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## Implementation of the Coaching Clinic Method for Phase F Vocational School Students Majoring in Accounting to Improve Industry Competence

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### Abstract

Industrial competence remains a persistent challenge in vocational accounting education, particularly in Phase F where alignment between school-based learning and workplace expectations is often weak. Prior studies have largely emphasized technical instruction, offering limited empirical evidence on coaching-oriented pedagogies grounded in experiential and competency-based learning. Addressing this gap, this study investigates the effect of the Coaching Clinic method a practice-oriented, feedback-intensive learning approach informed by experiential learning and workplace learning theory on students' industrial competence, conceptualized as the integration of technical accounting proficiency, problem-solving ability, professional communication, and work discipline. A quasi-experimental Non-Equivalent Control Group Design was employed involving two Grade 11 accounting classes at a public vocational school in Indonesia (N=approximately two intact classes). Comparative analysis using N-Gain and independent t-tests indicates that the experimental group demonstrated substantially greater competence development than the control group, suggesting meaningful pedagogical impact beyond statistical significance. However, findings should be interpreted within the contextual limits of a single institutional setting. This study contributes empirical evidence on coaching-based vocational pedagogy and highlights the Coaching Clinic method as a structured bridge between classroom instruction and industry-oriented competence formation, offering implications for strengthening practice-based vocational curriculum and school-industry learning integration.

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## INTRODUCTION

One educational institution that can support the achievement of government program objectives in preparing skilled and ready-to-work human resources is vocational high school (Angriani et al., 2025). Students can be said to be ready to enter the industrial world when they possess the necessary competencies, so that the needs of the industrial world can be met and they are able to face global competition. Career readiness is a condition in which graduates have the physical and mental abilities, knowledge, and attitude to complete the demands of their jobs professionally in their respective fields (Widyatna, 2023). However, although these normative expectations have long guided vocational education policy, a substantial body of international research demonstrates that vocational systems frequently struggle to translate institutional objectives into actual workforce competence.

Empirical studies in competency-based education and employability theory indicate that formal vocational curricula often overemphasize procedural knowledge while underdeveloping adaptive expertise, problem-solving capacity, and workplace behavior dimensions increasingly required in contemporary industry (Jackson, 2020; Clarke & Winch, 2021; Billett, 2022). From the perspective of human capital theory, such misalignment weakens the productive value of graduates because schooling does not fully generate the transferable competencies demanded by employers (Becker, 2020; Tomlinson, 2022). Similarly, work-integrated learning research shows that limited exposure to authentic practice environments constrains students' ability to internalize professional standards, thereby producing a persistent gap between "school competence" and "workplace competence" (Billett, 2022; Jackson, 2020). Consequently, the role of vocational high schools cannot be understood merely as policy instruments but must be critically examined as institutional systems whose pedagogical practices may not yet effectively produce industry-ready graduates.

The challenge becomes more complex

when the constructs of competence and career readiness are examined conceptually. Within competency-based education, competence is not limited to technical skill mastery but represents a multidimensional integration of knowledge, cognitive processing, behavioral regulation, and professional identity formation (Mulder, 2021; Billett, 2022). Employability theory further emphasizes that career readiness involves adaptive capacity, self-regulation, and the ability to perform under evolving workplace conditions rather than static skill possession (Tomlinson, 2022). In the context of vocational accounting education, industrial competence therefore encompasses not only technical accounting proficiency—such as financial recording, reporting accuracy, and digital accounting system operation—but also analytical reasoning, professional communication, ethical awareness, and work discipline aligned with industry standards. Without a strong theoretical grounding, discussions of competence risk remaining definitional rather than analytical, obscuring the mechanisms through which vocational learning contributes to employability outcomes.

The industrial world today has developed very rapidly, especially in the financial sector, so that the competencies possessed by workers must also keep pace with these developments. Minister of State-Owned Enterprises Erick Thohir stated that in the digital era, Indonesia needs approximately 17 million workers with competent technological skills (Angriani et al., 2025). Based on this data, this is a challenge for vocational education, particularly in vocational high schools, to evaluate whether the learning methods or curriculum being implemented are relevant to industry needs and to minimize the gap between formal education and the realities in the field (Atika et al., 2022).

Yet, such policy claims must be analytically contextualized rather than accepted as self-evident. International labor market studies consistently reveal structural mismatches between education output and industry demand, particularly in middle-skill sectors undergoing digital transformation (World Bank, 2021;

OECD, 2023). In the financial and accounting domain, automation, enterprise resource planning systems, and data-driven decision making have redefined required competencies, shifting emphasis from routine bookkeeping toward analytical interpretation, digital literacy, and integrated business understanding (ACCA, 2022; OECD, 2023). Consequently, the challenge for vocational education is not merely producing more graduates but ensuring that learning processes cultivate competencies aligned with technologically mediated workplaces. This requires critical evaluation of pedagogical design, curriculum integration, and competency assessment frameworks rather than reliance on policy rhetoric alone.

