










Perspectives in Adopting a Practical and Technology-Integrated Approach in the Teaching and Learning of Commercial Courses in the Post-COVID- 19 era in Higher Education

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ABSTRACT

South African higher education institutions (HEIs) are engaged in the transformation process and one area of interest is curriculum transformation. Some of the focus areas in the transformation process are developing effective curriculum teaching methods and illustrating how technology is infused into the curriculum. This theoretical paper observes that teaching commercial subjects currently has significant challenges. The negative effects of COVID-19 in implementing effective teaching strategies have endorsed the transformation process. The paper aims to provide literature debates and a scholarly background on perspectives of adopting a practical and technological approach in the teaching and learning of commercial courses in the post-COVID-19 era in higher education. The conceptual paper adopts a thematic qualitative approach. The themes discussed in the literature review are: Perspectives of teaching methods in accounting, business studies, computer applied technology, economics, and technology integration and experiences in the post-COVID-19 era. The paper documents how a practical and technologically infused approach can be employed in the teaching and learning of commercial courses for the benefit of all stakeholders, and additionally, lessons from the COVID-19 pandemic implemented in the post-COVID-19 era. In conclusion, in teaching commercial subjects, there is a switch from a traditional lecturer-centred approach to a hybrid delivery mode. It is therefore recommended that HEIs provide thorough strategic planning at an institutional level and provide major changes in resource allocation and organizational processes and structures for an effective hybrid mode of delivery. In addition, instructional designers should generate the best hybrid learning system that empowers all relevant stakeholders.

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INTRODUCTION

COVID-19 and its spread resulted in the need to continually transform the landscape in the learning and teaching experiences of the higher education sector.¹ Higher education institutions (HEIs) employed online platforms in different contexts and adopted blended or hybrid models and digital technologies as they redesigned and transformed education.² This drastic change in the situation in education during the pandemic led to significant challenges for both students and academics. These challenges required staff and students to adapt to the status quo in terms of learning and teaching by moving away from traditional physical methodologies and transitioning to online virtual classrooms using technology.

The transformational change based on the COVID-19 pandemic resulted in training on the hybrid model as a necessity, hence the decision to train university staff and students in the use of modern technology.³ The hybrid mode of delivery entails a combination of face-to-face instruction mode in class with an online virtual mode. Integrating technology into the teaching and learning of commercial subjects demand that there should be new learning and teaching methodologies associated. Gretter and Yadav believed that less consideration was given to both lecturers and students in terms of training and equipping them to adequately address challenges and master the new mode of learning virtually.⁴ Yet, training for both students and academics is a critically important vehicle in the new world of virtual learning.

Numerous questions arose during the transformation process, especially in the post-COVID-19 era. For instance, is the virtual teaching of students worsening inequality? Is there a need for proper learning tools such as computers and reliable wireless connectivity? Is there a balance between school and home demands and focus on the schoolwork as some of them had to be at their homes when schools closed during COVID-19? How should faculties support students to participate meaningfully in education while at the same time delivering quality education? While staff and students faced a myriad of academic and psychosocial challenges, COVID-19 brought about opportunities to learn new skills and develop approaches to address their needs. On the other hand, a collaboration between students and staff coupled with the issue of flexibility was required to ensure active engagement in online learning and teaching.⁵ The study will produce results that, when implemented, will make lecturers relevant to the current period instead of holding on to methods that do not guarantee learning.

Digital technology played a significant role during the COVID-19 pandemic.⁶ HEIs had to divert from the face-to-face mode of delivery to adopting an online course delivery mode, including meetings, workshops, and conferences. The massive transformation included a hybrid mode that accepts few face-to-face gatherings and more digital platforms such as pre-planned videos,

¹ Kelum A.A. Gamage, Erandika K. de Silva, and Nanda Gunawardhana, "Online Delivery and Assessment during COVID-19: Safeguarding Academic Integrity," *Education Sciences* 10, no. 11 (October 25, 2020): 301, <https://doi.org/10.3390/educsci10110301>.

² Nastaran Peimani and Hesam Kamalipour, "Online Education in the Post COVID-19 Era: Students' Perception and Learning Experience," *Education Sciences* 11, no. 10 (October 13, 2021): 633, <https://doi.org/10.3390/educsci11100633>.

³ Walter Leal Filho, Chris Shiel, and Arminda do Paço, "Integrative Approaches to Environmental Sustainability at Universities: An Overview of Challenges and Priorities," *Journal of Integrative Environmental Sciences* 12, no. 1 (January 2, 2015): 1–14, <https://doi.org/10.1080/1943815X.2014.988273>.

⁴ Sarah Gretter and Aman Yadav, "Computational Thinking and Media & Information Literacy: An Integrated Approach to Teaching Twenty-First Century Skills," *TechTrends* 60, no. 5 (2016): 510–16, <https://doi.org/10.1007/s11528-016-0098-4>.

⁵ Lorenz S Neuwirth, Svetlana Jović, and B Runi Mukherji, "Reimagining Higher Education during and Post-COVID-19: Challenges and Opportunities," *Journal of Adult and Continuing Education* 27, no. 2 (November 9, 2021): 141–56, <https://doi.org/10.1177/1477971420947738>.

⁶ Neuwirth, Jović, and Mukherji, "Reimagining Higher Education during and Post-COVID-19: Challenges and Opportunities."

