDP of 17 Trillion, US the first with 19 Trillion, and China the third with 12 Trillion.

# ChatGPT: What is it? How does it work? Can it be a teaching tool for an introductory programming course in higher education?

Dale Fontenot

College of Business School of Accounting and Information Systems

Lamar University

[dale.fontenot@lamar.edu](mailto:dale.fontenot@lamar.edu)

Feroz Ahmed

College of Business School of Accounting and Information Systems

Lamar University

## Abstract:

ChatGPT is an interactive chatbot that uses natural language processing (NLP) to understand user input and generate responses. (Ruby, 2023) It was released by OpenAI.com in November of 2022 and has created a buzz in many areas, especially higher education. The focus of higher education on this new tool has primarily been concerned with academic dishonesty. Although this is a significant concern with ChatGPT, this paper focuses on its usage as a learning tool to help teach programming to management information students.

The paper's brief literature review focuses on ChatGPT's background and history. A study of how ChatGPT works at a high level is conducted, along with a complete list of essential terms and a walk-through of the process it uses to perform conversational modeling. (Ruby, 2023) Large language modeling is explained in terms that can be easily understood by management information systems students. After reviewing what ChatGPT is and how it works, the paper outlines and conducts an experiment based on the usage of ChatGPT as a tool to assist students new to programming complete a simple programming assignment.

The purpose of the experiment is to see if a new programming student can use ChatGPT's responses to complete the assignment. The student uses Code GPT (with the ChatGPT API) from within VS Code. The experiment uses conversational prompts to describe the steps in the coding assignment and has ChatGPT return responses in the form of python code blocks.

The paper describes each step in the process, including the prompts written and responses received from ChatGPT. This experimental assignment is to create a console application that will take input from the end user in the form of the user's first name, last name, and year born. The input feature of the program must validate each piece of end-user data. This validation will be performed in conditional while loops. The program will then write the end-user data into a tuple that will also be stored in a list. There should be an outer conditional while loop that will

terminate when the index reaches five (5) total tuples with individual end-user data in the tuples. Once all the data is entered, the program will process the data into unique usernames and evaluate the usernames for duplicates.

The primary results of this experiment will determine whether ChatGPT can be successfully used as a learning tool in assisting students complete programming assignments. The prompts written for and the responses received from ChatGPT will be evaluated as to their usefulness and repeatability.

Ruby, M. (2023, January 31). *How CHATGPT works: The models behind the bot*. Medium.

Retrieved February 6, 2023, from <https://towardsdatascience.com/how-chatgpt-works-the-models-behind-the-bot-1ce5fca96286>

# **Comparison of the Student Performance on the Accounting Cycle Assessment Test Between Students Who Were Taught Virtually Versus Students Who Were Taught in the Traditional Classroom Setting.**

Dr. Joseph Boyd  
Finance and Accounting Department  
Texas Southern University

The purpose of this research paper is to compare assessment test performances between students who were taught virtually and those who were taught in the traditional classroom setting. The department of accounting assessment program require that an assessment be made of the accounting cycle which is taught in the first principles of accounting class. The expectations would be that the performance of students who are taught in a traditional face to face classroom setting would significantly exceed the performance of students taught online.

## **Textbooks: Required, Alternatives, Hybrid or Disappearance**

William Saunders<sup>1</sup>  
Jesse H. Jones School of Business  
Texas Southern University

Carlton Perkins<sup>2</sup>  
Jesse H. Jones School of Business  
Texas Southern University

Michara DeLaney-Fields<sup>3</sup>  
Stephen F. Austin State University

### **Abstract**

The conversations around transformational changes in higher education are centered around a myriad of issues. Technology, the lasting effects of the pandemic, student satisfaction and readiness for future employment requirements are a few of the leading concerns. However, one subject that is not receiving enough attention is the growing resistance and hesitation among college students to purchase textbooks. Although the movement has not reached the status of a full-blown protest or outright refusal, there is enough attention being brought to the subject that educators may want to be prepared for the eventual changes. The need and requirement for textbooks in various disciplines will always be necessary, but alternatives will eventually have to be explored for some. Because the information is available for free on the Internet, one option is implementing a policy in which classes are conducted without purchasing a textbook. Such a task was undertaken and is the subject of this study. After exploring the possibility of experimenting with the implementation of the project in several disciplines, the decision to concentrate on one area was made. The model for this project was several sections of the Legal Environment of Business and Business Law Classes conducted over three years. There were approximately 1,300 participants.

The issue of students' aversion to purchasing textbooks first arose when it was noticed that there seemed to be a noticeable number of students who did not have textbooks even as mid-term and final exams approached. The obviousness of not reading and incomplete assignments was evident during the year when assignments were given. When asked why they weren't buying books, the overwhelming response was the high cost.

Based on their responses, an effort was made to investigate whether the students were operating in isolation or whether this was a problem elsewhere. It did not take long to determine that students not buying textbooks was an issue not limited to one university. The subject has been written about in blogs, journals, magazines, and newspaper articles. For example, in 2019, in the opinion section

of The New York Times, a college professor addressed the matter and questioned whether college professors were helping rip off students by supporting the high prices of textbooks (Wu, 2019). Responses to the opinion were received from those who agreed to those who did not. Regardless, further research showed that the high costs of textbooks and students' hesitancy to purchase textbooks was not a new issue; instead, the subject had been raised years before.

As an illustration, Halliday (2013) referred to a report which showed that the price of textbooks had outstripped everything from healthcare to homes for decades. Basing her findings from the U.S. Bureau of Labor Statistics, she lamented that between 1978 and 2013, the cost of college textbooks in the United States grew by 812 percent. Ultimately, she concluded that because of the rising costs, the ultimate effect is that students' grades will suffer and there will potentially be a flattening graduation rate.

As related by Kim, "According to the U.S. Public Interest Research Group's (PIRG) education fund found in a study that 65% of college students nationwide have skipped textbook purchases despite concerns about their grades. In addition, students who skip meals or have lost jobs during the covid-19 pandemic are even more likely to forgo textbooks" (Kim 2021). P.2). Issues such as textbooks costs rising more than three times the rate of inflation, food insecurity and housing were factors on whether students purchased textbooks or not. The 2021 PIRG study surveyed 5,000 students at over 80 colleges and universities and built on similar surveys from 2013 and 2019.

A critical element that leads to the high cost of textbooks is that there is little competition in the college publishing industry, leading to little consumer choice. As explained by Echevaria and Jordan (2021), almost 80% of the textbook industry is dominated by five major publishers who are creative in devising ways to keep textbook prices high. For example, publishers began bundling new textbooks with restrictive special codes, forcing students to buy new ones. In addition, they shortened the updated new edition production cycle from five to three years. Summarily, the key findings of the PIRG study were as follows:

- students continue to skip buying textbooks despite concerns it will impact their grades and food insecure students skip buying course material at higher rates
- more students were cutting access codes during the pandemic
- COVID-19 is hitting students hard and affecting course material affordability
- lack of reliable Internet correlates with significant issues for course material access and student success

Other studies have had similar results. For example, Whitford (2018) cited a study conducted on 1651 students, which showed that textbook costs and other course materials greatly impacted their financial situation. For example, the respondents stated that they had forgone a trip home to see family, skipped meals, registered for fewer classes, and worked jobs to afford textbooks.

In addition, over one-half of the students surveyed stated that they had refused to buy some of the required course materials.

Textbook affordability was listed as a possible social justice issue by Jenkins, et al. (2020), who studied a four-year HSI in Southern California. A survey of 700 students found that textbook costs were a substantial barrier for historically underserved students and recommended that open education resources (OER) would help with student academic access. With regard to the United States educational system, they state, “Rather, educational institutions and academic publishers in the United States have created a systemic condition in which students’ learning potential is limited by their purchasing power” (p25). They went further to state that there should be a social mandate for universities to eliminate the barriers.

Venzon (2021) explained that, at one time, the inflationary costs of textbooks were primarily due to colleges' reliance on textbook access codes that gave students access to class materials. Once the semester ended, the access code was rendered meaningless, and the following semester students would have to purchase the textbook with a new access code. This tactic disincentivized textbooks from being passed on or resold while ensuring increased revenue for the publishers and academic institutions. That revenue stream for publishers is virtually guaranteed because only five major academic publishers control 80 percent of the market, leaving students little choice in what textbooks they purchase (Aubron, 2018).

With the apparent fact that thousands of students are not purchasing textbooks, there have been efforts to offer alternatives. Kylvkowski (2007) questioned whether textbooks were an unnecessary expense or even an obstacle to conceptual understanding. While addressing the necessity of textbooks—professors should examine the goals of the course and how textbooks could be used to achieve the goals but also seek to determine if the cost of the textbooks could be justified. Furthermore, there should be an effort to determine a more educationally practical or cost-effective alternatives available. His solution was to design and compose a course website for his Biofundamentals class. The materials could be read online or downloaded as PDF files. If a student had a strong need for a textbook, he would recommend a dictionary of biology. He suggests that professors consider whether a textbook should be required or whether other materials could serve the same purpose.

There have been efforts by others to address textbook costs. According to the APARC organization (2022), one author made a science textbook accessible for free. In addition, the top-selling organic chemistry book, *McMurry's Organic Chemistry*, is now accessible because of his partnering with OpenStax, which will make the book an open educational resource (OER). OpenStax is an educational technology non-profit organization at Rice University that has saved students more than \$1 billion, according to its editor-in-chief.

Lin (2019) provided an example of OER usage whose study investigated 58 students in an introductory education course. His findings were that the student's perceptions of OER helped them

with textbook cost savings and positively impacted their learning experiences. On the other hand, there were challenges, such as lacking a tactile sense with OER, slow Internet connections and unclear guidance and instruction. Similar findings were shown by Cozart, et al. (2021), who compared pre-service teacher-student outcomes and perceptions of a traditional textbook versus no-cost online materials in an educational foundations course. Once implemented, the results showed that OER and online materials were more useful in their success of the course than a traditional textbook and student academic performance was not compromised.

The federal government has recognized the problem of textbook costs and accessibility. Subsequently, they have created the Open Textbook Pilot, a federal grant program that creates and expands the use of open textbooks to achieve student savings. Since 2018 Congress has funded over 35 million dollars for use at several universities. For example, in 2022, Clemson University was awarded \$1,240,371, Rice received \$868,877, the University of Illinois received \$9114,584 and Washington State Board for Community and Technical Colleges received \$1, 146,147.00. Each of the schools also received similar awards in 2021. Scholarly Publishing and Academic Resources Coalition (SPARC), a non-profit advocacy organization whose members include hundreds of universities and support systems for research and education, has requested an appropriation of \$25 million for the fiscal year 2023. In addition, it further asked that the Affordable College Textbook Act be passed.

Another effort to combat the high textbook prices while still maintaining accessibility is the digital book. Karas (2020) argued that e-books are cheaper and that students are paying less overall. In addition, she found that some colleges offer inclusive access materials where digital coursework is loaded onto the management system so students can access their courses and books in the same place. Notably, however, it was found that some students still preferred physical books because of their reliability and the ability always to have the materials available when needed. Alexander and Singer (2017) mirrored this view, earlier stating that there are consequences to discounting the printed word value for learning and academic development. For example, their research showed that when reading assignments demand engagement or deeper comprehension, students may be better off reading printed material.

The alternatives mentioned above will, to a degree, affect the high cost of textbooks. However, there is still a cost for e-books and taxpayers will bear the brunt of the millions of dollars in governmental assistance programs. Thus, the purpose of this study will present an alternative to the cost of physical textbooks and e-books while at the same time giving the student a physical document that is, in most instances, the same or better than a textbook.

As stated, this study was conducted over three years and involved over 1,300 students. The classes were Business Law and the Legal Environment of Business. We examined the leading textbooks for content, cases, comments, and the number of pages of the covered subjects. During one year, because of Covid-19, all classes were online, and those classes included a significantly smaller



number of students. Other courses were face-to-face. At the beginning of class, students were made aware that there was no requirement to purchase a textbook, which, like most legal textbooks, was very expensive. The only requirement for the class was for each student to have a 3-ring binder. The purpose of the binder is all materials assigned from online sources were to be placed in the binder. The material and notes taken in class are graded at the end of the semester.

We chose to present the subjects in the same order as most texts, but there were some deviations because we felt specific topics would have been more relevant if they had been presented in a different order. For example, since the classes were legal in a business school, not law school, taxation, employment, and labor laws were subjects covered earlier. The foundation for the course is the subject overview. The overviews are summations of each subject and are presented online for free on several websites. They concisely explain the topics and include historical and current cases and the relevant state and federal laws.

The initial subjects covered in all Business Law and Legal Environment textbooks are court structures and constitutional law. Some websites, including the U.S. Courts and Supreme Court, explain these subjects. Similarly, all other matters, such as contracts, are covered on websites that are better presented than textbooks. For example, contracts and their accompanying subjects of sales, secured transactions and negotiable instruments take dozens and dozens, and sometimes, hundreds of pages in the traditional textbooks. With the overviews and available videos, the subjects can be presented to the students more shortly and excitingly.

Likewise, the intellectual property and securities subjects are not only covered in the overviews, but the U.S. PTO and Sec.gov websites provide immense information, thousands of case examples, and dozens of videos. In addition, the cases are updated daily, a feature a traditional textbook cannot offer. For instance, with the collapse of FTX and its issues with the SEC, the U.S. Bankruptcy Court immediately became part of the binder, as were the new immigration policies, constitutionality of abortions, and space law.

During class, information, especially overviews from the websites, is displayed on the screen and is discussed in class. The students download and copy the overviews and other assignments listed in the syllabus. That information and their notes from class are placed in their binder. At the end of the semester, the students have any information presented from the best textbooks and much more.

Weir (2007), a professor at Smith College and the University of Massachusetts, suggested that the good ideas and pedagogical reasons for assigning textbooks no longer work. Although cost was a factor, learning objectives were also factored in his decision to cease using a textbook for his introduction to U.S. history class. His findings showed that student achievement improved after he stopped using the textbook.

Our results were similar. In many cases, the grades were higher, and in no instances did a percentage of assigned grades go down. Without exception, the lower grades were attributed to

those few students who had poor attendance or did not complete their binders. When viewed in its entirety, the students were more engaged, participation increased, and they appreciated not being required to purchase the textbook. Another plus was that the business law section test scores on the university exit exam increased and were among the highest out of all disciplines tested.

However, this study is not meant to be a drumbeat for all to follow a charge to dispose of textbooks. But it is clear that technology has provided a path to embrace a change that allows for the dispersal of knowledge to eager minds to grasp. That path should, and will eventually have to be, acknowledged by all concerned. In our study, the same information presented in the best textbooks is available online. This was not true decades ago, but it is now. The information online has the distinct advantage of being updated the minute changes happen, something that textbooks cannot offer. Again, it is free.