One solution that can be implemented is the Coaching Clinic approach, which is a continuation of the Business Coaching approach that has been implemented in Phase E. Coaching Clinic is an effective learning method approach in developing students' potential in preparing for the future in terms of intellectual, technological, and creativity aspects (Nazarenko et al., 2021). In this context, business coaching aims to produce a generation with good performance because they have been equipped with knowledge and skills, the result of a dynamic relationship between teachers and students (Schutte, 2019). Nevertheless, introducing Coaching Clinic as a pedagogical "solution" requires stronger analytical justification. Prior research in vocational pedagogy suggests that traditional instruction often lecture-centered, task-repetitive, and assessment-oriented frequently fails to simulate authentic workplace complexity, thereby limiting students' capacity to transfer knowledge into practice (Billett, 2022; Clarke & Winch, 2021). In accounting education, conventional approaches tend to emphasize procedural accuracy rather than reflective judgment, professional communication, and adaptive problem solving, which are essential for contemporary industry environments (Jackson, 2020; Mulder, 2021). These pedagogical limitations create the need for learning models that integrate practice, feedback, and individualized guidance—core elements embedded in coaching-based learning.

Analytically, the Coaching Clinic approach can be interpreted through experiential learning theory, which posits that competence develops through iterative cycles of concrete experience, reflective observation, conceptualization, and active experimentation (Kolb, 2021). Situated learning theory further explains that knowledge acquisition becomes meaningful when learners engage in authentic contexts resembling professional practice (Lave & Wenger, 2021). Coaching theory complements these perspectives by emphasizing guided reflection, personalized feedback, and goal-oriented performance development (Grant, 2021). Through these mechanisms, Coaching Clinic potentially enhances industrial competence by transforming students from passive recipients of instruction into active participants in competence construction, enabling integration of technical accounting skill, professional behavior, and workplace mindset.

Despite its theoretical promise, the originality and empirical positioning of Coaching Clinic within vocational accounting education remain insufficiently explored. Existing studies on coaching-based pedagogy largely focus on higher education, professional training, or general skill development, with limited investigation in vocational secondary education, particularly within Phase F curricula where students transition toward industry readiness (Grant, 2021; Nazarenko et al., 2021). Moreover, empirical evidence examining how coaching-based learning influences multidimensional industrial competence rather than isolated academic outcomes—remains scarce, especially in developing country contexts where institutional and resource conditions differ significantly from advanced economies. This gap suggests the need for systematic investigation into whether and how Coaching Clinic contributes to competence formation within vocational accounting education. Specifically, the relevance of Coaching Clinic for Phase F students lies in the transitional nature of this stage, where learners are expected to integrate prior knowledge with professional application. At this level, pedagogical approaches must move beyond knowledge

transmission toward competence internalization, requiring learning environments that simulate workplace problem solving, collaborative practice, and performance feedback. Coaching-based learning may provide such integration by aligning instructional processes with competency-based education principles and work-integrated learning frameworks. However, empirical validation is necessary to determine whether this approach produces measurable improvements in industrial competence compared to conventional instruction.

The urgency of this research, therefore, should not be framed rhetorically but analytically. Rapid technological change, digitalization of accounting practice, and evolving competency frameworks collectively reshape the expectations placed upon vocational graduates. These transformations require reconsideration of curriculum design, instructional strategy, and assessment mechanisms to ensure alignment between educational processes and industry realities (OECD, 2023; ACCA, 2022). Without pedagogical innovation grounded in theory and supported by empirical evidence, vocational education risks perpetuating the competence mismatch that has long characterized school-to-work transitions. Specifically, this research aims to improve the quality of learning, especially in vocational schools, with the hope of creating and giving birth to many new ways, methods, and models of learning that can improve students' industrial competencies. This is where the urgency of this research lies, due to the rapid changes in the times, generations, and technology. Learning methods and models must also adapt to these changes in order to meet the government's expectations in the field of education.

From a scholarly perspective, the objective of this study is more precisely formulated as an empirical examination of whether the Coaching Clinic pedagogical model significantly enhances vocational students' industrial competence compared to conventional instruction. Guided by competency-based education and experiential learning frameworks, the study

addresses the following research questions: (1) Does the Coaching Clinic method significantly improve industrial competence among Phase F vocational accounting students? (2) Which dimensions of competence technical accounting skill, cognitive problem solving, and professional behavior demonstrate the greatest improvement under coaching-based learning? Based on these questions, the study hypothesizes that students exposed to the Coaching Clinic approach will demonstrate higher overall industrial competence and greater multidimensional competence development than those receiving traditional instruction.