Blackboard, Moodle's e-learning spaces, and others.⁷ Digital platforms enabled students and lecturers to adapt to online, blended learning, where there were drastic experiences and perceptions during the COVID-19 pandemic. Exploring students' perception of blended online learning amid the adaptations of the higher education sector in the wake of uncertainty has become more critical than ever. Digital technology is pivotal to postgraduate students' perceptions and learning experiences. Hence, this paper explored perspectives in adopting a practical and technology-integrated approach in the teaching and learning of commercial courses in the post-COVID-19 era.

It is generally accepted that teaching methods directly influence the development of abilities such as confidence, independence, leadership, cooperation, accountability, communication, and decision-making skills. This paper aims to explore the perspectives of teaching methods in commercial subjects and learning in higher education. This is driven by a need for a practical approach to teaching and learning, technology-infused teaching and learning approach, and the realisation that higher education institutions need to adapt to changes brought about by COVID-19. Existing commercial teaching methods are examined to determine their relevance post-COVID-19, and recommendations are made on the best technology-infused teaching strategies.

THEORETICAL FRAMEWORK

Adopting a practical and technology-integrated approach in the teaching and learning of commercial courses is key to the transformation of universities; hence, the theory of change is employed in this study. The theory of change includes the process that ranges from inputs, activities, outputs, and outcomes to impacts.⁸ The theory can sharpen the planning and implementation of adopted strategies. In this theory, inputs are used to change, and these should be firm to choose roles one at a time. In teaching and learning, the input phase involves researching effective teaching methods, technology forecasts, and best teaching strategies. It should be noted that this stage is necessary though its time consuming and expensive. However, a seed fund is provided by the universities and other private institutions that researchers can consider for a successful feasibility study.⁹

After a successful feasibility study, the theory of change allows the transformation process to engage the researcher in several activities. These activities entail different stages of research and development of the prototype, transfer of knowledge, and collecting data for analysis. The theory of change links to transformation and integration because the initiative can be evaluated systematically and cumulatively to put activities and outcomes together.¹⁰

The theory of change alludes that the researcher begins by stating the intended outcomes and putting them into context.¹¹ For instance, in this case, the intended outcome is for universities to produce impactful research for communities with economic value through teaching and learning. An important economic factor may be the policy environment, where universities provide legislation on funding models of the research project at the stages of effective teaching and learning. Moreover, another contextual fact may refer to social networks, such as how communities and participants can accept the project or how intergroup relations are addressed.¹² The theory of change needs to be plausible in that implemented activities should lead to desired outcomes. The underpinning theory argues for the use of inputs to change and stresses that one needs to be firm in choosing roles and

⁷ Peimani and Kamalipour, "Online Education in the Post COVID-19 Era: Students' Perception and Learning Experience."

⁸ Catherine A Dibenedetto and Brian E Myers, "A Conceptual Model for the Study of Student Readiness in the 21st Century 1," *NACTA Journal* 60 (2016).

⁹ Priya Bhagavathy, "Theory of Change - Interactive Visualisation," accessed October 19, 2022, <https://data.priyaresearch.com/toc.html>.

¹⁰ Kaisa Matschoss, Petteri Repo, and Jani Lukkarinen, "Network Analysis of Energy Transition Arena Experiments," *Environmental Innovation and Societal Transitions* 35 (June 2020): 103–15, <https://doi.org/10.1016/j.eist.2020.03.003>.

¹¹ Matschoss, Repo, and Lukkarinen, "Network Analysis of Energy Transition Arena Experiments."

¹² Kassandra Papadopoulou et al., "Entrepreneurship Education And Career Paths: Evidence From An Entrepreneurship Centre" (Institute for Small Business and Entrepreneurship, 2021).

dealing with one role at a time. The theory of change in the learning and teaching context is viewed in the conceptual framework found in Figure 1.