## References

- Alexander, P. A., & Singer, L. M. (2017). A new study shows that students learn way more effectively from print textbooks than screens. *The Conversation*. Retrieved October 20, 2022, from <https://businessinsider.com/students-learning-education-print-textbooks-screens-study-2017-10>.
- Aubron, X. (2018, June 28). Why students avoid buying textbooks. Will digital textbooks save the academic publishing industry? [web log]. Retrieved December 4, 2022, from <https://blog.gutenberg-technology.com/en/students-avoid-buying-textbooks>.
- Cozart, D., Horton, E. M., & Frome, G. (14AD). Rethinking the traditional textbook: A case for open educational resources (OER) and no-cost learning materials. *Teaching and Learning Inquiry*, 9(2). <https://doi.org/https://doi.org/10.20343/teachlearninqu.9.2.13>
- Echevaria, G., & Bowman, J. (2021, January 26). *Why college textbooks are so expensive*. businessinsider.com. Retrieved January 9, 2023, from <https://www.businessinsider.com/why-college-textbooks-expensive-textbooks-publishing-2018-12>
- Halliday, M. (2019, August 1). 65% of students skip required textbook purchases, how well do they do in college? [web log]. Retrieved November 15, 2022, from <https://tophat.com/blog/65-of-students-skip-required-textbooks/>.
- Jenkins, J. J., Sanchez, L. A., Schraedley, M. A. K., Hannans, J., Navick, N., & Young, J. (2020). Textbook broke: Textbook affordability as a social justice issue. *Journal of Interactive Media In Education*. <https://doi.org/http://doi.org/10.5534/jime.549>
- Karas, R. (2022, August 22). Digital age: College students turn to e-books, skip high prices, shipping delays. *The Daily Record*, pp. 1–3.
- Kim, Y. (2021, July 3). Study:65% of college students skip textbook purchases during pandemic. *The Cap Times*, p. 1.

- Klmkowsky , M. V. (2007). Teaching without a textbook: Strategies to focus learning on fundamental concepts and scientific process. *Cbe Life Sciences Education*, (6), 190–193.  
<https://doi.org/dol:10.1187/cbe.07-06-0038>
- Lin, H. (2019). Teaching and learning without a textbook: Undergraduate student perceptions of open educational resources. *International Review of Research in Open and Distributed Learning*, 20(3), 1–18.
- Sparc. (2022, July). Sparc Impact Stories. *Sparcopen.com*. Retrieved December 15, 2022, from <https://sparcopen.org/impact-story/top-organic-chemistry-author-goes-open-with-best-selling-textbook/>
- Weir, R. (2007, March 6). Teaching without textbooks: They aren't only too expensive they are boring and your students will learn more without them. *Inside Higher Education*. Retrieved January 1, 2023, from <https://insidehighered.com/views/2007/03/06/teaching-without-textbooks>.
- WFMY. (2021, February 24). COVID-19 has made broken" college textbook market worse for students, national survey says. *Www.wfmynews.com*. Retrieved December 14, 2022, from <https://wfmynews.com/article/news/education/college-textbooks-expensive-covid-19/83-a22c5a8f-89ff-4373-aca2-7d4d34d24065>.
- Whitford, E. (2018, July 26). Textbook trade-offs: paying for textbooks today may mean choosing between Intro to Microbiology and a flight home. *Inside Higher Ed.com*. Retrieved November 20, 2022, from <https://www.insidehighered.com/news/2018/07/26/students-sacrifice-meals-and-trips-home-pay-textbooks>.

## **Incorporating The Topic Of Sustainability In Information Systems Curriculum.**

Elham Mousavidin, MBA, Ph.D  
University of St. Thomas

Sustainability has been a buzzword in business for a long time. Ever-increasing supply Chain disruptions due to natural disasters, pandemics, and other disruptors have created a higher level of consciousness for businesses to build more resilient supply chains and more sustainable businesses. Business schools are also catching up to incorporate the topic of sustainability in their curricula.

The role of Information systems/technologies (IS/IT) in achieving sustainability is critical as an enabler of more transparency in supply chains and overall operations of businesses. Transparency can not only decrease uncertainty but also enable quicker response in the face of disruption. This can result in higher supply chain/operations resilience, which can in turn result in lower waste of resources and higher social impact, and overall sustainability of businesses. On the other hand, IS/IT are subject to criticism for creating increasingly dependent supply chains, which can in turn make supply chains more vulnerable in the face of disruptions.

Incorporating the topic of sustainability in IS courses is more important than ever for two reasons: the fast-paced technological advancements; and higher frequency of supply chain disruptions. Businesses need to constantly adopt new technologies, often without much preparation. While technologies can strengthen supply chains, their premature adoption can be more damaging. In addition, due to higher frequency of natural disasters and more complex supply chains, businesses are more vulnerable to disruptions. Therefore, building sustainable operations and supply chains is a real concern for practitioners and academics. In this presentation, we would like to open a discussion on the best practices to incorporate sustainability in IS curriculum.

## **Team Teaching Accounting and Marketing on Entrepreneurship.**

Dr. Emily M. Crawford  
Professor of Marketing, Claflin University

Mrs. Samantha Perry  
Instructor of Accounting, Claflin University

### **Abstract**

Establishing a team-teaching model is an effective way to help students learn and understand complex topics. It is essential to consider the students' learning styles and their collaborative orientation when designing a team-teaching model (Yazici 2005). For example, undergraduate students may respond best to an instructor who is a personal model and formal authority. In contrast, graduate students may benefit from a more facilitative and delegatory approach (Yazici 2005). Additionally, students should be encouraged to be both collaborative and independent learners. The success of a team-teaching model is also dependent on the availability of teaching materials and resources. With the right resources and a well-thought-out team-teaching model, educators can effectively help students learn and understand complex topics.

Accounting and marketing are two essential skills that any business owner or manager must possess. By teaching them together, students can benefit from a more holistic understanding of the business world. This is because accounting and marketing are closely related; the decisions made in one field will impact the other. For example, understanding the principles of accounting can help a marketer make better decisions about how to allocate resources and create a budget. Additionally, knowledge of accounting can aid in the evaluation of marketing campaigns, such as understanding the return on investment. By understanding both fields, students become more well-rounded businesspeople, able to make better decisions in any situation. Furthermore, teaching both accounting and marketing together can help to increase engagement in the classroom, as students will be able to apply their knowledge to real-world scenarios. This can help to increase motivation, as students will be able to see the relevance of the material and its application to the business world. Finally, teaching both accounting and marketing together can help to reduce the amount of time spent teaching each subject, allowing for more time for other topics. By teaching both subjects together, students can gain a better understanding of the business world, allowing them to make better decisions and become more successful businesspeople.

In the Fall of 2023, two teachers (Accounting and Marketing) team-taught Cost Accounting and Retailing. This was done by both classes running a retail store for three years through a simulation. The primary goal was to improve the quality of teaching and learning by giving students an opportunity to experience entrepreneurship through a hands-on learning tool. The results of this method met the changing needs of students and the abilities of teaching.

## **Utilizing ChatGPT as a Tool for Students rather than fearing it as a Tool for Cheating.**

Dr. Jim A McCleskey  
Houston Community College

ChatGPT and other Open AI machine learning language tools have burst onto the scene in recent months and all of Higher Education (HE) is expressing concern. How can we as HE Professionals address this new technology? Two schools of thought seem to be developing. The first camp is one defined by fear and dread and is based on quickly finding ways to stop our students from using shortcuts and technology to cheat the system and to deprive themselves of learning opportunities. The second camp is one that is curious, interested, and seeking understanding and sees ChatGPT and similar applications as potentially powerful tools to help aid students and professionals in the creation of meaningful work.

This session will focus on answering the following questions in a highly interactive exchange with other HE professionals.

What is ChatGPT and what can it do?

How are our students using it? Based on that, what concerns do we have?

Can we utilize ChatGPT in our courses and still maintain our academic integrity?

How can we develop questions, assignments, and assessments that are relevant given the presence of ChatGPT?

What is the future of an AI-enabled HE classroom?

This session will include a demonstration of ChatGPT in real-time. It will also be designed to create an open and inclusive space for talking about HE professionals' concerns around ChatGPT.

## **Analyzing event advertising content to learn Consumer Behavior.**

Dr. Kishwar Joonas  
Prairie View A&M University  
[kajoonas@pvamu.edu](mailto:kajoonas@pvamu.edu)

### **Abstract**

In a recent study, one-tenth of global businesses were found to spend more than 50% of their marketing budget on event marketing (Navarro, 2023). A sizeable portion of this is channeled into event advertising. Given this trend, our presentation describes how analyses of event advertising can be used as a springboard for learning Consumer Behavior in a class setting. We discuss objectives of such analysis, and potential methods of structured learning built around it. Also, we assess the role of collaborative teamwork in peer learning (Joonas and Dellande, 2015). Further, we explicate the manner in which analyses of event advertising can be evaluated. Finally, we explore how such analyses can be used for programmatic learning, and ways to shape students' participation through an academic term. Expected outcomes are deep learning, and the development of students' marketable skills for job and career advancement.

Key terms: Event advertising, collaborative teamwork, peer learning, Consumer Behavior, programmatic learning

### References:

- Joonas, K. & Dellande, S. (2015). Self-regulation and Extrinsic Long-term Program Completion. *AIMS International Journal of Management*, 9 (2), 143-155.
- Navarro, J. 2023. Share of marketing budgets spent on event marketing according to businesses worldwide as of March 2018. *Statista*. Accessed from <https://www.statista.com/statistics/1040429/share-marketing-budgets-spent-event-marketing-worldwide/>

## **Incorporating Industry Practices into Teaching Managerial Accounting.**

, Kun Wang, Ph.D., Sewon, O, Ph.D., CPA  
Department of Accounting & Finance  
Texas Southern University

Managerial Accounting plays an increasingly critical role in today's business management. As many of the traditional functions of financial accounting are automated more and more by technologies, education should put more emphasis on the contents of Managerial Accounting that offers valuable skills for students to enter into job markets. However, research as well as teaching managerial accounting courses have indicated accounting students find Managerial Accounting somewhat more challenging than other accounting courses. The primary reason is due to their lack of industry experiences and the concentration on traditional teacher-centered theoretical teaching and learning, a teaching approach fails to provide students with a reflective learning experience.

Management Accounting deals with the daily strategic management task of decision-making regarding manufacturing, resource allocation, budgets, controls and performance evaluation. A fully understanding of these topics requires students' personal involvement and contextual reasoning or judgement in the learning process. Thus, to help students visualize manufacturing processes, simulated managerial activities or industry practices should be integrated into Managerial Accounting curriculum. In this paper, we present several teaching resources that faculty can employ in teaching Managerial Accounting courses that have been proven effective based on the authors' experience.

### 1. Strategic Finance Magazine

Strategic Finance is the award-winning flagship publication of IMA (Institute of Management Accountants). Every month, they publish articles that advice financial professionals how to perform their jobs more effectively, advance their careers, grow personally and professionally, and make their organizations more profitable. Even SF articles are written with the practitioner in mind, educators can adjust appropriate topics into classroom teaching, such as risk management, strategy, financial planning, the changing roles of the CFO and the finance function, budgeting, capital decisions, technology, careers, leadership, and more.

[-https://sfmagazine.com/en/About-Strategic-Finance-and-IMA](https://sfmagazine.com/en/About-Strategic-Finance-and-IMA)

I have used zero budget, ABC management, financial planning and forecasting and other topics as supplemental materials in my Managerial Accounting courses, and received positive feedback from students.

### 2. AICPA Resources

AICPA offers supplemental curriculum resources that the AICPA Academics team has reviewed and can be used in the classroom.



<https://us.aicpa.org/interestareas/accountingeducation/resources/classroommaterials/management>

### 3. SAP University Alliance – Global Bike Financial/Controlling Module

Under the SAP academic site, there are real business type modules for understanding and practicing cost accumulation, cost center management, overhead allocation, and cost reporting among many other functionalities.

### 4. Case Studies

Case studies have been proven an effective teaching approach for abstract materials. Accounting firms and many teaching resource websites provide free cases materials that can be adopted to classroom with a wide range of managerial accounting topics. Listed are a few of them as examples.

[https://www.ey.com/en\\_us/about-us/ey-foundation-and-university-relations/academic-resource-center](https://www.ey.com/en_us/about-us/ey-foundation-and-university-relations/academic-resource-center)

<https://www2.deloitte.com/us/en/pages/about-deloitte/articles/trueblood-case-studies-deloitte-foundation.html>

<https://accountingintheheadlines.com/category/managerial-accounting-2/>

### 5. Use Technologies

Students find using technologies to learn Managerial Accounting topics more interesting, such as using Excel for CVP analysis, sensitivity analysis, cost flow and cost report, and Pivot tables for revenue and expense analysis. All book publishers these days offer Excel or Data Analytic simulations in their online learning system coupled with traditional homework questions. Faculty could leverage on these resources to improve learning outcome.

## VIRAL VIDEO ASSIGNMENT.

Dr. Laura Guerrero

University of Houston – Clear Lake

### Extended Abstract

A learning objective that I struggled with initially while teaching organizational communications was to get students to focus on engaging the audience during oral presentations. Students are often overwhelmed by their own nervousness or only focus on the content of the presentation. The viral video assignment is an innovative way to get students to focus on engaging the audience. The skills involved in making a video are important to students because videos are becoming more popular than other ways of presenting such as using PowerPoint, Prezi, or other presentation software (Sergeant & MacDonald, 2017). Our source of entertainment has changed and many of us expect to be engaged within seconds. This means that communicators need to be able to be engaging regardless of the type of event or communication.

Asking students to make a video has several advantages over class presentations. One of them is that the students can see themselves as they are seen by the audience (Coffey, 2014). This allows them the opportunity to improve their video until they are satisfied with it. Another advantage is that because they make the video in advance, they are not as affected by nervousness. Because the emphasis is less on the message and the messenger and more on being engaging to the audience, students respond by making very creative videos. Examples of videos that have been submitted are videos that emulate TV shows like Squid Games and baking competition shows. I have had students involve friends, family, classmates, and pets, while other students work alone. As a result of this assignment, students learn how to carefully plan a presentation that is appealing and engaging to their peers. This exercise can also be used for content heavy courses but with greater emphasis on content.

### References

- Coffey, A. M. (2014). Using video to develop skills in reflection in teacher education students. *Australian Journal of Teacher Education*, 39(9), 87-97.
- Seargant, A. M. A., & MacDonald, P. A. (2017). Video production to enhance multimedia presentation skills: An undergraduate business project. *Business Education Innovation Journal*, 9(1), 25-34.

## **Swapping Instructor's Role With Students In A Management Class.**

Dr. Madhu Bala Sahoo

JHJ School of Business, Texas Southern University

Role plays are a powerful tool in management classes, especially when the underlying concept is ambiguous. For this in-class study, students were asked to play the role of a teacher for a day in their management class and teach specific topics and theories to their classmates. Test scores afterward show significant improvement in student understanding of topics used for role play. We discussed specific steps and class planning adopted before role play which facilitated overall learning.

# Learning Progress on Computational Thinking Concepts and Practices towards Programming in Hands-on Course: Quantitative Analysis of Coding Assessments.