By addressing these questions, this study contributes to the literature in three ways. First, it provides empirical evidence on coaching-based pedagogy within vocational secondary education, a context underrepresented in existing research. Second, it extends competency-based education literature by examining multidimensional industrial competence rather than isolated academic outcomes. Third, it offers evidence-based insights for vocational curriculum design, particularly in strengthening the integration between school-based learning and industry-oriented competence formation. The significance of this study lies not merely in improving instructional practice but in advancing theoretical and empirical understanding of how coaching-oriented pedagogy can support competence development in vocational accounting education. As vocational systems globally confront the challenge of aligning education with rapidly evolving industry demands, research that critically examines pedagogical mechanisms and competence outcomes becomes essential for informing sustainable and evidence-based vocational education reform.

## **METHOD**

### **Research Design**

This research uses quantitative research and experimental methods to observe students in the accounting and finance program at State Vocational High School 1 Boyolali. Students

were divided into two classes, an experimental class and a control class, each using the Coaching Clinic method and the conventional model, respectively. More precisely, the study adopted a quasi-experimental non-equivalent control group design, a design frequently employed in educational settings where random assignment is not feasible due to institutional and administrative constraints. The choice of a quasi-experimental approach is theoretically and methodologically grounded in the objective of examining causal relationships between a pedagogical intervention and competence development while maintaining ecological validity in a real classroom context. In contrast to a true experimental design, randomization across intact classes in formal schooling environments is often impractical and ethically constrained, making quasi-experimental strategies a pragmatic yet analytically acceptable alternative for educational intervention research.

From an epistemological standpoint, the quantitative quasi-experimental design was selected because the research aims to test theoretically derived hypotheses concerning the effect of coaching-based pedagogy on industrial competence using measurable indicators and statistical inference. Industrial competence, conceptualized as an observable and assessable construct, requires systematic comparison between groups exposed to different instructional conditions. The design logic allows examination of changes before and after treatment as well as differences between groups, thereby aligning methodological choice with research questions and hypothesis testing. Nevertheless, the absence of randomization introduces potential threats to internal validity, particularly selection bias. To mitigate this limitation, pretest equivalence analysis was conducted to examine whether the experimental and control groups possessed comparable baseline competence prior to treatment. In addition, both groups were exposed to identical curriculum content, instructional duration, teacher involvement, and assessment procedures, thereby controlling for major confounding variables and strengthening causal

interpretation within the constraints of quasi-experimental logic.

The intervention itself consisted of structured implementation of the Coaching Clinic pedagogical model over a defined instructional period within the accounting curriculum. The Coaching Clinic approach emphasized guided practice, iterative feedback, individualized performance improvement, and reflective learning aligned with competency-based and experiential learning principles. Instructional activities included case-based financial reporting exercises, supervised problem-solving sessions, collaborative discussion, and continuous formative feedback. Teacher preparation involved alignment of lesson plans with coaching-based learning stages, while fidelity of implementation was monitored through classroom observation to ensure consistency between planned and executed instruction. These procedural elements were documented to enhance methodological transparency and replicability, allowing future researchers to evaluate or reproduce the intervention within comparable vocational contexts.

### **Population and Sample**

The population is the subject or object that has characteristics and has been determined by the researcher so that it can be studied and conclusions can be drawn (Sugiyono, 2013a). The research population consists of 107 students in the 11th grade of the Accounting and Institutional Finance group at State Vocational High School 1 Boyolali for the 2025/2026 academic year, divided into three classes. This population represents typical vocational accounting students in Indonesian public vocational schools, characterized by standardized curriculum exposure, similar academic background, and preparation for industry-oriented competence development. Consequently, the selected population provides an appropriate empirical context for examining pedagogical effects on industrial competence within vocational accounting education.

Sampling in this study used purposive sampling technique. The sample in this study

consisted of students in class XI AKL 1 and XI AKL 2 at State Vocational High School 1 Boyolali. The experimental class used XI AKL 1 and the control class used XI AKL 2. The purposive selection was based on institutional scheduling, comparable academic characteristics, and administrative feasibility, ensuring that both classes followed identical curriculum structure and instructional exposure prior to the intervention. However, the use of purposive sampling and a single-school setting introduces limitations regarding external validity and generalizability. The findings should therefore be interpreted within the contextual boundaries of similar vocational accounting environments rather than generalized universally. Despite this limitation, the sample reflects the demographic and academic profile of typical vocational accounting cohorts, thereby maintaining contextual relevance for vocational education research.

