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Demonstrating the Significance and Utilization of Problem-Based Learning in Accounting Education

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ABSTRACT

The aim of this article is to offer a thoughtful analysis of the significance and utilization of problem-based learning (PBL) as an accounting teaching and learning technique through a study of the literature. The primary goal of accounting education is to provide technical knowledge. Technical proficiency is still important, but there is a need to focus far more on developing the critical thinking and other abilities needed to meet the demands of the 21st-century workforce. The researcher presents an analysis of the need for and best practices for using PBL in accounting education through a study of empirical research in the literature, all while adhering to the social constructivism paradigm. The study is qualitative in nature. Data was collected from the literature on the significance and utilization of problem-based learning in accounting education and data was analyzed thematically based on the literature review conducted. Excerpts from the literature review revealed the following findings: content knowledge skills, problem-solving abilities, critical thinking skills, and collaborative skills. The results imply that accounting teachers still lack the ability to modify their strategies in a way that helps learners build a broad and adaptable knowledge base to develop and foster efficient problem-solving techniques that make students better collaborators and increase their understanding of the subject matter. The study proposes that teachers should participate in professional development workshops where they will learn efficient techniques for integrating PBL into accounting. The study makes a significant contribution to how accounting teachers may incorporate PBL in accounting education.

Keywords: *Problem-based Learning, Social Constructivist Theory, Accounting Education, Strategies, Workshops*

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INTRODUCTION

Problem-based learning has become a key strategy in promoting learners' problem-solving skills in accounting education. It is imperative to note that effective problem-based learning remains a distant reality if learners lack skills in solving accounting-related problems. Infusing problem-solving skills among accounting learners helps promote critical thinking and collaborative efforts in learning. However, despite problem-solving being a critical aspect of learning accounting, this development has not been encouraged by accounting teachers to incorporate problem-based learning in their teaching. Most accounting teachers struggle to implement problem-based learning to enhance learners problem-solving skills in their classroom. Having been a teacher for accounting, the researcher realized that most of the teachers rely dominantly on using the lecture method to teach accounting. This challenge persists besides

the advocacies made by the curriculum policy, that learners must be taught the necessary skills to analyse and interpret accounting scenarios which incorporate accounting problems to solve. This challenge motivated the researcher to undertake this study, which sought to investigate the significance and utilization of problem-based learning in accounting education. This qualitative study involved the collection of existing literature on the importance of problem-based learning and how it is used in teaching and learning.

In South Africa, there is a crisis in the way accounting is taught and learned. The main goal of accounting education is to impart technical knowledge. While critical thinking, problem-solving, and collaboration abilities are among the competencies the curriculum emphasizes as being necessary to fulfil the demands of the 21st-century workforce.[1] Teaching learners to interact with, manipulate, and utilize accounting material in their daily lives is essential for developing these skills.[2] Panyaza Lesufi, the Gauteng Education MEC, voiced his concern on January 7, 2020, about the decline in students selecting accounting as a secondary school subject. Based on the 2019 National Senior Certificate results, the tweet was sent. It was mentioned that:

> The study of accounting may be discontinued in Gauteng. The province had 35,139 learners studying accounting in 2008, but by 2019, that number had drastically decreased to 14,768 learners, meaning that over half of the learners were no longer interested in accounting. Teachers are dealing with a major issue here.

Numerous questions are raised by this, including those about our educational system, the credentials and training of teachers, the impact on BCom Accounting at the tertiary level, and the implications for the sustainability of the economy given the importance of accountants to our economy. The main issue is that many accounting learners are unable to complete basic accounting concepts, and some lack problem-solving skills and real-world experience.[3] For instance, the accountant needs to be able to solve problems to identify and fix any bookkeeping issues. According to surveys, problem-solving and critical thinking are viewed by over 95% of corporate controllers and accounting professionals as essential abilities for practising accounting.[4] PBL projects and team activities in the classroom can help students get ready.[5] Since businesses in our increasingly globalized world are expected to trade and exchange goods with other nations, accounting learners need to be better equipped to handle trade obstacles and find solutions for any issues pertaining to international trade.[6] Thus, it makes sense that accounting learners be equipped with 21st-century abilities so they can contribute productively to both local and international platforms.

Ulger argues that by adopting PBL, teaching learners these 21st-century skills will help them make the connection between the classroom and real-world situations.[7] If learners are taught these skills, they can use them to address issues in their daily lives, and they might even fit in with the needs of the

[1] A Afandi et al., "Development Frameworks of the Indonesian Partnership 21st-Century Skills Standards for Prospective Science Teachers: A Delphi Study," *Jurnal Pendidikan IPA Indonesia* 8, no. 1 (2019): 89–100.

[2] Sally Chaplin, "Accounting Education and the Prerequisite Skills of Accounting Graduates: Are Accounting Firms' Moving the Boundaries?," *Australian Accounting Review* 27, no. 1 (2017): 61–70; Amani K H Alghamdi and Naimah Ahmad Al-Ghamdi, "Elementary Teachers' Thoughts about Distance Education and Learning 21st-Century Skills during Covid Pandemic," *International Journal of Learning, Teaching and Educational Research* 20, no. 3 (2021): 33–50.

[3] D.B. Martins, M.M.S.B. Espejo, and F. Frezatti, "Problem-Based Learning in Management Accounting Teaching: A Report of a Brazilian Experience," *Journal of Education and Research in Accounting* 9, no. 4 (2015): 417–38; Sidwell Matlala, "Educators' Perceptions and Views of Problem-Based Learning through Simulation," *CURATIONIS Journal of the Democratic Nursing Organisation of South Africa* 44, no. 1 (2021): 2094.

