

## Enhancing Students' Understanding of The Accounting Profession in The Digital Era: A Service Learning Approach

*Chita Oktapriana<sup>a)</sup>, Vita Elisa Fitriana<sup>b)</sup>, Supeni Anggraeni Mapuasari, Muhamad Safiq, Whereson Helpme Wintro Siringoringo and Setyarini Santosa*

Universitas Presiden, Bekasi, Indonesia

<sup>a)</sup>Corresponding author: [chita.okta@president.ac.id](mailto:chita.okta@president.ac.id)

<sup>b)</sup>[vita.elisa@president.ac.id](mailto:vita.elisa@president.ac.id)

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### ABSTRACT

The advancement of technology has had a significant impact across various sectors, including the accounting field. Gradually yet inevitably, technological developments are transforming accounting practices, which in turn are reshaping the role of accountants. This phenomenon raises an important question: Does technology pose a threat to the accounting profession, or does it instead offer broader opportunities? This study examines whether technological advancement in accounting represents a threat or an opportunity through a service-learning intervention. The program involved 40 vocational accounting students and employed a pre-test and post-test design analyzed using a paired sample t-test. The results showed a significant improvement in students' understanding ( $p < 0.05$ ), including a 57% increase in awareness of the relationship between technology and accounting and a 46% increase in interest in pursuing accounting careers. The findings indicate that technology should be viewed as a strategic tool rather than a replacement for accountants. This study highlights the effectiveness of service-learning in improving students' professional literacy and readiness for the digital era.

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## INTRODUCTION

The growth of digital technology has altered several professional sectors, including accounting, which today faces both new challenges and opportunities as a result of the use of automation technologies and artificial intelligence. According to Deloitte (2021), the accountant's job has evolved from merely recording transactions to becoming a strategic data-driven advisor, with over 50% of routine accounting operations now being automated. However, according to a World Economic Forum (2023) report, 42% of present employment skills would change significantly by 2027, underlining the need to refocus accounting education to be more adaptable to the evolution of accounting information systems and technology.

This issue poses an important question: are systems a threat or an opportunity to the accounting profession's future? Unfortunately, accounting students have a limited understanding of system-related roles. According to Hartono and Marbun (2022), 63% of Indonesian accounting students believe they are unprepared for technology disruption due to a lack of practical experience with digital-based accounting systems. This circumstance generates an urgent need for both the education sector and the accounting profession to provide learning opportunities that improve technology literacy and functional understanding of system-based accounting. Referring to the results of community service activities conducted by Prasetyaningrum & Lewoema (2023), which state that the utilization of technological advancements has proven capable of enhancing impactful contributions to the education sector. In the same spirit, this community service activity also emphasizes that technological advancements in the accounting profession in the future can contribute to enhancing the quality of the profession, rather than completely replacing the role of accountants. However, previous studies have primarily focused on technological impacts on accounting practices, with limited attention to students' perceptions and readiness through experiential learning approaches. Therefore, this study aims to fill this gap by applying a service-learning model combined with quantitative analysis.

In order to address these issues, a service-learning strategy was used to perform this community service activity, which integrated education, service, and reflection in authentic settings. The intended participants were vocational-level accounting students who were educated on the accounting profession in the context of information technology. To assess participants' understanding of the program, pre- and post-tests were administered, followed by analysis using a paired sample t-test.

The findings demonstrated that following the educational intervention, participants' comprehension of topics about the accounting profession in the digital age significantly improved. These findings are consistent with the research of Kusumawati et al. (2021), who discovered that project-based learning and experiential methods can improve students' perspectives and readiness for future competencies. Participants in this training program not only acquired knowledge about roles connected to systems, but they also acquired a favorable outlook on the changing accounting industry.

Therefore, the purpose of this study is to investigate the effects of teaching accounting to students using a service-learning methodology in conjunction with quantitative data analysis. This study not only adds to academic literature, but it also provides a model for implementing education that meets the needs of contemporary times. Further, the importance of this study is further supported by Table 1, which shows an anticipated change in core competencies for professional accountants based on The Future of Jobs Report (World Economic Forum, 2023).