Michael Yu-Chi Wu, Ph.D.  
Texas Southern University

Naveed Saleem, Ph.D.  
Texas Southern University

## Abstract

Computer programming courses are best taught through hands-on coding and problem-solving to develop students' computational thinking (CT) skills, thus strengthening their programming competencies. The objective is to evaluate the effects of learning CT concepts and practices on developing logic and manipulating data within a computer programming course through hands-on coding and problem-solving. 88 graduate students took the hands-on C# programming course between 2018 and 2019, completing several hands-on, computer-based midterm and final exams. Student codes were then collected from these exams, with each coding problem encompassing several objectives based on the syntaxes and programming techniques, giving six midterm measures and six final measures. The six measures for each term were three CT concept constructs (using repetition statements, using variables, and using operators) and three CT practice constructs (testing codes, abstracting, and remixing codes). It was discovered that learners had transitioned from acquiring mere CT skills during the midterm into developing programming skills with logic development (using repetition statements and abstracting) and data manipulations (using variables, using operators, testing codes, and remixing codes) toward the end. In conclusion, learners must initially focus on improving their skill sets in CT concepts to acquire developing programming logic at the end ( $\beta=0.733$ ,  $p=0.001$ ,  $\beta=0.733$ ,  $p=0.001$ ). In addition, learners must learn how to employ CT practices from the beginning to successfully manipulate data in programs later on ( $\beta=0.590$ ,  $p=0.003$ ,  $\beta=0.590$ ,  $p=0.003$ ).

## **Personal Reputation in Team Leader Emergence.**

Dr. Sujin K. Horwitz  
University of St. Thomas

Research has demonstrated that varying degrees and combinations of individual traits, behaviors, and characteristics influence the emergence of leaders in self-managed work teams, an increasingly ubiquitous team practice in organizations. For example, the well-established five-factor personality taxonomy of McCrae and Costa (1999, 2003) has been widely used to identify potential predictors of leader emergence. While existing models have shown that such variables affect leader choice in teams both independently and interactively, much of the explanatory variance still remains substantial. This review argues that the line of research has overlooked and hence omitted a potentially significant factor, the effects of personal reputation on leader selection in self-managed work teams.

### **Personal reputation in Team Leadership**

When a new team is formed in an organization, team members often assess the leadership potential of others based on a combination of attributes that they assume demonstrate evidence of leadership effectiveness (Grant, Gino, & Hofmann, 2011; Judge, Bono, Ilies, & Gerhardt, 2002; Zaccaro *et al.*, 2018). Furthermore, many employees in small organizations are familiar with others from close proximity over time, past work in other joint collaborations, or other formal or informal workplace contacts. In large organizations where proximity may not be close, the existence of “personal networks” can be the nexus from which a query about others can garner information (Bromley, 1993; Hochwarter, Ferris, Zinko, Arnell, & James, 2007). Further, employees may also have access to information on others through a search of social media and other such sources. The implicit assumption that new work teams formed in organizations are comprised of individuals unknown to each other is far less realistic than actuality. To this extent, the absence of personal reputation in team leadership emergence models weakens their explanatory power and generalizability in actual workplace settings. Further, assuming personal reputation does impact leader selection in teams, it is important to discern how reputational effects make their impact: as direct factors of choice influence or as possible mediators or moderators that are used to interpret and contextualize the other traits and behaviors exhibited by other members that have been previously identified to influence leader emergence in these teams.

By reviewing extant literature on leader emergence in team settings, this review proposes that the potential impact of personal reputations on leader selection is significant yet largely ignored in the team literature (Ferris, Treadway, Perrewe, Brouer, Douglas, & Lux, 2007; Zinko, Ferris, Blass, & Laird, 2007; Zinko, Gentry, & Laird, 2016). By incorporating and controlling for personal reputational effects, future understanding of leader emergence in self-managed work teams can gain more explanatory power and account for the variance that current models fail to capture. Additionally, by designing models that explicate the potential effects of personal reputations on leader emergence, team members and managers can be better elucidated and ultimately improve their understanding of the evaluation and selection process of team leaders.

## References

- Bromley, D. B. (1993), *Reputation, Image and Impression Management*. John Wiley & Sons, New York, NY.
- Ferris, G. R., Treadway, D. C., Perrewe, P. L., Brouer, R. L., Douglas, C. and Lux, S. (2007), "Political skill in organizations", Greenberg, J. (Ed.), *Organizational Behavior: The State of the Science*, Lawrence Erlbaum, Mahwah, NJ, pp. 211-246.
- Grant, A.M., Gino, F. and Hofmann, D.A. (2011), "Reversing the extraverted leadership advantage: the role of employee proactivity", *Academy of management journal*, Vol. 54 No. 3, pp.528-550.
- Hochwarter, W. A., Ferris, G. R., Zinko, R., Arnell, B. and James, M. (2007), "Reputation as a moderator of political behavior-work outcomes relationships: a two-study investigation with convergent results", *Journal of Applied Psychology*, Vol. 92 No. 2, pp. 567-576.
- Judge, T. A., Bono, J. E., Ilies, R. and Gerhardt, M. W. (2002), "Personality and leadership: a qualitative and quantitative review", *Journal of Applied psychology*, Vol. 87 No. 4, pp. 765-780.
- McCrae, R. R. and Costa, P. T. (1999), "A five-factor theory of personality", Pervin, L. A. and John, O. P. (Eds.), *Handbook of Personality: Theory and Research*, The Guilford Press, New York, NY, pp. 139–153.
- McCrae, R. R. and Costa, P. T. (2003), *Personality in Adulthood: A Five-factor Theory Perspective* (2nd ed.), The Guilford Press, New York, NY.
- Zinko, R., Ferris, G. R., Blass, F. R. and Laird, M. D. (2007), "Toward a theory of reputation in organizations", Martocchio, J. J. (Ed.), *Research in Personnel and Human Resources Management*, JAI Press, San Diego, CA, pp. 163–201.
- Zinko, R. and Rubin, M. (2015), "Personal reputation and the organization" *Journal of Management & Organization*, Vol. 21 No 2, pp. 217-236.
- Zinko, R., Gentry, W. A. and Laird, M. D. (2016), "A development of the dimensions of personal reputation in organizations", *International Journal of Organizational Analysis*, Vo. 24 No. 4, pp. 634-646.
- Zaccaro, S. J., Green, J. P., Dubrow, S. and Kolze, M., (2018.), "Leader individual differences, situational parameters, and leadership outcomes: a comprehensive review and integration", *The Leadership Quarterly*, Vol. 29 No. 1, pp.2-43.

# **Incorporating Trending Industry Topics in Business Curriculum.**

Dr. Swati Basu

Bauer College of Business, University of Houston

## **Abstract**

Globally there are a few macro trends - Sustainability solutions driven by climate change, energy efficiency and increasing regulatory requirements, Digitalization solutions driven by interconnectivity of products and systems leading to new business models and Energy transition driven by electrification of automobiles, renewable energy and the changing grid, are having an impact how major companies in different industries are evaluating their current business portfolio and engaging in reallocation of capital through acquisition and divestiture and renewed investment in R&D for organizational growth.

The focus of this course is to utilize the case approach in informing the students about a specific company that is going through this transformation, the key strategic and financial decisions the company needs to make and specifically examine the impact of cost of capital and regulatory requirements they need to consider in evaluating the decisions a company needs to make.

The course is delivered in 3 sections. First section is to review and understand the broader macro trends that the company is responding to and the strategic and financial goals the leadership has set for growth and higher return on capital and the regulatory hurdles they need to overcome. Second section is to dig deeper into two specific areas - importance of cost of capital in making financial decisions for divestitures and acquisitions and deeper understanding of market concentration and Herfindahl-Hirschman Index (HHI), a commonly accepted measure used by regulatory agencies in the US and EU. In this section, the students use real market data to evaluate the actions the company is considering. Third and final section is a quick review of how the company has executed on their strategy and a broader class discussion of how fundamental economic and financial theories and market data are utilized by companies in responding to market trends.

## **The Pros and Cons of ChatGPT in Academia.**

Dr. Richard Taylor  
Texas Southern University

ChatGPT is an artificial intelligence language model that has been increasingly used in academia. While ChatGPT can offer several benefits, there are also some drawbacks that need to be considered.

First, one of the main concerns regarding ChatGPT is the potential for plagiarism as ChatGPT can produce text that is similar to existing work, and using the model in automated essay grading may lead to inconsistencies in grading. Also ChatGPT has the potential for bias in its responses. The model is trained on large datasets of text, which can include biases related to race, gender, and other factors. Such biases can be perpetuated in the generated responses, which could negatively impact students and researchers.

However, there are also several advantages to using ChatGPT in academia. One of the main benefits is its ability to assist with language learning. ChatGPT can be used to generate language exercises and quizzes, providing students with immediate feedback on their writing, thus improving their communication and writing skills. Furthermore, ChatGPT can assist researchers in generating text summaries of research articles or help identify new research questions or hypotheses, thus speeding up the research process.

Another advantage of ChatGPT is its ability to personalize learning. It can adjust its responses based on the user's preferences and past interactions, making the learning experience more efficient and effective. Additionally, ChatGPT can enhance accessibility and inclusion by providing support to students with disabilities, those for whom English is a second language, or those in remote locations.

ChatGPT offers a range of benefits and drawbacks for academia. While the potential for bias and plagiarism are concerns that need to be addressed, ChatGPT's ability to personalize learning, enhance accessibility, and provide assistance to students and researchers makes it a promising tool for the future of education. It is important to consider these advantages and disadvantages carefully when incorporating ChatGPT into academic settings.



# **Evolution of Chatbots: Impact on Higher Education.**

Dr. Mahesh Vanjani

JHJ School of Business, Texas Southern University, Houston TX 77004

Mahesh.Vanjani@tsu.edu

## **Abstract**

ChatGPT is all the rage, and we are hearing multiple opinions and views on the potential impact on higher education. ChatGPT is the newest addition to the world of Artificial Intelligence (AI) based chatbots and it is turning heads in the academic community. The advanced chatbot uses Natural Language Processing (NLP) to engage in real-time conversations, making it an invaluable tool for researchers and students. However, chatbots are not new and have been in development for almost six decades. The earliest documented research that was a pre-cursor to the developments of chatbots was the Turing Test. The purpose of the Turing test was to demonstrate that machines are capable of intelligent behavior that is indistinguishable from humans. The earliest well known chatbot is ELIZA, also an NLP (Natural Language Processing) program created at the MIT Artificial Intelligence Laboratory. When the original ELIZA chatbot first appeared in the 60's, some people mistook her for human. At the time, the illusion of intelligence worked best if a conversation with ELIZA or any other chatbot was limited to short and simple topic-specific communication. We have since witnessed a quantum leap in the evolution of Chatbots with the emergence of ChatGPT.

Chatbots, or conversational agents, are computer programs that mimic human conversation by providing a more natural user interface. Chatbots rely on technology to function and to emulate human dialogue to provide a more intuitive user interface to applications. Technologies such as AI (Artificial Intelligence) and NLP (Natural Language Processing) can enhance the ability of chatbots to learn and to better reproduce a more natural and free flowing conversation. Generative AI systems fall under the broad category of machine learning. ChatGPT is a stunning example of a successful generative artificial intelligence (AI) based chatbot. Generative artificial intelligence (AI) describes algorithms (such as ChatGPT) that can be used to create new content, including audio, code, images, text, simulations, and videos. Recent new breakthroughs in the field have the potential to drastically change the way we approach content creation. Ergo the concerns regarding the impact on academic research and publication.

Chatbots have come a long way from the 1960s to current times. Eliza, the first chatbot created in 1966, was created by Joseph Weizenbaum and was designed to be a virtual therapist. It used to simulate a conversation by using a “pattern matching” and substitution methodology that gave users an illusion of understanding on the part of the bot. Development of the Jabberwocky chatbot started in 1981 and it was launched on the internet in 1997. The aim of this chatbot was to

“simulate natural human chat in an interesting, entertaining and humorous manner.” In 1992, Dr. Sbaitso, a chatbot created by Creative Labs for MS-DOS, “conversed” with the user as if it were a psychologist in a digitized voice. A.L.I.C.E (Artificial Linguistic Internet Computer Entity) was developed by Nobel Prize winner Richard Wallace in 1995. Hex, developed by Jason Hutchens, was based on Eliza and won the Loebner Prize in 1996. The Loebner Prize was an annual competition in artificial intelligence that awards prizes to the computer programs considered by the judges to be the most human-like. In 2006 Watson was designed to compete on the TV show “Jeopardy.” In its first pass, it could only get about 15% of answers correct, but later the chatbot was able to beat human contestants on a regular basis. The turning point was the launch of Siri, a chatbot virtual assistant that is part of Apple Inc.'s iOS. As Siri gained popularity Amazon launched Alexa in 2014. Per Amazon (<https://developer.amazon.com/en-GB/alexa>), "Alexa is Amazon's cloud-based voice service available on more than 100 million devices from Amazon and third-party device manufacturers. With Alexa, you can build natural voice experiences that offer customers a more intuitive way to interact with the technology they use every day. We offer a collection of tools, APIs, reference solutions, and documentation to make it easier to build for Alexa." Soon after Alexa's launch, Microsoft introduced their chatbot virtual assistant Cortana. The Microsoft virtual assistant can set reminders, recognize a natural voice, and answer questions using information from the Bing search engine. In 2017 the Woebot automated conversational agent was released. The goal of this chatbot was to help a user monitor their mood, learn about themselves and make themselves feel better. Woebot uses a combination of NLP techniques, psychological expertise, excellent writing, and a sense of humor to serve as a virtual chatbot that can help treat depression. Insomnobot 3000 was released in 2019. This conversational agent was created to give insomniacs someone to talk to when they could not fall asleep. Then came the Covid-19 pandemic and everything changed. The world was forced to move to remote operations creating a fertile environment for more focused development of functional chatbots that could provide information and customer service.

Chatbots can be used effectively for various functions. Apple and Amazon have created successful virtual assistants. Chatbots can be used to provide customer service, to practice a foreign language, or, for entertainment and education. For a while now Universities have struggled to find effective ways to engage and communicate with students. One of the options being explored and deployed was the use of chatbots. As a result of the Covid-19 pandemic and the consequent shift to a virtual environment there has been a tremendous increase in the use of chatbots by Universities as a means of communication, Some Universities are more advanced than others having invested in chatbots long before the current pandemic started. Some examples include Arizona State University's chatbot named Sunny, Georgia State University's chatbot named Pounce, Loyola University Maryland's chatbot named Iggy, and, Texas Southern University's chatbot named Tex. Universities are using chatbots in various ways from rudimentary communication to boosting recruiting yield and retention. Once developed and deployed chatbots can be continually honed and improved using AI such that they are able to pass the Turing Test of emulating human conversation. Future academic uses can potentially include

multilingual support and advising.

In 2019, Microsoft invested \$1 billion in OpenAI, the tiny San Francisco company that designed ChatGPT. ChatGPT was launched in November 2022 and has drastically upped the ante of what chatbots can do. This chatbot is a game changer. ChatGPT is described as “an AI-powered chatbot developed by OpenAI, based on the GPT (Generative Pretrained Transformer) language model. It uses deep learning techniques to generate human-like responses to text inputs in a conversational manner.” We have all heard reports of ChatGPT concerns in academia. There is the potential for cheating including writing term papers that will pass plagiarism tests. ChatGPT passed exams from law and business schools causing some academic institutions to ban ChatGPT. Others are embracing it as a teaching tool. The media coverage and instant celebrity status of ChatGPT has prompted major technology companies to ramp up their efforts to develop comparable chatbots. However, some have fumbled. Google has developed a chatbot named BARD to compete with ChatGPT. Unfortunately, the new chatbot shared inaccurate information in a promotional video and a related company event and did not impress the public. This also fed concerns that the Google parent company Alphabet Inc. is losing ground to rival Microsoft Corp. As a result of the marketing fiasco Alphabet Inc. lost \$100 billion in market value on that day (Wednesday, February 8<sup>th</sup>, 2023).

