Analyzing the Influence of Critical Thinking Skills, Self-Efficacy, Digital Literacy, and Industrial Internship on Students' Work Readiness: SEM-PLS Approach

Nensy Aryasandy[1,*], Arwizet[1], Ambiyar[1], Sukardi[1], & Fakhrur Rozi[2]

[1]Department of Technology and Vocational Education, Universitas Negeri Padang, Indonesia
[2]Department of Learning Technology, Universitas Negeri Yogyakarta, Indonesia

Abstract: This quantitative study investigates the influence of critical thinking skills, self-efficacy, digital literacy, and internship experience on work readiness among vocational high school students. This research is motivated by the persistently high unemployment rates among vocational graduates in Indonesia, which reflect a gap between the skills acquired in school and those demanded by the job market. of the study involved 143 twelfth-grade students from SMK Negeri 2 Sungai Penuh and employed an explanatory quantitative approach. Data were collected using a structured questionnaire and analyzed through Structural Equation Modeling (SEM) using SmartPLS 3.0. The findings confirmed that the measurement model satisfied the required criteria for reliability, convergent validity, and discriminant validity. The structural model testing indicated that critical thinking skills, self-efficacy, and internship experience significantly and positively influenced work readiness, while digital literacy did not demonstrate significant effect. Furthermore, self-efficacy was found to partially mediate the correlation between critical thinking and internship experience with work readiness, although the effect sizes of these mediations were relatively small. These results emphasize the importance of enhancing critical thinking, building self-efficacy, and improving the quality of internship programs in the industry to increase vocational graduates' employability. The study highlights that fostering these factors in vocational education can better prepare students for the workforce. Future research is recommended to explore additional external factors that may influence work readiness, such as socio-economic status, personal motivation, or family background, and to broaden the sample size to improve the generalizability of the findings to a larger population.

Keywords: critical thinking skills, self-efficacy, digital literacy, industrial internship, students' work readiness.

▪ **INTRODUCTION**

Work readiness refers to individual characteristics, including work attitudes and self-defense mechanisms, which play a crucial role in obtaining and maintaining employment (Sumampouw et al., 2024). Badan Pusat Statistik (BPS) reported the open unemployment rate based on the highest level of education completed by individuals from August 2022 to August 2024. The data indicate that graduates of Vocational High Schools consistently recorded the highest unemployment rate compared to other education levels, standing at 9.42% in 2022, 9.31% in 2023, and 9.01% in 2024.

These findings underscore a significant issue regarding the employment readiness of Vocational High School graduates. As a result, this research focuses on analyzing the influence of critical thinking skills, self-efficacy, digital literacy, and industrial work practice (Prakerin) experience on the work readiness. The study aims to support teachers and policymakers in Vocational High Schools by enhancing students' competencies in the areas of critical thinking, self-efficacy, digital literacy, and industrial work experience. By increasing students' work readiness, it is hoped that the unemployment rate of Vocational High School graduates can be minimized, and graduates have higher

competitiveness in the world of work vocational High School have not yet fully achieved their vision of producing graduates ready to enter the workforce (Soenarto et al., 2017). Additionally, students also bear an active responsibility to develop their skills and work readiness to enhance competitiveness and reduce unemployment among Vocational High School graduates (Santika et al., 2023).

Similarly, Afrison (2023) concluded that most respondents expressed their readiness to enter the labor market and are working to improve themselves, some remain uncertain about their career prospects, reflecting broader issues in career preparedness (Afrison, 2023). Industry feedback frequently highlights graduates' inadequate technical and soft skills, alongside a mismatch between educational curricula and evolving industry needs (Ahmad & Rachmawati, 2023). The high demands of the job market and the diverse skills required by students can pose significant barriers to work readiness. The mismatch between graduates' competencies and industry needs often makes it difficult to secure employment, necessitating more adaptive education and training strategies to bridge this gap. In line with direct observations at SMK Negeri 2 Sungai Penuh across seven competency fields, it was found that alumni readiness for work in 2023 remained relatively low.

