

Accounting Made Meaningful: Effectiveness of the CIM-CAP Module in Basic Accounting 1 under the Strengthened Senior High School Program

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Abstract

This research explored the impact of the Contextualized Intervention Module in Complete Accounting Process (CIMCAP) on enhancing students' performance, mastery, and learning experiences in Basic Accounting 1 as part of the Strengthened Senior High School Program. Utilizing a quasi-experimental one-group pretest–posttest design, the study focused on grade 11 students from a rural public school. Data collection involved a 50-item multiple-choice test, a learner perception survey, and interviews with the participants. Quantitative data were analyzed using descriptive statistics, paired-samples t-tests, and Cohen's d, while qualitative responses underwent thematic analysis. The results showed a significant improvement in students' performance, with average scores rising from 18.07 in the pre-test to 30.93 in the post-test, and a statistically significant difference was observed ($t = 27.73$, $p < .05$). The effect size ($d = 3.29$) suggests a very large impact of the intervention. Students also progressed from low to moderate mastery levels, indicating a better understanding of the accounting process. Additionally, the module received a high overall rating ($M = 4.82$), reflecting strong agreement regarding its clarity, contextual relevance, ease of use, engagement, and support for independent learning. Qualitative findings emphasized themes of clarity, relevance, ease of use, and engagement, with recommendations for more practical activities. The findings indicate that CIM-CAP is an effective, learner-centered educational tool that boosts academic performance and facilitates meaningful learning. This study highlights the significance of contextualized print-based materials in bridging instructional gaps and enhancing educational outcomes in rural and resource-limited environments.

Keywords: Contextualized Learning, Instructional Module, Accounting Education, Learner Performance, Effect Size, Self-Directed Learning, Rural Education, Senior High School

1. Introduction

Institutional obstacles in rural public schools continue to pose significant barriers to effective accounting teaching. A primary issue is the lack of Learning Activity Sheets (LAS) and other structured teaching resources, which hampers teachers' ability to deliver organized and coherent lessons. This problem is further aggravated by poor Internet connectivity and insufficient access to digital learning tools, which widen the digital divide and limit both teachers' and students' interaction with technology-enhanced education (Iftikhar et al., 2023; Pratiwi et al., 2025). Teaching accounting, which inherently requires a sequential and step-by-step understanding of concepts, is particularly challenging without the necessary support materials. Although modular learning strategies have been implemented, many remain generic and lack sufficient contextualization, diminishing their relevance and effectiveness in meeting learners' specific needs and circumstances (Bustillo & Aguilos, 2022). These systemic challenges underscore the urgent need for targeted interventions to improve resource availability and promote contextualized learning in rural educational environments (Xalxo et al., 2025).

In the Philippines, the Strengthened Senior High School Program (SSHS) offers Basic Accounting 1 as an elective for students in the Accountancy, Business, and Management (ABM) track. The Department of Education emphasizes the importance of using contextualized learning materials to make education relevant and responsive to students' surroundings. Nevertheless, despite these policy guidelines, numerous public schools, especially those in rural and underfunded areas, continue to struggle with a scarcity of localized and printed teaching resources. Consequently, these schools often depend heavily on digital materials, which are not always accessible because of infrastructure and connectivity issues. This situation disproportionately impacts rural students and diminishes the overall quality of accounting education (Bacus and Alda, 2022; Tabuena and Villareal, 2024).

Jones Rural School faces several challenges. Students struggle to understand Basic Accounting 1 because there are no printed materials available. They also have limited access to online resources. To help, the teacher created the Contextualized Intervention Module in Complete Accounting Process (CIM-CAP). This is a printed, self-paced learning

tool that includes real-life examples. It aims to improve learning in places with few resources (Bacus and Alda, 2022). Research shows that contextualized learning and modular instruction work well, but there are still gaps in accounting education. Few studies have focused on Basic Accounting 1 in the Strengthened Senior High School Program. There is also little research on creating and testing print-based accounting modules for rural schools in India. There are not enough materials that cover the full accounting process using local examples. More importantly, there is insufficient evidence on how these modules affect student performance and engagement in rural schools.