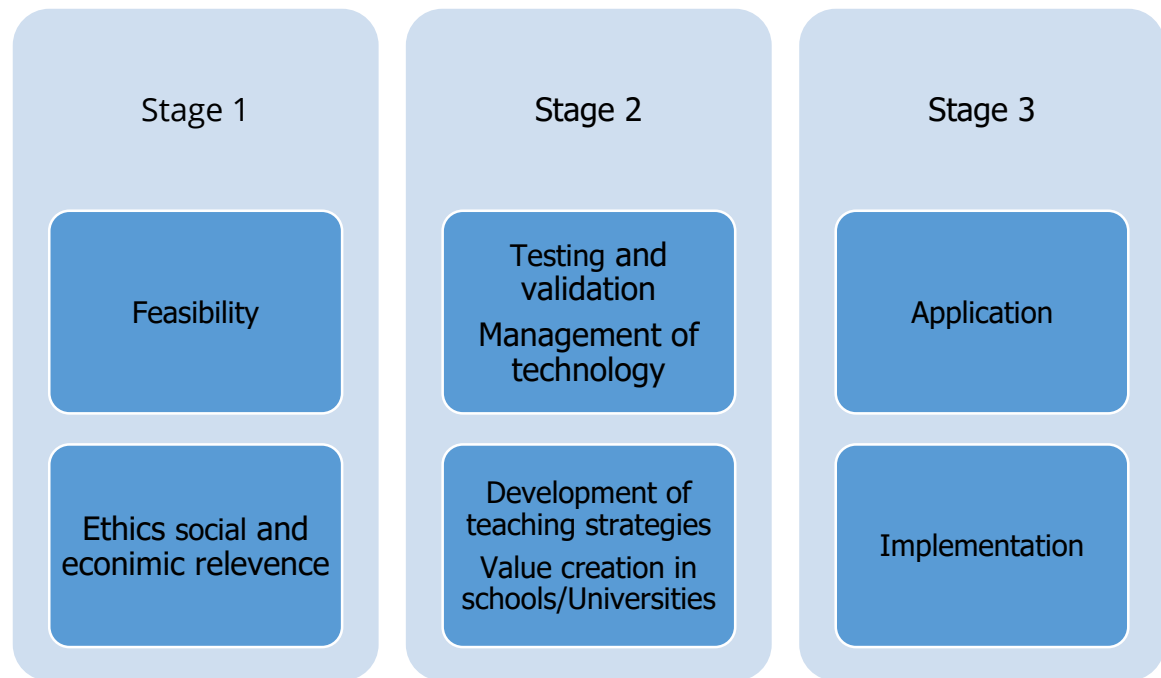


Figure 1: Stages of an integrative approach in teaching and learning commercial courses.

Source: Authors

To explore perspectives in adopting a practical and technology-integrated approach in the teaching and learning of commercial courses in the post-COVID-19 era in HEIs, Figure 1 illustrates the framework of the change process. The process has three stages, with stage one entailing the process of change, including feasibility studies that employ ethical considerations. The second stage involves testing and validation, management of technology, development of teaching strategies, and value creation in institutions of learning. The developed strategies are applied and implemented in the transformation process, as indicated in Figure 1.¹³

Perspectives of Teaching Methods in Accounting

Leal and Borges assert that academics commonly use seminars, group work, directed study, reading, and instructional methods in teaching accounting.¹⁴ These methods require creativity to be effectively applied when online teaching is used. Leal and Borges further allude that the educational objectives set for the disciplines and the academic's educational experiences influence the teaching method choice.¹⁵ This makes the careful selection of teaching methods incremental to lecturers, particularly those preparing student-teachers. Student-teachers learn their art of teaching by observing their lecturers before they (student-teachers) are placed in schools for experiential learning.

¹³ Matschoss, Repo, and Lukkarinen, "Network Analysis of Energy Transition Arena Experiments."

¹⁴ Edvalda Araujo Leal and Manuella de Piemonte Pereira Borges, "Teaching Strategies Applied in the Area of Managerial Accounting: A Study with Students of the Course of Accounting," *REVISTA AMBIENTE CONTÁBIL - Universidade Federal Do Rio Grande Do Norte*; Vol 8 No 2 (2016): Jul./Dez.; 1-18, April 18, 2016, <http://rebacc.crcrj.org.br/handle/123456789/5202>.

¹⁵ Leal and Borges, "Teaching Strategies Applied in the Area of Managerial Accounting: A Study with Students of the Course of Accounting."

COVID-19 revealed common issues in accounting education in several countries in the world.¹⁶ Countries' responses to the issues revealed by COVID-19 varied. Positive outcomes, such as the opportunities created to realign teaching and learning methods desert the traditional approach. Academics reluctant to use technology in teaching had no option but to conform to the technology.¹⁷ Negative outcomes mainly impacted the health and well-being of students and lecturers, which left some lecturers and students under stress.¹⁸ Some teaching methods that were applied had to be abandoned as their continued use would increase the chances of transmission of COVID-19.

Seminars involve class activities where the teacher and a small group of students discuss a topic and come up with consolidated knowledge on a topic.¹⁹ This method is applicable in accounting as the small groups allow the participation of all students in the group. Group work can also promote the display of information through role-playing.²⁰ The element of role-playing is that teaching and learning occur as students enjoy the play with no boredom. Topics like management of current assets where the bank, debtors, and creditors reconciliations are better displayed when students are allowed to assume the role of the preparers of the different statements to be reconciled. Some accounting students usually have a negative attitude toward the subject, which makes them struggle to master the core accounting standard concepts.²¹ The same sentiments are shared by Peng, who stresses the need for learner-centered teaching methods to eliminate inactivity that leads to boredom for students.²² Therefore, finding and using new and innovative teaching methods like role-playing in accounting is imperative. Role-play enhances the teaching and learning process, and if properly applied, it is a win-win for both lecturers and students.

Collaborative teaching assists lecturers in focusing on areas they master is applicable through administering seminars.²³ A lecturer may invite a lecturer from another campus or university to teach specific topics during the seminar; that way, students receive a variety of strategies to tackle different topics. Seminars are also a teaching strategy that encourages communication and critical thinking skills, which are important attributes that professional organisations and employers need.

Accounting has standards and concepts which are unique to it; hence direct study is a teaching method that will never grow old.²⁴ A student, therefore, must follow the lecturer's instructions to engage in extensive reading. This approach works well for lecturers who clearly explain the need for studying and do not use this method in isolation but collaborate with other innovative teaching

¹⁶ Alan Sangster, Greg Stoner, and Barbara Flood, "Insights into Accounting Education in a COVID-19 World," *Accounting Education* 29, no. 5 (September 2, 2020): 431–562, <https://doi.org/10.1080/09639284.2020.1808487>.