[4] Primasa Minerva Nagari, Mika Marsely, and Umi Nuraini, "Problem Based-Learning for Improving Accounting Students' Critical Thinking Skill," in *Proceedings of the 2nd International Research Conference on Economics and Business. Https://Doi. Org/10.5220/0008786100740078*, 2018.

[5] Rosaline Tandiono and Valentina Tohang. "A Problem-based Learning Approach in Management Control Systems Courses: Perceptions from Accounting Students in Indonesia." *PalArch's Journal of Archaeology of Egypt / Egyptology,* 18(1),(2002); 179 - 189. https://archives.palarch.nl/index.php/jae/article/view/2020

[6] Trevor Stanley and Stephen Marsden, "Problem-Based Learning: Does Accounting Education Need It?," *Journal of Accounting Education* 30, no. 3–4 (2012): 267–89.

[7] Kani Ulger, "The Effect of Problem-Based Learning on the Creative Thinking and Critical Thinking Disposition of Students in Visual Arts Education," *Interdisciplinary Journal of Problem-Based Learning* 12, no. 1 (2018).

workforce today.[8] A recent excellent example is the declaration of a national state of disaster on March 15, 2020, by President of the Republic Cyril Ramaphosa in response to the coronavirus (COVID-19) epidemic outbreak in South Africa. He stated that an extraordinary response by the government and effective citizen collaboration is required to contain the virus's spread. One could contend that since this outbreak calls for an unusual response, critical thinking with inventive solutions is needed. The ability to manage day-to-day tasks and survive in real-life situations is a crucial 21st-century talent.[9] These difficulties made it necessary to look at the advantages of PBL in preparing accounting school learners for the twenty-first century. The current study contends that PBL is a strategy that could aid in creating a well-rounded hybrid approach to learning that would meet the requirements for learners enrolled in accounting courses.

This study aims to explore the advantages of implementing problem-based learning in accounting education to assist learners in resolving accounting-related issues. The number of learners majoring in accounting has been falling over time, despite the subject being acknowledged as important in terms of employment prospects.[10] PBL is defined as a teaching strategy that is originally intended to activate learners' prior knowledge, facilitate a critical examination of arguments, and promote a deep comprehension of the topic by Lim et al.[11] One of the 21st-century skills that PBL helps to activate is financial literacy.[12] PBL can be applied to any discipline to create a teaching-learning environment that is efficient and supportive.[13] In this study, PBL is used to support accounting learners in developing 21st-century skills.[14] Nevertheless, the majority of accounting learners appear to lack problem-solving skills.[15] As a result, they have difficulty interpreting financial statements, applying control measures to solve problems, and solving accounting equations.[16]

Like all other disciplines, accounting education uses PBL to "achieve high-quality learning outcomes." In recent times, there has been a contention that these results should encompass not just robust technical abilities but also a comprehensive comprehension of the field, critical thinking skills, problem-solving skills, superior communication, and other general skills.[17] While PBL has been the subject of numerous studies worldwide, there is not much research on its application in accounting education. These studies do, however, support the idea that when teachers use PBL in their lessons, learners find accounting content more meaningful and participate more in class.[18] This study also found that PBL is necessary in accounting education to activate the 21st-century skills that are essential for effective teaching and learning.[19] In this study, the researcher appreciates that learning achievement rates by themselves are insufficient because learners must also acquire the 21st-century skills necessary to excel in accounting

[8] R.D. Tarmzi and S. Bayat, "Collaborative Problem-Based Learning in the Clinical Setting: A Cognitive Load Perspective," *Social and Behavioural Accounting* 32 (2012): 344–50.
[9] C. Warman, " Establishing a Government Policy to Promote Engagement within the Inclusive Education System in Indonesia," *Journal of Social Studies Education Research* 12, no. 1 (2021): 124–48.
[10] Ilse Karsten, Karen Steenekamp, and Martyn Van der Merwe, "Empowering Accounting Students to Enhance the Self-Determination Skills Demanded by the Fourth Industrial Revolution," *South African Journal of Higher Education* 34, no. 2 (2020): 36–58.
[11] Han Ching Lim et al., "PBL in Accounting: An Alternative Approach," in *Proceedings of the 2020 8th International Conference on Information and Education Technology*, 2020, 94–98.
[12] S Hassan, "Developing Staff for the Implementation of Problem-Based Learning: Experiences from Botswana," *South African Journal of Higher Education* 24, no. 1 (2010): 84–97.
[13] Devy Alvionita and Z A Imam Supardi, "Problem Based Learning with the SETS Method to Improve the Student's Critical Thinking Skill of Senior High School," *IJORER: International Journal of Recent Educational Research* 1, no. 3 (2020): 246–60.
[14] Hamid Hussain and Nadeem Anwar, "Effects of Problem Based Learning on Students' Critical Thinking Skills, Attitudes towards Learning and Achievement," *Journal of Educational Research* 20, no. 2 (2017): 28–41.
[15] Karsten, Steenekamp, and Van der Merwe, "Empowering Accounting Students to Enhance the Self-Determination Skills Demanded by the Fourth Industrial Revolution"; Lydiah Nganga, "Preservice Teachers Perceptions of Teaching for Global Mindedness and Social Justice: Using the 4Cs (Collaboration, Critical Thinking, Creativity and Communication) in Teacher Education.," *Journal of Social Studies Education Research* 10, no. 4 (2019): 26–57.
[16] Melanie Erkens and Daniel Bodemer, "Improving Collaborative Learning: Guiding Knowledge Exchange through the Provision of Information about Learning Partners and Learning Contents," *Computers & Education* 128 (2019): 452–72.
[17] Mohammed Abdullatif Almulla, "The Effectiveness of the Project-Based Learning (PBL) Approach as a Way to Engage Students in Learning," *Sage Open* 10, no. 3 (2020): 2158244020938702.
[18] J G Adewale and S A Awolola, "Impact of Brain-Based Instructional Strategy on Students' Attitude to Senior Secondary School Mathematics in Oyo State, Nigeria," 2011.
[19] Chaplin, "Accounting Education and the Prerequisite Skills of Accounting Graduates: Are Accounting Firms' Moving the Boundaries?"

