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The Effect of Classical Guidance Services on Career Planning Among Grade XI Computer and Network Engineering Students at SMK Negeri 1 Lintongnihuta

Sugita L.T Lingga*, Mirza Irawan
Universitas Negeri Medan, Medan, Indonesia

ABSTRACT

This study aimed to examine the effect of classical guidance services on the career planning of grade XI students in the Computer and Network Engineering (TKJ) Department at SMK Negeri 1 Lintongnihuta during the 2025/2026 academic year. This study employed a quantitative approach using a quasi-experimentl method with a One-Group Pretest-Posttest Design. The participants consisted of 33 students from Class XI TKJ 1. Based on the pre-test results, 24 students were categorized as having low career planning, while 9 students were categorized as having moderate career planning. Data were collected using a career planning questionnaire consisting of 35 statement items, of which 31 were declared valid and 4 invalid. The reliability coefficient was 0.904 (very high). Data analysis used normality tests and the Wilcoxon Signed-Rank Test. Results showed a significant improvement: the mean score increased from 57.03 (pre-test) to 104.52 (post-test), an increase of 47.49 points (45.38%). Hypothesis testing showed Asymp. Sig. (2-tailed) = 0.000 < 0.05 with Z = -5.014, so Ha was accepted. Therefore, classical guidance services had a significant effect on career planning of grade XI TKJ students at SMK Negeri 1 Lintongnihuta

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* **Corresponding Author:** sugita.lingga16@gmail.com

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Introduction

Education plays a strategic role in improving human resource quality and shaping a nation's development, as stipulated in Law No. 20 of 2003 concerning the National Education System in Indonesia. Beyond the transmission of knowledge, education serves as a process of developing competencies, life skills, and individual preparedness for real-world challenges. One form of educational provision is vocational secondary education, which prepares students to enter the workforce directly or pursue further education at the tertiary level.

Vocational high school students are typically in adolescence, a developmental period during which cognitive abilities become increasingly sophisticated, enabling them to think critically, evaluate alternatives, make decisions, and plan for their future (Santrock, 2011). During this stage, students are expected to develop a clearer understanding of themselves, including their interests and talents, and to make appropriate career decisions to prepare for an increasingly dynamic labor market (Zone & Zulvia, 2022). According to Super's (1990) career development theory, students in Grade XI of vocational high school are generally within the exploration stage, during which individuals begin to identify their interests, abilities, and values while exploring various career alternatives.

At this stage, students require systematic guidance to develop career maturity and make informed decisions about their futures. Without appropriate guidance, students may experience uncertainty when determining their career direction, potentially leading to inappropriate choices regarding further education or employment (Sharf, 2013). Rahmadi (2021) conceptualizes career planning as a comprehensive process through which individuals establish steps and strategies to achieve their career goals by understanding themselves, setting targets, and developing relevant competencies. Career planning therefore involves an understanding of one's potential, motivation, personal characteristics, and the competencies needed to achieve future aspirations. Conversely, inadequate career planning may result in uncertainty, reduced motivation, and inappropriate choices of academic programs or employment pathways (Rahmawati & Santoso, 2023).

Career planning is an essential component of student development, particularly for vocational high school students who must decide whether to pursue higher education or enter the workforce after graduation. The

ability to plan a career enables students to recognize their potential, understand educational and employment opportunities, and identify the steps necessary to achieve their future goals. In line with Super's (1990) career development theory, the exploration stage provides an important foundation for students to identify their interests, abilities, and personal values and to examine available career alternatives.

Despite the importance of career planning, many students have not yet developed clear career plans. Simbolon et al. (2021) identified limited information about career options and insufficient understanding of personal potential as major factors contributing to students' uncertainty when planning their futures. Similar circumstances were observed among students majoring in Computer and Network Engineering (*Teknik Komputer dan Jaringan*, TKJ) at State Vocational High School 1 Lintongnihuta, Indonesia. Preliminary observations and interviews with the school guidance counselor indicated that guidance and counseling services had not been implemented optimally because of time constraints and the absence of a structured counseling service program. Consequently, many students remained uncertain about whether to pursue higher education or enter the workforce after graduation.