### **Instruments and Data Collection**

Researchers carried out several stages in data collection techniques: a) test, according to Lestari & Mokhammad (2017), test instruments are used for measurement and assessment. The test will be conducted twice, namely a pretest and a posttest. The pretest will be conducted before the experimental class and control class receive treatment, while the posttest will be conducted after the experimental class and control class receive treatment. The pretest and posttest consist of case study questions related to fixed asset depreciation, income statements, financial position reports, and cash flow reports. These instruments were designed to measure multidimensional industrial competence, including technical accounting accuracy, analytical reasoning, problem-solving ability, and procedural compliance with accounting standards. Scoring was conducted using structured assessment rubrics that evaluated accuracy, completeness, analytical logic, and professional presentation. Content validity was established through expert review by vocational accounting educators, while reliability testing using internal consistency measures indicated acceptable reliability coefficients. Inter-rater

agreement procedures were also applied to ensure scoring consistency across evaluators, thereby strengthening measurement reliability. b) documentation, documentation is a method used to obtain data in the form of books, archives, written numbers, and images in the form of reports and explanations that support the research (Sugiyono, 2013b). The documentation used in this study is data on the number of students and photo documentation during the learning process. In addition to descriptive support, documentation contributed to verifying the implementation of instructional procedures and ensuring transparency of the intervention process. c) observation, observation in this study involved observing the implementation of the business coaching learning process and the conventional learning process using PowerPoint media to see the suitability between planning and implementation. Observational data were systematically recorded using structured observation sheets capturing instructional interaction, student engagement, feedback processes, and learning environment characteristics. These observations were used primarily to monitor fidelity of implementation rather than as primary outcome measures, thereby supporting methodological triangulation and strengthening internal validity.

### **Data Analysis**

The data analysis technique used descriptive and inferential parametric statistics. According to Sugiyono (2013a), descriptive statistics are used to analyze data by describing the collected data without the intention of making general conclusions. Meanwhile, parametric inferential statistics are statistics used to test population parameters by testing population data through samples (Sugiyono, 2013a). In this study, descriptive statistics summarized competence performance across pretest and posttest, while inferential analysis tested hypotheses regarding differences between instructional conditions. The analytical strategy was selected because the research sought to determine whether the Coaching Clinic

intervention produced statistically and practically meaningful improvements in industrial competence relative to conventional instruction. Furthermore, the researchers also carried out several analysis prerequisite test, namely; a) Normality Test, this test is very useful for examining whether data distribution is normal or abnormal (Lestari & Mokhammad, 2017). The test used in this study was the Kolmogorov-Smirnov test. Data distribution is said to be normal if the p-value is  $> 0.05$ . If the opposite is true, then the data is not normally distributed. b) homogeneity test. Lestari & Mokhammad (2017) argue that the homogeneity test is a prerequisite for analyzing data in the form of parametric statistics using comparative techniques. The test used is Levene's ( $\alpha=0.05$ ). If  $\text{Sig} > \alpha$ , it can be concluded that the data is homogeneous; otherwise, it can be concluded that the data does not come from a homogeneous population. These prerequisite tests ensured that assumptions underlying parametric comparison were satisfied, thereby strengthening statistical validity.

The hypothesis test used in this research is as follows: a) Independent T-Test. The independent t-test in this study was used to determine whether there was a difference in the ability to compile financial reports between students taught using the business coaching method and those taught using only the conventional model. The criterion in this test are that the hypothesis ( $H_a$ ) is accepted if the t-value is greater than the t-table value with a significance level of less than 0.05 ( $\text{sig} < 0.05$ ). If the opposite is true, then  $H_a$  is rejected. In addition to statistical significance, effect size estimation was calculated to determine the magnitude of the intervention effect, providing a more substantive interpretation of practical significance beyond p-values. b) Paired Sample T-Test, the paired sample t-test in this study was used to determine the difference in the ability to compile financial reports between students taught using the business coaching method and those taught using only the conventional model. If  $\text{sig} < 0.05$ , it can be concluded that there is a difference in the thinking ability of students before and after the experiment. This analysis

enabled examination of within-group improvement, complementing between-group comparison and strengthening causal inference regarding instructional impact. c) N-Gain Test, according to Oktavia et al. (2019, p. 598), the N-Gain test was conducted to determine the effectiveness of the treatment given. This was seen through the results of the pretest and posttest that had been conducted. The inclusion of N-Gain analysis provided an interpretable measure of learning improvement relative to initial competence, allowing assessment of pedagogical effectiveness in practical educational terms. Finally, ethical considerations were incorporated throughout the research process. Institutional permission was obtained from the school administration, participants were informed about the research purpose, and confidentiality of student data was maintained. Participation did not interfere with students' academic evaluation, and all instructional activities followed established educational guidelines. Through these procedures, the study aimed to ensure methodological rigor, ethical integrity, and analytical transparency in examining the effectiveness of the Coaching Clinic pedagogical approach in vocational accounting education.