classes.[20] Thus, PBL in accounting supports the adoption of 21st-century skills as well as academic success.[21] However, for a variety of reasons, such as lack of confidence, ignorance about PBL, having a full curriculum, and feeling under pressure to finish the required curriculum, teachers fail to implement PBL in accounting classes.[22]

A number of search engines were employed to obtain data regarding PBL utilization. The search engines in question were Google Scholar, Ebscohost, ERIC, DOAJ, and Scopus. A total of 50 articles about PBL in the classroom setting were looked for. Out of the 50 papers, only 45 examined the literature on PBL's application in medical science education, while 5 promoted the use of PBL in accounting education. As a result, this study looks into how PBL may be used to develop the 21st-century skills that are needed in accounting education.This paper starts by reviewing the literature on the significance and utilisation of problem-based learning in accounting education. The literature review addressed issues such as the definition, history and components of problem-based learning. Next, it discusses the conceptual framework in which to understand how PBL is used in the teaching and learning of accounting. It also looks into the methods used in the study to generate and analyse data.

LITERATURE REVIEW

There is a dearth of research on the 21st-century competencies that students pursuing accounting degrees ought to be taught. According to Vittrup and Davey, teachers are most likely to correct content misconceptions in their learners by using PBL to foster 21st-century abilities in their learners, such as cooperation, critical thinking, creativity, and communication, for better academic results.[23] Through workshops and other platforms, this study adds to the body of research on how to better support accounting teachers' use of PBL in teaching accounting education (AE) to foster 21st-century skills like collaboration, critical thinking, creativity, and communication.[24] It also enhances the pedagogy used in accounting education. The development of 21st-century skills in the instruction of a particular topic is one feature that sets this study apart. This study's undertaking is justified by the evaluation of relevant literature, which shows that this is a complex and challenging field that has not yet been investigated.

However, critics of the state of accounting education today have pointed out gaps in these kinds of abilities and skills among accounting learners and have offered numerous suggestions for improvement. According to Obidile, despite some interventions, there are still issues with education in rural areas for a variety of reasons, including the various backgrounds and learning styles of the learners as well as the geographical diversity of the schools.[25] He goes on to say that there are issues unique to rural schools, issues that call for systemic change and innovative solutions, but he refutes the claim that the issue with rural schools is that they do not offer appropriate instruction.[26] Therefore, the researcher contends that to develop instructional approaches for accounting education that are effective, rural learners must possess the same degree of autonomy and critical thinking skills as their urban counterparts. The upcoming sessions cover the history of PBL, its components, and its theoretical foundations.

PBL's History and Definition

[20] Mary Grosser M and Mirna Nel, "The Relationship between the Critical Thinking Skills and the Academic Language Proficiency of Prospective Teachers," *South African Journal of Education* 33, no. 2 (2013): 1–17.
[21] Davison Zireva and Moeketsi Letseka, "Obstacles to the Development of Critical Thinking Dispositions among Student Teachers at Morgenster Teachers' College, Zimbabwe," *Mediterranean Journal of Social Sciences* 4, no. 6 (2013): 671–80.
[22] Raymond Chee-Yen Loh and Chin-Siang Ang, "Unravelling Cooperative Learning in Higher Education," *Research in Social Sciences and Technology* 5, no. 2 (2020): 22–39; Sean P Kearney and Tim Perkins, "Developing Students' Capacity for Innovation, Creativity and Critical Thinking through Contemporary Forms of Assessment," 2011.
[23] Ann-Charlotte Vittrup and Anna Davey, "Problem Based Learning–'Bringing Everything Together'–A Strategy for Graduate Nurse Programs," *Nurse Education in Practice* 10, no. 2 (2010): 88–95.
[24] Ulger, "The Effect of Problem-Based Learning on the Creative Thinking and Critical Thinking Disposition of Students in Visual Arts Education"; Lynne Wyness and Fiona Dalton, "The Value of Problem-Based Learning in Learning for Sustainability: Undergraduate Accounting Student Perspectives," *Journal of Accounting Education* 45 (2018): 1–19.
[25] J. I. Obidile, "Creating Effective Teaching and Learning in the Classroom through the Problem-Based Teaching Method (PBTM): Guidance for Accounting Teachers in Developing Countries," *Journal of Education, Society, and Behavioural Science* 34, no. 1 (2021): 103–12.
[26] Nganga, "Preservice Teachers Perceptions of Teaching for Global Mindedness and Social Justice: Using the 4Cs (Collaboration, Critical Thinking, Creativity and Communication) in Teacher Education."