¹⁷ Filho, Shiel, and Paço, "Integrative Approaches to Environmental Sustainability at Universities: An Overview of Challenges and Priorities."

¹⁸ Amit Joshi, Muddu Vinay, and Preeti Bhaskar, "Impact of Coronavirus Pandemic on the Indian Education Sector: Perspectives of Teachers on Online Teaching and Assessments," *Interactive Technology and Smart Education* 18, no. 2 (September 22, 2021): 205–26, <https://doi.org/10.1108/ITSE-06-2020-0087>.

¹⁹ Wang Peng, "Construction and Application of Accounting Computerization Skills Teaching Resource Database under the Background of 'Internet +,'" *Curriculum and Teaching Methodology* 2, no. 1 (2019): 1–4, <https://doi.org/10.23977/curtm.2019.21001>.

²⁰ Raluca Sava, "Innovative Teaching Strategies in Accounting," in *Innovative Business Development—A Global Perspective*, ed. Ramona Orăștean, Claudia Ogorean, and Silvia Cristina Mărginean (Springer, 2018), 323–29, https://doi.org/10.1007/978-3-030-01878-8_27.

²¹ Sava, "Innovative Teaching Strategies in Accounting."

²² Peng, "Construction and Application of Accounting Computerization Skills Teaching Resource Database under the Background of 'Internet +,'"

²³ Leal and Borges, "Teaching Strategies Applied in the Area of Managerial Accounting: A Study with Students of the Course of Accounting."

²⁴ Peng, "Construction and Application of Accounting Computerization Skills Teaching Resource Database under the Background of 'Internet +,'"

methods.²⁵ Student teachers need to be guided on how to do self-study before they are directed to read alone at home.

Perspectives of Teaching Methods in Business Studies

Business studies is an area that affects the daily lives of humans, where behaviour is influenced by experiences, information, and things that motivate people.²⁶ Efficient teaching methods for business studies should assist the students in fulfilling their goals and objectives. Teaching methods to be discussed for business studies will include practical experiences that bring interest to the topics rather than traditional teaching methods.

Some scholars view traditional methods used in the teaching of business studies as relevant for a logical delivery of defining concepts.²⁷ However, these methods lead to boredom because students are not actively participating in discussions. It is not easy for students to learn as they learn by doing, which is possible when they are engaged in doing something like discussing a scenario. Furthermore, a practical way occurs when students engage in topics that affect their daily lives and suggest possible solutions to the identified problem in society. Consequently, they need to think out of the box and relate to their immediate environment.

The teaching methods that are relevant in the teaching of business studies are as follows: role play, discussions, case studies, problem-solving, projects based on research, groups, power-point presentations, industry applications, seminars, and workshops.²⁸ For instance, a case study can be used to illustrate a practical situation where students apply a concept taught in class to solve the problem of that business. In a case study, there is a clear understanding of how to run a business even for future benefit in the real world.²⁹ When teaching with a case study, several teaching strategies emerge, like case discussions by the facilitator and students debating to encourage active participation.

Several factors prompt one to choose certain resources and methods over others in a classroom, such as characteristics of the group of students to be taught, the subject area taught, cost, preparation time, mastery of the method, feedback from/to students, fear of non-acceptance, and more.³⁰ For example, the project-based learning method of teaching may be used to actively involve students by assigning them to research a topic even before it is taught. This encourages students to be part of the lesson and shifts the centre of attention from a teacher as both the teacher and students have prepared for the lesson. Although the project method was used even before technology, its success solely depended on the accessibility of books. Project-based learning students today supplement the hardcopy material with material available online. Moreover, the costs associated with visiting libraries are reduced as nowadays books are accessible online, which indicates the suggested technology-integrated approach adopted in this paper.³¹

In project-based research, learning activities based on research in any project could ultimately create opportunities for students to work on the problem that is experienced and happening in the real business world. Mohammed states, “the teachers who are efficient make the project that is relevant to

²⁵ Nazgol Nekoui Naeini and Mohsen Shahrokhi, “Relationship between Gender and Vocabulary Teaching Methodology among Iranian EFL Children: A Comparison of TPR and Direct Method,” *Advances in Language and Literary Studies* 7, no. 1 (February 2016): 60–74, <https://doi.org/10.7575/aiac.all.v.7n.1p.60>.

²⁶ Mehdi Farashahi and Mahdi Tajeddin, “Effectiveness of Teaching Methods in Business Education: A Comparison Study on the Learning Outcomes of Lectures, Case Studies and Simulations,” *The International Journal of Management Education* 16, no. 1 (March 2018): 131–42, <https://doi.org/10.1016/j.ijme.2018.01.003>.

²⁷ Alvin S Sicat, “Enhancing College Students’ Proficiency in Business Writing Via Schoology,” *International Journal of Education and Research* 3, no. 1 (2015): 159–78, www.learnnc.org.

²⁸ Johanna Gustafsson, “Single Case Studies vs. Multiple Case Studies: A Comparative Study,” 2017.

²⁹ Emil J. Posavac, *Program Evaluation: Methods and Case Studies*, 8th ed. (Routledge, 2015), <https://doi.org/10.4324/9781315664972>.

