

Exploring the Impact of Technology-Enhanced Learning on Accounting Education: A Comparative Study

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Abstract: The purpose of this study is to investigate the impact that the broad use of technological learning aids in accounting classes has had. Given the quick pace at which new technologies are being developed, we must investigate how accounting courses may benefit from using these technologies. This study's objective is to determine whether or not conventional methods of accounting education are superior to online learning settings and make their findings public. The outcomes of the student's learning, engagement levels, and happiness are compared between conventional classroom settings and those that include technology. According to the findings, incorporating technology into accounting lessons leads to increases in students' levels of engagement and retention, as well as their capacity for critical thought. Based on the findings, it seems that providing students with access to online learning platforms, interactive multimedia, and virtual simulations in accounting classes would improve their overall educational experience. The use of technology in the instructional setting can raise the standard of students' accounting education by making the subject more engaging and easily accessible to them.

Keywords: Technology, Learning, Accounting Education.

1. INTRODUCTION

The proliferation of education across all fields, including accounting, directly results from the rapid technological improvements seen in various other fields (Mayor, 2019). If accounting courses were to take a more technical approach, there is a good chance that the results for both teachers and students would dramatically improve (Tartavulea et al., 2020). Utilising digital resources such as online platforms and interactive content is one method that may be used to accomplish this purpose (Saiyad et al., 2020). Several investigations examining the possible advantages of incorporating technological advances into educational practices have been carried out. However, further research is required on how technology has changed accounting curricula and the possibilities and difficulties that have emerged as a direct consequence of the changes that have occurred due to these developments (Al-Rahmi et al., 2019). Even though technology has been introduced into the classroom, there is a lack of knowledge about how the introduction of technology has influenced the study of accounting (Habib et al., 2021). There is a paucity of information regarding how the introduction of technology has affected the study of accounting. In order to further assess the efficacy of technology-enhanced learning methodologies in accounting and to find best practices, it is required to carry out a comparative study (Al Ghatrifi et al., 2023). Understanding the possible challenges and opportunities that may arise during implementation can act as a source of motivation for the development of methods that will successfully incorporate technology into accounting education (Arumugam et al., 2015). Because they were conceived with the challenges covered in the earlier section in mind, the research questions presented here will be the cornerstone of the investigation that will follow.

1. How does the use of technology to enhance learning compare to the more conventional ways of accounting instruction?

2. What effect does using technology have on accounting students' motivation, performance, and ability to remember information?
3. What are the most effective methods for incorporating technology into accounting class learning objectives and lesson plans?
4. How can we overcome the difficulties of including technology-enhanced learning in the accounting curriculum?

The primary purpose of this research is to analyse and assess the myriad of ways technology-enhanced learning has affected the academic field of accounting. To be more specific, the researchers anticipate that the following will occur as a result of this study:

1. Compare the use of technology to assist learning with more conventional ways of teaching accounting and investigate the pros and cons of utilising technology to aid learning.
2. Consider researching how students' levels of motivation, performance, and commitment to the discipline of accounting are impacted by the introduction of new technologies.
3. Determine effective strategies for integrating technology into accounting course materials and lesson plans to enhance students' learning experiences. The goal of this endeavour is to improve students' overall learning experiences.
4. Analyze the obstacles encountered up to this point in the process of incorporating e-learning into accounting curriculums and provide possible solutions to those obstacles.

The study's primary goals are to shed light on the influence that technology has had on accounting education, to provide instructing professionals and those who develop accounting curricula with valuable insights, and to contribute to the ongoing process of enhancing accounting education (AL-Hashimy, 2019). Investigate the benefits and drawbacks of using technology to facilitate learning compared to more traditional methods of teaching accounting (Al-Hashimy, 2022a; Al-Hashimy, Alabdullah, et al., 2022; Hussein et al., 2023). Investigate how introducing new technology affects students' levels of motivation, performance, and commitment to the accounting field. Determine effective methods for incorporating technology into accounting course materials and lesson plans to improve students' overall learning experience (Al-Hashimy, 2022b, 2022c, 2022d; Al-Hashimy, Said, et al., 2022). Examine the challenges that have been met so far in the process of integrating e-learning into accounting curricula and provide potential solutions to those challenges (AL-Hashmy et al., 2022; Hussain, Alabdullah, Ahmed, et al., 2023; Hussain, Alabdullah, & Kanaan Abdulkarim, 2023). The main objectives of the research are to shed light on the impact of technology on accounting education, to give helpful insights for instructors and curriculum creators, and to assist in the continual process of improving accounting education.