ChatGPT has been an instant hit among the student community. It provides a new way to cheat by plagiarizing AI-written work. However, academic fraud aside there can be benefits to using an AI based chatbot. If used correctly it can serve as a learning companion and a teaching assistant. For example, it can be used to fine tune and improve a syllabus, a lecture, an assignment or be used as grading rubric. In summary, Chatbots are here to stay and are only growing more sophisticated and “intelligent”. The question then is are we the faculty going to treat this technological development as an existential challenge or are we going to embrace it as an educational tool and ally?

Keywords: chatbots, ChatGPT, higher education

# **Incorporating Resilience into Supply Chain Management.**

Dr. Gordon D. Smith

Department of Decision & Information Sciences

C. T. Bauer College, University of Houston

Houston, TX 77204-6021

[GSmith@Bauer.UH.edu](mailto:GSmith@Bauer.UH.edu)

## **Abstract**

Supply chains, or supply networks as we refer to them today, depend on the smooth flow materials to support the various process and achieving customer fulfillment goals. However, as we all continue to experience since March of 2020, things are not going smoothly. Current thinking is that business must be reshaped to be more resilient. How do you prepare, teach supply chain management students about resilience? Given the current business environment, I have developed an approach which incorporates current events, thought leadership, and critical thinking regarding resilience that allows students to be better prepared for the future – and have some fun. I will share my materials, and experiences, approaches, etc. from the past three years.

# **Tell Me Who's Watching? The Connection Between Student Trait, State, and Exam Anxiety and Proctoring Methodology.**

Dr. Jim McClesky  
Houston Community College System

Dr. Robert Adair  
Western Governors University

## **Abstract**

For more than two decades, institutions of Higher Education (HE) have been using online assessment to reduce academic dishonesty and the misuse of resources in closed-book tests. In recent years, various technologies have been developed to match the rigor of in-person physical assessment. One of these is online proctoring services, which has become a popular collaboration between HE and the proctoring service providers. The need for online proctoring accelerated during the outbreak of COVID-19, but a relative paucity of research exists on the effects of online proctoring on student anxiety and performance. This paper proposes a set of research questions designed to illuminate this relationship.

**Keywords:** test anxiety, test anxiety, state anxiety, trait anxiety, test anxiety, remote teaching, online education, online proctoring, higher education, assessment techniques, assessment, evaluation.

## **Tell Me Who's Watching? The Connection Between State, Trait, and Exam Anxiety and the Use of Online Proctoring**

The COVID-19 pandemic revealed the strengths and weaknesses of a Higher Education (HE) system already confronting digitalization (Valverde-Berrocso, 2020). This situation has further accelerated the growth of technology-enabled assessment strategies, the primary tool of which is online proctoring. There are also worries about academic integrity, an upsurge in student anxiety, and the necessity of progressive policies on technology-enabled assessment (Alessio & Messinger, 2021). This article is intended to summarize the use of technology-enabled online assessment (online proctoring), review the literature on test anxiety, and provide four research questions for further investigation.

## **Online Assessment Techniques**

According to Hussein et al. (2020), online proctoring is a process that utilizes web-based platforms to supervise student activities during tests. This approach has four primary categories: authentication, browsing tolerance, remote authorization and control, and report generation. The technologies utilized for this assessment form are live proctoring, recorded proctoring, and automated proctoring (Hussein et al., 2020).

Utilizing remote service providers and incorporating webcam technology, live proctoring is an assessment approach that verifies the test-taker's identity, monitors their behavior, and upholds the security of the test content (Lagenfeld, 2020; Hussein et al., 2020). This method necessitates a more extensive knowledge of technology from the student than other available options (Mitra & Gofman, 2016).

Passive video surveillance, also referred to as recorded proctoring, entails capturing video or pictures of the test-taker and having a human proctor review them later to affirm assessment integrity (Hussein et al., 2020). AI technology may also be employed to identify potentially suspicious behavior on the recording (Woldeab & Brothen, 2021). The benefit of this approach over live proctoring is that students can take their exams at any time without having to arrange with a live proctor (Hussein et al., 2020). However, it still necessitates manual viewing of the recordings, which can be a constraint in terms of scalability and cost for the higher education institution.

Automated proctoring removes the requirement for a human to oversee the entirety of the test or be physically there to survey the student as it happens (Hussein et al., 2020). The proctoring system recognizes any potential cheating or dishonesty and notifies the proctor. The proctor then examines the evidence and decides whether the student has been academically dishonest (Jose, 2016). An issue that can arise with this approach is the possibility of false positives (Sietses, 2016).

### **Test Anxiety Among Students**

Tension and apprehension are feelings commonly experienced by students when taking exams. This phenomenon, known as test anxiety, can hurt academic performance. It can manifest in physical symptoms such as sweating, shaking, and difficulty concentrating. It can also affect a student's mental state, resulting in feelings of helplessness and a lack of confidence. If left unchecked, test anxiety can adversely affect a student's academic performance.

Anxiety is a fundamental emotion rooted in fear and uncertainty caused by a perceived threat (Phanphech et al., 2022). It is commonly associated with feelings of tension, worry, and increases in blood pressure, and can be either short-term or long-term (McCleskey & Gruda, 2021). Previous research has indicated that this emotion is connected to student difficulties in academics and poorer performance (Ajmal & Ahmad, 2019). Additionally, online learning has been found to lead to higher anxiety levels (Fawaz & Samaha, 2021). Test anxiety, a specific type of anxiety, is defined as a "disposition to worry and having intrusive thoughts."

Alibak et al. (2019, p. 2) discovered that 10% - 35% of college students experience mental confusion, tension, and physical reactions in exam settings. Szafranski et al. (2012) discovered that female students were more impacted by test anxiety than male students. Test anxiety is composed of emotional, physiological, and cognitive aspects such as perspiration, rapid heartbeat, embarrassment, and fear of failure (Alibak et al., 2019).

## **Test Anxiety Extant Literature**

A review of the existing literature regarding test anxiety has been conducted. This literature review considers a widely-accepted definition of test anxiety and identifies its various types, causes, and symptoms. According to Saviola et al. (2020), anxiety is "a mental state characterized by an intense sense of tension, worry or apprehension, relative to something negative that might happen in the future."

Test anxiety is a term used to describe the experience of feeling anxious or overwhelmed before or during a test, which can impair performance (Swaka-Miller, 2011). This project will consider how online proctors impact test anxiety. Now that remote learning has become increasingly common due to the pandemic, research has been conducted to understand the positive effects it can have on student success in online Higher Education.

## **Experiencing Stress When Taking Tests**

Test-taking can be a nerve-wracking experience for some people. This is known as test anxiety and can cause a person to feel overwhelmed and anxious. These feelings can impair a person's performance on an assessment, leading to lower grades or a feeling of failure. Reducing test anxiety can help a person be better prepared and less nervous when taking a test.

Alibak et al. (2019) distinguished three types of test anxiety: psychological, physiological, and online. Psychological anxiety is characterized by a disposition to worry, interference of thoughts, and mental confusion. Physiological anxiety manifests as tension and other physical reactions during an exam. Lastly, online anxiety is the fear of technology and online proctors. This research provides a thorough understanding of what students go through during high-stakes tests, allowing for further research on the individual components of test anxiety.

In the work of Alibak et al. (2020), a testing anxiety model was established that pinpoints three distinct psychological, physiological, and online factors. Consequently, the Online Test Anxiety Inventory (OTAI) was created and enabled research into the test anxiety of online students in a way that was not previously attainable.

## **Trait and State Anxiety**

There is a difference between Trait Anxiety and State Anxiety. Trait anxiety is a personality trait that a person may have, whereas state anxiety is a temporary response to a particular situation. According to Spielberger (1983), trait and state anxiety can be distinguished. Trait anxiety refers to individuals' general propensity to be anxious, while state anxiety is related to temporary emotional conditions. Saviola et al. (2020) proposed that anxiety consists of two classes, state, and trait. In this study, 42 participants underwent an MRI scan and demonstrated structural-functional differences between the two forms of anxiety. These results suggest that there is a neural foundation for anxiety, and state anxiety influences different brain regions than trait anxiety. Although the sample size is small, the differences between the two types of anxiety are remarkable.

### ***Trait Anxiety***

A person's state of uneasiness due to the fear of being judged negatively is referred to as Trait Anxiety. Students who become anxious during tests are defined by Zeidner and Matthews (2003) as having a low threshold for anxiety when in evaluative situations, perceiving the test environment as a personal threat. According to Spielberger and Vagg (1995), they respond to such settings with worry, mental disorganization, tension, and physiological arousal. Spielberger (1980) proposed that this is a situation-specific personality trait. Furthermore, 'test anxiety' may also refer to the evaluative stimuli and contexts that cause stress and the fluctuating anxiety levels experienced during the test.

Sarason et al. (1995) have established that test anxiety co-occurs with non-beneficial thinking, such as the experience of danger, a lessened sense of self-efficacy, attributions of pre-failure, and self-criticism as a method of coping. In general, characteristic test anxiety coupled with assessments can activate episodes of anxiety.

### ***State Anxiety***

A feeling of apprehension and tension can be known as State Anxiety. Test anxiety can cause a variety of emotions in students, including anxiety, fear, and mood problems. These can lead to a perception that the student is not engaged or is a poor learner. However, many students with test anxiety have difficulty displaying it (Brown et al, 2011).

In 1967, Liebert and Morris proposed two fundamental aspects of test anxiety: one was affected by worrying about the potential negative outcomes, and the other by the natural physiological responses to exam situations. Subsequently, Unruh and Lowe (2010) divided the concept into four distinct areas: worry, physical reactions, lack of attention, and feelings of embarrassment.

Huberty (2009) found that 15-20% of school-age children and youth struggle with test anxiety. These numbers carry over to college, where a significant portion of students encounter the same apprehensive feelings when dealing with tests. This is an important topic to consider in this study, as many of these students may be aware of their test anxiety but lack the knowledge of how to manage it.

Brown et al. (2011) proposed that around 20-35% of college students experience some form of anxiety during high-stakes tests to the point of being rendered functionally impaired. Even though the investigation did not define impairment, other research confirms that test anxiety has an adverse effect on academic performance. Zeidner (1998) reported that 35% of college and university students suffer from test anxiety, which is detrimental to their grades, advancement, and future educational options. Schweded et al. (2020) added that almost half of college and university students have at least one symptom of test anxiety, which impairs their ability to demonstrate aptitude and educational progress. Thus, test anxiety can hinder those affected by it and can be an obstacle for many to completing their degree (Lowe, 2019).



## **Online Proctors**

The use of online proctors has become increasingly commonplace as technology evolves. With digital supervisors, students can take exams remotely with the same accuracy and reliability as in a physical classroom. These proctors can monitor the student's activities and ensure they are following the exam rules. They also ensure that the student is not cheating by using unauthorized materials or communicating with others during the test. This system of digital supervision is becoming the preferred method for many institutions that want to ensure the integrity of their exams.

Andreou et al. (202) conducted a study wherein they administered a proficiency test to 1472 candidates using proctoring software, and 120 participants tested in person. The study's findings indicated that online proctoring is an acceptable approach for high-stakes exams in higher education.

Though it is generally accepted that it is easier to be academically dishonest in virtual tests, students and educators concur that proctoring on the internet has diminished cheating cases and allurements. However, worries about student confidentiality were a factor in this investigation (Alessio & Messinger, 2021). Even though some dishonesty has happened in digital settings, not all monitored sessions have identified cheating. While most opt not to cheat on supervised tests, this is likely due to the placebo effect of believing that being watched equals testing safety.

Conjin et al. (2022) conducted a study that concluded that proctoring has little to no effect on a student's inclination to cheat; however, one negative outcome of online proctoring was an increase in test anxiety among students. Adanir et al., 2020 revealed that some students preferred taking tests online and enjoyed it more than if it had been done in a physical classroom.

It was found that students with low self-efficacy were particularly affected by test anxiety while taking online tests (Arora et al., 2020). The sudden shift to online learning due to COVID-19 led to a need for more preparedness for both schools and students (De Santis et al., 2020). Research of 541 students at Italian universities showed a general agreement with online learning and proctoring. Most participants were between 20 and 24, so age may be a contributing factor to the results.

Four research questions are being proposed to further the investigation of test anxiety in digital proctoring systems.

**RQ1: What worries regarding safety and confidentiality come up when taking online proctored tests?**

**RQ2: What ethical implications are posed by online proctoring?**

**RQ3: What impact does the application of virtual proctoring have on students' levels of testing anxiety? How does this compare to other forms of assessment?**

**RQ4: What are the potential risks and rewards associated with universities implementing online proctoring?**

## Conclusion

The development of technology has led to many changes in the way students experience higher education. These changes also impact the world of work and telecommunication. Overall, technology profoundly impacts the lives of students, educators, and professionals. This paper presented a description of technology assisted online assessment utilizing proctoring. It included a brief discussion of the extant literature on test anxiety and proposed a set of research questions for additional study.

## References

- Adanir, G. A., Ismailova, R., Omuraliev, A., and Muhametjanova, G. (2020). Learners' perceptions of online exams: A comparative study in Turkey and Kyrgyzstan. *International Review of Research in Open and Distributed Learning*, 21(3) 1-17.  
<https://doi.org/10.19173/irrodl.v21i3.4679>
- Ajmal, M., & Ahmad, S. (2019). Exploration of anxiety factors among students of distance learning: A case study of Allama Iqbal Open University. *Bulletin of Education and Research*, 41(2), 67-78. <https://search.proquest.com/docview/2333519800>
- Alessio, H. M., & Messinger, J. D. (2021). Faculty and student perceptions of academic integrity in technology-assisted learning and testing. *Frontiers in Education (Lausanne)*, 6.  
<https://10.3389/feduc.2021.629220>
- Alibak, M., Talebi, H., & Neshat-Doost, H. T. (2019). Development and Validation of a Test Anxiety Inventory for Online Learning Students. *Journal of Educators Online*, 16(2), n2.
- Andreou, V., Peters, S., Eggermont, J. et al. (2021). Remote versus on-site proctored exam: comparing student results in a cross-sectional study. *BMC Med Educ* 21, 624.  
<https://doi.org/10.1186/s12909-021-03068-x>
- Arora, S., Chaudhary, P., Singh, R. K., (2021). Impact of coronavirus and online exam anxiety on self-efficacy: the moderating role of coping strategy, *Interactive Technology and Smart Education*, (1)1, 475-492. DOI: 10.1108/ITSE-08-2020-0158
- Beck, V. (2014). Testing a model to predict online cheating—much ado about nothing. *Act. Learn. High. Educ.* 15, 65–75. doi: 10.1177/1469787413514646
- Brown, L., Forman, E. M., Herbert, J. D., Hoffman, K. L., Yuen, E. K., Goetter, E. M. (2011). A Randomized Controlled Trial of Acceptance-Based Behavior Therapy and Cognitive Therapy for Test Anxiety: A Pilot Study. *Behavioral Modification* 35(1): 31-35.  
<https://doi.org/10.1177/0145445510390930>
- Conjin, R., Kleingeld, A., Matzat, U., and Snijders, C. (2022). The fear of big brother: The potential negative side-effects of proctored exams. *Journal of Computer Assisted Learning*, 38: 1521-1434. DOI: 10.1111/jcal.12651
- De Santis, A., Bellini, C., Sannicandro, K., Minerva, T., (2020). Students' perception on E-Proctoring system for online assessment, *European Distance and E-Learning Network (EDEN) Proceedings*, 161-168