When the emphasis of the undergraduate medical curriculum was moved from individual disciplines like biochemistry, anatomy, and physiology to an integrated approach involving learners in problem-solving and independent learning in 1969, McMaster University gave rise to problem-based learning.[27] PBL "is a pedagogical approach based on recent advances in cognitive accounting research on human learning," according to Benli and Sarikaya.[28] Collaborative problem-solving exercises serve as the foundation of a PBL classroom and offer a framework for learning and exploration. PBL instructors frame their lessons around an issue that has to be solved.[29] It is the learners' obligation, not the facilitator's, to learn. "Introduction, inquiry, self-directed study, revisiting the hypotheses, and self-evaluation" are the five clearly defined phases of the PBL process .[30] According to Chaplin, this approach "emphasizes educational programs from teaching to learning and transforms the learner from passive information recipient to active, free self-learner and problem solver."[31]

In addition, it helps the learner acquire new information by putting them in front of issues to answer rather than heavy reading material. "A teaching and learning strategy that uses a problematic stimulus as a means of motivating and directing learners to develop and acquire knowledge" is how Rogal and Snider define PBL. PBL is a technique that is usually applied to small groups that attend several sessions.[32] "PBL is a learner-centered instructional method based on the principles of heuristics and collaboration," assert Wang Tsai, Chiang, Lai, and Lin.[33] It is regarded as a successful teaching strategy for both general and professional education, particularly accounting education. PBL seeks to improve accounting thinking, organize knowledge for application in accounting scenarios, foster successful self-directed learning, and boost learning motivation.[34] It is predicated on the idea that learners socially construct their own knowledge by drawing on the distinct experiences they have gained from their social interactions with life and relating them to the accounting material they study in the classroom.[35]

However, research assessing PBL courses shows that PBL improves learners' academic performance in accounting courses.[36] Critical thinking is "the ability to think clearly and rationally to analyze and combine acquired information to develop own interpretations, learn, and critique facts," according to Govindasamy and Kwe.[37] Working on an issue collaboratively and reflectively stimulates critical thinking.[38] According to Almulla, “Critical thinking pertains to the ability to apply cognitive thought to new or known information."[39] The nursing process, clinical judgment, and problem-solving are intimately linked to or even synonymous with critical thinking in clinical nursing.[40] The ability to make connections between pertinent facts is more important for critical thinking than memorization or

[27] Said Said Elshama, “How to Apply Problem-Based Learning in Medical Education? A Critical Review,” *Iberoamerican Journal of Medicine* 2, no. 1 (2020): 14–18; Hassan, “Developing Staff for the Implementation of Problem-Based Learning: Experiences from Botswana.”

[28] E. Benli and M. Sarikaya, “The Investigation of the Effect of Problem-Based Learning on the Academic Achievement and the Performance of Knowledge of Prospective Accounting Teachers: The Problem of the Boiler Stone,” *E-Journal of New World Sciences Academy* 6, no. 1 (2011): 1306–3111.

[29] Elshama, “How to Apply Problem-Based Learning in Medical Education? A Critical Review.”

[30] Chaplin, “Accounting Education and the Prerequisite Skills of Accounting Graduates: Are Accounting Firms’ Moving the Boundaries?”

[31] Chaplin, “Accounting Education and the Prerequisite Skills of Accounting Graduates: Are Accounting Firms’ Moving the Boundaries?”

[32] Sonya M M Rogal and Paul D Snider, “Rethinking the Lecture: The Application of Problem Based Learning Methods to Atypical Contexts,” *Nurse Education in Practice* 8, no. 3 (2008): 213–19.

[33] Shin-Yun Wang et al., “Socrates, Problem-Based Learning and Critical Thinking—A Philosophic Point of View,” *The Kaohsiung Journal of Medical Sciences* 24, no. 3 (2008): S6–13.

[34] Almulla, “The Effectiveness of the Project-Based Learning (PBL) Approach as a Way to Engage Students in Learning”; Catherine J Rowan et al., “Problem Based Learning in Midwifery–the Teachers Perspective,” *Nurse Education Today* 27, no. 2 (2007): 131–38.

[35] Bambang Sugeng and Ani Wilujeng Suryani, “Enhancing the Learning Performance of Passive Learners in a Financial Management Class Using Problem-Based Learning,” *Journal of University Teaching & Learning Practice* 17, no. 1 (2020): 5; Vittrup and Davey, “Problem Based Learning–‘Bringing Everything Together’–A Strategy for Graduate Nurse Programs.”

[36] Kefalotse Sylvia Dithole, Peter Thomas Sandy, and Gloria Thupayagale-Tshweneagae, “Usefulness of Problem-Based Learning in Clinical Nursing Education: Experiences from the University of Botswana,” *African Journal for Physical Health Education, Recreation and Dance* 19, no. sup-2 (2013): 1–10.

[37] Malliga K Govindasamy and Ngu Moi Kwe, “Scaffolding Problem Solving in Teaching and Learning the DPACE Model-A Design Thinking Approach,” *Research in Social Sciences and Technology* 5, no. 2 (2020): 93–112.

[38] L. Rowan, J. Kline and D. Mayer, “Early Career Teachers’ Perceptions of Their Preparedness To Teach “Diverse Learners”: Insights From An Australian Research Project. *Australian Journal of Teacher Education,* 42(10), (2017) https://doi.org/10.14221/ajte.2017v42n10.5

[39] Almulla, “The Effectiveness of the Project-Based Learning (PBL) Approach as a Way to Engage Students in Learning.”

[40] S.M. Williams and H.J. Beattie, “ Problem-Based Learning in the Clinical Setting: A Systematic Review,” *Nurse Education Today* 28 (2008): 146–54.

past knowledge.[41] As a result, using PBL can help accounting learners develop their critical thinking abilities. According to Rowan et al., critical thinking happens when teachers encourage learners to think in novel ways and communicate novel concepts and answers, which forces them to think beyond the box.[42] Nwadinigwe and Obieke add that critical thinking equips learners to respond to changes and new difficulties that arise from the accounting material and the problem-based scenarios they study in class.[43]