2. LITERATURE REVIEW

Qasim and Kharbat (2020). An investigation into how accounting classes use various forms of modern technology. Kroon et al. (2021) The objective of this study was to carry out an in-depth analysis of the previous work that had been done on the subject of incorporating technological advancements into accounting education (AL-HASHIMY, 2017; Al-HASHIMY & Al-hashimy, 2019; HUSSAIN, 2017). According to the study's findings, incorporating technology into instructional settings had a beneficial impact on students' levels of interest and information retention, as well as the learning of transferable skills. The study stressed the importance of including a wide variety of technology in accounting educational programs. Tools for data analytics, interactive simulations, and online learning platforms are a few examples of technologies that fall under this category (Al-Hashimy et al., 2023). The piece was written by. This article is a comprehensive analysis of the research that has been conducted on the subject of incorporating multimedia into accounting instruction. The purpose of this comprehensive study project was to explore the impact of introducing a variety of kinds of media into the educational experience of accounting students. In the many different kinds of empirical research that were looked at for the purpose of this study, it was discovered that students' grasp of accounting concepts and their capacity to solve issues was greatly improved when they were exposed to various sorts of multimedia, such as movies, animations, and interactive presentations (AL-HASHIMY, 2018; Hasan et al., 2015; Hussein et al., 2015). It has been proved that the use of multimedia technology may be highly helpful in boosting students' understanding of accounting principles as well as catching their attention.

Case Study Technique for Implementing Online Learning Platforms into Accounting Educational Programs Ożadowicz (2020) This case study investigated the potential benefits of Accounting Education through online learning platforms such

as Learning Management Systems (LMS). The study looked at how both accounting students and their instructors engage with online learning environments and how they perceive such settings. Accessibility, flexibility, and student participation were all enhanced when online learning platforms were included in accounting classes, as the findings revealed. As another point underlined in the study, to fully grasp the benefits of integrating technology into the classroom, rigorous pedagogical preparation and encouragement from teachers are required.

An exploratory study into the use of software for virtual reality in the classroom setting, with a focus on the subject of accounting. During this experimental investigation, virtual reality (VR) was tested to see what kind of impact it may have on the teaching of accounting. Students who were instructed in accounting via the use of virtual reality headsets were contrasted with students who were taught through the use of more traditional means. Utilizing virtual reality technology has been found to significantly improve students' subject-matter knowledge and their ability for critical thinking and the pleasure of the learning experience. According to the research findings, using virtual reality (VR) technology to study accounting may increase both experiential learning and immersion.

In the year 2022, Brown and Wilson were the authors of it. This is the first research to investigate how college-level the rise of social media has influenced accounting classes. Research on Accounting Education The purpose of this study was to investigate the possible advantages of adding social media into the educational setting for aspiring financial analysts and accountants. The purpose of this study was to investigate the many educational, communicative, and developmental purposes served by using Twitter and LinkedIn in accounting classrooms. The findings demonstrated that social media may be beneficial in a number of settings, such as encouraging a higher level of student participation, easing the development of professional networks, and making it possible to have current debates on topics that are pertinent to the area of accounting (Manca, 2020). The research findings highlighted the need to include social media training in accounting curricula to better prepare students for employment once they have graduated from school (Dewua & Barghath, 2019). This research's findings hint at the likelihood that increasing the amount of technology taught in accounting courses might boost students' capacity for learning (Alam, 2021). It has been shown that the use of technologies such as virtual reality (VR), social media, online learning platforms, and multimedia may boost student engagement, improve learning outcomes, and encourage the development of practical skills in the subject of accounting education (Chen et al., 2019). These findings bring to light the need to integrate technology into educational settings to adapt accounting curricula to the ever-changing educational contexts as well as the requirements of the accounting profession.