- Fawaz, M., & Samaha, A. (2021). E-learning: Depression, anxiety, and stress symptomatology among Lebanese university students during COVID-19 quarantine. *Nursing Forum (Hillsdale)*, 56(1), 52-57. <https://doi.org/10.1111/nuf.12521>
- Huberty, T. J. (2009). Test and performance anxiety. *Principal Leadership*, September 2009 (12-16)
- Hussein, M. J., Yusuf, J., Deb, A. S., Fong, L., & Naidu, S. (2020). An evaluation of online proctoring tools. *Open Praxis*, 12(4), 509-525. <https://dx.doi.org/10.5944/openpraxis.12.4.1113>
- Jose, S. (2016, December 15). *Online proctoring is trending: Here is all you must know*. Talview. Retrieved from <https://blog.talview.com/a-complete-guide-to-online-remote-proctoring>
- Langenfeld, T. (2020). Internet-Based proctored assessment: Security and fairness issues. *Educational Measurement, Issues and Practice*, 39(3), 24-27. <https://doi.org/10.1111/emip.12359>
- Liebert, R. M. & Morris, L. W. (1967). Cognitive and emotional components of test anxiety: A distinction and some initial data, *Psychological Reports*, 20(3): 975. <https://doi.org/10.2466/pr0.1967.20.3.975>
- Lowe, P. A. (2019). Examination of Test Anxiety in Samples of Australian and U.S. Higher Education Students. *Higher Education Studies* 9(4): 33-43. <https://doi.org/10.5539/hes.v9n4p33>
- McCleskey, J., & Gruda, D. (2021). Risk-taking, resilience, and state anxiety during the COVID-19 pandemic: A coming of (old) age story. *Personality and Individual Differences*, 170, <https://10.1016/j.paid.2020.110485>
- Mitra, S., & Gofman, M.I. (2016). Towards Greater Integrity in Online Exams Submission Type. *Emergent Research Forum Papers*.
- Nigam, A., Pasricha, R., Singh, T., & Churi, P. (2021). A systematic review on AI-based proctoring systems: Past, present and future. *Education and Information Technologies*, 26(5), 6421-6445. <https://doi.org/10.1007/s10639-021-10597-x>
- Phanphech, P.; Tanitteerapan, T.; Mungkung, N.; Arunrungrusmi, S.; Chunkul, C.; Songruk, A.; Yuji, T.; Kinoshita, H. An Analysis of Student Anxiety Affecting on Online Learning on Conceptual Applications in Physics: Synchronous vs. Asynchronous Learning. *Educ. Sci.* 2022, 12, 278. <https://doi.org/10.3390/educsci12040278>
- Saviola, F., Pappaianni, E., Monti, A., Grecucci, A., Jovicich, J., De Pisapia, N., (2020). Trait and state anxiety are mapped differently in the human brain, *Scientific Reports*, 10(11112), 1-11
- Sawka-Miller, K.D. (2011) Test Anxiety. In: Goldstein S., Naglieri J.A. (eds) *Encyclopedia of Child Behavior and Development*. Springer, Boston, MA

- Sietses, L. (2016). *White Paper Online Proctoring. Questions and answers about remote proctoring*. SURFnet. Retrieved from [https://www.surf.nl/files/2019-04/whitepaper-online-proctoring\\_en.pdf](https://www.surf.nl/files/2019-04/whitepaper-online-proctoring_en.pdf)
- Schweden, T. L. K., Konrad, A. C., Wekenborg, M. K., & Hoyer, J. (2020). Evaluation of a brief cognitive behavioral group intervention to reduce depersonalization in students with high levels of trait test anxiety: a randomized controlled trial, *Anxiety, Stress, & Coping*, 33(3): 266-280. <https://doi.org/10.1080/10615806.2020.1736936>
- Spielberger, C.D. (1983). "State-trait anxiety inventory for adults", doi:10.1037/t06496-000.
- Spielberger, C.D. and Vagg, P.R. (1984), "Psychometric properties of the STAI: a reply to Ramanaiah, Franzen, and Schill", *Journal of Personality Assessment*, Vo. 48 No. 1, pp. 95-97.
- Spielberger, C.D., Vagg, P.R., Barker, L.R., Donham, G.W. and Westberry, L.G. (1980), "The factorstructure of the state-trait anxiety inventory", in Sarason, I.G. and Spielberger, C.D. (Eds), *Stress and Anxiety*, Vol. 7, Hemisphere, Washington, DC. Szafranski, D. D., Barrera, L. T., & Norton, J. P. (2012). Test anxiety inventory: 30 years later. *Anxiety, Stress & Coping: An International Journal*, 25(6), 667–677. doi:10.1080/10615806.2012.663490
- Svafranski, D. D., Barrere, T. L., and Norton, P. J. (2012). Test Anxiety Inventory: 30 Years Later. *Anxiety, Stress & Coping* 25(6), 667-677. <https://doi.org/10.1080/10615806.2012.663490>
- Unruh, S. M. & Lowe, P. A. (2010). The development and validation of a Spanish language version of the test anxiety inventory for children and adolescents. *Hispanic Journal of Behavioral Sciences*, 32(1). <https://doi.org/10.1177/0739986309355129>
- Valverde-Berrocoso, J., Garrido-Arroyo, M. d. C., Burgos-Videla, C., & Morales-Cevallos, M. B. (2020). Trends in educational research about e-learning: A systematic literature review (2009–2018). *Sustainability*, 12(12), 5153. doi:10.3390/su12125153
- Woldeab, D. & Brothen, T. (2021). Video surveillance of online exam proctoring: Exam anxiety and student performance. *International Journal of E-Learning & Distance Education*, 36(1), 1-26.
- Zeidner, M. (1998), *Test Anxiety: The State of the Art*, Plenum, New York, NY.
- Zeidner, M. & Matthews, G. (2003). Test anxiety. (Ed.), Fernández-Ballesteros, R. *Encyclopedia of Psychological Assessment* (p. 965-969). SAGE Publications Ltd. London: UK. doi: <http://dx.doi.org/10.4135/978085702575>

# How can I get an A? Changing Students' Focus from Grades to Learning.

Michael J. Murray, PhD, PE.

C.T. Bauer College of Business, University of Houston

## Abstract

Traditional grading approaches have been described as “distributing a pile of points”. It should not come as a surprise, then, that students are incentivized to score as many points as possible by any means available. This inevitably leads to participation credits, curving exam results and extra credit assignments so that students can “earn” enough points to achieve a desired grade. However, there is a growing recognition among higher education faculty that this approach blurs the distinction between learning the course material and just getting enough points to pass. Using a standards-based grading approach, which awards credit when students have demonstrated mastery of specific learning objectives, addresses many of these issues.

This study will describe how a standards-based grading approach was implemented in a graduate-level business analytics course. The standards-based approach came about as a natural step in the evolution of a course that had been revised from a standard lecture format to a flipped pedagogy. While the flipped approach improved some student learning outcomes, the traditional grading rubric that was still used resulted in an overall average grade among all the learning objectives. This did not give students a clear indication of their proficiency in achieving the specific learning objectives and provided minimal opportunity for constructive feedback. Implementing the standards-based approach gives students multiple opportunities to demonstrate that they understand specific, measurable learning objectives, and provides them with valuable feedback on where their understanding is weak. In addition, by providing opportunities to correct mistakes without penalty and to demonstrate improved understanding of the objectives the course is now more firmly focused on learning instead of grades.

# Sea Turtle Conservation at Tortuguero: A Case on How to turn an Ecological Challenge into a Collaborative Opportunity for Research, Education Outreach, and Business Development.

Roldán Valverde  
Southeastern Louisiana University  
[roldan.valverde@southeastern.edu](mailto:roldan.valverde@southeastern.edu)

Minh Huynh\* (Corresponding author)  
Southeastern Louisiana University  
[minh.huynh@selu.edu](mailto:minh.huynh@selu.edu)

Jose Noguera  
Southeastern Louisiana University  
[jose.noguera@selu.edu](mailto:jose.noguera@selu.edu)

**Keywords:** *Sea turtle conservation, Tour de Turtles, ecological challenge, ecotourism*

## **Abstract**

*This paper provides an overview of sea turtle research and conservation at Tortuguero. The conservation work began in 1950 and is still active. How did it get started and how did it turn an ecological challenge into a global collaborative initiative? This case is not just about sea turtle conservation, but more importantly it is about approaching a complex problem from multiple perspectives and finding innovative ways to mitigate the problem. Though the focus is on sea turtles, the process, approach, and experience learned from this case can be adapted for guidance in other contexts, where complex challenges arise and concerted actions are needed.*

## **Introduction**

Sea turtles used to be abundant! It was common to see many of them appear on beaches along Central America and the Greater Caribbean. At appropriate seasons, these turtles would come ashore for nesting and hatching. Then, after the eggs hatched, these baby sea turtles would crawl back to sea and embark on journeys to seek the foraging grounds. Some might travel across thousands of miles on their journeys. Yet, interestingly, at the proper time, they would follow different paths and make their way back to the original places to repeat the cycle. Such a natural process of sea turtles has taken place for many years. However, something has happened to disrupt this very cycle and threaten the survival of these amazing animals.

The sea turtle populations worldwide have declined significantly to an alarming level (Lyer, 2022). For instance, Costa Rica used to see an abundance of sea turtles coming to its coast. It is a favorite place where female sea turtles would come and lay eggs. Specifically within Costa Rica is the area called Tortuguero where females of 4 species of marine turtle: the green, the leatherback,

the hawksbill and, very occasionally, the loggerhead would come for laying eggs, nesting, and hatching for many years (Gutiérrez-Lince et al., 2021). Yet, now all four species are classified by the International Union for Conservation of Nature (IUCN) as either endangered or critically endangered (Seminoff, 2004; Wallace et al., 2013; Mortimer & Donnelly, 2008; Casale & Tucker, 2017).

The focus of this paper is to provide a brief introduction of the Sea Turtle Conservancy (STC) 's conservation efforts in Tortuguero, Costa Rica over the last six decades. The primary goal is to highlight a case in which an ecological challenge was turned into an opportunity for interdisciplinary research, education outreach, and business development. The paper is organized as follows. The first part provides a context of the case. Then, it briefly describes the threats that led to the work in conservation. The next part presents how the research, tracking, and monitoring were done in the conservation of sea turtles from the scientific and technological perspective. It is then followed with the highlight of Tour-de-Turtles that has brought together scientists, researchers, volunteers, officials, leaders from government, education, business to form a local and international community to save sea turtles. The final part is a reflection on the collaborative efforts by all stakeholders and the role of IT in supporting the efforts.

### **Background of Tortuguero**

Tortuguero is a small village on the north-east Caribbean coast of Costa Rica. Tortuguero National Park is located to the south of the village of Tortuguero. Every year, between 17,400 and 37,290 females come to lay their eggs in Tortuguero, and their presence has provided a source of income for Tortuguero villagers for hundreds of years (Tortuguero National Park, n.d.). Income generation began with the extractive use of their meat and eggs. As sea turtles become endangered, the extractive use is prohibited. Following the creation of the Tortuguero National Park (TNP), turtles are central to ecotourism activities, which is now the essential base of the local economy (Gutiérrez-Lince et al., 2021).

### **Threats to sea turtles**

While there are many different factors contributing to the decline in the population of the green, the leatherback, the hawksbill and the loggerhead in Central America and the Greater Caribbean. Among these factors include climate change, global warming, increase in fishing, hunting of sea turtles. Directly related to human activities is the fishing and hunting of sea turtles. For many years, people caught and poached sea turtles for meat, shell, and raw materials for making products (Troeng and Rankin, 2005).

The threats from fishing, hunting, and poaching are directly related to the marketplace. In recent years, efforts have been made to reduce the demand of sea turtles in the marketplace. Education about the decline of sea turtle population and the risk of sea turtle extinctions make people more aware of protecting these animals. Improvements in the economic life of local communities as well as government policies also help curbing the decline in sea turtle sea population.

However, the threats from environmental factors are harder to measure and mitigate. It requires more research and understanding to protect the livelihood of sea turtles and sustain and grow its population.

There have been many initiatives aiming at protecting and recovering the sea turtle population around the world. Over the years, sea turtle conservation has gradually become one of very active global initiatives with the contributions from many different people in various regions. Specifically in Costa Rica, conservation relies on research on different aspects of the sea turtle biology, life patterns, and movements being undertaken by governmental programs, universities, environmental organizations, as well as institutions such as STC (Gutiérrez-Lince et al., 2021).

## Sea Turtle Conservation in Costa Rica

### **Efforts by the government:**

Specifically at Tortuguero national park, the work in sea turtle conservation began over six decades ago. It was apparent to Dr Carr, even back in the 1950s, that something had to be done to help the green turtles if they were to continue to survive in the Caribbean (Troeng and Rankin, 2005). What he did was share his early research results with influential government officials, in an effort to increase their protection. The government took notice and implemented a series of measures to limit the over-harvest of turtles. Among them were a series of decrees to ban sea turtle hunting and exporting.

Unfortunately, as in many countries, Costa Rica's Ministry of Environment and Energy is underfunded and understaffed. One of the STC's major priorities at the moment is lobbying for a change in legislation that would allow funds raised from tourist entrance fees to be used for management within the National Park instead of being sent to the central Government.

### **Conservation through research and field work: tagging, telemetry, data collection and analysis**

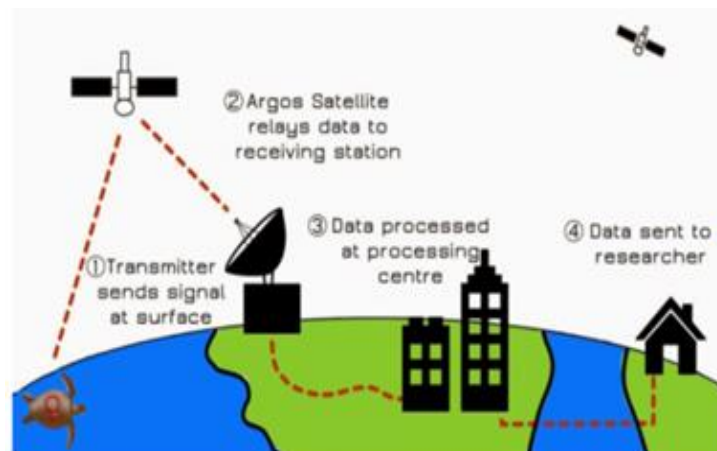
To be able to lobby the government effectively, STC needs to provide sound advice and proposes viable policy recommendations. To be able to do so, STC in turn relies on research to better understand how sea turtles live, migrate, and nest. Carrying out such a research requires mechanisms to track, monitor, and follow sea turtles. For many years, the core area of research has been on how to identify individual turtles and find out where they go when they leave the nesting beach.

The invention of flipper tagging was an important breakthrough that helped shed light into the seemingly mysterious movements of sea turtles (NOOA Fisheries, n.d.). Each tag carries a unique number on one side. Its main purpose is for identifying a unique sea turtle. On the other side is the contact information with a conservation organization or a research center. With these tags, anyone who encounters a tagged sea turtle would be asked to return the tag to the address provided along



with information on where the turtle was found. This was how to trace and track sea turtle movements in the early days. To date, the technology has advanced so much that researchers can gain much more accurate and timely data when tracing and tracking movements of sea turtles. One of the most commonly used technologies for tracking sea turtles is satellite telemetry (NOAA Fisheries, n.d.).