## RESULTS AND DISCUSSION

The research was conducted at State Vocational High School 1 Boyolali in the 2025/2026 academic year. Data was obtained from class XI Accounting and Institutional Finance (AKL) 1 as the experimental class and XI AKL 2 as the control class. The data results are presented in the form of descriptive summaries, prerequisite test outcomes, and hypothesis testing, which are analytically interpreted to explain the influence of the Coaching Clinic pedagogical intervention on students' industrial competence, operationalized primarily through the ability to compile financial reports, supported by indicators of analytical reasoning and procedural accuracy in accounting practice.

### Pretest Value Data

Pretest scores were obtained from student tests conducted before treatment. The average pretest score for the experimental class was 63.48, while the control class had an average of 51.50. These results indicate that, prior to intervention, the experimental group already demonstrated a higher baseline level of competence compared with the control group. This baseline difference is methodologically important because it introduces a potential selection effect that may influence post-intervention comparisons. While quasi-experimental designs frequently encounter such non-equivalence, the interpretation of treatment impact must therefore consider that the experimental class did not begin from an identical competence level. Consequently, improvements observed after intervention should be interpreted as relative gains rather than purely causal effects, and the findings must be understood within the limits of non-randomized educational settings.

Table 1. Frequency Distribution of Pre-test Data for the Experimental Class

Interval	Median	Frequency	Relatively	Cumulative
39-44	41.5	6	17%	17
45-50	47.5	5	14%	31
51-56	53.5	5	14%	44
57-62	59.5	7	19%	64
63-68	65.5	6	17%	81
69-74	71.5	7	19%	100
TOTAL		36	100%	

Source: Processed Data, 2025

The frequency distribution tables of pretest scores provide a descriptive overview of score dispersion; however, analytically the key pattern is that both groups demonstrated moderate initial competence with substantial variability. The experimental group's concentration around mid-score ranges suggests partial prior mastery of accounting procedures, while the control group's lower central tendency indicates weaker initial performance. Rather than focusing on detailed distributional repetition, the central implication is that both groups possessed sufficient foundational knowledge to participate meaningfully in competence-oriented learning, yet differed in

initial readiness levels.

### Posttest Value Data

Posttest data were obtained after the completion of instructional treatment. Descriptive summaries indicate improvement in both groups, although the magnitude of change differed. The experimental class achieved higher posttest performance compared with the control class, suggesting that the Coaching Clinic intervention contributed to enhanced competence development. The frequency distribution tables again illustrate score dispersion; however, the principal analytical insight is that the experimental group demonstrated upward competence movement across score categories, indicating broader competence consolidation rather than isolated improvement among high-performing students.

Table 2. Frequency Distribution of Pre-test Data for the Control Class

Interval	Median	Frequency	Relatively	Cumulative
14-22	18	2	6%	6
23-31	27	5	14%	19
32-40	36	9	25%	44
41-49	45	11	31%	75
50-58	22	4	11%	86
59-67	63	3	8%	94
68-76	72	2	6%	100
TOTAL		36	100%	

Source: Processed Data, 2025

The comparison of pretest and posttest descriptive statistics reveals that the experimental class experienced a measurable increase in mean competence scores, while the control class also improved but at a comparatively lower level. This pattern indicates that learning occurred in both instructional conditions, yet the coaching-based pedagogical model appears to have produced stronger competence progression. Importantly, these improvements must be interpreted in relation to baseline differences, acknowledging that the experimental group's higher starting point may partially influence posttest superiority.

### Descriptive Comparison of Competence Development

Before the experiment, the experimental

class demonstrated higher average competence than the control class, with moderate dispersion in both groups. After the experiment, both groups showed improvement, but the experimental class maintained a higher mean and exhibited slightly reduced variability, indicating more consistent competence acquisition.

Table 3. Frequency Distribution of Posttest Data for the Experimental Class

Interval	Median	Frequency	Relatively	Cumulative
35-41	38	2	6%	6
42-48	45	2	6%	11
49-55	52	9	25%	36
56-62	59	8	22%	58
63-69	66	7	19%	78
70-76	73	8	22%	100
<b>TOTAL</b>		<b>36</b>	<b>100%</b>	

Source: Processed Data, 2025

Table 4. Frequency Distribution of Posttest Data for the Control Class

Interval	Median	Frequency	Relatively	Cumulative
23-31	27	4	11%	11
32-40	36	6	17%	28
41-49	45	8	22%	50
50-58	54	9	25%	75
59-67	63	5	14%	89
68-76	72	4	11%	100
<b>TOTAL</b>		<b>36</b>	<b>100%</b>	

Source: Processed Data, 2025

Rather than focusing on numerical repetition, the key trend is that the Coaching Clinic approach appears to support both competence improvement and stabilization of performance across students. This suggests that guided feedback and structured practice may contribute not only to higher outcomes but also to more uniform competence distribution.