**TABLE 1.** Projection of Shifts in Accounting Professional Skills 2023–2027

Core Competencies of Accountants (2023)	Projected Core Competencies (2027)
Manual preparation of financial statements	Data analysis and AI-driven interpretation
Proficiency in basic accounting software	Process automation and decision-making
Tax compliance	System-based risk management and compliance

Source: World Economic Forum, 2023

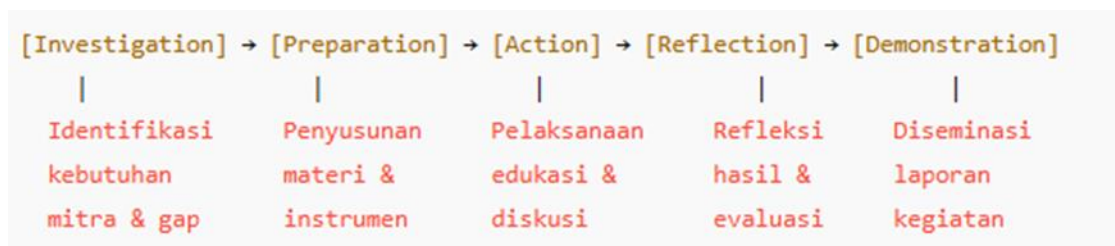
## THEORETICAL REVIEW

Experience-based education, also known as experiential learning, has proven to be an efficient method of bridging the gap between academic knowledge and practical applications. Service learning is a popular approach in the world of education for community service projects. Bringle and Hatcher (1995) define service learning as a teaching strategy that combines community service with academic instruction and reflection to enrich the learning experience, encourage civic responsibility, and strengthen communities.

The stages of service learning are generally divided into five main phases as outlined by Eyler and Giles (1999):

- Investigation – identifying community needs and mapping problems;
- Preparation – planning activities and designing intervention materials;
- Action – implementing service activities based on learning;
- Reflection – evaluating participants' experiences and their impact; and
- Demonstration – reporting the results of the activities to the broader community.

This model supports a collaborative and practical learning process, encouraging participants to be actively engaged cognitively, affectively, and psychomotorically. Further, service learning is particularly relevant in accounting education as it integrates theoretical knowledge with real-world applications, enhancing students' professional competencies and adaptability in a technology-driven environment.

**FIGURE 1.** Stages of Service Learning in Accounting Profession Education Activities

The community service partner has a number of urgent problems in this activity. First, vocational-level accounting students still have a limited awareness of the scope and progress of the accounting profession, especially in light of digitization. This has resulted in unfavorable opinions and concerns that systems will replace the accounting profession rather than change it in tandem with them. Second, there is a curricular gap between vocational school (SMK) and higher education, particularly in terms of knowledge of accounting information systems, data literacy, and comprehension of the profession as an organized and progressive career path. According to Rahmawati and Yuliana (2020), 58% of vocational students lack a fundamental understanding of accountants' prospects in the digital age, indicating the critical need for educational interventions.

The Community Service event was conducted in one of the vocational schools in the Cikarang area and utilized a service learning method, and had a substantial influence on participants' understanding and perceptions of the accounting profession. A paired sample t-test analysis using SPSS software showed a significant difference between pre-test and post-test scores (Sig. 2-tailed = 0.004 < 0.05), demonstrating the activity's success in improving participants' understanding.

### Statistical Evaluation and Total Effect

This community service activity was implemented using a structured service-learning approach, following the stages described previously. The implementation team is coming from lecturers and students from the Accounting Study Program, President University. The partner for this activity was the Indonesian Institute of Accountants (IAI) West Java Region, which introduced the "Accountants Teaching" concept as part of its professional literacy program for students.

