DEVELOPING CRITICAL THINKING SKILLS IN ACCOUNTING EDUCATION STUDENTS THROUGH THE CASE METHOD LEARNING APPROACH

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ABSTRACT
In the digital era and the rapid diffusion of artificial intelligence, universities are expected to produce graduates who can analyze information rigorously and make defensible judgments; however, critical thinking is often underdeveloped in accounting learning that remains content- and procedure-centered. This study aimed to evaluate the effectiveness of the Case Method Learning approach in strengthening the critical thinking skills of Accounting Education students in a Financial Accounting course. Using a quasi-experimental nonequivalent control group design, one experimental class received three cycles of case-based instruction, while a control class received conventional lecture-based instruction. Students' critical thinking was measured with an accounting-specific instrument aligned with higher-order cognitive skills, administered through equivalent pretest–posttest tasks. Data were analyzed using paired-sample t-tests (within-group improvement) and independent-sample t-tests (between-group differences) in SPSS. Results showed a substantial gain in the experimental class, where the mean score increased from 5.97 (pretest) to 16.87 (posttest) with $p = 0.000$ (< 0.05), and post-intervention performance differed significantly from the control class ($p = 0.000$ (< 0.05)). These findings indicate that the case method can meaningfully enhance students' analytical reasoning and problem-solving in accounting contexts. The study concludes that integrating structured cases into Financial Accounting instruction is an effective strategy for developing critical thinking among Accounting Education students. Practically, the results support curriculum-level adoption of case-based learning and lecturer capacity-building for designing authentic cases and facilitative discussions. Future research should test long-term retention, replicate across institutions and accounting topics, and combine quantitative outcomes with qualitative evidence on reasoning processes and classroom interaction.

Keywords: Accounting education; Case method; Critical thinking; Financial accounting; Quasi-experimental design

INTRODUCTION

Efforts to improve the quality of human resources have become a challenge for universities. Ideally, learning at universities can develop both the hard skills and soft skills of students. However, in reality, universities still focus on hard skills, students' ability to complete coursework assignments. Meanwhile, soft skills are supporting abilities that can influence the output of those hard skills. Critical thinking ability is one of the soft skills that university graduates must possess. Critical thinking is a good way to help students master more advanced theoretical skills (Reinstein and Bayou 1997). Critical thinking is one of the attributes emphasized in disciplines within higher education for the sake of better quality graduates. College graduates need critical thinking skills to ensure that they can provide added value and contributions in the business world or the workforce (Braun 2004). The government emphasizes the importance of universities honing critical thinking skills (Calma and Cotronei-Baird 2021). However, according to research, not all universities develop critical thinking skills in their students. Specifically in accounting education, professional bodies stress the need for critical thinking skills (terbalance et al.). Thus, it is the responsibility of universities to develop their students' critical thinking skills (Calma and Cotronei-Baird 2021). To develop students' critical thinking skills, it can be done explicitly by incorporating them into teaching practices (Cotronei-Baird 2020a). Anderson's modified Bloom's taxonomy serves as a theoretical framework for enhancing students' critical thinking skills (Braun 2004). This hierarchical model classifies cognitive thinking abilities into a six-level pyramid, ranging from lower-order thinking to higher-order thinking skills. Higher-level skills often require critical thinking (Terblanche et al. 2023). This model can be used as a framework for planning the development of students' critical thinking abilities (Cotronei-Baird

2020b). Students are provided with an understanding to be able to follow the instructions or verbs used in the assessment (Dickins and Reid 2023).

Case Method Learning is a highly adaptive teaching method that involves case-based learning (Lombard 2008). Case Method Learning can facilitate the development of higher-order Bloom's taxonomy by focusing on deeper cognitive processing. Case-based learning has been widely adopted in educational institutions around the world. The case method is effective in developing problem-solving skills (Duron, Limbach, and Waugh 200). Therefore, through the Case Method Learning approach, lecturers can provide case study examples that are relevant to the course material to stimulate students to think critically. The course referred to in this study is the Financial Accounting course, one of the courses in the Accounting Education program of study that examines how financial recording is carried out in various types of companies. The application of the case method learning model can encourage students' critical abilities in solving cases from different perspectives, resulting in the best solutions (Anderson and Schiano 2014; Lombard 2008). Learning strategies using the Case Method are considered effective in developing students' skills(Rosidah and Pramulia 2021). The purpose of this study is to design an explicit critical thinking intervention for accounting education students (Rossouw and Steenkamp 2025). The second purpose is to test the effectiveness of the specially designed intervention related to accounting. This study aims to examine the effectiveness of teaching financial accounting using the Case Method approach on the thinking abilities of accounting education students. Previous studies have shown that many models have been used, such as the Case Method, Problem-Based Learning, and active learning, with various theoretical frameworks. One theoretical framework often used in developing students' critical thinking is Bloom's taxonomy. The importance of integrated critical thinking education is emphasized to be integrated into higher education curricula (Nuryana et al. 2024). Using the experimental method is expected to test the extent to which learning interventions with the Case Method Learning approach can develop students' thinking abilities. Critical thinking skills are measured using instruments developed following the theoretical framework of Bloom's taxonomy. Students are given several instructions with action verbs.