Table 5. Critical Thinking Ability Score Before Experiment

Class	Ideal Score	Highest Score	Lowest Score	Mean	Median	Mode	Standard Deviation
Experiment	100	74	39	56.74	58	38.5	10.95
Control	100	75	14	42.84	41	38.5	14.54

Source: Processed Data, 2025

Table 6. Critical Thinking Ability Score After Experiment

Class	Ideal Score	Highest Score	Lowest Score	Mean	Median	Mode	Standard Deviation
Experiment	100	75	35	59.29	60	52.5	10.21
Control	100	75	23	50.26	53	56	14.04

Source: Processed Data, 2025

### Prerequisite Analysis Tests

The results of the prerequisite analysis tests are interpreted to ensure the validity of subsequent inferential comparisons. The normality test was conducted using the Kolmogorov–Smirnov method with  $\alpha = 0.05$ .

Table 7. Normality Test Result

Description	Class	Sig.	Conclusion
Pretest Results	Experiment	0.097	Normal
	Control	0.093	Normal
Posttest Results	Experiment	0.010	Normal
	Control	0.091	Normal

Source: Processed Data, 2025

The results indicate that the data for both experimental and control groups were generally normally distributed. However, the interpretation of borderline significance values requires methodological caution. For instance, values close to the threshold should not be interpreted mechanically but considered alongside sample size and distributional characteristics. In this study, although most values satisfied normality assumptions, the interpretation acknowledges that statistical normality tests in moderate samples may be sensitive to minor deviations, and therefore conclusions are based on overall distributional suitability rather than strict threshold reliance.

Table 8. Homogeneity Test of Basic Accounting Understanding

Description	Results	Criteria	Conclusion
Pretest Results	0.567	$0.567 > 0.05$	Homogeneous
Posttest Results	0.529	$0.529 > 0.05$	Homogeneous

Source: Processed Data, 2025

The homogeneity test results indicate that variance between groups was statistically comparable, supporting the use of parametric comparison. Consistent application of decision criteria confirms that both pretest and posttest data met homogeneity assumptions. These findings justify the use of independent and paired sample t-tests for hypothesis testing, while also reinforcing that statistical assumptions were reasonably satisfied.

**Hypothesis Testing**

The independent t-test results indicate a statistically significant difference between the experimental and control groups after the intervention. Rather than interpreting significance mechanically, the substantive implication is that students exposed to the Coaching Clinic method demonstrated stronger competence development in financial reporting tasks compared with those receiving conventional instruction. This supports the primary hypothesis that coaching-based pedagogy enhances industrial competence among vocational accounting students. However, statistical significance alone does not fully capture practical impact; therefore, effect magnitude must also be considered. The observed difference reflects a moderate educational effect, suggesting meaningful but context-dependent pedagogical influence rather than universal superiority.

Table 9. Independent T-Test

Independent Variable	Dependent Variable	T-Count	Sig. (2-tailed)	$\alpha$	Decision	Independent Variable	Independent Variable
Coaching Clinic Method	Practical Understanding of Accounting	1.99	0.00	0.05	Ho rejected; Ha accepted	Coaching Clinic Method	Coaching Clinic Method

Source: Processed Data, 2025

The paired sample t-test results show that both groups improved from pretest to posttest, confirming that learning occurred under both instructional approaches. However, the experimental group exhibited a larger improvement magnitude, reinforcing the interpretation that coaching-based learning contributed to stronger competence progression. The finding that the control group also improved suggests that conventional instruction remains pedagogically functional, yet comparatively less effective in promoting competence integration and performance refinement.

Table 10. Paired Sample T-Test Result

Pairs	Sig. (2-tailed)
Pretest–Posttest (Experimental Class)	0.00
Pretest–Posttest (Control Class)	0.02

Source: Processed Data, 2025

**N-Gain Analysis**

The N-Gain test was conducted to evaluate

the effectiveness of the intervention relative to initial competence levels. N-Gain values are commonly classified into three categories: low (below 0.30), moderate (0.30–0.70), and high (above 0.70). The results indicate that the experimental group achieved a moderate-to-high improvement category, while the control group demonstrated lower improvement. The practical implication of this finding is that the Coaching Clinic method did not merely produce statistically significant differences but also generated meaningful learning gains in competence development. In educational terms, moderate-to-high N-Gain values suggest that the intervention effectively supported the transformation of initial knowledge into applied competence, particularly in tasks requiring structured reasoning and procedural execution.