The target participants of this activity were 40 accounting students from SMK Bina Mitra, selected based on their readiness and the relevance of their curriculum. The activity began with a pre-test aimed at measuring participants' initial understanding of the accounting profession, accounting information systems, and their perceptions of the future of the profession. This was followed by the delivery of interactive learning materials by the implementation team and representatives from IAI, complemented by case discussions and simple simulations. After the educational session, participants were given a post-test to assess improvements in their understanding.

The evaluation instrument consisted of pre-test and post-test questions developed based on indicators of professional literacy and technological understanding in accounting. The pre-test and post-test data were analyzed using a paired sample t-test through SPSS version 26 to examine the significance of changes in participants' understanding before and after the educational intervention. The results of this analysis served as the basis for determining the effectiveness of the educational approach implemented.

In general, the impact targets measured in this community service activity focused on three main aspects: participant satisfaction, basic understanding of the accounting profession, and the level of literacy regarding accountants versus accounting systems. This study employed a quantitative pre-experimental design using a one-group pre-test and post-test approach. The participants consisted of 40 vocational accounting students. Data were collected using structured questionnaires measuring professional literacy and technological understanding. The data were analyzed using a paired sample t-test to determine significant differences before and after the intervention. Each of these aspects is further elaborated through several measurement indicators, as presented in Table 2 below.

**TABLE 2.** Measurement Indicators

No.	Construct	Measurement Item	Measurement Scale
1	Participant Satisfaction (Code: KP)	What are your expectations for today's seminar?	Multiple choice (majority response)
2		I aspire to become an accountant in the future.	Likert scale
3		This material is relevant to the accounting lessons I study at school.	Likert scale
4		This material enhances my understanding of the relationship between technology and accounting.	Likert scale
5		After engaging with this material, I am more interested in becoming an accountant.	Likert scale

No.	Construct	Measurement Item	Measurement Scale
6	Basic Understanding of the Accounting Profession (Code: PDPA)	I am considering pursuing further studies in accounting.	Likert scale
7		This material helps me understand accounting systems in real-world practice.	Likert scale
		Have you previously attended an accounting seminar?	Closed question (2 options)
8		When I hear the term "accountant," I immediately think of bookkeeping and preparing financial statements.	Likert scale
9		I believe the accounting profession can soon be replaced by robots or artificial intelligence.	Likert scale
10		I believe that accountants' salaries are generally similar to other professions and not significantly higher than the minimum wage.	Likert scale
11	Literacy Level: Accountant vs. System (Code: TLAS)	What is your target salary or expected income in the future? (Please state in millions of rupiah per month)	Open-ended question (average)
12		I am able to distinguish between the roles of accounting systems and accountants in professional practice.	Likert scale
13		What is the primary function of an accounting system in recording transactions?	Multiple choice (number of correct answers)
14		Modern accounting systems can generate financial statements in real time.	Multiple choice (number of correct answers)
15		What is meant by an audit trail?	Multiple choice (number of correct answers)
16		Accounting systems can fully replace the role of human accountants.	Multiple choice (number of correct answers)
17		In the case of discrepancies in the balance sheet, who is responsible for analysis and providing recommendations?	Multiple choice (number of correct answers)
18		Systems are capable of analyzing data and making strategic decisions independently.	Multiple choice (number of correct answers)
19		I am able to distinguish between the roles of accounting systems and accountants in professional practice.	Likert scale
20		Match the role with the appropriate party: Transaction automation	Multiple choice (number of correct answers)
21	Match the role with the appropriate party: Financial trend analysis	Multiple choice (number of correct answers)	
22	Match the role with the appropriate party: Maintaining data integrity	Multiple choice (number of correct answers)	
23	Match the role with the appropriate party:	Multiple choice	

No.	Construct	Measurement Item	Measurement Scale
		Providing an audit trail	(number of correct answers) Multiple choice
24		Which statement is the most accurate?	(number of correct answers) Multiple choice
25		What competencies remain essential in the accounting profession despite the presence of systems?	(number of correct answers) Multiple choice

## RESULTS AND DISCUSSION

The community service activity entitled “The Role of Technological Advancement in the Accounting Sector: Threat or Opportunity?” was implemented using a service-learning approach and generated a significant impact on participants’ understanding and perceptions of the accounting profession. A total of 40 accounting students from SMK Bina Mitra participated in this educational activity, with the direct involvement of the professional partner, the Indonesian Institute of Accountants (IAI) West Java Region.