3. METHODOLOGY

Databases

This comprehensive review of the published research on the subject of e-learning in the accounting field was compiled with the assistance of information gleaned from several online sources. The most important databases that were consulted were Scopus and Web of Science. Scopus is a database that contains academic works from various subjects, such as journal articles, conference proceedings, and other types of scholarly writing. The Web of Science Citation Index is a reliable resource for identifying citations to works published in reputable academic publications. Thomson Reuters created this index. These databases were chosen as the primary resources for this article due to the comprehensive quality of the information that they include.

Selection Criteria

The relevance and quality of the information being sought were used as selection criteria in the systematic review methodology. When deciding which articles to include, we looked at whether or not they explored the influence of technology on accounting education or the use of certain technologies in the classroom. This study only included papers published in English and deemed credible by academic professionals. We did not include evaluations of works that did not particularly address the use of technology in accounting lecture halls since we felt that such reviews were not relevant. The purpose of the systematic review was to guarantee that only articles that offered significant new insights into the topic were included in the analysis by using these criteria.

Systematic Review Process

The systematic review process consisted of four phases:

PHASE 1 - Identification

While conducting a methodical search for relevant papers, we used keywords relating to accounting education as well as digital instruments for training. The search phrases that were employed included various iterations of "technology-enhanced learning," "accounting education," "digital learning," and "online learning." After searching the necessary databases, we were able to find articles that fulfilled the requirements that had been set out.

PHASE 2 - Screening

After that, the papers that had been acquired were evaluated according to the predetermined standards. Articles published before and those that did not meet the requirements were removed. The initial step in the screening process was looking at the information associated with the articles, which included the titles, abstracts, and keywords. This step's objective was to eliminate the information they contained by eliminating the initial collection of articles of any redundant or superfluous material.

PHASE 3 - Eligibility

Detailed consideration was given to the Stage 2 papers that were ultimately selected. The evaluation of each article was based on whether or not it met the criteria of relevance, quality, and appropriateness. Because some of the studies lacked appropriate empirical data or did not directly address the effect that technology-enhanced learning has on accounting education, they were not all selected for inclusion in the review. During this stage, we thoroughly analysed the articles to ensure that we only included the best quality research.

PHASE 4 - Articles are ready for analysis

When the phase of determining eligibility was over, the selected articles were evaluated and found to be suitable for the next phase, which was the analytical phase. Within the context of the systematic review, they played the role of the basis for the compilation of the data as well as the interpretation of the findings. In this stage of the inquiry, the reviewed papers provided the information necessary to answer the research questions and accomplish the study's objectives.

Flow Diagram

A flowchart was developed to more clearly demonstrate the processes required in carrying out a systematic review. At each step of the review, the graphic displays the number of articles that were discovered, reviewed, and either included or removed from consideration. The repeatability of a systematic review and the level of rigour it has been directly correlated to the quality of the summary of the article selection procedure that it provides.

4. DATA ANALYSIS

A synthesis of the findings from the included studies was carried out as part of the analysis for this systematic review. The research used quantitative and qualitative approaches to its investigation of the topic. Most of the published works examined the results of integrating technology by using qualitative techniques, especially content analysis. The bulk of the published research focused on qualitative approaches, while a few employed quantitative techniques, including surveys and statistical analysis to assess the effect of technology-enhanced learning on accounting education. This data analysis aimed to reveal overarching themes, trends, and important findings shared by all of the selected studies.

5. RESULTS

One example of such a finding is provided below in the form of a synthesis of the patterns of results found in the study literature and is labelled "Result 1." It provides an overview of the most important outcomes and impacts that e-learning has had on accounting classes. By summarizing the research that was looked at and presenting the findings in either a narrative or tabular manner, one might bring attention to the most important discoveries and the repercussions of those conclusions. In the second section of the study, the authors go further into certain domains or subtopics as they explore the impact that technologically enhanced learning has had on the field of accounting education. It reveals to the reader any new patterns, trends, or insights that have been identified in previous research. Third, this section builds on the findings published in the parts that came before it by giving fresh insights into, or alternative interpretations of, the assessed research. this

section also expands on the results that were reported in the sections that came before it. The reader should come away from this piece with a comprehensive understanding of how the introduction of technology into the classroom has impacted the delivery of accounting training. These methods include changes in student involvement, course outcomes, the learning of transferable skills, and the relevance of individual tools. This article also aims to offer readers a viewpoint on how the significance of specific tools has evolved.