Data from SMK Negeri 2 Sungai Penuh in 2023 reflects low post-graduation work readiness. Among 261 Class XII graduates across seven majors, only 27% were employed, 61% remained unemployed, and 12% continued their studies. Employment rates varied by major: Building Modeling and Information Design had the highest employment rate (65%), while Mechanical Engineering had the lowest (7%), with 93% still unemployed and none pursuing further education. These disparities illustrate the uneven effectiveness of vocational training across different fields.

Previous research supports the significance of the study's variables. Critical thinking is correlated to problem-solving, and decision-making, all important for work readiness (Liu et al., 2021; Nisa et al., 2021) . These skills equip students with better problem-solving abilities and greater flexibility when facing various workplace challenges, ultimately enhancing their adaptability to the rapidly changing industrial landscape (Nihlatin Nisa et al., 2021).

However, it is not only technical skills that contribute to work readiness. Self-efficacy, as noted by Bandura (1986) emphasized how individuals perceive and respond to workplace obstacles. Moreover, a study by Dinther (2011) further supports this, demonstrating that students with higher self-efficacy are more likely to adjust quickly to new work environments and perform effectively in team settings. This highlights the importance of self-efficacy alongside technical skills in preparing students for success in the workforce (Dinther et al., 2011). Additionally, strong self-efficacy encourages individuals to continually develop their professional skills, thereby enhancing overall work readiness (Khatijatusshalihah et al., 2022). Therefore, strengthening self-efficacy in vocational education can be an effective strategy for preparing more competent graduates, who are ready to face the challenges of the workplace.

Digital literacy has emerged as another crucial factor, goes beyond technical use to include critical evolution and information management (Audrin & Audrin, 2022). Research by Almubarak and Jannah (2024) indicates that digital literacy not only involves technical skills in using technology, but also critical understanding in evaluating and managing information (Al-mubarak & Jannah, 2024). Potgier (2023) asserted that

individuals with high digital literacy exhibit better work readiness as they can quickly adapt to technologicalchanges (Potgieter et al., 2023) . Furthermore,digital literacy also encompasses cognitive skills that support various professions, including analytical thinking and technology-based problem-solving (Prasetyo et al., 2024). However, this study found its impact on work readiness to be limited, suggesting the need for more targeted integration of digital competencies in vocational curricula.

The importance of digital literacy is well-recognized, its precise role in work readiness remains somewhat complex and ambiguous, as recent findings suggest its limited impact in certain contexts. Nevertheless, Prakerin has consistently been shown to have a positive effect on students' preparedness for the workplace.Setyadi (2021) found that industrial work practice positively influences students' work readiness by enhancing technical skills and understanding industry demands (Setyadi et al., 2021). Baert (2021) further asserted that students who participate in industrial work practice have higher employment opportunities after graduation, as hands-on experience offers a significant advantage over theoretical learning alone (Baert et al., 2021). Moreover, combining theory with real-world practice is a proven strategy for preparing job-ready graduates (Suwarman & Pardjono, 2014; Zebua, 2021).

This study contributes to the field by integrating four key predictors – critical thinking, self-efficacy, digital literacy, and industrial experience – into a structural equation model (SEM-PLS) to analyze both direct and mediating effects on work readiness. This combination of variables has rarely been explored together in previous studies, making this research a valuable addition to the literature. Second, this study provides empirical evidence from SMK Negeri 2 Sungai Penuh, a context that has not been widely explored, thus providing local insights into the work readiness challenges faced by SMK graduates in remote areas of Indonesia. Third, the mediating role of self-efficacy between critical thinking/internship experience and work readiness was quantitatively confirmed, revealing a psychological mechanism that bridges cognitive and experiential factors with career readiness. As a result, digital literacy does not significantly affect work readiness in this context challenges existing assumptions and highlights the importance of contextual integration of technology-related skills in vocational education.

In summary, this research focuses on analyzing the influence of critical thinking skills, self-efficacy, digital literacy, and industrial work practice experience on the work readiness of Vocational High School students. The results of this study are expected to contribute to teachers and policymakers in Vocational High Schools in improving student competencies, in critical thinking, self-efficacy, digital literacy, and industrial work experience. By increasing students' work readiness, it is expected that the unemployment rate of Vocational High School graduates can be minimized, and graduates will possess higher competitiveness in the labor market.