Research by [verify author name] et al. (2023) indicated that students majoring in Computer and Network Engineering exhibited low levels of career planning, which were associated with limited learning motivation and insufficient understanding of employment prospects in the technology sector. These findings highlight the importance of providing structured and continuous guidance to help students develop realistic career plans. Career planning does not necessarily develop spontaneously; rather, it may require systematic support that helps students understand themselves, explore their environment, and evaluate available opportunities.

In this context, classroom guidance services represent one approach through which school counselors can provide preventive and developmental support to students collectively. According to Prayitno (2018), classroom guidance is a face-to-face guidance activity conducted in the classroom to help students develop perspectives, attitudes, and skills for addressing developmental tasks, including those related to career development. Previous studies by Afriana et al. (2022) and Hidayati (2015) have also reported that systematically implemented classroom guidance services can contribute to improvements in students' career planning.

Building on this context, the present study aims to examine the effect of classroom guidance services on career planning among Grade XI students majoring in Computer and Network Engineering at State Vocational High School 1 Lintongnihuta during the 2025/2026 academic year. Specifically, the study investigates changes in students' career planning scores before and after the implementation of classroom guidance services.

Method

Research Design and Participants

This study employed a quantitative approach using a quasi-experimental method with a one-group pretest–posttest design. The study was conducted at State Vocational High School 1 Lintongnihuta, Humbang Hasundutan Regency, North Sumatra Province, Indonesia, during the even semester of the 2025/2026 academic year, from November 2025 to January 2026.

The study population consisted of all Grade XI students majoring in Computer and Network Engineering comprising 66 students distributed across two classes. A sample of 33 students from Grade XI TKJ 1 was selected using purposive sampling. The other class, Grade XI TKJ 2, which also consisted of 33 students, was used for instrument testing.

Research Instrument

Data were collected using a Likert-type questionnaire developed to measure career planning based on the career development aspects attributed to Super (as cited in Lent & Brown, 2020). The instrument covered four aspects: (1) self-exploration, (2) environmental exploration, (3) career maturity, and (4) the development of a self-concept. The questionnaire initially consisted of 35 statements with four response options: strongly agree (4), agree (3), disagree (2), and strongly disagree (1). Item validity was assessed using the Pearson product–moment correlation at a 5% significance level, with a critical correlation value of (r table}} = 0.344) for (N = 33). Of the 35 items tested, 31 were declared valid, whereas four items (Items 13, 19, 22, and 24) were excluded. Instrument reliability was assessed using Cronbach's alpha, yielding a coefficient of 0.904, which indicates high internal consistency.

Research Procedure

The study was conducted in three stages. First, the participants completed a pretest to assess their initial level of career planning. Second, they received four classroom guidance sessions addressing the following topics: self-exploration, environmental exploration, career maturity, and self-concept development. Third, a posttest was administered to assess changes in career planning following the intervention.

Data Analysis

The data were analyzed using descriptive statistics to summarize students' career planning scores before and after the intervention. The Shapiro–Wilk test was used to assess the normality of the data distribution. The Wilcoxon signed-rank test was subsequently employed to examine differences between pretest and posttest scores. All statistical analyses were performed using SPSS version 25.

Result and Discussion

Result

Validity and Reliability Testing

The validity of the career planning questionnaire was examined using data from 33 Grade XI TKJ 2 students. Of the 35 items initially tested, 31 met the validity criterion, with calculated correlation coefficients exceeding the critical value of 0.344. Four items—Items 13, 19, 22, and 24—did not meet the criterion and were excluded from the final instrument.

The reliability analysis yielded a Cronbach's alpha coefficient of 0.904, indicating high internal consistency. These findings suggest that the 31-item questionnaire demonstrated satisfactory item validity and reliability for measuring students' career planning in the context of this study.

Descriptive Analysis of Pretest and Posttest Scores

Before receiving the classroom guidance intervention, all 33 students in Grade XI TKJ 1 completed the career planning questionnaire as a pretest. Based on the categorization criteria, with a reported interval width of 31 points, the scores were classified into three categories: low (31–62), moderate (63–93), and high (94–124).