³⁰ Dimitra Kokotsaki, Victoria Menzies, and Andy Wiggins, “Project-Based Learning: A Review of the Literature,” *Improving Schools* 19, no. 3 (November 24, 2016): 267–77, <https://doi.org/10.1177/1365480216659733>.

³¹ Kokotsaki, Menzies, and Wiggins, “Project-Based Learning: A Review of the Literature,” 267–277.

the world outside a classroom and help the students in understanding the link between activities that are conducted in the classroom and a practical environment. Students' abilities are developed, and this enables students to be creative thinkers."³²

The industry application approach entails visiting companies to assist students in understanding more of what is taught in class and exposing them to the real world.³³ This can provide students with first-hand experience of the relevance of the curriculum taught and can be done in different ways. Students can visit companies online and learn about the strategic plans from websites or communicate via online platforms to learn more about the interested companies. On the other hand, students can visit nearby businesses to interact with them directly and apply knowledge gained in class to empower businesses, especially small businesses. When industry application is used, several teaching methods can be employed, like grouping students, training them on how to ask questions, and how to download information online. There can be workshops before visits and feedback discussion sessions after visits. These can enhance students' abilities on communication skills. In addition, the community engagement between the institution and the society can strengthen through industry visits.³⁴

Perspectives of Teaching Methods in Computer Applied Technology

Formal and informal education has already changed in many ways through the continual development of digital technology.³⁵ Computer applications technology could support and enhance learning through technology-based education. The digital environment needs to be developed and measured to enable the new skills related to the student's work. It might be interesting to explore the role of computer science in a technological-based educational context. The students could engage in various learning activities by introducing and enhancing computing concepts and skills to create the opportunity to be creative.³⁶

Fambaza argued that students could do better when working as a group, even though they are not all in the same physical environment or space.³⁷ COVID-19 brought much change in terms of doing things, such as conducting classes. As a result, students study and prepare for class tests or examinations using digital technologies. There is a dire need for higher education institutions to train student teachers for the Department of Basic Education and equip them with computer skills. In many schools in rural areas, computers cannot function properly; the reason is that the schools do not employ computer laboratory technicians to keep the machines up to standard through service. In most cases, computer applications technology teachers were not trained to teach computers as a subject at high school levels (Grades 10 to 12). Some institutions of higher learning are not taking seriously the matter of training students to be computer applications technology educators even though the world is in the Fourth Industrial Revolution (4IR). Students in South Africa have started taking computer applications technology as a major subject in teaching and as one of the scarce skills in the labour market (Department of Basic Education).

The COVID-19 pandemic forced over 109 countries across the world to apply social distancing. The temporal closure of schools both regionally and worldwide led to social distancing, which was put in place in March 2020. All the measures were taken then, and the motive was to avoid total curriculum disruption. Mahaye concludes that the period of lockdown would be able to make up for the educational

³² Abdulquddus Mohammad, "Experimental Methods of Teaching Business Studies: Practical Approaches beyond Lecturing," *International Journal Of Core Engineering & Management (IJCEM)* 1, no. 12 (2015): 59–73, <https://www.researchgate.net/publication/274890522>.

³³ Barbara Falk Condliffe, "Project-Based Learning: A Literature Review. Working Paper.," MDRC 2017.

³⁴ Mohammad, "Experimental methods of teaching business studies: Practical approaches beyond lecturing."

³⁵ Varvara Garneli, Michail N Giannakos, and Konstantinos Chorianopoulos, "Computing Education in K-12 Schools: A Review of the Literature," in *IEEE Global Engineering Education Conference (EDUCON)* (Tallinn, Estonia: IEEE, 2015), 543–51.

³⁶ Garneli, Giannakos, and Chorianopoulos, "Computing education in K-12 schools: A review of the literature."

³⁷ Tembalihle Fambaza, "The Experiences of Teachers about Teaching Computer Applications Technology at FET Band." (University of KwaZulu-Natal, 2012), <https://researchspace.ukzn.ac.za/handle/10413/9573>.

systems in the country being structured with definitive calendars to avoid having a gap year.³⁸ In higher educational institutions, the use of emerging technologies with electronic learning impacted suffering during the COVID-19 pandemic.³⁹

The teaching methods renewal was accelerated using computers and the availability of the internet. It is shocking to learn that there are lecturers who are unenthusiastic about infusing technology into their teaching.⁴⁰ Refusal or reluctance to infuse technology in teaching is refusing to be relevant to the students one teaches. Furthermore, reluctance portrays a lack of understanding that teaching goes with learning; for learning to occur, students' interests need to be aroused.⁴¹

Perspectives of Teaching Methods in Economics

Economic modules are influenced by the lecturers' decisions and other issues that influence the circumstances under which a course is imparted. A key decision is the choice of teaching methods. Different methods are used to substitute the traditional lecture or in addition to it. The common reason for approving alternative methods is to engage students in learning and apply the knowledge for future endeavours. Therefore, the old-style teacher-centred lecture class is viewed as a too-submissive form of instruction. In addition to instructor decisions, departmental and institutional policies linked to the weight given to teaching in faculty evaluations, teaching loads, teaching experiences, and class sizes may affect the use of diverse teaching methods.⁴² Over the past two decades, several books and articles have been reproduced that define how teachers can use interactive teaching methods such as discussions, writing-to-learn strategies, classroom experiments, case studies, cooperative learning, contextualised problem-solving methods, and experiential learning.⁴³