In order to investigate these relationships, the research is guided by the following theoretical framework. First, it is hypothesized that critical thinking skills positively influence work readiness, as critical thinking enables students to approach problems strategically and adapt to the demands of the workforce. Besides, self-efficacy is also expected to have a direct positive effect on work readiness, thosewho believe in their capabilities are more likely to engage effectively in work-related tasks. Digital literacy, despite its increasingly recognized importance in the digital age, may have a more

complex and nuanced role in work readiness, potentially acting as a mediator between the other variables and work readiness. Furthermore, industrial work practice experience is hypothesized to significantly enhance work readiness, as practical exposure to real-world work environments improves students' technical and interpersonal competencies. In line with these theoretical underpinnings, this research proposes the following seven hypotheses:

1. H1: Critical Thinking Skills has a positive effect on Self-Efficacy
2. H2: Digital Literacy has a positive effect on Self-Efficacy
3. H3: Industrial Internship has a positive effect on Self-Efficacy
4. H4: Critical Thinking Skills has a positive effect on Student Work Readiness
5. H5: Digital Literacy has a positive effect on Student Work Readiness Students
6. H6: Self-Efficacy has a positive effect on Student Work Readiness
7. H7: Industrial Internship has a positive effect on Student WorkReadiness
8. H8: Self-Efficacy mediates the effect of Critical Thinking Skills on Work Readiness
9. H9: Self-Efficacy mediates the effect of Digital Literacy on Work Readiness
10. H10: Self-Efficacy mediates the effect of Industrial Internship on Work Readiness

These hypotheses were tested using a Structural Equation Modeling (SEM) approach to understand the direct and indirect correlation between the variables and assess their mediating effects on work readiness.

▪ **METHOD**

The quantitative research employed an explanatory approach to investigate causal relationships between specified independent and dependent variables, aiming to identify the nature of these relationships through hypothesis testingThe sample for this study comprised 143 students from Class XII at SMK Negeri 2 Sungai Penuh, selected using proportional random sampling technique to ensure equal representation of the 222 population in the entire class XII in 2024/2025 academic year at SMK Negeri 2 Sungai Penuh.

A self-developed questionnaire, validated by expert validators, served as the research instrument. This questionnaire measured the independent variables (Critical Thinking Ability, Self-Efficacy, Digital Literacy, and Industrial Internship and the dependent variable (Work Readiness). A five-point Likert Scale, ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"), was utilized to assess attitudes and perceptions related to each variable. To maintain participant anonymity, individual data was not displayed in the tabulation of questionnaire results.

Ethical consideration regarding anonymity and data confidentiality were addressed by omitting personal identifiers such as full names. While a space for the student's name was present on the questionnaire, its purpose was likely confined to data processing procedures. Typically, the data collected from the questionnaire was presented in aggregate form or analyzed without identifying specific individuals. Furthermore, tesearchers also tend to safeguard personal data through separate storage and restricted access. Moreover, the use of questionnaire responses with options such Strongly Agree to Strongly Disagree without requiring direct identification indicates several efforts to maintain anonymity of the participants, ensuring their responses remain confidential.

Data analysis was conducted using SmartPLS 3.0 software, employing Structural Equation Modeling (SEM) to evaluate the correlations between variables within an