**TABLE 3.** Independent Samples Test

Indicator		Levene's Test for Equality of Variances		t-test for Equality of Means			Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)			Lower	Upper
Indicator	Equal variances assumed	2.781	.102	-.843	48	.004	-3.4020	4.03678	-11.51850	4.71450
	Equal variances not assumed			-.843	47.070	.004	-3.4020	4.03678	-11.52264	4.71864

The significance value in Levene’s test is 0.102, which exceeds 0.05, indicating that the data between pre-test and post-test indicators are homogeneous. Therefore, the interpretation of the independent sample test output refers to the values in the row “equal variances assumed.” In addition, the paired sample t-test results ( $p = 0.004 < 0.05$ ) indicate a statistically significant improvement in students’ understanding after the intervention. This confirms the effectiveness of the service-learning approach in enhancing professional literacy.

This accounting seminar led to a shift in students’ perceptions of the accounting profession. Initially, students perceived accountants primarily as individuals performing cognitively demanding tasks focused on ensuring the accuracy of clerical activities. However, following the seminar, students demonstrated a more comprehensive understanding of the need to acquire broader insights into the various roles within the accounting profession. This shift is evidenced by changes in response patterns observed in the questionnaire.

There was a 30% increase in students’ intention to pursue a career as an accountant in the future. This suggests that the educational content regarding the role of accountants in the business

environment was effectively absorbed and contributed to shaping students' career considerations. Regarding the perceived relevance of the material, there was a decrease of approximately 19% in the highest Likert scale score (score of 5), indicating a shift in the strongest level of agreement. This may be attributed to the lack of curriculum updates in schools concerning recent developments in the accounting profession. Nevertheless, there was a 31% increase in responses with a score of 4, suggesting that students were able to better align the newly acquired insights with the accounting knowledge they received in school.

A 57% increase was observed in students' understanding of the relationship between technology and accounting, highlighting the positive impact of the activity on vocational accounting students. Additionally, there was a 46% increase in participants' interest in choosing accounting as a profession. After gaining a clearer understanding of the distinction between the roles of systems and accountants, students became more confident that the accounting profession will remain highly relevant in practice. This serves as an indication of the profession's sustainability and its potential to provide future economic well-being.

Initially, most accounting students perceived accountants as performing purely administrative functions or merely as bookkeepers. However, after participating in the seminar, there was a significant decrease of 38% in this perception. Although not all students fully understood the broader scope of the profession, they gained important insights that accountants are not merely record keepers but professionals capable of conducting fundamental analyses to support decision-making in practice.

Consistent with these findings, students' confidence in pursuing the accounting profession increased. This is reflected in a 31% decrease in students' concerns regarding the potential replacement of accountants by systems such as robots and artificial intelligence. Students increasingly believe that by equipping themselves with managerial and critical analytical skills, technological systems will serve as tools to enhance efficiency rather than replace the role of accountants in the future.

## DISCUSSION

This activity's impact can be analyzed through three main aspects:

- Participants' satisfaction and perception,
- Basic understanding of the accounting profession, and
- Literacy in accounting information systems.

Following the program, students' interest in becoming accountants increased by 30% in the first area. This suggests that portraying the work of accountants in a contemporary context effectively increased students' career orientation. A contextual and profession-based educational approach can greatly increase students' interest in the accounting sector (Mulyani et al., 2021).