● Classroom experience

Attainment improvements are also greater when students have a report on the experiment experiences. There are economic experiments that can be used as a classroom experience approach. In the past, teaching economics focused on experiments in abstract concepts that affected more on prices and demand for prices.⁴⁴ Nowadays, this has brought about changes in society. Then, the social experiments were changed to include markets' evolution and taught in classrooms. For example, a classroom experiment on human beings can be given to students, like teaching entrepreneurship for

³⁸ Mahaye Ngogi Emmanuel, "The Impact of COVID-19 Pandemic on South African Education : Navigating Forward the Pedagogy of Blended Learning," 2020, https://www.researchgate.net/publication/340899662_The_Impact_of_COVID-19_Pandemic_on_South_African_Education_Navigating_Forward_the_Pedagogy_of_Blended_Learning.

³⁹ Ragad M. Tawafak, Sohail Iqbal Malik, and Ghaliya Alfarsi, "Impact of Technologies during the COVID-19 Pandemic for Improving Behavioral Intention to Use e-Learning," *International Journal of Information and Communication Technology Education* 17, no. 3 (July 1, 2021): 137–50, <https://doi.org/10.4018/IJICTE.20210701.OA9>.

⁴⁰ Yolanda Singleton, "Teachers' Perceptions and Attitudes of Infusing Technology in High School Classrooms to Strengthen Pedagogy: A Qualitative Embedded Single-Case Study.," *ProQuest LLC* (ProQuest LLC. 789 East Eisenhower Parkway, P.O. Box 1346, Ann Arbor, MI 48106. Tel: 800-521-0600; Web site: <http://www.proquest.com/en-US/products/dissertations/individuals.shtml>, 2017).

⁴¹ Mustafa Tevfik Hebecci, Yasemin Bertiz, and Selahattin Alan, "Investigation of Views of Students and Teachers on Distance Education Practices during the Coronavirus (COVID-19) Pandemic.," *International Journal of Technology in Education and Science* 4, no. 4 (2020): 267–82, Singleton, "Teachers' Perceptions and Attitudes of Infusing Technology in High School Classrooms to Strengthen Pedagogy: A Qualitative Embedded Single-Case Study."

⁴² Cynthia Harter, Georg Schaur, and Michael Watts, "School, Department, and Instructor Determinants of Teaching Methods in Undergraduate Economics Courses," *Southern Economic Journal* 81, no. 4 (2015): 1169–88, <http://www.jstor.org/stable/26160598>.

⁴³ Michael K. Salemi and William B. Walstad, *Teaching Innovations in Economics : Strategies and Applications for Interactive Instruction* (Cheltenham: Edward Elgar, 2011), <https://www.e-elgar.com/shop/gbp/teaching-innovations-in-economics-9780857933317.html>.

⁴⁴ Jeffrey D. Sachs and Wing Thy Woo, "Experiences in the Transition to a Market Economy," *Journal of Comparative Economics* 18, no. 3 (June 1, 1994): 271–75, <https://doi.org/10.1006/JCEC.1994.1047>.

job creation.⁴⁵ The teacher can provide a practical approach in the classroom, where students learn several entrepreneurship skills as an experiment. Then, at a later stage, students are evaluated on the link between entrepreneurship education and job creation. This means entrepreneurship education was used as an experiment in the classroom, and students used the experience for future job creation needs.

- **Cooperative learning and peer effects**

There is extensive eagerness for cooperative learning, in which students work in small groups to realize shared objectives. The motive behind implementing this teaching practice is to inspire collaboration and foster trust, which offers the building of social capital.⁴⁶ Exposing students to cooperative learning benefits students' confidence and builds people who can work together. This method encourages students to learn that bringing change to their lives involves interactions with their peers and being better social citizens.⁴⁷

- **Online instruction**

The ability to practice technology to impart and learn undergraduate economics has improved melodramatically over the past decade. The study conducted on principles of economics that were both face-to-face and online compared with the traditional method using face-to-face instruction reported lower achievement.⁴⁸ Kennelly, Considine, and Flannery established that the way a student completes a homework assignment, either online or traditional, does not distress a particular examination section related to the assignment content.⁴⁹ During the COVID-19 era, teaching economics was effective because of the adoption of online platforms. However, the hybrid mode was adopted by most HEIs because they were not allowed by the Council of Higher Education to be 100% online.

- **Class size**

The increasing size has an undesirable effect on student assessments of teaching. Research specifies that smaller classes are preferable to larger classes because students in smaller classes appear to learn more.⁵⁰ However, the technology-infused approach allowed more intakes to programmes because students attended classes online. All the institution did, was equip students and staff with technological gadgets and skills to use them. Some studies evaluated the effectiveness of technological approaches to ensure teaching and learning take place.⁵¹

⁴⁵ Thobeka Ncanywa, "Entrepreneurship and Development Agenda: A Case of Higher Education in South Africa.," *Journal of Entrepreneurship Education* 22, no. 1 (2019): 1–11.

⁴⁶ Yann Algan, Pierre Cahuc, and Andrei Shleifer, "Teaching Practices and Social Capital," *American Economic Journal: Applied Economics* 5, no. 3 (July 2013): 189–210, <https://doi.org/10.1257/app.5.3.189>.