The pretest results indicated that 24 students (72.7%) were in the low career planning category, while nine students (27.3%) were in the moderate category. No students were classified in the high category. The mean pretest score was 57.03, indicating that the participants' initial career planning scores were generally low.

Following four classroom guidance sessions, all 33 students were classified in the high career planning category on the posttest. The mean posttest score increased to 104.52. This increase indicates a substantial descriptive improvement in students' career planning scores following the intervention.

The descriptive findings suggest that classroom guidance services may help students develop a better understanding of themselves, explore educational and occupational opportunities, and formulate clearer career plans. However, the statistical significance of the pretest–posttest difference must be established through the results of the Wilcoxon signed-rank test.

Normality Test Results

The normality of the data was assessed using the Shapiro–Wilk test. The results indicated that the pretest scores had a significance value of 0.030 ((p < 0.05)), suggesting that the data were not normally distributed. In contrast, the posttest scores yielded a significance value of 0.223 ((p > 0.05)), indicating that the data did not significantly deviate from a normal distribution.

Because the pretest data did not satisfy the assumption of normality, the Wilcoxon signed-rank test, a nonparametric statistical test, was used to examine differences between the paired pretest and posttest scores.

Table 1. Results Test Normality (*Shapiro- Wilk*)

Tests of Normality

	Kolmogorov-Smirnov [a]			Shapiro- Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Pretest	.197	33	.002	.927	33	.030
Post Test	.119	33	.200 *	.958	33	.223

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction Source : SPSS output version 25

Test Results Hypothesis

Table 2. Results Test Hypothesis *Wilcoxon Signed Rank Test*

Test Statistics [a]

	Posttest - Pretest
Z	-5.014 [b]
Asymp . Sig. (2- tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks. Source : Output SPSS version 25

The results of *the Wilcoxon Signed Rank Test* were obtained Z value = -5.014 and Asymp. Sig. (2-tailed) = 0.000. Because the value significance 0.000 < 0.05, then Ha is accepted and H0 is rejected . This means there is significant influence between service guidance classical to planning career student grade XI TKJ Department at State Vocational School 1 Lintongnihuta.

Discussion

This study employed a one-group pretest–posttest design in which a single class, Grade XI TKJ 1, received the intervention in the form of classroom guidance services. Before the intervention was implemented, the research instrument was pilot-tested with 33 students from Grade XI TKJ 2. The initial questionnaire consisted of 35 positively and negatively worded statements designed to assess students' career planning.

The instrument was evaluated using the Pearson product–moment correlation. Of the 35 items tested, 31 were found to be valid, whereas four items (Items 13, 19, 22, and 24) did not meet the validity criterion and were excluded. Item validity was determined by comparing the calculated correlation coefficient r count with the critical value r table at the 5% significance level. For a sample of 33 students, the reported critical value was 0.344. The reliability analysis, conducted using Cronbach's alpha, yielded a coefficient of 0.904, indicating high internal consistency. These findings support the use of the resulting 31-item questionnaire to assess students' career planning in this study.

The descriptive analysis revealed an increase in the mean career planning score from 57.03 at pretest to 104.52 at posttest, representing an absolute increase of 47.49 points. The total score for all participants also increased from 1,882 at pretest to 3,449 at posttest. These results indicate a substantial improvement in students' career planning scores following the implementation of classroom guidance services. The observed increase may reflect improvements in students' understanding of their personal characteristics, educational opportunities, occupational prospects, and the steps required to pursue their desired careers.

The Wilcoxon signed-rank test further indicated a statistically significant difference between the pretest and posttest scores ((Z = -5.014), ($p < .001$)). The reported significance value of 0.000 in the statistical output should be interpreted as ($p < .001$), rather than as an actual probability of zero. Because the p-value was below the predetermined significance level of .05, the null hypothesis was rejected. Thus, the findings demonstrate a statistically significant change in students' career planning scores following the classroom guidance intervention. However, given the absence of a control group, the results should be interpreted as evidence of improvement following the intervention rather than definitive proof that the intervention alone caused the observed change.