Figure 1 Illustration of how satellite telemetry works



Graphic adapted from OceansIQ.com

Figure 1 shows how satellite telemetry works (Tracking marine animals, 2014). The system basically consists of four components: a transmitter mounted on a sea turtle, a satellite to receive and transmit data, a receiving station, and a data processing center. When a turtle surfaces to breathe, its transmitter would emit data to the closest satellite. The satellite would relay the data to a receiving station and from there, the data are transmitted to the processing center.

There are several important technological evolutions related to tracking sea turtles (Hays & Hawkes, 2018). One of the earlier systems was the Argos tracking network introduced in 1978. The Argos satellite tags could relay up to 256 bits of data per 15 second uplink. In 2014, Fasloc-GPS was introduced with faster speed and more data transmission. With GSP, the location data was much more accurate. The advanced data compression was applied for uploading and downloading. As a result, remote biologging approaches to record aspects of an animal's behavior and movement, alongside the biophysical conditions could be collected. 3-D movement data became feasible with the use of accelerometry to reconstruct the likely movement of an animal. At the same time, tag technology continues to benefit from the advent of innovative information technology and more advanced materials. More robust tags are produced and deployed using long lasting battery duration. Nowadays, tags can operate much more efficiently. They can be deployed for a longer time and are subject to less interference with movements. Development of robust metrics, large databases, and open data for access have also contributed to deeper and broader understanding of sea turtle movement (Hays & Hawkes, 2018).

### Work with green turtles

In recent years STC has started to utilize more modern technologies to increase its knowledge of marine turtle behavior. To discover in more detail the routes that turtles are taking once they leave Tortuguero, researchers at STC have attached satellite transmitters to turtles. Figure 2 is the case in point.

Figure 2. A green turtle with a transmitter and the track of 10 green turtles under research

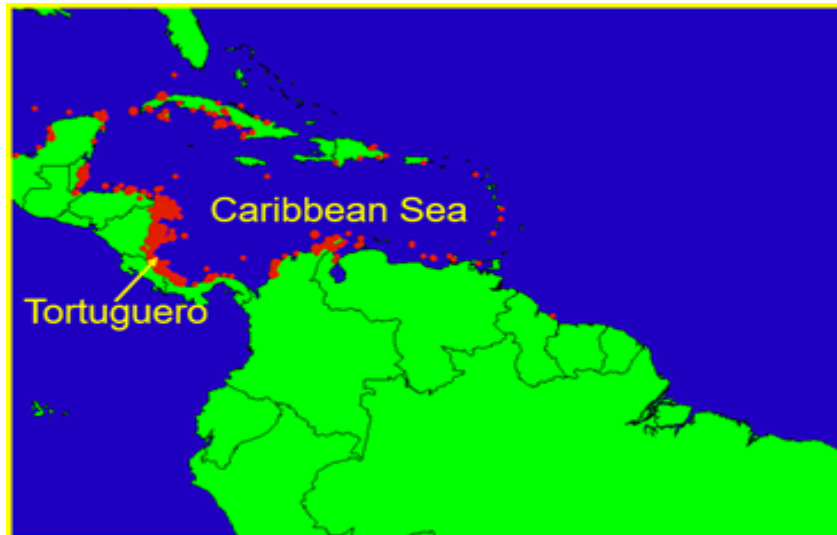


The photo on the left of Figure 2 shows one of the green turtles returning to the sea with her transmitter in place. It is attached to the carapace using a type of epoxy resin, and then held in place with layers of fiberglass. Each time the turtle surfaced to breathe a signal was sent to the satellite and her location was recorded. These location data were then used to plot a precise map of her movements as shown on the map at the right of Figure 2. In this example, ten green turtles had been followed by satellite telemetry after nesting at Tortuguero. Their tracks were shown on the map. Based on the data collected and analyzed, researchers at STC were able to follow and track all ten turtles as shown: one swam to Belize, one to Honduras and eight took up residence in Nicaragua waters before their signals were lost.

### Tracking movements of sea turtles

Over 47,000 green turtles and over 600 leatherback turtles have been tagged at Tortuguero, and 4,469 green turtle tags (or around 9.5%) have been recovered. These tag returns have enabled researchers to determine where the turtles go when they finish nesting for the season. With these available data, a visualization of their movements could be constructed. Figure 3 provides an illustration of the locations from where tags from green turtles have been returned.

Figure 3 A simple tracking map of green turtles



There are some interesting observations to note about Figure 3.

- \_ Firstly, green turtles that nest in Tortuguero were migrating hundreds if not thousands of miles from the nesting beach to return to their feeding grounds. The distribution of the red dots shows that tags had been returned from many different countries around the Caribbean; 19 in total, including Nicaragua, Mexico, Cuba, Colombia, the eastern coast of Florida. The furthest point from which a green turtle tag had been returned was from a turtle tagged in Tortuguero in 1999 and her tags were recovered in 2001 in Brazil, a distance of around 5,200km!
- \_ Secondly, the majority of the tag returns were coming from Nicaragua waters - 82% (3,638) of the recovered tags had come from feeding grounds off the Nicaraguan coast.
- \_ Thirdly, an important implication was that turtles were migrating across international boundaries during the course of their lifetime. This highlights the need for international cooperation in conservation efforts.

### **Ecotourism - Tour de Turtles (TdT)**

With the advent of tourism in Tortuguero there has been a shift in the way that turtles have generated income for the local community. Previously sea turtles were used in a purely extractive manner. Primarily, they were hunted and poached for their meat or shell. Nowadays, the key income generation comes from tourism. The use of sea turtles is predominantly non-extractive with a focus on conservation and sustainability.

STC came up with an innovative and entrepreneurial way to use the science and technology of satellite tracking sea turtles as an educational tool as well as a platform to raise funds. The previous program provided free tracking maps online and free educational resources, but was passive. The development of Tour de Turtles started in 2008 was a significant step up in expanding the sea turtle conservation effort beyond scientific research. It represented an initiative to reach out

to broader communities and to bring in the needed funds as well. One of the targeted communities is educational institutions from K-12 to higher-ed. Various kinds of tours with a focus on sea turtles were organized. For instance, at college and university levels there were opportunities for students to visit places such as Tortuguero to study, to do field work, to learn about ecology and environmental issues. There were also educational tours for high schoolers. These educational activities were offered on site and off site.

One of the very successful activities is Tour de Turtles (TdT). TdT organized by STC is an annual event. Its purposes are many-folded. One is to promote awareness of sea turtle conservation and research work. Another is to offer an educational opportunity for people to learn about sea turtles and its biology. At the same time, the event also provides a mechanism for economic and workforce development for the local community. Finally, it helps raise the needed funds to support conservation work.

Here is the basic concept and process behind TdT as described on the website of TdT at <https://tourdeturtles.org/>. At the core of TdT is a unique website designed specifically for the program, additional resources, animations, turtle characters, and introducing the different threats to sea turtles that would be appealing to kids and educators. The home page is set up as a “race” and shows the relative distance, compared to the other turtles, each turtle swam since the start date of TdT. There are now 2 different TdT races, one that features leatherbacks only, and the other that features other sea turtle species. This is done since leatherbacks tended to travel longer distances.

The “winner” of each race would be the turtle that swims the farthest distance in a set amount of time. For leatherbacks it is from June 26 to October 31, while for the other species it is August 1 to October 31. Each turtle has its own character and is given a name by their sponsor, usually a company that provides the funds for the satellite transmitter and other associated costs. Each turtle is assigned a threat to swim for and raise awareness about. This is based on the idea that marathon runners often run for a cause to raise awareness about that cause or issue. If a sponsor has a specific cause request, it can feature the cause on the webpage; otherwise, the organizer would assign a specific cause to a sea turtle to make sure different causes are included.

Figure 4 An example of a turtle biography page



Figure 4 shows an example of the biography page for each turtle including a photo, a created background and personality for the turtle, as well as the cause and sponsor.

The Map Page in Figure 5 shows each turtle's tracking map and has the distance traveled since the start of Tour de Turtles. Most turtles are fitted and deployed with a satellite transmitter before the official Tour de Turtles start date, but only the distance from the start date is counted.

Figure 5 An example of a turtle map page



In addition to all these web pages above, there is also a leaderboard based on the real-time data. It is posted on the website for people to track and follow. The sponsor page lists all of the causes (threats) associated with turtles in the current TdT. It provides a brief description of the threat and a link to the turtle, or turtles, associated with that cause. Additional information about each cause is provided on the turtle's cause page with background information, species affected, possible solutions, a case study, and related links for more information. The people's choice award tries to encourage people following the TdT to support, or cheer on, a turtle and raise awareness about their cause. Points are awarded to a turtle based on the number of times they are selected as part of STC's "Adopt-A-Turtle" program or each time they are tagged in a Tweet. There are some additional points through other social media platforms and contests.

Educational resources are provided to incorporate different aspects of satellite tracking into the classroom or programs. Topics include math, biology, conservation, and geography. Lesson plans are developed by teachers who have knowledge or experience with sea turtles. At the end of TdT, a winner is announced and the results are posted on the website. Figure 6 is an example of the recent winner of TdT.

Figure 6 Feature one of the 2022 TdT winners



Since its start in 2008, TdT has evolved to become a fun, educational journey through the science, research and geography of sea turtle migration using satellite telemetry. The business model of TdT was based on the scientific work at STC. With a vision to reach out to others beyond the scientific community, STC has worked with sponsors, volunteers, and partners to create an interesting event that follows the marathon migration of sea turtles, representing four different species, from their nesting beaches to their foraging grounds. TdT would track individual sea turtles, for approximately three months, as they leave their respective nesting beaches and race to complete a “turtle” marathon. Turtle competitors set out to swim with the goal of becoming the one that swims the furthest distance during the migration marathon.

Before his death, Archie Carr urged young researchers to dedicate more time to studying how and where sea turtles migrate and what mechanisms they use to return from thousands of miles away to the same tiny stretch of beach. In particular, Archie lamented that the use of satellite telemetry to track turtles in the open ocean had not yet reached the required level of sophistication. Well, Archie would be pleased to see what is being done with satellite technology today to study and protect sea turtles. Anyone can get involved in a conservation effort such as TdT at STC by helping raise awareness about their cause. Specifically in the TdT at SCT, while no one may not know the outcome of the race, one thing is certain: saving sea turtles is a marathon, not a sprint! (Tour de Turtles, n.d.)

## Reflection

The case started with the awareness of an emerging ecological challenge. Specifically, the threat of endangered species was triggered by the significant decline of sea turtle populations. The impact was real and visible in places like Tortuguero, Costa Rica. What used to be abundant along the coast began to disappear and became endangered species. The risk of the potential extinction of sea turtles alarmed many people. Something needed to be done to protect the sea turtles in places where they breed, nest, and hatch.

Costa Rica had responded. The case at Tortuguero national park is a good model for how to face and deal with an ecological threat through concerted conservation efforts. As described in the case, it took leadership, proactive response, collaboration, and innovative ideas to bring together various stakeholders including researchers, volunteers, educators, entrepreneurs, and local communities for a good cause. An ecological problem such as the risk of sea turtle extinction is complex. Taking appropriate actions to mitigate it is not a small task. Yet, through concerted efforts over six decades, the case at Tortuguero demonstrates a good model of how to turn a challenge into an opportunity to advance research, protect endangered sea turtles, build up local communities through ecotourism, engage educators, students, and volunteers in the conservation work, and raise money and awareness for the cause.

One of the interesting aspects in this case is the role of information technology (IT). First, IT has played a critical role in making it possible for researchers to track and monitor sea turtle movements. Tagging was used and then satellite telemetry was deployed. Data was collected and analyzed. Then came the use of the internet and computers to capture, store, process data into information. Through the web and social media, information was disseminated. Innovative and entrepreneurial thinking as demonstrated in the case not only expands the initiative beyond the scientific community but also sustains and enhances it with newer technology, more resources, and wider support from various stakeholders. Now, what presented in the case is a successful working model including features of scientific research, conservation effort, educational outreach, fundraising mechanisms through events such as annual sea turtle research conference, ecotourism like Tour-de-Turtles, workforce and economic development with conservation-related initiatives. The approach from this case can be adopted and applied in other contexts. Through working together with the capabilities offered by technologies, a challenge can be turned into an opportunity. The result is a win-win for all.

## References

- Casale, P. & Tucker, A.D. 2017. *Caretta caretta* (amended version of 2015 assessment). The IUCN Red List of Threatened Species 2017: e.T3897A119333622.
- Gutiérrez-Lince, J., Palacios, M.D., & Valverde, R.A. (2021). Case Study: The Evolution of Tourism and Sea Turtle Conservation at Tortuguero National Park, Costa Rica, in: B. Nahill (Ed.), *Sea Turtle Research and Conservation: Lessons From Working In The Field*, Elsevier, Academic Press, 2021, pp. 105–112.
- Hays, G.C., & Hawkes, L. (2018). Satellite Tracking Sea Turtles: Opportunities and Challenges to Address Key Questions. *Frontiers in Marine Science* 5. Retrieved January 24, 2023, from <https://www.frontiersin.org/articles/10.3389/fmars.2018.00432/full>
- Lyer, A. (2022, October 27). Sea Turtle Populations In Free Fall Around The World. *The Environmental Magazine*. Retrieved January 24, 2023, from <https://emagazine.com/sea-turtle-populations-in->



[freefall/#:~:text=Researchers%20estimate%20that%20since%20the,world's%20subtropical%20and%20tropical%20coastlines.](#)

Mortimer, J.A & Donnelly, M. (IUCN SSC Marine Turtle Specialist Group). 2008. *Eretmochelys imbricata*. The IUCN Red List of Threatened Species 2008: e.T8005A12881238.

NOAA Fisheries. (n.d.). *Tagging Efforts for Sea Turtle Research*. [www.fisheries.noaa.gov](http://www.fisheries.noaa.gov). Retrieved January 24, 2023, from <https://www.fisheries.noaa.gov/west-coast/science-data/tagging-efforts-sea-turtle-research>

Seminoff, J.A. (Southwest Fisheries Science Center, U.S.). 2004. *Chelonia mydas*. The IUCN Red List of Threatened Species 2004: e.T4615A11037468.

*Tracking marine animals with satellites - A guide to tagging and tracking (Part 3)*. (2014, January 12). [oceansiq.com](http://oceansiq.com). Retrieved January 24, 2023, from <http://oceansiq.blogspot.com/2014/01/tracking-marine-animals-with-satellites.html>

Troeng, S., Ranking, E. (2005). Long-term conservation efforts contribute to positive green turtle *Chelonia mydas* nesting trend at Tortuguero, Costa Rica, *Biological Conservation* 121, 111-116.

Tortuguero National Park. (n.d.). *Homepage*. Retrieved January 24, 2023, from <https://costa-rica-guide.com/nature/national-parks/tortuguero/>

Tour de Turtles. (n.d.). *ABOUT TDT*. Retrieved January 24, 2023, from <https://tourdeturtles.org/about-tdt/>

Wallace, B.P., Tiwari, M. & Girondot, M. 2013. *Dermochelys coriacea*. The IUCN Red List of Threatened Species 2013: e.T6494A43526147.