The massive development of digital technology has changed how students access, process, and use information in learning. Quick access to various sources of information through the internet, social media, and artificial intelligence provides advantages in terms of efficiency, but also poses risks such as a decline in reflective and analytical thinking quality. According to the (PISA 2021) Students who rely too much on technology tend to have difficulty evaluating the reliability of information sources and constructing critical arguments. This is reinforced by research from Kirschner, which shows that the ease of digital access often encourages "minimal cognitive thinking," where students merely copy information without engaging in deep internalization processes (Kirschner and Van Merriënboer 2013). Therefore, universities are required not only to integrate technology into learning but also to guide students to use it wisely and critically.

Critical thinking is an essential skill students need to face complex challenges in the digital era, which is filled with diverse and often misleading information. Heick (2020) defines critical thinking as the ability to independently analyze and evaluate information to form a deeper and more comprehensive understanding. This aligns with the view of Paul and Elder (2020), who emphasize that critical thinking is a process of intellectual discipline to actively and skillfully comprehend, analyze, and evaluate information to produce reasoned decisions and solutions. In the higher education environment, this ability not only supports academic achievement but also shapes a reflective mindset that is crucial in professional life. Therefore, developing critical thinking must be a primary goal in curriculum design and learning strategies, so that students can become independent learners, healthily skeptical, and adaptable to change. One effective learning strategy for developing students' critical thinking skills is applying the case method. This method encourages students to analyze real or simulated problems, evaluate alternative solutions, and make decisions based on evidence and logical reasoning. According to Herreid and Schiller (2013), the case method allows students to actively participate in discussions, question assumptions, and develop higher-order thinking skills. This process aligns with critical thinking characteristics, which requires in-depth evaluation of information and the formulation of structured arguments. Furthermore, research by Yuliana and Permanasari (2022) shows that the consistent application of the case method in courses can enhance students' analytical and reflective abilities regarding contemporary issues in their field. Thus, the case method not only enhances conceptual understanding but also strengthens intellectual independence in facing the complexity of real-world problems.

The case method or case-based learning is rooted in the legal and business education traditions in the United States, particularly at Harvard Law School in the late 19th century. Christopher Columbus Langdell, a dean of Harvard Law School, was the first figure to introduce this method systematically in 1870. Langdell believed that law students would better understand legal principles by analyzing real cases, rather than merely memorizing theory. This approach was later developed and adapted in business education through Harvard Business School in the early 20th century. There, the method was modified so that students could develop decision-making skills in complex and dynamic business environments. This method later spread to various fields of study, including accounting education. Applying the case method in accounting education has become one of the effective strategies for building students' critical thinking, analytical skills, and problem-solving abilities. Unlike the lecture method, which is one-way, the case method allows students to directly interact with complex real or simulated accounting problems, requiring them to understand the context, analyze data, construct logical arguments, and make decisions based on accounting principles. According to Fitriani and Hery (2022), using case studies in accounting learning can enhance students' abilities to interpret financial statements, identify ethical issues, and formulate solutions that meet professional standards. This is supported by research by Suryandari and Nugroho (2023), which shows that accounting students who use the case method demonstrate higher conceptual understanding and reflective skills than conventional approaches. Therefore, integrating the case method into the accounting curriculum can be a strategic step to produce graduates who are not only technically competent but also think critically and are adaptive to the challenges of the professional world.

Table 1. The learning design using the case method is as follows:

Type of Case	Description	Promoted Learning
Directed case	Presenting a scenario followed by a discussion using a series of guided/closed questions whose answers are found in the course material.	Understanding basic concepts, principles, and facts
Dilemma or case decision	Presenting individuals, institutions, or communities faced with a problem that must be solved. Afterwards, students can see the actual results.	Problem-solving and decision-making skills
Disconnected case	Presenting a problem in a gradual disclosure format. Students receive information bit by bit and must make decisions at each stage.	Progressive problem-solving and strategic thinking skills
Analysis or problem case	Focused on situational analysis and answering related questions. Often consists of retrospective cases that analyze why something happened and alternative solutions.	Critical analysis, logical reasoning, and evaluation of alternative solutions

Source: Abdul Rahmat et al.

Case-based learning methods provide many benefits in higher education. This method not only helps develop students' individual potential and character but also trains critical thinking, problem-solving, entrepreneurship, and practical situation management skills. In addition, implementing case methods can increase students' enthusiasm for learning, encourage them to participate actively in class, and habituate them to work collaboratively in teams and communicate effectively. Through carefully chosen questions and exercises, teachers/lecturers guide students to derive lessons from the case, ideally through direct discussion, online, or in written form, via discussion boards or collaborative projects (Harvard Kennedy

School, 2020). Students also learn to make decisions in uncertain and high-pressure situations, an essential skill needed in the real working world (Sklyar & Kharchenko, 2020)

METHOD

This study uses a Quasi-Experimental method with a Nonequivalent Control Group Design. A quasi-experiment is a research method using a pseudo-experiment. The study uses one experimental class and one control class. The experimental class will receive an intervention in financial accounting learning using the Case Method approach. Meanwhile, in the control class, learning is conducted using the lecture method. Research Model:

Group	*Pretest*	*Treatment*	*Posttest*
Eksperiment	O_1	X	O_2
Control	O_3		O_3

Figure 1. Research Model

Description:
O: Critical Thinking Ability of Accounting Education Students
X: Financial Accounting Learning Using the Case Method

The research population consists of Accounting Education students at FEB UNNES taking the financial accounting course in the fourth semester.