Furthermore, students' knowledge of the relationship between technology and accounting improved by 57%. This is consistent with the reflection stage of the service-learning framework developed by Eyler and Giles (1999), which highlights the significance of internalizing knowledge following practical experience. Students not only learned material, but they also began to comprehend how systems and the accounting profession complement one another. Notably, students' anxiety that computers would take the place of accountants dropped by 31%, suggesting that they are beginning to critically comprehend that, when used wisely and morally, computers can actually increase accounting performance.

Interestingly, the exercise challenged the assumption that accountants are simply bookkeepers. Before the seminar, the majority of students associated the profession with administrative chores. However, after the educational intervention, this attitude dropped by 38%, as students realized that accountants play key roles in company decision-making. This supports Daff et al.'s (2020) argument that accounting curriculum should stress analytical and decision-making abilities rather than transaction recording.

However, the results also showed a discrepancy in the curriculum between what is taught in schools and what is needed for professional practice. This is demonstrated by the fact that, although score 4 increased by 31%, the greatest relevance score (5) decreased by 19%. This shows that students are recognizing discrepancies between their educational curriculum and the realities of the accounting profession. According to Rahmawati and Yuliana (2020), this emphasizes the pressing need for curriculum changes and cooperation between professional associations and vocational education institutions.

Overall, this exercise demonstrates the usefulness of service learning in closing the gap between students' theoretical understanding and the demands of the professional world. The beneficial impact—as indicated by both quantitative data and participant narratives—confirms that practice-based education, in conjunction with professional partners, may form fresh perspectives and drive students to plan their future careers as professional accountants.

## CONCLUSION

In the face of system and digital technology upheavals, this community service project has significantly improved students' comprehension and impression of the accounting profession. The interactive, experience-based educational activity succeeded in altering students' perceptions of accounting from an administrative function to one of a strategic role associated with the progress of accounting information systems. The difference test revealed a statistically significant improvement in comprehension, with a 57% increase in understanding of the relationship between technology and accounting, as well as a 46% rise in interest in becoming an accountant.

The intervention also alleviated participants' anxieties that systems might replace accountants by clarifying the distinction between accountants as analysts and systems as instruments. Furthermore, the exercise demonstrated a disconnect between the current vocational curriculum and the demands of the field, as seen by students' perceptions of the material's applicability. These findings highlight the importance of cross-institutional education, which includes practitioners and professional groups, in bridging knowledge gaps and increasing career literacy among students from an early age.

This study has several limitations that might influence the generalization ability of the results. First, this study is limited by the use of a single-group design and a relatively small sample size. Future research should involve control groups and larger samples to strengthen generalizability. Second, future research can use different methods, such as experience-based, which expose students to the experience directly.

## IMPLICATION

Based on the findings and outcomes of the activity, three key implications can be identified. First, vocational education institutions, particularly those specializing in accounting, need to continuously evaluate and adapt their curricula in response to evolving industry demands and transformations within

the accounting profession. The structured integration of subjects such as accounting information systems, digital literacy, and data-driven employment opportunities is essential to ensure that students develop not only technical competencies but also a strategic understanding of their prospective professional roles. Second, for practitioners and professionals, this activity underscores the importance of fostering inclusive accounting knowledge to maintain alignment between accounting education and professional practice. The initiative demonstrates that cross-sector collaboration can enhance students' understanding while simultaneously reinforcing the perception of accounting as a dynamic and future-oriented profession—one that is complemented, rather than displaced, by technological systems. Finally, for researchers and education policymakers, the implementation of the service-learning approach in this activity has proven effective in improving students' understanding of and perceptions toward the accounting profession. Therefore, similar approaches should be replicated across various professional education contexts, particularly to support the early development of students' career orientations with a strong emphasis on real-world relevance. cross-sector collaboration may deepen student knowledge while also strengthening the image of accounting as a dynamic, future-proof profession—one that is not threatened by systems, but rather supported by them. Last, for researchers and education policymakers, the service-learning method used in this activity has proven beneficial in increasing students' understanding and perceptions of the profession. As a result, comparable approaches should be replicated in various professional education environments, particularly to shape students' career orientation early on and with a focus on real-world relevance.

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