# Shared leadership and citizenship pressure in academic world.

**Munisa Akhmadjanovna Toirova**

School of business administration, Kyungpook National University

[munisa191@naver.com](mailto:munisa191@naver.com) (corresponding author)

**Yoonjung Baek**

School of business administration, Kyungpook National University

[yjbaek@knu.ac.kr](mailto:yjbaek@knu.ac.kr)

## Abstract

Scholars and researchers in various academic fields are all interested in shared leadership, which emphasizes the agentic role that team members play in team leadership processes. Previous research looked at shared leadership practices in Tasmanian schools and found that leaders had a far more robust commitment to the concept than the teachers with whom they interacted. Furthermore, schools nowadays must work to achieve academic achievement while juggling a lack of resources and a competitive, dynamic environment. In order to do this, principals must not only rely on teachers who carry out their official in-role responsibilities but also inspire them to go above and beyond what is required (Somech&Oplatka, 2014). Current research proposes that shared leadership is positively related to organizational citizenship pressure. Furthermore, this study aims to explain the mediating mechanism of role overload and the moderating impact of job embeddedness.

Key words: Citizenship pressure, role overload, job embeddedness, school, academic field.

## Introduction

Many academics and researchers across disciplines are focusing on the topic of shared leadership. When compared to the traditional notions of leadership that have dominated the debate up to now, shared leadership stands out as a unique and exciting alternative. Shared leadership places more emphasis on the active participation of all team members in decision-making than does the apostolic tradition model of formal leadership (Nicolaidis et al., 2014). Evidence from studies of shared leadership suggests that it can improve team performance (Wang et al., 2014). The qualitative research conducted by Carte, Chidambaram, and Becker (2006) on virtual teams comprised of students from three different universities supported the hypothesis that shared

leadership behavior is positively associated to monitoring group work but not to boosting performance. Consequently, shared leadership is an emerging area of leadership that is altering conventional notions of what it means to be a leader (Cullen-Lester & Yammarino, 2016).

Furthermore, Boardman's (2001) research on shared leadership techniques in Tasmanian schools revealed that school administrators were more dedicated to the idea than their counterparts in the classroom. Furthermore, Court (2003) found power conflicts and the idea of "contrived congeniality" in a study of co-principalship in New Zealand primary schools. This is the phrase used to describe the way in which educators are manipulated when they are brought into the decision-making process but given no guarantee that their opinions would be given any weight.

Schools nowadays must work hard to achieve academic achievement while juggling a lack of resources and a competitive, dynamic environment (Orr&Orphanos, 2011). In order to do this, principals must not only rely on teachers who carry out their official in-role responsibilities but also inspire them to go above and beyond what is required (Somech&Oplatka, 2014). These extracurricular activities are known as organizational citizenship behaviors (OCBs) (Organ, 1997). They represent a broad category of pro-social actions aimed at advancing school objectives directed at coworkers, superiors, students, and the school. These citizenship acts take actions like staying after school to assist kids with their homework, supporting coworkers with severe workloads, offering suggestions for pedagogical changes, and praising the school to outsiders (Sesen & Basim, 2012).

A previous study has found that people feel pressured to be good citizens when their workplace encourages them to do so, such as through positive evaluations and rewards in promotion for employees who engage in OCB often (Bolino et al., 2015). In light of the above statement, the present research examines the link between shared leadership and organizational citizenship pressure. Furthermore, this study aims to examine the mediating mechanism of role overload and the moderating impact of job embeddedness.

### **Citizenship pressure**

Organizational citizenship behavior OCB is defined as “individual contributions in the workplace that go beyond role requirements and contractually rewarded job achievements” (Organ & Ryan, 1995, p. 775). Examples of OCB are maintaining organizational information, assisting and coaching colleagues, taking the initiative in engaging extra tasks and motivating other employees in engaging pro organizational activities. As a result, employees who continuously perform OCB may be viewed more favorably by managers than those who do not perform OCB (Whiting, Podsakoff, & Pierce, 2008). Research on OCB highlighted that citizenship behavior influences increasing organizational effectiveness as well as helping to create a positive climate and considering that supervisors motivate employees to perform tasks that go beyond their formal job description; as a result, citizenship helps to create a better work environment, increase the effectiveness of the organization ( Organ & Ryan, 1995).

Recently, researchers brought up the idea that OCB might only sometimes benefit the organization. *Citizenship pressure* is defined as a job requirement when OCB engages under

external pressure (Bolino et al., 2010). The approach to citizenship pressure demonstrates that action happens as a reaction to recognized pressure; it also ignores an individual's willingness to perform citizenship behavior (Somech & Bogler, 2019). The phenomenon of citizenship pressure can occur in an organization that encourages a competitive atmosphere, and the culture is more dynamic than balanced. (Youn, Kim, & Song, 2016). Morrison 1994 proposed that managers motivate employees to perform citizenship behavior, as managers classify job requirements more diversely than employees. As a result, citizenship behavior may be perceived as a standard requirement. Moreover, by establishing a job atmosphere where citizenship is perceived as a part of the standard requirement, employees will feel that engaging in OCB is a way to be recognized by managers (Vigoda-Gadot, 2006). Employees may perhaps feel angry when they face high supervisor expectations that they should perform tasks beyond their job requirements (Bergeron, 2007; Bolino, Turnley, and Niehoff, 2004).

Due to the distinctive qualities of both the profession and educational organizations, citizenship pressure may significantly influence the educational setting. Teaching is a challenging, unreliable, and unconstrained profession. It is also a service-oriented career that entails the teacher's duty to shape, mold, and develop another person or, occasionally, even a group of children and adults (Goodlad, 1990). Given these distinctive characteristics, it could be challenging to distinguish between required in-role actions and extra-role behaviors (Bogler&Somech, 2004). These ambiguous traits could put instructors under pressure to go above and beyond. Increased competition for few resources results from top-down demands to often execute new changes and calls for greater accountability and openness (Lynch, 2012). School administrators and coworkers may pressure teachers to exhibit non-spontaneous citizenship behaviors in these situations. As a result, teachers may experience direct or indirect pressure to continuously increase the number of citizenship behaviors they exhibit to maintain positive evaluations and be seen as cooperative and committed to their jobs (Alkan&Turgut, 2015).

Research on the consequences of citizenship pressure highlighted that a high level of citizenship pressure might cause citizenship fatigue, difficulties in balancing job requirements and family responsibilities, turnover intention, and job stress(Bolino et al., 2015). The consequences of OCB pressure may affect not only the employee but also negatively influence the organization since employees perceive mistreatment by the organization (Bolino et al., 2015).

### **Shared leadership and OCB**

Unfortunately, excellent school leaders are in short supply, as noted by Harris and colleagues (2007). However, studies on many aspects of shared leadership in schools have produced contradictory findings. In their study of virtual teams, Carte et al. (2006) showed that shared leadership behavior is associated favorably with keeping tabs on things but not with improving productivity. One of the primary benefits of shared leadership is tapping into the collective brainpower and expertise of the group (Miles & Watson, 2007).However, Kezar (1998) observed that "when members of leadership teams did not fully embrace the principles of fostering differences and encouraging multiple opinions, most teams slipped into groupthink"

(pg.68).

School leadership should ideally be broadly shared, but because school leaders do not live in an ideal society, the amount to which sharing is appropriate in reality relies on empirical circumstances, as stated by Wallace (2001). Moreover, in all cases of shared leadership decision-making, a collegial atmosphere (Rice, 2006) and open lines of communication are of the utmost importance (Meyers & Johnson, 2008). Last but not least, for shared leadership and cooperation to succeed, it is essential that members of the group understand their duties and not undervalue the complexity of such a structure (Hall, 2001).

Members of a shared leadership team either take turns taking on the role of leader or are given the authority to govern themselves by the group's designated leader. Another benefit of delegating authority within a team is that individuals are more likely to pool their expertise and provide new perspectives and tools to the project as a whole (Gonzalez-Mulé et al., 2016). Therefore, via mutually beneficial influence, they construct a network of relationships inside the team that serves as a crucial, if intangible, asset to the overall productivity of the group (Nahapiet & Ghoshal, 1998). The final result is a higher level of participation, communication, collaboration, and mutual respect among the team members (Marks, Mathieu, & Zaccaro, 2001).

Team OCB refers to members' adherence to a standard of acceptable behavior in terms of their citizenship (Euwema et al., 2007). Members of a team who take on leadership roles stand out for their openness to making decisions and cooperating with others to achieve their goals (Muethel, Gehrlein, & Hoegl, 2012). In teams where the leadership is evenly distributed, such self-directed acts of responsibility quickly become the norm (Ehrhart & Naumann, 2004). Employees who regularly engage in organizational citizenship behavior (OCB) are rewarded with positive performance reviews and opportunities for advancement, according to a prior research (Bolino et al., 2015). After considering the foregoing, it is clear that recent studies show a positive correlation between shared leadership and OCB pressure.

*Proposition 1: Shared leadership positively related to OCB pressure.*

### **Mediating mechanism: The Role overload**

Role overload is "the consequence of disparity between an individual's perception of the characteristics of a specific role and what is being achieved by the individual currently carrying out the specific role" (Lambert & Lambert, 2001, p: 161). Role overload is described as a workload, job expectations, or a collection of tasks that transcends the employee's unique role and capabilities in the period allocated (Beehr et al., 1976; Bolino & Turnley, 2005).

When job expectations exceed available workplace resources to the point where role players cannot complete their tasks, this is known as role overload (Rahim, 1997). Role overload is most commonly caused by demands placed on employees by both the organization and the person. The capacity to do both jobs effectively is associated with higher performance evaluation ratings (Allen & Rush, 1998), and the desire to succeed may lead to unrealistic demands.

Role overload occurs when role players participate in intrinsically intertwined role behaviors with

limited time or skills (Wincent & Ortqvist, 2011) or when there are many duties at work or in multiple domains (Small & Riley, 1990). Considering that shared leadership consists of behavior such as helping others or providing them with feedback, it is likely to face the situation when an employee perceives role overload, which in turn will lead to OCB pressure. Considering the statements above, current research proposes that:

*Proposition 2: Role overload mediates the relationship between shared leadership and OCB pressure*

### **The moderating role of Job embeddedness**

Job embeddedness is defined by Mitchell et al. (2001) in terms of three essential aspects: linkages, fit, and sacrifice. Links are defined as links to other individuals in the workplace, whether official or informal, and they represent normative pressure to stay in a position. The degree to which an employee believes he or she belongs in or is compatible with the workplace is assessed by fit. The pressure of attachment is represented by fit. The term "sacrifice" refers to the perceived loss of quitting a job.

Evidence suggests that job embeddedness predicts organizational citizenship behavior (Lee et al., 2004). However, the previous should have covered whether citizenship was done with pressure. To address this question, current research proposes that job embeddedness moderates the relationship between Shared leadership and OCB pressure. The higher the job embeddedness, the more significant the relationship between shared leadership and OCB pressure.

*Proposition 3: Job embeddedness moderate the relationship between shared leadership and OCB pressure, as the higher job embeddedness the greater relationship between shared leadership and OCB pressure.*

### **Discussion.**

Significant attention has been paid to shared leadership, primarily because of its contribution to school functioning and effectiveness (DiPaola & Hoy, 2005). Current research has several implications. First, current research expands the literature on shared leadership by proposing the adverse outcomes that might be caused by shared leadership. Most literature on shared leadership mainly focused on outcomes such as team performance (Wang et al., 2014) or job engagement (Marks, Mathieu, & Zaccaro, 2001); however, it did not cover the question of the cost that individuals pay to have the favorable outcomes. We propose a theoretical explanation for the link between shared leadership and citizenship pressure.

To understand the relationship between shared leadership and citizenship pressure, current research explores the mediating and moderating mechanisms that might influence the relationship between shared leadership and organizational citizenship pressure. Considering that shared leadership is required to go beyond the formal individual's duties, like helping coworkers or providing feedback to team members, this situation might cause role overload as performing shared leadership is not the individual's primary duty.

Furthermore, studies on job embeddedness provided that job embeddedness leads to beneficial job outcomes such as organizational citizenship behavior (Kapil & Rastogi, 2018). However, the research did not cover the question of actual motives for engaging OCB; moreover, since OCB is perceived in the organization in a very beneficial way, those who have the desire to stay in the organization or have other motives not to leave the organization might feel pressure to engage in OCB.

### References:

Allen, T. D., & Rush, M. C. (1998). The effects of organizational citizenship behavior on performance judgments: a field study and a laboratory experiment. *Journal of applied psychology*, 83(2), 247.

Beehr, T. A. (1976). Perceived situational moderators of the relationship between subjective role ambiguity and role strain. *Journal of applied psychology*, 61(1), 35.

Bergeron, D. M. (2007). The potential paradox of organizational citizenship behavior: Good citizens at what cost?. *Academy of Management review*, 32(4), 1078-1095.

Boardman, M. (2001). The Value of Shared Leadership: Tasmanian Teachers' and Leaders' Differing Views. *International Studies in Educational Administration*, 29(3).

Bolino, M. C., Hsiung, H. H., Harvey, J., & LePine, J. A. (2015). “Well, I’m tired of tryin’!” Organizational citizenship behavior and citizenship fatigue. *Journal of Applied Psychology*, 100(1), 56.

Bolino, M. C., Klotz, A. C., Turnley, W. H., & Harvey, J. (2013). Exploring the dark side of organizational citizenship behavior. *Journal of Organizational Behavior*, 34(4), 542-559.

Bolino, M. C., Turnley, W. H., & Niehoff, B. P. (2004). The other side of the story: Reexamining prevailing assumptions about organizational citizenship behavior. *Human Resource Management Review*, 14(2), 229-246.

Bolino, M. C., Turnley, W. H., Gilstrap, J. B., & Suazo, M. M. (2010). Citizenship under pressure: What's a “good soldier” to do?. *Journal of Organizational behavior*, 31(6), 835-855.

Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal*, 50, 1217–1234. doi:10.2307/20159921

Carte, T. A., Chidambaram, L., & Becker, A. (2006). Emergent leadership in self-managed virtual

teams: A longitudinal study of concentrated and shared leadership behaviors. *Group Decision and Negotiation*, 15, 323-343.

Court, M. (2003). Towards democratic leadership. Co-principal initiatives. *International Journal of Leadership in Education*, 6(2), 161-183.

Cullen-Lester, K. L., & Yammarino, F. J. (2016). Collective and network approaches to leadership: Special issue introduction.

DiPaola, M. F., & Hoy, W. K. (2005). Organizational citizenship of faculty and achievement of high school students. *High School Journal*, 88(3), 35e44.

Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit-level organizational citizenship behavior. *Personnel Psychology*, 57, 61–94. doi:10.1111/peps.2004.57.issue-1

Ehrhart, M. G., & Naumann, S. E. (2004). Organizational citizenship behavior in work groups: A group norms approach. *Journal of Applied Psychology*, 89, 960–974. doi:10.1037/0021-9010.89.6.960

Euwema, M. C., Wendt, H., & Van Emmerik, H. (2007). Leadership styles and group organizational citizenship behavior across cultures. *Journal of Organizational Behavior*, 28, 1035–1057. doi:10.1002/(ISSN)1099-1379

Goodlad, J. I. (1990). *Teachers for our nation's schools*. San Francisco, CA: Jossey-Bass.