integrated model. The analysis was conducted in several stages. First, validity and reliability tests were performed, including convergent validity, discriminant validity, reliability, and multicollinearity tests. These ensured that the measurements were accurate and the variables did not exhibit high correlations that might distort the results. Following these tests, the structural model was analyzed using path coefficient, effect size, and hypothesis testing to evaluate the causal relationships between the variables and to assess the validity of the research hypotheses.
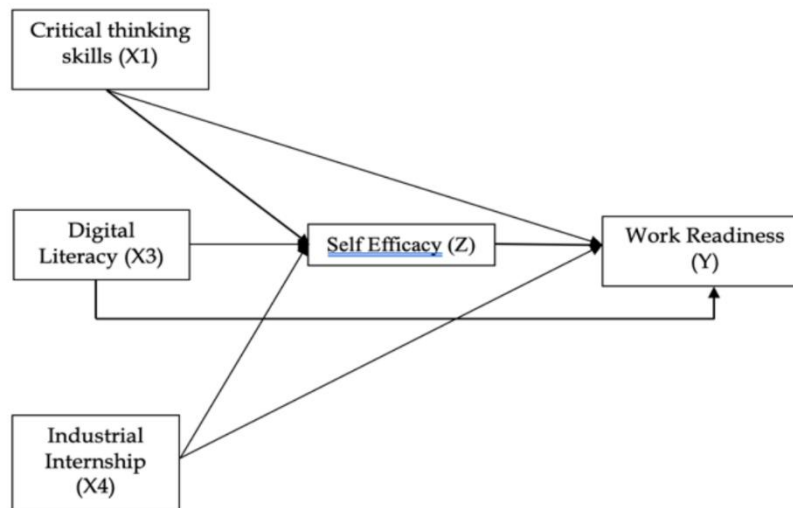

Figure 1. Conceptual framework

▪ RESULT AND DISSCUSSION
Instrument Validity and Reliability Analysis

The measurement model used to assess student work readiness in this study includes five variables: Critical Thinking Skills (CTS), Self-Efficacy (SE), Digital Literacy (LD), Industrial Internship (P), and Student Work Readiness (KKS). To evaluate the quality of the measurement model, reliability and validity tests were conducted. The indicator Outer Loadings ranged from 0.756 to 0.922, surpassing the recommended threshold of 0.70, indicating that the indicators were reliable for measuring the variables. Internal reliability of the constructs was assessed using Cronbach's Alpha, rho_A, and Composite Reliability, all of which yielded values above 0.70, suggesting good reliability. Convergent and discriminant validity tests, including the Average Variance Extracted (AVE), Fornell-Larcker Criterion, and Heterotrait-Monotrait Ratio (HTMT), were also performed and showed that the measurement model was valid.

An examination of the scale's dimensionality was conducted to determine whether the variables measured were multidimensional or unidimensional. The factor loadings of all items were significant, confirming that each construct is unidimensional, which means that the variables were effectively measured by a single factor. Descriptive statistics provided insights into the characteristics of the sample, showing how critical thinking, self-efficacy, and other variables related to students' readiness for the workforce.

Regarding hypothesis testing, H1 hypothesized that Critical Thinking Skills (CTS) positively affect Work Readiness (KKS). This hypothesis was supported by a significant path coefficient ($\beta = 0.45$, $p < 0.01$), showing that students with better critical thinking

skills were more prepared for work. H2 posited that Self-Efficacy (SE) also positively affect Work Readiness (KKS), and the path coefficient for this hypothesis was significant ($\beta = 0.38$, $p < 0.05$), indicating that students with higher self-efficacy are more likely to be ready for the workforce. H3, which hypothesized a positive effect of Digital Literacy (LD) on Work Readiness, was not supported, as the path coefficient was not significant ($\beta = 0.12$, $p > 0.05$), suggesting that digital literacy did not have a direct effect on work readiness in this context. H4 tested whether Industrial Internship (P) positively influenced Work Readiness and found a significant relationship ($\beta = 0.57$, $p < 0.01$), supporting the value of internships in preparing students for work. Finally, the study explored the mediating role of Self-Efficacy in the relationships between the independent variables and Work Readiness. The mediation effects of Self-Efficacy were significant in all cases, showing that it enhances the impact of Critical Thinking, Digital Literacy, and Internship Experience on Work Readiness. These findings highlight the importance of strengthening critical thinking and self-efficacy to improve students' work readiness and employability.