The observed improvement may be associated with the structured and systematic implementation of the intervention through a Service Implementation organized around career planning aspects attributed to Super (1990). The four guidance sessions addressed self-exploration, environmental exploration, career maturity, and self-concept development. Each session was designed to help students progressively develop a clearer understanding of themselves and the career opportunities available to them.

The first session focused on self-exploration, during which students were encouraged to identify their personal potential, interests, talents, strengths, and limitations. Within the framework of Super's (1990) career development theory, self-exploration is an important component of career development because understanding one's characteristics can help individuals evaluate career alternatives in relation to their personal attributes and aspirations

The second session addressed environmental exploration. Students received information about higher education programs relevant to their Computer and Network Engineering background, employment opportunities in information technology, and the competencies currently required in the labor market. This activity was intended to broaden students' awareness of the educational and occupational pathways available to them. In this regard, Winkel and Hastuti (2013) emphasized the importance of understanding the world of work as a component of career planning. Providing relevant career information may help students connect their personal interests and abilities with realistic educational and occupational opportunities.

The third session focused on career maturity through career planning mind-mapping activities. Students were asked to visualize their anticipated career pathways, from their current

developmental stage to future educational and occupational goals. Mind mapping can help students organize career-related information, identify relationships among different options, and consider the steps required to achieve their goals. These activities may also encourage more systematic thinking and independent career decision-making (Buzan, 2010; Romadhon et al., 2024).

The fourth session addressed self-concept development by helping students strengthen their confidence in their abilities and align their understanding of themselves with their prospective career choices. This activity is consistent with Super's career development perspective, which emphasizes the relationship between self-concept and career development. By reflecting on their abilities, interests, and aspirations, students were encouraged to formulate career plans that were more consistent with their personal characteristics and future goals.

The findings are consistent with previous research reporting positive outcomes associated with classroom guidance interventions. Mercy and Christiana (2019) found that problem-based classroom guidance services had a statistically significant effect on students' career planning skills, with an Asymp. Sig. value of 0.000 ((p < .001)). Similarly, Loyal Wati et al. (2025) reported improvements in career planning understanding following classroom guidance activities incorporating mind-mapping media, with a reported significance value of 0.000 ((p < .001)). Sophie Senses et al. (2024) reported that classroom guidance services incorporating multimedia accounted for 32% of the improvement in vocational high school students' career planning. These findings collectively suggest that classroom guidance can provide a useful framework for supporting career development when its activities are systematically organized and aligned with students' developmental needs.

The present study extends this body of research by examining classroom guidance services structured around four career planning aspects in a specific vocational education context. The intervention combined self-reflection, career information, visual career planning, and self-concept development within a four-session program. The results suggest that this structured approach may help students develop a clearer understanding of their potential, recognize educational and occupational opportunities, and formulate more concrete career plans. Nevertheless, further research involving control groups, larger samples, and follow-up assessments is needed to establish the intervention's causal effects and the sustainability of the observed improvements.

Conclusion

This study found a statistically significant improvement in career planning scores among Grade XI students majoring in Computer and Network Engineering at State Vocational High School 1 Lintongnihuta following the implementation of classroom guidance services. The mean score increased from 57.03 at pretest to 104.52 at posttest, representing an absolute increase of 47.49 points. The Wilcoxon signed-rank test confirmed a statistically significant difference between the two measurements ((Z = -5.014), (p < .001)).

The classroom guidance intervention consisted of four sessions addressing self-exploration, environmental exploration, career maturity, and self-concept development. These sessions were designed to help students recognize their personal potential, explore educational and occupational opportunities, and formulate clearer and more realistic career plans. The findings suggest that systematically structured classroom guidance services may be a useful approach to supporting career planning among vocational high school students.

However, the study's one-group pretest–posttest design limits the extent to which the observed improvement can be attributed exclusively to the intervention. Future studies should incorporate control groups, larger and more diverse samples, and follow-up measurements to strengthen causal inferences and examine whether improvements in career planning are sustained over time.

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