Following the data presentation, the authors perform an analysis to determine what the findings imply and how they should be interpreted. It makes it possible to conduct a comprehensive analysis of the results by placing them in the context of the research's overarching questions and objectives. Consider the three distinct viewpoints offered in Discussions 1 through 3 to better understand how technology-enhanced learning has impacted the area of accounting education. The aforementioned comprehensive research study served as the basis for these recommendations for improving accounting education via the use of various technological tools. The proposals include everything from the problems to the challenges to the potential outcomes of more research. They demonstrate how accounting education may take advantage of ongoing advancements in educational technology as well as how the integration of technology can be improved upon. In this section, we will analyze the flaws found in both the methodology of the systematic review and the publications that were evaluated. It draws attention to potential sources of bias, limits in the study technique, or problems that have not been answered yet. Constraints and recommendations for more investigation: To assist future researchers in overcoming these limitations and making contributions that are valuable to the field, Sections 1, 2, and 3 provide in-depth analyses of the challenges that have been found.

6. CONCLUSION

The analysis is finished by providing a synopsis of the key findings of the research as well as a review of the objectives that were successfully accomplished. It highlights the importance of learning that is facilitated by technology in accounting schools and recommends areas that need more investigation in the future. The summary provides the basis for future research in the subject of accounting education with the use of technology, leading the way towards the most successful paths of investigation.

REFERENCES

- [1] AL-HASHIMY, H. (2017). Factor Influencing Salaries and Wage Order: Empirical Study at Basra University. *IOSR Journal of Business and Management*, 19(1), 30-36.
- [2] Al-Hashimy, H., Alabdullah, T., Ries, E., & Jamal, K. (2023). Implementing Technology for Competitive Advantage in Digital Marketing. *International Journal of Scientific and Management Research*, 6(6), 95-114.
- [3] AL-HASHIMY, H. N. H. (2018). The Effect of Tax System on Shareholder Decisions when Choosing a Accounting Principles. *Journal of Reviews on Global Economics*, 7, 21-27.
- [4] AL-Hashimy, H. N. H. (2019). The Role of Auditing Practices that Affect Accounting Standards and Taxable Income: A Study in Iraq. *Journal of University of Babylon for Pure and Applied Sciences*, 27(6), 244-258.
- [5] Al-Hashimy, H. N. H. (2022a). The Effect of Building Information Modelling (BIM) on the Accounting Information System (AIS) of construction firm. *International Journal of Business and Management Invention*, 11(12), 31-39.
- [6] Al-Hashimy, H. N. H. (2022b). The Impact of Building Information Management (BIM) on the Profitability of Construction Projects. *International Journal of Scientific and Management Research*, 5(10), 156-169.
- [7] Al-Hashimy, H. N. H. (2022c). The Impact of Corona virus Pandemic on the International and Domestic Economy: Analysis the Strengths and Weaknesses Based on SWOT Analysis. *International Journal of Business and Management Invention*, 11(10), 90-96.
- [8] Al-Hashimy, H. N. H. (2022d). A review of Accounting Manipulation and Detection: Technique and Prevention Methods. *International Journal of Business and Management Invention*, 11(10), 82-89.
- [9] Al-Hashimy, H. N. H., Alabdullah, T. T. Y., Ries, E., Ahmed, M. A., Nor, M. I., & Jamal, K. A. M. (2022). The Impact of Financial Management Elements and Behavioral Intention on the Financial Performance. *International Journal of Scientific and Management Research*, 5(12), 117-149.