PBL assists learners in developing the ability to resolve scenarios based on abstract accounting material.[44] To help learners apply their classroom information in real-life situations, it does this by giving them a context for learning. PBL improves real learning and the growth of disciplinary knowledge and professional competence, claim Mpalanyi, Nalweyiso, and Mabuuke.[45] According to Nganga, PBL also helps learners develop their communication, problem-solving, teamwork, autonomous learning, sharing of knowledge, and respect for others.[46] PBL learners demonstrate an improved conceptual grasp of accounting, a more positive attitude toward accounting education, and the development of critical thinking and problem-solving skills.[47] According to Elshama, learners who are taught using PBL have several advantages over learners who are taught through traditional techniques, including the ability to integrate knowledge, solve issues, interpret, and evaluate more objectively.[48] According to the argument, PBL provides several desired outcomes that teachers seek, such as learners who are resourceful in handling challenges, self-directed learners, increased scores, and greater knowledge application.[49]

PBL Components

a. Teachers

The teacher's job in PBL is to help learners in their groups create collaborative knowledge.[50] A teacher's job is to mentor learners and promote critical thinking and inquiry to reach higher comprehension levels.[51] To encourage learners in a group to ask questions concerning complicated and ambiguous situations, the facilitator, the teacher, is in charge of creating and recognizing them.[52] The teacher's role as a facilitator is to coach the learners to collaborate in their groups.

b. Learners

The learners collaborate in small groups.[53] Learners assume various roles, including those of group leader, scribe, and only member; yet, each member of the group gets a turn to present the solution and any necessary supporting documentation to the other members of the group. Hassan states that in situations

[41] Rogal and Snider, "Rethinking the Lecture: The Application of Problem Based Learning Methods to Atypical Contexts."
[42] Rowan, Kline and Mayer, "Early Career Teachers' Perceptions of Their Preparedness To Teach "Diverse Learners."
[43] I P Nwadinigwe and U Azuka-Obieke, "The Impact of Emotional Intelligence on Academic Achievement of Senior Secondary School Students in Lagos, Nigeria," *Journal of Emerging Trends in Educational Research and Policy Studies* 3, no. 4 (2012): 395–401.
[44] Peter Ogweno, Nephat Kathuri, and Agnes Nkurumwa, "Effects Of Problem Based Learning Method And Demonstration Teaching Method On Secondary Students Agriculture Achievement In Ndhiwa Sub County, Kenya," *African Journal of Education and Practice* 7, no. 2 (2021): 1–17.
[45] Moses Mpalanyi, Irene Dorothy Nalweyiso, and Aloysius Gonzaga Mubuuke, "Perceptions of Radiography Students toward Problem-Based Learning Almost Two Decades after Its Introduction at Makerere University, Uganda," *Journal of Medical Imaging and Radiation Sciences* 51, no. 4 (2020): 639–44.
[46] Nganga, "Preservice Teachers Perceptions of Teaching for Global Mindedness and Social Justice: Using the 4Cs (Collaboration, Critical Thinking, Creativity and Communication) in Teacher Education."
[47] Adewale and Awolola, "Impact of Brain-Based Instructional Strategy on Students' Attitude to Senior Secondary School Mathematics in Oyo State, Nigeria."
[48] Elshama, "How to Apply Problem-Based Learning in Medical Education? A Critical Review."
[49] Govindasamy and Kwe, "Scaffolding Problem Solving in Teaching and Learning the DPACE Model-A Design Thinking Approach"; Dithole, Sandy, and Thupayagale-Tshweneagae, "Usefulness of Problem-Based Learning in Clinical Nursing Education: Experiences from the University of Botswana"; Erkens and Bodemer, "Improving Collaborative Learning: Guiding Knowledge Exchange through the Provision of Information about Learning Partners and Learning Contents."
[50] Alvionita and Supardi, "Problem Based Learning with the SETS Method to Improve the Student's Critical Thinking Skill of Senior High School"; Anielson Barbosa Da Silva et al., "Problem-Based Learning: A Proposal for Structuring PBL and Its Implications for Learning among Students in an Undergraduate Management Degree Program," *Revista de Gestão* 25, no. 2 (2018): 160–77.
[51] Adewale and Awolola, "Impact of Brain-Based Instructional Strategy on Students' Attitude to Senior Secondary School Mathematics in Oyo State, Nigeria."
[52] Paula Vargas et al., "TOC'S Five-Step Cycle: An Approach to Instant Results and Cultural Change," *International Journal of Engineering Research & Science (IJOER)* 3, no. 10 (2017): 1–9.
[53] Erkens and Bodemer, "Improving Collaborative Learning: Guiding Knowledge Exchange through the Provision of Information about Learning Partners and Learning Contents."

where a group finds it difficult to come to a consensus, they can elect a leader to make decisions or adopt a democratic approach in which a majority vote is used to make decisions.[54] Learners must conduct the necessary research and come up with logical answers and conclusions.[55] In PBL, learners actively solve issues, take charge of organizing their own learning, and acquire 21st-century skills.[56] To properly handle the problem, learners must seek out pertinent information, voice their perspectives, and ask questions.[57]

c. Content

The accounting subject knowledge mastery has an impact on how learners understand the learning objectives and what they should know while learning the accounting material.[58] It has an impact on how students hear inquiries from teachers and react to them. It has an impact on learners' capacity to properly communicate accounting material and formulate insightful inquiries to clear up any misunderstandings they may have.[59] According to recent trends, teaching accounting concepts through methods like problem-based learning (PBL) is necessary to improve learners' comprehension.[60] Table 1 below provides a summary of the content:

Table 1: Themes and topics in accounting education

Weighting of the curriculum	Topic
Financial Accounting	Accounting concepts
	GAAP principle
	Bookkeeping
	Accounting equation
	Accounts and financial statements
	Salaries and wages
	Value-Added Tax
	Reconciliations
Managerial Accounting	Cost accounting
	Budgeting
Managing Resources	Indigenous book-keeping systems
	Fixed assets
	Inventory
	Ethics
	Internal control