RESULTS AND DISCUSSION

Pretest

At the initial stage of the research, the researcher conducted a pretest in both the experimental and control classes. The pretest was a written test, comparing two cases from different companies. Students were asked to answer questions using indicators cited from Rossouw M, Steenkamp G (2025) to assess their critical thinking skills. To avoid bias, the pretest was administered in both classes with the exact instructions, the same amount of time, and comparable room conditions. All students were required to complete the questions according to the given instructions without assistance from others. After the allotted time, the researcher collected the students' answer sheets from both classes for subsequent analysis.
The researcher obtained several initial findings based on the results of the pretest administered to the experimental and control classes. First, students' average scores in both classes were almost the same or balanced, with no significant differences. This provides an overview of the initial abilities of the participants before any treatment was given. This finding is critical to determine whether there is a significant difference between the experimental and control groups from the start. Second, the pretest results showed variations in student abilities, with the distribution of high, medium, and low scores in both classes not differing significantly, allowing for an analysis that the level of heterogeneity in pretest scores in both classes was almost the same. Thus, the findings from the pretest stage provide a comprehensive picture of the initial conditions of the students, serving as a basis for comparison with the posttest results while ensuring that the treatment truly influences any improvement in learning outcomes in the study.

Intervention Stage in the Experimental Class

The intervention in this study was implementing accounting learning using the case method. This learning model was chosen because it can improve students' analytical skills, problem-solving abilities, and understanding of accounting concepts. Initially, the lecturer provided accounting cases relevant to the course material, financial statement preparation, and cost analysis. Students were then divided into groups to read and understand the cases, identify problems, and formulate alternative solutions. Subsequently, each group conducted analyses, solved case problems, and prepared reports according to the given issues.

Figure 2. Intervention

The analysis results were presented in front of the class and then responded to by other groups through discussion and Q&A. At the end of the activity, the lecturer provided a summary and reinforced concepts to deepen students' understanding. The intervention activities were conducted three times, and they had roughly the same stages. With this method, it is hoped that students will not only master the theory but also be skilled in applying accounting concepts to real problems. The findings from this case-based learning are in line with the research of Sari and Hidayat (2020), which shows that the case method positively affects accounting students' critical thinking skills, as well as Nurhayati and Kurniawan (2021), who state that the application of the case method can improve students' analytical abilities in solving accounting problems.

Posttest

The posttest stage in this study was conducted after the experimental class received learning using the case method, and the control class followed conventional learning. The posttest was given with an instrument equivalent to the pretest to compare the results objectively. The posttest was administered under the same conditions in both classes, regarding instruction, time allocation, and classroom atmosphere, ensuring that the results were unbiased. The data obtained from the posttest were then analyzed to examine the differences in learning outcomes improvement between the experimental class and the control class. These results serve as a basis for assessing the effectiveness of the applied learning intervention.

The analysis results indicate a significant improvement in students' learning outcomes after implementing case method-based accounting instruction. Based on the Paired Sample T-Test in the experimental class, the average pre-test score of 5.97 increased to 16.87 in the post-test, with a significance value of $0.000 < 0.05$. This demonstrates that the case method can significantly enhance students' understanding and analytical skills. Furthermore, the Independent Sample T-Test between the experimental and control classes showed a significant difference with a significance value of $0.000 < 0.05$, indicating that students' learning achievements in the experimental class were better than in the control class.

These findings reinforce previous research by Sari and Hidayat (2020), which stated that the case method is effective in enhancing critical thinking skills of accounting students, as well as by Santosa and Rahayu (2019), who demonstrated the positive impact of case-based methods on accounting learning outcomes. Therefore, implementing the case method can be considered effective in improving the quality of accounting education, as it can integrate theory with real practice and train students to solve problems systematically.

CONCLUSION

Based on the research results, it can be concluded that implementing accounting learning using the case method effectively improves learning outcomes and students' critical thinking skills. This proves that students can demonstrate enhanced conceptual understanding and analytical skills after receiving case-based learning. Furthermore, the Independent Sample T-Test results also show a significant difference between the experimental and control classes, confirming that students who learn with the case method achieve higher learning outcomes than students who learn with conventional methods. This improvement is not only seen in terms of quantitative learning outcomes but also reflects the development of students' critical thinking skills. Through the analysis of real cases, students are trained to identify problems, ask the right questions, evaluate accounting data, and formulate logical and accountable solutions. These findings are consistent with the research of Sari and Hidayat (2020), which confirms that the case method promotes critical thinking skills among accounting students. Therefore, the case method can be recommended as a learning strategy that enhances learning outcomes and fosters critical thinking skills that are essential for facing challenges in the accounting profession.

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