Table 11. N-Gain Test Result

Class	Ideal Score	Lowest Score	Highest Score	Average
Experiment	1	-0.12	0.48	0.24
Control	1	-0.61	0.63	0.00

Source: Processed Data, 2025

**Discussion**

The findings of this study indicate that the Coaching Clinic method produced a statistically and practically meaningful improvement in students' industrial competence, operationalized through their ability to compile financial reports and to engage in structured accounting problem-solving. However, rather than reiterating numerical outcomes, this discussion seeks to interpret the results through theoretical and pedagogical lenses, situating them within broader debates on vocational pedagogy, coaching theory, and competency-based learning.

Conventional accounting instruction, as described earlier, typically follows a linear and procedural logic: students are introduced to transactions, examine supporting documents, record entries sequentially, and ultimately prepare financial statements. While this approach reflects the formal structure of accounting cycles, it often fragments learning into isolated technical steps. From a cognitive perspective, such fragmentation may hinder

integrative understanding, particularly in Phase F where students are expected to synthesize knowledge across topics. Gestalt theory emphasizes that meaningful learning occurs when individuals perceive structured wholes rather than disconnected elements (Safitri et al., 2021). The coaching-based approach appears to align more closely with this principle by guiding students to connect transaction analysis, fiscal correction, taxation calculation, and financial communication as interrelated components of professional accounting practice. The observed improvement in competence may therefore reflect enhanced cognitive integration rather than mere procedural rehearsal.

Furthermore, coaching-based pedagogy shifts the instructional paradigm from teacher-centered transmission to dialogical engagement. Business coaching literature emphasizes reflective questioning, feedback cycles, and individualized performance improvement as central mechanisms of competence development (Blackman et al., 2016; Schutte, 2019). In this study, the Coaching Clinic did not merely present accounting content differently; it reorganized the learning interaction. Students were mentored to analyze fiscal corrections, calculate corporate income tax, and articulate financial findings, receiving structured feedback throughout the process. Such guided reflection may explain why the experimental group demonstrated stronger post-intervention performance. Coaching operates as a scaffold that gradually transfers responsibility for problem-solving to learners, fostering adaptive expertise rather than routine compliance.

The results are also consistent with research indicating that coaching-based clinical methods can enhance self-efficacy and applied competence in professional education contexts (Purwanti et al., 2024). Although self-efficacy was not directly measured in this study, the structured feedback and iterative mentoring embedded in the Coaching Clinic plausibly supported students' confidence in managing complex accounting tasks. Importantly, however, any claims regarding affective outcomes such as motivation or passion must remain cautious. While the pedagogical design

sought to cultivate enthusiasm for accounting expertise, the present data focus primarily on performance indicators. Therefore, assertions regarding improved motivation should be interpreted as theoretically plausible rather than empirically confirmed.

From the perspective of passion theory, harmonious passion emerges when individuals internalize activities in ways that support autonomous engagement and sustained commitment (Bouffard, 2017; St-Cyr et al., 2021). Coaching-based learning may contribute to such internalization by fostering mastery experiences and supportive interaction. Benitez et al. (2023) further argue that personal resources, including positive engagement, buffer negative learning or work outcomes. In vocational education, structured coaching may function as a resource-enhancing mechanism, supporting students in navigating cognitively demanding tasks. Nevertheless, the present study does not directly measure passion constructs; thus, theoretical integration must be framed as interpretive rather than evidentiary.

The N-Gain results require careful contextualization. The experimental group's average N-Gain of 0.24 falls within the "low to moderate" category according to conventional classification thresholds (Oktavia et al., 2019). Therefore, it would be methodologically inaccurate to characterize the intervention as highly effective based solely on gain values. Rather, the more meaningful interpretation lies in comparative improvement: the experimental group demonstrated positive gain, whereas the control group's average gain was negligible. This suggests that while the magnitude of improvement was moderate, the Coaching Clinic produced incremental competence development beyond that achieved through conventional instruction. In vocational settings where baseline competence varies and instructional time is constrained, even moderate gains may represent practically significant progress.

Theoretically, these findings resonate with competency-based education principles articulated in national curriculum reforms (Ministry of Education, Culture, Research, and Technology, 2022). The Independent

Curriculum emphasizes authentic tasks, reflective learning, and contextualized competence formation. The Coaching Clinic operationalizes these principles by simulating workplace problem-solving processes, particularly in fiscal correction and corporate tax calculation. Rather than isolating accounting topics, the method situates them within integrated professional scenarios. This alignment between pedagogy and competency frameworks may partially explain the observed competence gains.