Adapted from the CAPS document: Accounting

CONCEPTUAL FRAMEWORK

The learning theory used by the author of this work is Social Constructivism. "Fundamental to effective teaching and learning, learning theories address various facets of the learning process."[61] According to Kustono, Winarn, and Nanggala, learning theories function as a theoretical framework that "describes, explains, and predicts how learning occurs." [62] "Pedagogical, constructivist, cognitivism, and

[54] Hassan, "Developing Staff for the Implementation of Problem-Based Learning: Experiences from Botswana."
[55] Loh and Ang, "Unravelling Cooperative Learning in Higher Education."
[56] Afandi et al., "Development Frameworks of the Indonesian Partnership 21st-Century Skills Standards for Prospective Science Teachers: A Delphi Study."
[57] Nurkhin Kardoyo,Ahmad Muhsin and Pramusinto Hengky, "Problem-based learning strategy: its impact on students' critical and creative thinking skills." *European Journal of Educational Research,* 9(3), (2020); 1141-1150. https://doi.org/10.12973/eujer.9.3.1141
[58] Martins, Espejo, and Frezatti, "Problem-Based Learning in Management Accounting Teaching: A Report of a Brazilian Experience."
[59] Matlala, "Educators' Perceptions and Views of Problem-Based Learning through Simulation."
[60] M. I. Zakaria, S. M. Maat, and F. Khalid, " A Systematic Review of Problem- Based Learning in Education," *Creative Education* 10 (2019): 2671–88.
[61] R. Kegan, What "Form" Transforms? A Constructive-developmental Approach to Transformative Learning. In: Illeris K, editor. *Contemporary Theory of Learning*. (London, New York: Routledge; 2009), 35-52.
[62] Alwan Sri Kustono, Wahyu Agus Winarno, and Ardhya Yudistira Adi Nanggala, "Effect of Accounting Lecturer Behavior on the Level of Online Learning Outcomes Achievement," *International Journal of Learning, Teaching and Educational Research* 20, no. 3 (2021): 169–87.

behaviorism" are the four primary categories into which learning theories fall. John Dewey's conception of learning is the foundation of "constructivist learning theory (CLT)."[63] The Constructivist Learning Theory, which was further refined by Jean Piaget (1896–1980) in Switzerland in 1972, explains how knowledge is acquired as well as what constitutes "knowing."[64] "Learners discover knowledge as they interact with people and the environment," according to Piaget.[65] Lev Vygotsky, a Russian psychologist, favoured explicit, well-designed training that is meticulously organized to enhance each learner's thinking and learning, as opposed to Piaget's recommendation of learning by discovery.[66]

"Vygotsky stressed the importance of social and cultural experience in the learning process," even though he concurred with Piaget regarding the biological underpinnings of learning. "A child's fundamental learning system may not be identical to that of another," according to Vygotsky.[67] He disagreed with the idea of "shared knowledge," which allows a more knowledgeable learner (a teacher, for example) to impart knowledge to a less knowledgeable learner (a student, for example). According to Vygotsky, experience is essential to the learning process.[68] Constructivist theory rejects the "naïve belief that what a teacher perceives can be ready-made for learners to adopt" as part of its ontological assumption. Constructivists hold that knowledge is created and expanded upon by students utilizing their prior knowledge rather than being absolute.[69] Knowledge is not given; it is constructed. Every individual builds their own knowledge foundation, and it is impossible to totally transfer one person's developed information into another's mind. Teachers who use a constructivist approach as their foundation reject the idea that learners can acquire meaning through transmissions and symbols.[70] Instead of replicating their lecturers' expertise, learners would "construct their understanding." According to constructivist theory, learners' perceptions of their surroundings may differ from what their teachers had in mind.[71] The environment in the context of education consists of the teachers, learners, assignments, textbooks, and curriculum. As a result, teachers' roles should not involve imparting information but rather giving learners the chance to create their own.

Social constructivists stress the interplay between these elements and hold that "discipline depends on learners and the learning environment." Working with social constructivism in accounting fosters a smooth understanding between learners and a community whose voices have been repressed by allowing them to participate. Learning must be incorporated into the context.[72] To enhance learner-centeredness rather than teacher-centeredness in an accounting classroom, social constructivism in accounting helps me adopt PBL as learners construct their knowledge.[73] Investigating how PBL might be used as a teaching and learning strategic strategy in accounting adopts a social constructivist viewpoint. "Allowed to construct their knowledge of accounting through schematization of the learning process in which previously learned knowledge serves as precursors and anchors to the new knowledge," is how Warman describes the PBL classroom experience for learners.[74] According to PBL, which enables learners to work together to solve problems while maintaining their autonomy and control.[75] The researcher postulates that knowledge acquired through social constructivism is comparatively permanent, and PBL depends on problem-solving heuristics to help learners develop and solidify their knowledge.