⁴⁷ Posavac, *Program Evaluation: Methods and Case Studies*.

⁴⁸ Ted Joyce et al., "Does Classroom Time Matter?," *Economics of Education Review* 46 (June 2015): 64–77, <https://doi.org/10.1016/j.econedurev.2015.02.007>.

⁴⁹ Brendan Kennelly, John Considine, and Darragh Flannery, "Online Assignments in Economics: A Test of Their Effectiveness," *The Journal of Economic Education* 42, no. 2 (2011): 136–46, <http://www.jstor.org/stable/23049266>.

⁵⁰ William J. Mathis, "The Effectiveness of Class Size Reduction," *Psychosociological Issues in Human Resource Management* 5, no. 1 (January 1, 2017): 176–84; Thobeka Ncanywa and Z. C. Sibiyi, "A Case Study of What Determines Learner Performance in a Combined School in Mpumalanga Province," in *5th Annual International Conference on Public Administration and Development Alternatives* (International Conference on Public Administration and Development Alternatives (IPADA), 2020), 299–309, <http://ulspace.ul.ac.za/handle/10386/3228>.

⁵¹ Durmenov Shukhratjon Nurmamatovich and Po'latov Jalil, "The Role of Modern Technologies in the Learning Process," *Journal of Ethics and Diversity in International Communication* 1, no. 8 (January 29, 2022): 6–9, <https://openaccessjournals.eu/index.php/jedic/article/view/953>; Shirinboy Sharofoviya Olimov and Dilfuza Islomovna Mamurova, "Information Technology in Education," *Pioneer : Journal of Advanced Research and Scientific Progress* 1, no. 1 (May 1, 2022): 17–22, <https://www.innosci.org/index.php/jarsp/article/view/11>.

● **Textbook selection**

The choice of a textbook for an economics module is a choice variable for many lecturers. Previous studies of achievement, especially in introductory economics, recognised that the choice of a textbook does not have to be homogeneous in terms of features and content coverage among the leading principles of economics textbooks.⁵² It should be noted that there are plenty e-textbooks nowadays, and some are accompanied by PowerPoint presentations. The e-textbooks are encouraged by libraries to enhance teaching and learning and can be accessed online.

Technology Integration and Experiences in the Post-Covid-19 Era

According to the study by Águeda et. al., HEIs have a future to provide a hybrid mode of teaching and learning.⁵³ Most participants in the study think that the digital components of the teaching and learning introduced during COVID-19 be kept with some of the past forms of learning. That is, a hybrid type of higher education is favorable and should include more flexibility in the physical attendance of students and lectures.⁵⁴

Pratiwi suggested that technological platforms be retained by HEIs and adopt a hybrid (face-to-face and online) mode for effective delivery in the post-COVID-19 period.⁵⁵ The technological platforms of delivery include websites that can display notes, students write assessments, and also discussion boards, among many things. The hybrid mode is perceived by students as connecting platforms with their lectures and viewing them as academics other than their subject lecturers.⁵⁶ Online delivery sites like Moodle have online quizzes that are effective for students learning experiences in the future.⁵⁷ Other platforms like Blackboard provide online classes that are recorded to be used at the student's time of convenience. However, academics did not explore inter-university lectures to access guest lecturing from academics in other institutions or industry experts.⁵⁸

Technology integration is the use of well-coordinated digital devices and cloud computing as they form part of deeper learning and problem-solving to produce better understanding.⁵⁹ Technology integration promotes good facilitation access to the curriculum. Academics and teachers guide students on how best technology is used as a tool for accessing and understanding educational content. Some researchers argue that technology integration is using technological tools, especially in the context of education, for students to apply their technical skills to solve problems.⁶⁰

Generally, the role of technology integration indicates that appropriate training of teachers and equipping them with skills and ability to use the computer for their benefit and their student's benefit

⁵² Jane S. Lopus and Lynn Paringer, "The Principles of Economics Textbook: Content Coverage and Usage," in *International Handbook on Teaching and Learning Economics*, ed. Hoyt Gail M. and KimMarie McGoldrick (Cheltenham: Edward Elgar Publishing, 2011), <https://doi.org/10.4337/9781781002452.00045>.

⁵³ Águeda Benito et al., "Changes That Should Remain in Higher Education Post COVID-19: A Mixed-Methods Analysis of the Experiences at Three Universities," *Higher Learning Research Communications* 11, no. 0 (January 4, 2021), <https://doi.org/10.18870/hlrc.v11i0.1195>.

⁵⁴ Benito, et. al. "Changes That Should Remain in Higher Education Post COVID-19."

⁵⁵ Widya Rizky Pratiwi, "The Practice of Digital Learning (D-Learning) in the Study from Home (SFH) Policy: Teachers' Perceptions," *Journal of Southwest Jiaotong University* 55, no. 4 (2020), <https://doi.org/10.35741/ISSN.0258-2724.55.4.17>.

⁵⁶ Pratiwi, "The Practice of Digital Learning (D-Learning) in the Study from Home (SFH) Policy: Teachers' Perceptions.

⁵⁷ Brian Robert Cook and Andrea Babon, "Active Learning through Online Quizzes: Better Learning and Less (Busy) Work," *Journal of Geography in Higher Education* 41, no. 1 (January 2, 2017): 24–38, <https://doi.org/10.1080/03098265.2016.1185772>.