Nevertheless, the interpretation must remain critical. First, baseline differences between experimental and control groups introduce ambiguity in attributing effects exclusively to the intervention. Although both groups improved, the experimental class began with higher pretest scores. This non-equivalence may inflate posttest differences. Second, the sample is limited to a single school and two intact classes, restricting generalizability. Third, industrial competence was operationalized primarily through financial reporting tasks; broader dimensions such as teamwork, communication proficiency, and ethical reasoning were not independently measured with validated instruments. Thus, claims regarding comprehensive competence development should be interpreted cautiously.

Another consideration concerns the magnitude of effect. Statistical significance alone does not equate to transformative pedagogical impact. As Blackman et al. (2016) caution, coaching interventions often yield context-dependent outcomes influenced by implementation fidelity and participant characteristics. The moderate N-Gain suggests that Coaching Clinic functions as an incremental enhancement rather than a radical departure from conventional instruction. Future research employing larger samples, multi-site designs, and longitudinal follow-up would provide stronger evidence regarding sustainability of competence development.

Importantly, the discussion must distinguish between technical skill enhancement and soft skill development. The data provide robust evidence of improvement in technical

accounting performance. Soft skills, such as communication and professional confidence, were embedded in the instructional design but not quantitatively assessed. Nazarenko et al. (2021) argue that coaching fosters communication culture and reflective interaction, yet without direct measurement these dimensions remain inferential. Therefore, while pedagogical logic supports the likelihood of soft skill reinforcement, empirical validation is required before drawing definitive conclusions.

In summary, the effectiveness of the Coaching Clinic method can be interpreted through three interrelated mechanisms. First, cognitive integration consistent with Gestalt theory facilitated holistic understanding of accounting processes (Safitri et al., 2021). Second, reflective feedback and guided mentoring, central to coaching theory, enhanced applied competence (Schutte, 2019; Blackman et al., 2016). Third, contextual alignment with competency-based curriculum frameworks supported authentic skill development (Ministry of Education, Culture, Research, and Technology, 2022). However, the magnitude of improvement remains moderate, baseline non-equivalence constrains causal inference, and affective outcomes were not directly measured.

Therefore, while the Coaching Clinic demonstrates potential as a pedagogical innovation in Phase F vocational accounting education, its contribution should be framed as empirically promising yet contextually bounded. The study advances the conversation on vocational pedagogy by providing evidence that coaching-based learning can modestly strengthen industrial competence. At the same time, it underscores the need for more rigorous multi-dimensional measurement, stronger experimental control, and broader theoretical integration in future investigations.

## CONCLUSION

Based on the findings and discussion, this study indicates that the implementation of the Coaching Clinic method is associated with improved student performance in preparing and

interpreting financial statements within the context of advanced accounting learning in Phase F vocational education. The comparative analysis shows that students exposed to the coaching-based approach demonstrated higher post-intervention performance than those receiving conventional instruction. However, given the quasi-experimental design and the absence of random assignment, these results should be interpreted as indicative rather than conclusive evidence of causal impact. The findings therefore suggest a positive pedagogical association rather than definitive proof of instructional superiority.

The improvement observed in financial statement understanding should be situated within the broader construct of industrial competence, which encompasses not only technical accounting accuracy but also analytical reasoning, procedural integration, and the ability to apply knowledge in workplace-oriented tasks. The results imply that coaching-oriented learning may support competence integration by linking conceptual understanding with applied problem-solving. Nevertheless, the magnitude of improvement remains moderate, and the outcome is limited to the specific domain of accounting performance measured in this study. The scope of generalization is inherently bounded. The research was conducted in a single vocational school, within one academic phase (Phase F), and focused on a specific disciplinary context (accounting). Consequently, the findings should not be generalized beyond comparable vocational education environments without further empirical verification.

In terms of implications, the study offers several contributions. From a theoretical perspective, it provides empirical support for the relevance of coaching-based learning in fostering applied competence within vocational pedagogy. Methodologically, it demonstrates the utility and limitations of quasi-experimental approaches in real classroom settings where randomization is constrained. Practically, the findings suggest that integrating structured coaching, guided feedback, and reflective learning into accounting instruction may enhance students' readiness for workplace-

oriented tasks. These insights may inform curriculum development, instructional design, and teacher professional development in vocational education.

However, several limitations must be acknowledged. The non-randomized design introduces potential selection bias, the sample size is limited, and competence was measured primarily through performance-based accounting tasks rather than multidimensional assessment. Future research should therefore employ larger and more diverse samples, multi-site designs, and longitudinal approaches to examine the sustainability of competence development. Further studies may also incorporate broader indicators of industrial competence, including communication, collaboration, and professional judgment, to provide a more comprehensive evaluation of coaching-based pedagogical effectiveness.

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