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[63] Kearney and Tim Perkins, "Developing Students' Capacity for Innovation, Creativity and Critical Thinking through Contemporary Forms of Assessment,"
[64] Kearney and Tim Perkins, "Developing Students' Capacity for Innovation, Creativity and Critical Thinking through Contemporary Forms of Assessment,"
[65] Matlala, "Educators' Perceptions and Views of Problem-Based Learning through Simulation."
[66] L. S. Vygotsky, *Mind in Society: The Development of Higher Psychological Processes* (Harvard University Press , 1980).
[67] Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, 1980.
[68] Vygotsky, *Mind in Society: The Development of Higher Psychological Processes*, 1980.
[69] Grosser M and Nel, "The Relationship between the Critical Thinking Skills and the Academic Language Proficiency of Prospective Teachers."
[70] Zireva and Letseka, "Obstacles to the Development of Critical Thinking Dispositions among Student Teachers at Morgenster Teachers' College, Zimbabwe."
[71] Lim et al., "PBL in Accounting: An Alternative Approach."
[72] Sofie M M Loyens, Paul A Kirschner, and Fred Paas, "Problem-Based Learning.," 2012.
[73] Obidile, "Creating Effective Teaching and Learning in the Classroom through the Problem-Based Teaching Method (PBTM): Guidance for Accounting Teachers in Developing Countries."
[74] Warman, " Establishing a Government Policy to Promote Engagement within the Inclusive Education System in Indonesia."
[75] Wyness and Dalton, "The Value of Problem-Based Learning in Learning for Sustainability: Undergraduate Accounting Student Perspectives."

METHODOLOGY

This research is qualitative research which can be categorized as a literature review study. The process of the literature review method in this study involved selecting the review topic and literature search based on the significance and utilization of PBL.[76] The process of searching for literature by filtering based on the research articles focusing on the importance and uses of PBL in general. The criteria for article search were as follows: 1) Compatibility of writing keywords, linkages of writing results and discussion of Problem-based learning, 2) Strategies in collecting journals for various literature using accredited journal sites such as Google Scholar, researchgate, Ebscohost, ERIC, DOAJ, and Scopus; 3) Assessing the articles from the abstract whether it is based on research objectives and conducting a critical appraisal with the existing tools. Collect, read and analyze literature. The researcher wrote a review and provided references. In this research, the information that must be obtained is about the significance and utilization of PBL. In the Problem-Based Learning section, the writer uses the social constructivist theory by Vygotsky.[77] After the study of PBL has been obtained, the next step is to analyze the PBL with its importance and use in accounting education.

PRESENTATION OF FINDINGS

Using the evaluated literature, the researcher responds to and addresses the research claims presented in the study in this section. The results of research on the application of problem-based learning in accounting education are supported by this evidence. The development of a broad and flexible knowledge base, the enhancement of learners' subject content knowledge, the development and promotion of effective problem-solving abilities, and assistance in becoming effective collaborators were the themes that emerged.

a. Critical Thinking Skills

According to the literature, when implementing PBL in accounting education, learners' production of knowledge is a crucial factor in improving their critical thinking abilities. Critical thinking, according to Alghamdi and Al-Ghamdi, is the key to transformation in the education industry.[78] It can both lower attrition rates and rekindle the critical skills needed for learners to succeed in an increasingly globalized and accounting-driven world. The researcher argues that for learners to succeed in an uncertain global marketplace, they must acquire abilities like creativity, invention, critical and lateral thinking, and autonomy. Afandi & Co. link secondary school learners' poor academic performance to a deficiency in critical thinking.[79] In my opinion, learners who struggle with critical thinking exhibit certain difficulties or are unable to successfully manage the demands of academic work. It might be argued that these learners have little to no critical thinking skills and are unable to achieve personal objectives like excelling academically in accounting. According to Rowan et al., accounting critical thinkers find it fulfilling to reject ideas or opinions and to understand the rationale behind their decisions.[80] As independent, self-sufficient thinkers, they can defend their decisions with reason. They expose and disprove notions they are unable to rationally accept by applying critical thinking skills and insights. Beliefs they do not grasp; they do not acknowledge as true or reject as false. The researcher argues that manipulating them is difficult.

b. Problem-solving skills

According to the research, one of the most important ways to improve learners' problem-solving abilities when learning accounting material is through problem-solving. According to Grosser and Nel, learners

[76] P. Cronin, F. Ryan and M. Coughlan, "Undertaking a Literature Review: A Step-by-Step Approach." *British Journal of Nursing*, 17, (2008); 38-43. https://doi.org/10.12968/bjon.2008.17.1.28059

[77] Lev Semenovich Vygotsky, *The Collected Works of LS Vygotsky: Problems of the Theory and History of Psychology*, vol. 3 (Springer Science & Business Media, 1987).

[78] Alghamdi and Al-Ghamdi, "Elementary Teachers' Thoughts about Distance Education and Learning 21st-Century Skills during Covid Pandemic."

[79] Afandi et al., "Development Frameworks of the Indonesian Partnership 21st-Century Skills Standards for Prospective Science Teachers: A Delphi Study."

[80] Rowan, Kline and Mayer, "Early Career Teachers' Perceptions of Their Preparedness To Teach "Diverse Learners."

lack proficiency in the following reasoning standards, which are essential to critical thinking: depth, breadth, logic, clarity, correctness, precision, relevance, and precision.[81] The researcher claims that applying these principles to the components of accounting thought is impacted when they are absent. Intellectual qualities like intellectual humility, intellectual autonomy, intellectual integrity, intellectual boldness, intellectual perseverance, intellectual empathy, open-mindedness, fair-mindedness, and faith in reasoning are thus prevented from developing as a result. According to Erkens and Bodemer, learners should be given scenarios involving problem-solving that include accounting material and that they must solve.[82] To learn how to create accounting examples that they may utilize in their accounting classes, teachers should speak with professionals in the field. Designing Elshama's problem-solving situations could be challenging.[83] Consequently, educators need to be qualified to create these kinds of situations. Therefore, teachers must continue their professional development to assist them in creating context-based scenarios that students may find applicable to their circumstances.