Gonzalez-Mulé, E., Courtright, S. H., DeGeest, D., Seong, J. Y., & Hong, D. S. (2016). Channeled autonomy: The joint effects of autonomy and feedback on team performance through organizational goal clarity. *Journal of Management*, 42(7), 2018-2033.

Harris, A., Leithwood, K., Day, C., Sammons, P., & Hopkins, D. (2007). Distributed leadership and organizational change: Reviewing the evidence. *Journal of educational change*, 8, 337-347.

Kezar, A. (1998). Trying transformations: Implementing team-oriented forms of leadership. *New Directions for Institutional Research*, 100, 57.

Lee, T. W., Mitchell, T. R., Sablinski, C. J., Burton, J. P., & Holtom, B. C. (2004). The effects of job embeddedness on organizational citizenship, job performance, volitional absences, and voluntary turnover. *Academy of Management Journal*, 47, 711–722. doi:10.2307/20159613

Lynch, M. (2012). *It's time for a change: School reform for the next decade*. Lanham, MD: Rowman & Littlefield Education

Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based framework and



taxonomy of team processes. *Academy of management review*, 26(3), 356-376.

Miles, S. A., & Watkins, M. D. (2007). The leadership team: Complementary strengths or conflicting agendas? *Harvard Business Review*, 85(4), 90-98.

Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablinski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal*, 44, 1102–1121. doi: 10.2307/3069391

Muethel, M., Gehrlein, S., & Hoegl, M. (2012). Socio-demographic factors and shared leadership behaviors in dispersed teams: Implications for human resource management. *Human Resource Management*, 51, 525–548. doi:10.1002/hrm.v51.4

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review*, 23(2), 242-266.

Nicolaides, V. C., LaPort, Chen, T. R, Tomassetti, A. J., Weis, E. J., & Zaccaro, S. J. (2014). The shared leadership of teams: A meta-analysis of proximal, distal, and moderating relationships. *The Leadership Quarterly*, 25(5), 923–942.

Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel psychology*, 48(4), 775-802.

Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2005). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. Sage Publications.

Orr, M. T., & Orphanos, S. (2011). How graduate-level preparation influences the effectiveness of school leaders: A comparison of the outcomes of exemplary and conventional leadership preparation programs for principals. *Educational Administration Quarterly*, 47(1), 18-70.

Rahim, M. A. (1997). Relationships of stress, locus of control, and social support to psychiatric symptoms and propensity to leave a job: A field study with managers. *Journal of Business and Psychology*, 12(2), 159-174.

Small, S. A., & Riley, D. (1990). Toward a multidimensional assessment of work spillover into family life. *Journal of Marriage and the Family*, 51-61.

Somech, A., & Oplatka, I. (2014). *Organizational citizenship behavior in schools: Examining the impact and opportunities within educational systems*. New York: Routledge.

Vigoda-Gadot, E. R. A. N. (2006). Compulsory citizenship behavior: Theorizing some dark sides of the good soldier syndrome in organizations. *Journal for the Theory of Social Behaviour*, 36(1), 77-93.

Wang, D., Waldman, D. A., & Zhang, Z. (2014). A meta-analysis of shared leadership and team effectiveness. *Journal of Applied Psychology*, 99(2), 181.

Whiting, S. W., Podsakoff, P. M., & Pierce, J. R. (2008). Effects of task performance, helping, voice, and organizational loyalty on performance appraisal ratings. *Journal of Applied Psychology*, 93(1), 125.

Wincent, J., & Örtqvist, D. (2011). Examining positive performance implications of role stressors by the indirect influence of positive affect: A study of new business managers. *Journal of Applied Social Psychology*, 41(3), 699-727.

# Cooperative Learning, Team Dynamics, and Academic Performance: A Case Study from an HBCU.

Olusegun Felix Ayadi  
Department of Accounting and Finance  
Texas Southern University,

Mammo Woldie  
Department of Business Administration  
Texas Southern University,

Jakeun Koo  
School of Business Administration  
Hanyang University Erica, South Korea

Anthonia Allagoa-Warren  
Department of Business Administration  
Texas Southern University

## Abstract

The next generation of employees are graduates from tertiary institutions who are ethical, innovative, synthesize information, think holistically, work in groups, communicate effectively and use creative ways to solve problems (De Boer & Botham, 2003; Scott, 2007). The U.S. Department of Labor (DOL, 2012) identifies problem solving and critical thinking as skills needed to pay the bills. The DOL cites the 2010 Critical Skills Survey by the American Management Association in which employers rate problem solving and critical thinking as required skills in the workforce. According to Mandal (2019), problem solving refers to a mental process which produces a solution through the ability to analyze possible alternatives that resolve a problem. According to Loughry et al. (2013), the 2012 Job Outlook Survey that was conducted by the National Association of Colleges and Employers found that the highest rated skill employers identified in new graduates is teamwork

There are different ways educators use groups to promote learning. This study explores the possibility of improving group performance in problem-solving courses by forming teams based on students' thinking style preferences. This is premised on the assumption that team effectiveness and cohesiveness can be achieved if cognitive processing characteristics of team members are considered in team formation. Four types of groups are formed in several sections of statistics classes in an HBCU. The groups are Detail-Analytical Group (Group 1), Creative-Intuitive Group (Group 2), Homogeneous No Preference Group (Group 3) and Heterogeneous Preference Group (Group 4). The ANOVA test results are indicative that average group scores for the four groups are

unequal. Further analysis using the Bonferroni pairwise comparison indicates that the average score of Group 1 is higher than the other groups. In conclusion, the results show that group formation method based on students' thinking style preferences has a weak effect on group academic outcome.

## **Building a Toolkit for Information Literacy.**

Andra Olivia Miljanic: Corresponding author  
University of Houston  
[omiljanic@uh.edu](mailto:omiljanic@uh.edu)

Emese Felvegi  
University of Houston

### **Abstract**

This paper seeks to guide faculty in the promotion of information literacy by presenting and assessing a course assignment that requires students to discuss information acquired from a news source and provide an analysis of the news source.

The assignment, titled “News Posts,” has been administered over two semesters in two mass sections of 250 students each of the undergraduate course Global Environment of Business (GEB) at the University of Houston. The assignment will be piloted in Spring 2023 in the undergraduate course Business Computer Information Systems (BCIS), also at the University of Houston, with 25 students enrolled in the Honors section of the course. Students in the GEB course select a country in the beginning of the semester. Various course components ask students to apply theories studied in the course to their selected country. The “News Posts” component entails following current news on the selected country. Three times during the semester, students are asked to discuss a piece of news that came out regarding their selected country during the week leading up to the assignment deadline, using a news source of their choice. A subsequent paragraph is required where students need to analyze the news source they have used. They are prompted to evaluate the audience targeted by the news source and to identify any inherent biases that the news source may have, including a particular agenda, a particular political leaning, the views of the owner, a bias in favor or against a particular country or policy issue. In the BCIS course, students locate and discuss news pieces related to computers and information systems.

At the end of the semester, students are asked to fill out a survey that is used to assess the effectiveness of the “News Posts” assignment in equipping students with skills and habits that contribute to their information literacy and enable them to successfully navigate the current age of mis- and disinformation. An analysis of student answers to the survey is used as a basis for the findings presented in this paper.

This paper provides a potential tool, along with an assessment of its effectiveness, that business educators may add to their pedagogical toolkit to promote information literacy, assisting students in understanding the environment of business and staying informed while engaging critically, identifying and combating attempts at dis- and misinformation.

## **Evolution of Chatbots: Impact on Higher Education.**

Dr. Mahesh Vanjani  
JHJ School of Business, Texas Southern University, Houston TX 77004  
Mahesh.Vanjani@tsu.edu

### **Abstract**

ChatGPT is all the rage, and we are hearing multiple opinions and views on the potential impact on higher education. ChatGPT is the newest addition to the world of Artificial Intelligence (AI) based chatbots and it is turning heads in the academic community. The advanced chatbot uses Natural Language Processing (NLP) to engage in real-time conversations, making it an invaluable tool for researchers and students. However, chatbots are not new and have been in development for almost six decades. The earliest documented research that was a pre-cursor to the developments of chatbots was the Turing Test. The purpose of the Turing test was to demonstrate that machines are capable of intelligent behavior that is indistinguishable from humans. The earliest well known chatbot is ELIZA, also an NLP (Natural Language Processing) program created at the MIT Artificial Intelligence Laboratory. When the original ELIZA chatbot first appeared in the 60's, some people mistook her for human. At the time, the illusion of intelligence worked best if a conversation with ELIZA or any other chatbot was limited to short and simple topic-specific communication. We have since witnessed a quantum leap in the evolution of Chatbots with the emergence of ChatGPT.

Chatbots, or conversational agents, are computer programs that mimic human conversation by providing a more natural user interface. Chatbots rely on technology to function and to emulate human dialogue to provide a more intuitive user interface to applications. Technologies such as AI (Artificial Intelligence) and NLP (Natural Language Processing) can enhance the ability of chatbots to learn and to better reproduce a more natural and free flowing conversation. Generative AI systems fall under the broad category of machine learning. ChatGPT is a stunning example of a successful generative artificial intelligence (AI) based chatbot. Generative artificial intelligence (AI) describes algorithms (such as ChatGPT) that can be used to create new content, including audio, code, images, text, simulations, and videos. Recent new breakthroughs in the field have the potential to drastically change the way we approach content creation. Ergo the concerns regarding the impact on academic research and publication.

Chatbots have come a long way from the 1960s to current times. Eliza, the first chatbot created in 1966, was created by Joseph Weizenbaum and was designed to be a virtual therapist. It used to simulate a conversation by using a “pattern matching” and substitution methodology that gave users an illusion of understanding on the part of the bot. Development of the Jabberwocky chatbot started in 1981 and it was launched on the internet in 1997. The aim of this chatbot was to “simulate natural human chat in an interesting, entertaining and humorous manner.” In 1992,

Dr. Sbaitso, a chatbot created by Creative Labs for MS-DOS, “conversed” with the user as if it were a psychologist in a digitized voice. A.L.I.C.E (ArtificialLinguistic Internet Computer Entity) was developed by Nobel Prize winner Richard Wallace in 1995. Hex, developed by Jason Hutchens, was based on Eliza and won the Loebner Prize in 1996. The Loebner Prize was an annual competition in artificial intelligence that awards prizes to the computer programs considered by the judges to be the most human-like. In 2006 Watson was designed to compete on the TV show “Jeopardy.” In its first pass, it could only get about 15% of answers correct, but later the chatbot was able to beat human contestants on a regular basis. The turning point was the launch of Siri, a chatbot virtual assistant that is part of Apple Inc.'s iOS. As Siri gained popularity Amazon launched Alexa in 2014. Per Amazon (<https://developer.amazon.com/en-GB/alexa>), "Alexa is Amazon’s cloud-based voice service available on more than 100 million devices from Amazon and third-party device manufacturers. With Alexa, you can build natural voice experiences that offer customers a more intuitive way to interact with the technology they use every day. We offer a collection of tools, APIs, reference solutions, and documentation to make it easier to build for Alexa." Soon after Alexa's launch, Microsoft introduced their chatbot virtual assistant Cortana. The Microsoft virtual assistant can set reminders, recognize a natural voice, and answer questions using information from the Bing search engine. In 2017 the Woebot automated conversational agent was released. The goal of this chatbot was to help a user monitor their mood, learn about themselves and make themselves feel better. Woebot uses a combination of NLP techniques, psychological expertise, excellent writing, and a sense of humor to serve as a virtual chatbot that can help treat depression. Insomnobot 3000 was released in 2019. This conversational agent was created to give insomniacs someone to talk to when they could not fall asleep. Then came the Covid-19 pandemic and everything changed. The world was forced to move to remote operations creating a fertile environment for more focused development of functional chatbots that could provide information and customer service.

Chatbots can be used effectively for various functions. Apple and Amazon have created successful virtual assistants. Chatbots can be used to provide customer service, to practice a foreign language, or, for entertainment and education. For a while now Universities have struggled to find effective ways to engage and communicate with students. One of the options being explored and deployed was the use of chatbots. As a result of the Covid-19 pandemic and the consequent shift to a virtual environment there has been a tremendous increase in the use of chatbots by Universities as a means of communication, Some Universities are more advanced than others having invested in chatbots long before the current pandemic started. Some examples include Arizona State University’s chatbot named Sunny, Georgia State University’s chatbot named Pounce, Loyola University Maryland’s chatbot named Iggy, and, Texas Southern University’s chatbot named Tex. Universities are using chatbots in various ways from rudimentary communication to boosting recruiting yield and retention. Once developed and deployed chatbots can be continually honed and improved using AI such that they are able to pass the Turing Test of emulating human conversation. Future academic uses can potentially include multilingual support and advising.

In 2019, Microsoft invested \$1 billion in OpenAI, the tiny San Francisco company that designed ChatGPT. ChatGPT was launched in November 2022 and has drastically upped the ante of what chatbots can do. This chatbot is a game changer. ChatGPT is described as “an AI-powered chatbot developed by OpenAI, based on the GPT (Generative Pretrained Transformer) language model. It uses deep learning techniques to generate human-like responses to text inputs in a conversational manner.” We have all heard reports of ChatGPT concerns in academia. There is the potential for cheating including writing term papers that will pass plagiarism tests. ChatGPT passed exams from law and business schools causing some academic institutions to ban ChatGPT. Others are embracing it as a teaching tool. The media coverage and instant celebrity status of ChatGPT has prompted major technology companies to ramp up their efforts to develop comparable chatbots. However, some have fumbled. Google has developed a chatbot named BARD to compete with ChatGPT. Unfortunately, the new chatbot shared inaccurate information in a promotional video and a related company event and did not impress the public. This also fed concerns that the Google parent company Alphabet Inc. is losing ground to rival Microsoft Corp. As a result of the marketing fiasco Alphabet Inc. lost \$100 billion in market value on that day (Wednesday, February 8<sup>th</sup>, 2023).

ChatGPT has been an instant hit among the student community. It provides a new way to cheat by plagiarizing AI-written work. However, academic fraud aside there can be benefits to using an AI based chatbot. If used correctly it can serve as a learning companion and a teaching assistant. For example, it can be used to fine tune and improve a syllabus, a lecture, an assignment or be used as grading rubric. In summary, Chatbots are here to stay and are only growing more sophisticated and “intelligent”. The question then is are we the faculty going to treat this technological development as an existential challenge or are we going to embrace it as an educational tool and ally?

Keywords: chatbots, ChatGPT, higher education



# **Unpacking Google’s Decision to Sunset Google Universal Analytics: Transitioning Class Assignments and Lectures to Google Analytics 4.**

William Zahn, PhD.  
Professor of Practice, University of Houston

Web analytics is a crucial skill for business students to learn, particularly those that are interested in a career in digital marketing. Business students are entering their careers with access to more data than ever before, and it is essential they learn how to navigate that data and use it to make good decisions. Google Analytics has long been the default choice of many professors covering web analytics, as it is a free and robust platform that has its very own training program and certification that is free and valuable for students going on the job market. Google has recently decided to sunset its current analytics program and launch an updated program, Google Analytics 4 (GA4). This paper explores the new features available in GA4 and discusses exercises that go beyond a certification exam and teach students how to find the data they need.