1.1. Integrated Conceptual and Theoretical Mapping

The integrated conceptual and theoretical mapping of this study positions the Contextualized Intervention Module in Complete Accounting Process (CIM-CAP) as the central intervention addressing instructional gaps in a rural educational context characterized by limited resources and constrained access to digital learning. Anchored in constructivism, contextualized learning, and self-directed learning theories, the framework explains how learners construct knowledge through active engagement, real-life relevance, and independent learning. The CIM-CAP module, designed as a print-based, self-paced, and contextually grounded instructional tool, facilitates improvements in key learning outcomes, including performance, learner perceptions, and mastery of accounting concepts. The empirical results demonstrated significant gains in post-test scores and a very large effect size, indicating the strong impact of the intervention. These immediate outcomes extend to long-term learning benefits, such as enhanced engagement, increased learner autonomy, and improved academic achievement. Overall, the framework highlights the effectiveness of contextualized instructional materials in promoting meaningful learning and addressing educational inequity in resource-constrained environments.

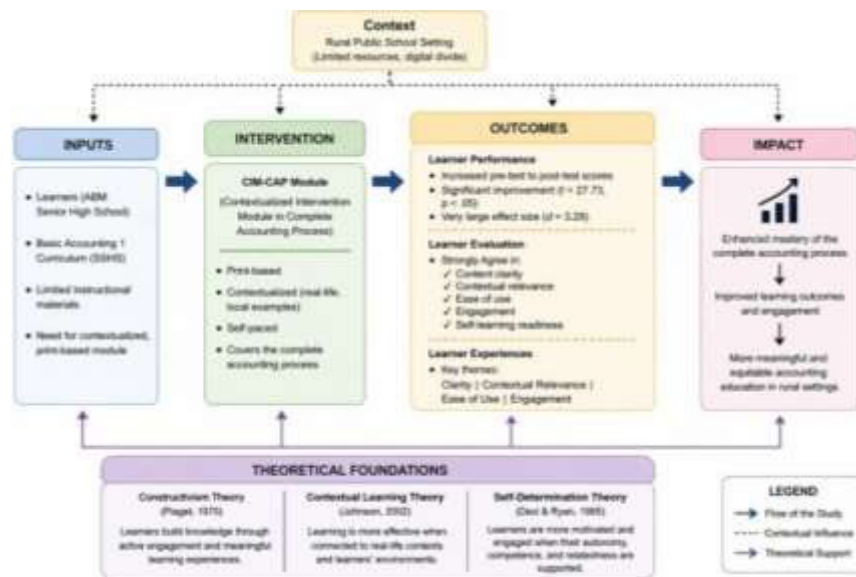


Figure 1: Integrated Conceptual and Theoretical Mapping

2. Material and methods

2.1. Research Design

This study utilized a quasi-experimental research design, specifically employing a one-group pretest–posttest approach, to determine the effectiveness of the Contextualized Intervention Module in Complete Accounting Process (CIM-CAP) in improving learners' performance in Basic Accounting 1. This design was appropriate as it allowed for the comparison of learners' academic performance before and after the implementation of the intervention. In addition, a descriptive-evaluative component was incorporated to assess learners' perceptions and experiences of using the module. This approach enabled the researcher to generate both quantitative and qualitative data to provide a comprehensive understanding of CIM-CAP's effectiveness.

2.2. Locale of the Study

The study was conducted at the Jones Rural School Senior High School, located in Barangay 02, Jones, Isabela, Philippines. The school is a public secondary institution implementing the Strengthened Senior High School Program and offering Basic Accounting 1 as an elective subject. The locale was selected because of the limited availability of contextualized instructional materials and restricted access to digital learning resources, making it an appropriate setting for the implementation of a print-based intervention module.

2.3 Respondents of the Study

The respondents of the study were Grade 11 students enrolled in the Basic Accounting 1 Elective during the second semester of the School Year 2025–2026. These learners were selected because they were prospective college-bound students intending to pursue business, accountancy, or management-related programs. Their participation provided relevant data on the effectiveness of the CIM-CAP module in improving accounting competency.

2.4 Sample and Sampling Procedure

The study employed a total enumeration sampling technique, wherein all students enrolled in the Basic Accounting 1 class were included as the respondents. This method was used because of the manageable population size and ensured that all relevant participants were represented in the study, thereby increasing the reliability of the results.

2.5 Research Instrument

The study utilized three main research instruments: a pretest–posttest, a learner perception survey, and an interview guide. The pre- and post-tests consisted of a 50-item multiple-choice examination aligned with the Basic Accounting 1 curriculum, designed to measure learners' mastery of the complete accounting process. The perception survey employed a 5-point Likert scale to evaluate the module in terms of content clarity, contextual relevance, ease of use, engagement, and self-learning readiness. An interview guide with open-ended questions was used to gather qualitative data on the learners' experiences and insights.