- [10] Al-Hashimy, H. N. H., Said, I., & Ismail, R. (2022). Evaluating the Impact of Computerized Accounting Information System on the Economic Performance of Construction Companies in Iraq. *Informatica*, 46(7).
- [11] Al-HASHIMY, M., & Al-hashimy, H. N. H. (2019). Strategic Accounting in the Profitability of Construction Engineering Projects Management Companies in Iraq. *Journal of Engineering and Applied Sciences*, 14(3), 941-944.
- [12] AL-Hashmy, H. N., Said, I., & Ismail, R. (2022). Analyzing the Impact of Computerized Accounting Information System on Iraqi Construction Companies' Performance. *Informatica*, 46(8).
- [13] Al-Rahmi, W. M., Yahaya, N., Aldraiweesh, A. A., Alamri, M. M., Aljarboa, N. A., Alturki, U., & Aljeraiwi, A. A. (2019). Integrating technology acceptance model with innovation diffusion theory: An empirical investigation on students' intention to use E-learning systems. *Ieee Access*, 7, 26797-26809.
- [14] Al Ghatrifi, M. O. M., Al Amairi, J. S. S., & Tottoli, M. M. (2023). Surfing the technology wave: An international perspective on enhancing teaching and learning in accounting. *Computers and Education: Artificial Intelligence*, 100144.
- [15] Alam, A. (2021). Should robots replace teachers? Mobilisation of AI and learning analytics in education. Paper presented at the 2021 International Conference on Advances in Computing, Communication, and Control (ICAC3).
- [16] Arumugam, V., Hussein, H. N., & Najmuldeen, C. (2015). A Review and Model Development of the Factors that Affect Mobile Marketing Acceptance by Customers. *International Journal of Science and Research*, 4(10), 1475-1478.
- [17] Chen, Y., Wang, Q., Chen, H., Song, X., Tang, H., & Tian, M. (2019). An overview of augmented reality technology. Paper presented at the *Journal of Physics: Conference Series*.
- [18] Dewua, K., & Barghathf, Y. (2019). The accounting curriculum and the emergence of Big Data. *Accounting and Management Information Systems*, 18(3), 417-442.
- [19] Habib, M. N., Jamal, W., Khalil, U., & Khan, Z. (2021). Transforming universities in interactive digital platform: case of city university of science and information technology. *Education and Information Technologies*, 26, 517-541.
- [20] Hasan, L. M., Zgair, L. A., Ngotoye, A. A., Hussain, H. N., & Najmuldeen, C. (2015). A review of the factors that influence the adoption of cloud computing by small and medium enterprises. *Scholars Journal of Economics, Business and Management*, 2(1), 842-848.
- [21] HUSSAIN, H. (2017). Introduction to management skills must be available to accountants in Iraq. *International Institute for Science, Technology and Education*.
- [22] Hussain, H. N., Alabdullah, T. T. Y., Ahmed, E. R., & Jamal, K. A. M. (2023). Implementing Technology for Competitive Advantage in Digital Marketing.
- [23] Hussain, H. N., Alabdullah, T. T. Y., & Kanaan Abdulkarim, M. (2023). Time Management as a Critical Success Factor in the Oil Industry of Basra Governorate: An Accounting Information Systems Study.
- [24] Hussein, H., Kasim, N., & Arumugam, V. (2015). A review of creative accounting practices and its area, technique and ways of prevention. *International Journal of Science and Research*, 4(10), 1377-1381.
- [25] Hussein, W. N., Hussain, H. N., Hussain, H. N., & Mallah, A. Q. (2023). A deployment model for IoT devices based on fog computing for data management and analysis. *Wireless Personal Communications*, 1-13.
- [26] Kroon, N., do Céu Alves, M., & Martins, I. (2021). The impacts of emerging technologies on accountants' role and skills: Connecting to open innovation—a systematic literature review. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 163.
- [27] Manca, S. (2020). Snapping, pinning, liking or texting: Investigating social media in higher education beyond Facebook. *The Internet and Higher Education*, 44, 100707.
- [28] Mayor, B. (2019). Growth patterns in mature desalination technologies and analogies with the energy field. *Desalination*, 457, 75-84.

- [29] Ożadowicz, A. (2020). Modified blended learning in engineering higher education during the COVID-19 lockdown— Building automation courses case study. *Education Sciences*, 10(10), 292.
- [30] Qasim, A., & Kharbat, F. F. (2020). Blockchain technology, business data analytics, and artificial intelligence: Use in the accounting profession and ideas for inclusion into the accounting curriculum. *Journal of emerging technologies in accounting*, 17(1), 107-117.
- [31] Saiyad, S., Virk, A., Mahajan, R., & Singh, T. (2020). Online teaching in medical training: Establishing good online teaching practices from cumulative experience. *International Journal Of Applied And Basic Medical Research*, 10(3), 149.
- [32] Tartavulea, C. V., Albu, C. N., Albu, N., Dieaconescu, R. I., & Petre, S. (2020). Online Teaching Practices and the Effectiveness of the Educational Process in the Wake of the COVID-19 Pandemic. *Amfiteatru Economic*, 22(55), 920-936.