c. Collaboration Skills

The body of research indicated that improving learners' collaborative skills during the accounting subject learning process required teamwork.[84] According to Alvionita and Supardi, learners collaborate to solve challenges that are incorporated into the accounting scenarios they are given in class as part of the PBL implementation.[85] A structured partnership between the community, the school, and the home is still a ways off, though. Therefore, the researcher debates that for education to promote learning, it must be an unbroken experience that actively engages the learner and his or her environment. As a result, ongoing assistance from the professors in the form of facilitation and coaching aids learners in understanding their responsibilities as they strive to generate ideas for problem-solving brainstorming sessions.[86] Lim et al. have repeatedly demonstrated that the majority of accounting learners are reluctant to collaborate with their peers.[87] Due to their limited understanding of accounting material and the teacher's unclear instructions, learners with low self-efficacy and low self-confidence are more likely to engage in avoidance behavior, such as not contributing at all, while learners who feel fairly confident about the subject matter of accounting are more likely to volunteer to lead discussions when they are in groups during class activities.[88]

d. Content knowledge skills

According to the literature, mastering content knowledge is essential to helping learners' comprehension when they work through problem-solving scenarios. According to Kardoyo et al., the majority of learners appear to have difficulty connecting the material they study in the classroom to their everyday circumstances.[89] The inability to effectively transfer statistics from the questions to the answer booklets, the failure to comprehend the double-entry principle, and the inability to communicate in an understandable manner have all been cited as contributing factors to the issue. According to Matlala, the majority of accounting teachers are not well-versed in the subject matter of accounting, what to teach, or effective teaching techniques.[90] Learners are underachieving or performing poorly in accounting as a result of the pedagogical subject knowledge issues that accounting teachers are facing.[91] The researcher

[81] Grosser M and Nel, "The Relationship between the Critical Thinking Skills and the Academic Language Proficiency of Prospective Teachers."
[82] Erkens and Bodemer, "Improving Collaborative Learning: Guiding Knowledge Exchange through the Provision of Information about Learning Partners and Learning Contents."
[83] Elshama, "How to Apply Problem-Based Learning in Medical Education? A Critical Review."
[84] Karsten, Steenekamp, and Van der Merwe, "Empowering Accounting Students to Enhance the Self-Determination Skills Demanded by the Fourth Industrial Revolution,"
[85] Devy and Supardi, "Problem Based Learning with the SETS Method to Improve the Student's Critical Thinking Skill of Senior High School,"
[86] Zireva and Letseka, "Obstacles to the Development of Critical Thinking Dispositions among Student Teachers at Morgenster Teachers' College, Zimbabwe."
[87] Lim et al., "PBL in Accounting: An Alternative Approach."
[88] Kustono, Winarno, and Nanggala, "Effect of Accounting Lecturer Behavior on the Level of Online Learning Outcomes Achievement."
[89] Kardoyo, Muhsin and Hengky, "Problem-based learning strategy: its impact on students' critical and creative thinking skills."
[90] Matlala, "Educators' Perceptions and Views of Problem-Based Learning through Simulation."
[91] Kearney and Tim Perkins, "Developing Students' Capacity for Innovation, Creativity and Critical Thinking through Contemporary Forms of Assessment,"

argues that learners' dismal performance on accounting exams and tests is further evidence of this. According to Nwadinigwe and Obieke, people who work in education, particularly accounting education, should be especially concerned about the accounting knowledge gap.[92] It is the researcher's opinion that although national and provincial education departments offer a wide range of in-service teacher training programs, they are unduly general and fail to address the deficiency of content knowledge in important areas like accounting.

RECOMMENDATIONS

The findings show that the PBL teaching approach benefits learners' learning by encouraging the integration of theory and practice, which raises learning motivation. The practical component, teamwork, and the presence of a teacher in the PBL classrooms are seen by the learners as elements that support learning. On the other hand, learning was thought to be limited by teamwork and the amount of time required. By integrating learners' cognitive, behavioral, and social components and encouraging a greater connection with the environment of professional work, PBL is used to illustrate its learning potential. Teachers who bring in real-world problems for their learners to study can make a big difference in how much learning and reflection accounting education learners experience. Because it defines a framework for the implementation of PBL as an active learning strategy in accounting education, shows the potential for learners' competencies to be developed, increases the possibility of integrating theory with practice, and can support the process of training teachers as they use PBL for enhanced learner learning, the study's results demonstrate its originality and value to teachers and subject advisors.

CONCLUSION

This study investigated PBL's applicability and potential applications in accounting education instruction. To accomplish this goal, the researcher reviewed the literature that was already in existence on the use of PBL. The goal was to get insight into other nations' PBL implementation strategies. The Gauteng education minister voiced concerns about the number of learners selecting accounting as their subject. According to the learners' performance in the Grade 12 results from 2019, there was a noticeable decline in the accounting scores (Minister Panyaza Lesufi). Education stakeholders expressed outrage over this situation, questioning whether accounting should continue to be taught in schools and what effect it might have on the South African education system, particularly concerning the skills that employers like accounting firms, universities, and schools require. In a similar vein, the majority of students decide against majoring in accounting when they move from Grade 9 to Grade 10. The difficulty may stem from learners' inadequate financial literacy training, given that accounting is a component of the economic and management sciences. According to this study, when teaching the material, accounting teachers do not employ learner-centered methodologies like PBL. Workshops for professional development are essential for educating instructors about different teaching pedagogies and techniques. According to the study, PBL can be a useful tactic for improving learners' 21st-century abilities, including content understanding, cooperation, critical thinking, and problem-solving. Employers view these competencies as critical, and they anticipate that their staff members possess them. Accordingly, the study suggests using PBL to improve the 21st-century skills and qualities that accounting students should possess. It also stresses the significance of instructors' professional development in creating context-based scenarios for the effective application of PBL.

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[92] Nwadinigwe and Azuka-Obieke, “The Impact of Emotional Intelligence on Academic Achievement of Senior Secondary School Students in Lagos, Nigeria.”

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