2.6. Data Gathering Procedure

Prior to data collection, permission was secured from school authorities, and informed consent was obtained from parents or guardians, along with the assent of the student participants. The study began with the administration of a pretest to determine baseline knowledge. The CIM-CAP module was then distributed, and the learners were given a two-week period to complete the lessons independently under supervision. A post test was administered after the intervention. This was followed by the distribution of the perception survey and the conducting of interviews. All responses were collected, organized, and analyzed

2.7. Data Analysis Techniques

The data collected were analyzed using descriptive and inferential statistical tools. The mean and standard deviation were used to describe the learners' performance and perceptions. A paired-samples t-test was applied to determine whether there was a statistically significant difference between the pre- and post-test scores. Additionally, Cohen's d was computed to measure the intervention's effect magnitude. Qualitative data from the interviews were analyzed using thematic analysis to identify recurring patterns and insights

2.8 Ethical Considerations

Ethical standards were strictly observed throughout the study. The participation of respondents was voluntary, and confidentiality and anonymity were ensured. Informed consent and assent were obtained prior to data collection. The purpose of the study was clearly explained to all participants, and all data were used solely for academic research. Respect, honesty, and integrity were maintained throughout the research process.

3. Results and discussion

3.1 Learners' Performance Before and After the Utilization of CIM-CAP

The descriptive and inferential statistics presented in Table 1 demonstrate a significant enhancement in learners' performance throughout the complete accounting process. The mean score rose from 18.07 (SD = 4.10) in the pre-test to

30.93 (SD = 3.72) in the post-test. This difference was statistically significant, as indicated by the paired t-test result ($t = 27.73$, $p < .05$), signifying a meaningful increase in learners' scores following the intervention. Additionally, the effect size ($d = 3.29$) was very large, suggesting a strong practical impact of the CIM-CAP module on learners' accounting knowledge and skills. These findings align with previous research that highlights the effectiveness of targeted instructional strategies in enhancing students' academic performance. For example, innovative teaching methods, such as case studies, technology integration, and cooperative learning, have been shown to significantly boost learners' accounting achievement by fostering active engagement and deeper understanding (Kassim et al., 2025). Similarly, incorporating differentiated instruction tailored to learners' needs has demonstrated significant positive effects on student outcomes across diverse educational contexts, underscoring the importance of adaptable teaching methods in maximizing learning gains (Am et al., 2023). Moreover, interventions that regularly monitor learning progress and provide ongoing support further enhance student performance, emphasizing the value of data-informed instruction (Fuchs et al., 2025). In a similar vein, Anselmo (2024) found that structured instructional materials, such as learning kits, significantly improved students' understanding and academic performance. Collectively, these studies support the interpretation that the large effect observed in the accounting

pre-post test comparison reflects the effectiveness of a well-designed instructional intervention that actively engages learners, addresses their needs, and applies evidence-based teaching methods.

Table 1. *Descriptive and Inferential Statistics on Learners' Pre-test and Post-test Performance in the Complete Accounting Process*

Test	Mean	SD
Pre-test	18.07	4.10
Post-test	30.93	3.72

$t = 27.73$, $p < .05$, $d = 3.29$ (Very Large) Note: The t -value, p -value, and effect size represent the difference between the pre- and post-test scores.

3.2 Learners' Evaluation of the CIM-CAP Module

Table 2 reveals that learners rated the CIM-CAP module very positively, with an overall average score of 4.82, which corresponds to "Strongly Agree." This suggests that the module was highly effective in terms of clarity, organization, usability, and engagement. The highest score was attributed to the statement, "information is easy to comprehend," indicating that the module facilitated a clearer understanding of accounting concepts. Learners also concurred that the module was detailed enough to be used independently, without the need for teacher assistance, underscoring its ability to facilitate self-directed learning. Additionally, the inclusion of clear examples and engaging activities helped maintain learners' interest and enhanced their understanding. These findings align with previous research, which highlights that well-designed and user-friendly instructional materials improve comprehension, engagement, and self-directed learning (Al-Fraihat et al., 2025; Armellini et al., 2021; Fu and Liu, 2022). Similarly, Anselmo et al. (2026) found that incorporating mobile and technology-supported learning tools significantly enhanced student engagement, learning experiences, and overall academic outcomes. Overall, the results confirm that CIM-CAP is an effective and learnerfriendly instructional tool for teaching accounting.