⁵⁸ Pratiwi, "The Practice of Digital Learning (D-Learning) in the Study from Home (SFH) Policy: Teachers' Perceptions."

⁵⁹ Pi Sui Hsu, "Examining Current Beliefs, Practices and Barriers About Technology Integration: A Case Study," *TechTrends* 60, no. 1 (January 1, 2016): 30–40, <https://doi.org/10.1007/S11528-015-0014-3>.

⁶⁰ Cook and Babon, "Active Learning through Online Quizzes: Better Learning and Less (Busy) Work."

is significant.⁶¹ Teachers and students who are technologically integrated always produce better results than those unfamiliar with technology integration.⁶² There is a general misconception that technology integration is more expensive and requires organisations to pledge a great deal when undergoing technology integration.⁶³ Teachers, students, communities, and the whole country must integrate themselves as technology changes from time to time.

There is a high appreciation for academics and students in online teaching-learning experiences during the COVID-19 era.⁶⁴ Developments and innovations introduced during the pandemic yielded quicker results than they would have normally taken in the absence of those interventions. However, some disadvantages exist, like students and academics missed social and peer interactions during online sessions. Although groups were available at the delivery sites, they lacked a social feeling. In line with online teaching, students and staff are not interested in keeping simulated laboratories but prefer to use physical laboratories for this type of practical learning activity.⁶⁵

Before COVID-19, some academics had no experience in online teaching and had to start teaching online.⁶⁶ Having practised online teaching, they admitted to learning a lot and placing a high value on online teaching in their future professional life. The availability of countless resources will sustain the implementation of online teaching, making them perfect in their practice. However, some academics did not find the online delivery mode ideal and did not see the effectiveness in assessments as it would have been if it was face-to-face. This can address several challenges, such as lack of training, levels of resistance to change, and lack of support for methodological aspects of the hybrid mode of teaching and assessments.⁶⁷ It can be viewed that training, support, and experience will be critical elements in the future improvement of a hybrid delivery mode.⁶⁸

CONCLUSION AND RECOMMENDATIONS

The paper aimed to provide literature debates and academic background on perspectives of adopting a practical and technological approach in the teaching and learning of commercial courses in the post-COVID-19 era in higher education institutions. The conceptual paper employed a thematic qualitative approach. The themes discussed through the literature review are as follows: perspectives of teaching methods in accounting, perspectives of teaching methods in business studies, perspectives of teaching methods in computer applied technology, perspectives of teaching methods in economics, technology integration and experiences in the post-COVID-19 era.

The paper documented a practical and technologically infused approach employed in the teaching and learning of commercial courses for the benefit of all stakeholders, and additionally lessons from the COVID-19 pandemic implemented in the post-COVID-19 era. Beyond the necessary investments in technological and pedagogical development of the HEIs, it is believed that there should be a switch from a lecturer-centred course design. The traditional way of teaching commercial subjects involved more face-to-face and fewer online platforms that were voluntarily used. The pandemic forced HEIs to engage in a technologically infused approach without compromising the practical

⁶¹ Royce Kimmons, Charles R. Graham, and Richard E. West, "The PICRAT Model for Technology Integration in Teacher Preparation.," *Contemporary Issues in Technology and Teacher Education (CITE Journal)* 20, no. 1 (2020).

⁶² Garneli, Giannakos, and Chorianopoulos, "Computing Education in K-12 Schools: A Review of the Literature."

⁶³ Kimmons, Graham, and West, "The PICRAT Model for Technology Integration in Teacher Preparation."

⁶⁴ Garneli, Giannakos, and Chorianopoulos, "Computing Education in K-12 Schools: A Review of the Literature"; Norah Almusharraf and Shabir Khahro, "Students Satisfaction with Online Learning Experiences during the COVID-19 Pandemic," *International Journal of Emerging Technologies in Learning (IJET)* 15, no. 21 (November 16, 2020): 246, <https://doi.org/10.3991/ijet.v15i21.15647>.

⁶⁵ Almusharraf and Khahro, "Students Satisfaction with Online Learning Experiences during the COVID-19 Pandemic."

⁶⁶ Shirley Alexander and David Boud, *Learners Still Learn from Experience When Online, Teaching & Learning Online: New Pedagogies for New Technologies* (Taylor and Francis, 2018), <https://doi.org/10.4324/9781315042527-2/LEARNERS-STILL-LEARN-EXPERIENCE-ONLINE-SHIRLEY-ALEXANDER-DAVID-BOUD>.

⁶⁷ Xuyan Wang and Xiaoyang Sun, "Higher Education During the COVID-19 Pandemic: Responses and Challenges," *Education as Change* 26 (July 28, 2022): 1–21, <https://doi.org/10.25159/1947-9417/10024>.

⁶⁸ Cook and Babon, "Active Learning through Online Quizzes: Better Learning and Less (Busy) Work."

methodologies and quality of curriculums. It is therefore recommended that HEIs provide thorough strategic planning at an institutional level and provide major changes in resource allocation and organisational processes and structures for an effective hybrid mode of delivery. In addition, instructional designers should generate the best hybrid learning system that empowers all relevant stakeholders. There should be economic, institutional, and human resources for the change to be successful. The change should have measurable records of accomplishment under conditions that enhance continuous improvement.

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