Table 2. *Learners' Experiences in Utilizing the CIM-CAP*

Indicators	Mean	SD	Interpretation
Provides a complete demonstration of the concepts	4.83	0.37	Strongly Agree
Detailed enough to understand without a teacher	4.76	0.43	Strongly Agree
Provides simple and essential information for quick understanding	4.83	0.37	Strongly Agree
Provides enough examples and illustrations	4.80	0.40	Strongly Agree
Information is easy to comprehend	4.96	0.20	Strongly Agree
Interface is easy to navigate	4.85	0.36	Strongly Agree
Activities reinforce understanding	4.77	0.42	Strongly Agree
Content is well-organized and sequenced	4.83	0.37	Strongly Agree
Provides opportunities to practice skills	4.77	0.42	Strongly Agree
Offers relevant competencies for learning	4.80	0.40	Strongly Agree
Effective tool for fast learning	4.80	0.40	Strongly Agree
Variety of activities ensures engagement	4.83	0.37	Strongly Agree
Overall Weighted Mean	4.82	0.38	Strongly Agree

3.3 Learners' Experiences, Insights, and Suggestions in Using CIM-CAP

Table 3 reveals learners' positive experiences with the CIM-CAP module, highlighting the themes of clarity, contextual relevance, ease of use, engagement, and suggestions for improvement. Learners reported that the module's clear and easy-to-follow content supported comprehension, aligning with findings that clarity in digital learning materials enhances understanding and reduces cognitive load (Al-Fraihat et al., 2025). The contextual relevance of examples, relating to familiar, real-life business situations, was noted to enhance meaningful learning, consistent with research emphasizing the importance of authentic, relatable content in promoting learner engagement and knowledge retention (Lambert & Aubrey, 2025). Ease of use, as expressed through learners' ability to self-pace their study without teacher assistance, underscores the value of user-friendly learning platforms in supporting independent learning, a critical factor found in successful digital

education environments (Armellini et al., 2021). Engaging and interactive activities within the module were also recognized as accelerating comprehension, corroborating studies that interactive digital tools boost learner motivation and affective engagement (Fu & Liu, 2022). Despite the overall positive feedback, learners suggested adding more practice exercises, indicating ongoing opportunities for further improvement. This reflects broader findings that the continual refinement of digital instructional materials is necessary to sustain engagement and deepen learning outcomes (Navas, 2024). Together, these insights demonstrate that CIM-CAP fosters comprehension, relevance, autonomy, and active engagement, thereby promoting effective learning experiences.

Table 3. *Learners' Experiences, Insights, and Suggestions in Using CIM-CAP*

Theme	Description	Sample Responses	Interpretation
Clarity of Content	Learners found the module easy to understand	"The steps are clear and easy to follow."	The module supports comprehension
Contextual Relevance	Examples relate to real-life situations	"Examples are like real businesses in our place."	Enhances meaningful learning
Ease of Use	Module is user-friendly and selfpaced	"I can study even without a teacher."	Promotes independent learning
Engagement	Activities are interesting and interactive	"Activities helped me understand faster."	Increases learner engagement
Suggestions	Minor improvements suggested	"Add more practice exercises."	Module can still be enhanced

3.4 Summary of Findings and Level of Mastery

Table 4 presents a summary of the study's key findings, showing that the CIM-CAP module significantly improved learners' performance and mastery of accounting. The mean score increased from 18.07 in the pre-test to 30.93 in the post-test, with a statistically significant difference ($t = 27.73$, $p < .05$), indicating that the improvement was due to the intervention alone. The effect size ($d = 3.29$) was very large, indicating that the module had a strong impact on learning outcomes. Learners also gave high ratings to the module, indicating that they found it to be clear, relevant, and easy to use. Furthermore, there was a noticeable shift from low mastery in the pre-test to moderate mastery in the post-test, showing an improvement in understanding the accounting process. These findings are supported by studies showing that structured and contextualized instructional materials can significantly enhance learner performance and mastery (Am et al., 2023; Idrishah & Bidin, 2024; Fuchs et al., 2025). Overall, the results confirm that CIM-CAP is highly effective in improving both learning outcomes and learner experience.

Table 4.1. *Summary of Key Findings Aligned with Research Questions*

Research Question	Key Findings	Interpretation
Pre-test and posttest scores	Mean increased from 18.07 to 30.93	Learners demonstrated substantial improvement in mastering the complete accounting process after using CIM-CAP
Significant difference	$t = 27.73$, $p < .05$	The improvement in scores is statistically significant, indicating that the intervention had a real effect
Effect size	$d = 3.29$ (Very Large)	The intervention had an exceptionally strong impact on learners' academic performance
Learner evaluation	Overall Mean = 4.82 (Strongly Agree)	Learners perceived the module as highly effective, clear, and user friendly
Learner experiences	Themes: clarity, relevance, engagement	CIM-CAP facilitated meaningful, contextualized, and independent learning

Table 4.2 illustrates a significant shift in learners' mastery levels before and after the CIM-CAP intervention in the complete accounting process. Initially, during the pre-test, learners predominantly demonstrated low mastery, as indicated by scores in the 0–20 range. However, following the intervention, the post-test scores transitioned primarily to the 21–40 range, corresponding to moderate mastery. This upward shift evidences the effectiveness of the CIM-CAP module in enhancing

learners' understanding and skills related to accounting procedures. These results align with broader educational research demonstrating that well-designed instructional interventions can significantly improve learner competency levels. For example, studies employing targeted teaching approaches frequently report shifts from lower to higher mastery categories post-intervention, reinforcing the role of structured and contextualized learning in academic growth (Idrishah & Bidin, 2024). Similarly, interventions that integrate meaningful, domain-relevant content and active learning strategies foster better comprehension and knowledge application, contributing to increased mastery, as observed in post-test performance (Alghamdi, 2025; Jantasode & Ruangjaroon, 2025). Furthermore, pre-post mastery improvements reflect the importance of ongoing assessment and feedback in supporting learner development, an approach frequently emphasized in language and content learning programs (Heeren, 2024; Yen, 2024). In summary, the findings in Table 4b confirm that the CIM-CAP intervention effectively elevates learners from low to moderate mastery, demonstrating substantial gains in accounting process proficiency.

Table 4.2 *Level of Mastery Before and After the Intervention*

Score Range	Mastery Level	Pre-test	Post -test
0–20	Low Mastery	✓	
21–40	Moderate Mastery		✓

4. Conclusion

This study concludes that the Contextualized Intervention Module in Complete Accounting Process (CIM-CAP) is an effective instructional tool for improving learners' performance, mastery, and learning experiences in Basic Accounting 1. The results revealed a substantial increase in learners' post-test scores compared to their pre-test performance, supported by a statistically significant difference and a very large effect size, indicating a strong impact of the intervention on learning outcomes. Furthermore, learners demonstrated a shift from low to moderate mastery levels, reflecting an improved understanding of the accounting process. The high evaluation ratings also indicate that the module was clear, relevant, user-friendly, and supportive of independent learning. Overall, the findings confirm that contextualized print-based instructional materials can effectively enhance learning, particularly in rural and resourceconstrained educational settings.

Based on these findings, it is recommended that teachers adopt and develop contextualized instructional modules similar to CIM-CAP to improve learner engagement and comprehension, especially in subjects requiring step-by-step mastery. School administrators should support the development, reproduction, and implementation of localized instructional materials to address such resource limitations. Curriculum developers should integrate contextualized and modular approaches into official learning resources to ensure relevance and accessibility. Additionally, policymakers, particularly the Department of Education, should strengthen initiatives that promote the use of localized and print-based instructional materials in underserved schools. Future researchers should explore the long-term effects of such interventions and examine their applicability across different subjects and educational contexts.

Despite these positive findings, this study has several limitations. The use of a one-group pretest–posttest design limits the ability to establish causality because there was no control group for comparison. The study was conducted within a single rural school with a relatively small sample size, which may affect the generalizability of the results. Furthermore, the duration of the intervention was limited, and the long-term retention of learning was not measured. Learner responses in the perception surveys may also be biased. These limitations suggest the need for further research using more rigorous experimental designs, larger and more diverse samples, and extended intervention periods to validate and strengthen these findings

Compliance with ethical standards

This study strictly adhered to the established institutional and ethical research standards throughout its conduct. Participation was entirely voluntary, and informed consent was obtained from all participants prior to data collection, ensuring that they were fully aware of the study's purpose, procedures, and their rights as participants. Confidentiality and anonymity were rigorously maintained, and all collected data were used solely for academic and research purposes. Ethical approval was obtained from the appropriate authorities before the implementation of the study, and all procedures complied with accepted research protocols. The authors declare no conflicts of interest in the conduct and reporting of this research. Proper acknowledgment was given to all sources and contributors, and all data presented were original and free from plagiarism. Furthermore, the researcher assumed full responsibility for the integrity, accuracy, and ownership of the work,

ensuring that all ethical principles, including honesty, transparency, and accountability, were upheld throughout the research process.

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