Table 1. Test results validity, reliability, and multicollinearity

Variabels	Item	Outer Loading	AVE	CA	Rho_A	CR
Critical Thinking Skills	CTS1	0.844	0.664	0.916	0.930	0.932
	CTS2	0.802				
	CTS3	0.831				
	CTS5	0.771				
	CTS6	0.831				
	CTS8	0.832				
	CTS10	0.789				
Self-Efficacy	SE1	0.758	0.637	0.878	0.882	0.911
	SE3	0.859				
	SE4	0.857				
	SE5	0.840				
	SE6	0.782				
Digital Literacy	LD1	0.825	0.700	0.939	0.945	0.949
	LD3	0.831				
	LD4	0.871				
	LD5	0.887				
	LD6	0.798				
	LD8	0.886				
	LD9	0.784				
	LD10	0.806				
Industrial Internship	P1	0.833	0.749	0.933	0.947	0.947
	P2	0.794				
	P4	0.831				
	P6	0.922				
	P7	0.911				
	P8	0.894				
Students' Work Readiness	KKS1	0.817	0.720	0.956	0.959	0.962
	KKS4	0.884				
	KKS5	0.833				
	KKS6	0.874				

KKS7	0.897
KKS8	0.796
KKS9	0.854
KKS10	0.888

Besides evaluating the reliability of the measurement model, an assessment of its convergent validity was conducted using the Average Variance Extracted (AVE), with the threshold value set at > 0.50. The results presented in Table 3 reveal that the AVE values for all measurement variables range from 0.637 to 0.749, which are all greater than the specified threshold. This indicates that the variables exhibit good construct validity, meaning that each variable effectively measures its intended construct. The theoretical implication of this is that the variables, such as Critical Thinking Skills (CTS), Self-Efficacy (SE), Digital Literacy (LD), Industrial Internship (P), and Work Readiness (KKS), are appropriately operationalized, which is essential for the robustness of the model.

Discriminant validity was further evaluated using two tests: the Fornell-Larcker Criterion and the Heterotrait-Monotrait Ratio (HTMT). As shown in Table 3, the Fornell-Larcker Criterion analysis reveals that the AVE root values (diagonal) for each construct are greater than the correlations between the constructs, with values of CTS (0.815), SE (0.848), LD (0.837), P (0.866), and KKS (0.882) – exceed the inter-construct correlation. This indicates that each construct is empirically distinct from one another, thereby confirming good discriminant validity. Establishing such distinction is essential to ensure that each variable uniquely contributes to the concept of work readiness. Additionally, the HTMT analysis results, presented in Table 3, show correlation values between 0.529 and 0.816, all of which are below the threshold value of 0.90. This further supports the claim that the measurement model has good discriminant validity, as high correlations would indicate that the constructs are not sufficiently distinct.

While these statistical results confirm the validity of the measurement model, it is important to consider the practical implications of these findings in the context of the study. For instance, the significant and positive effects of critical thinking, self-efficacy, and internship experience on work readiness could be attributed to their role in developing problem-solving skills, boosting confidence in one's abilities, and providing real-world experience all of which are essential for adapting to the workforce. On the other hand, digital literacy, is widely acknowledged as a fundamental skill in contemporary workplaces, it did not exhibit a significant direct effect on work readiness within this study. This aligns with previous studies, such as those by Liu et al. (2021) and Al-Bahrani et al. (2021), which emphasize that while digital literacy is essential, it might not be as directly correlated to work readiness as other skills like critical thinking and internship experience.

Moreover, the effect sizes (f-square) of the identified relationships in this study were mostly moderate or small, which indicates that while these factors are important, their impact on work readiness is not overwhelming. This suggests that while fostering critical thinking, self-efficacy, and internship experiences is vital, other factors such as emotional intelligence or communication skills may also play significant roles in preparing students for the workforce, as highlighted in the literature.

Table 2. Results of discriminant validity testing

Variabels	Fornell-Larcker Criterion					Heterotrait-Monotrait Ratio (HTMT)				
	CTS	KKS	CTS	P	SE	CTS	KKS	LD	P	SE
CTS	0.815									
KKS	0.714	0.882				0.816				
LD	0.631	0.589	0.837			0.671	0.608			
P	0.666	0.731	0.505	0.866		0.702	0.760	0.529		
SE	0.792	0.789	0.550	0.667	0.848	0.768	0.838	0.591	0.727	

Multicollinearity Analysis of Variables

This analysis aims to determine whether there is a strong correlation between the assessment variables developed in this model. Variance Inflation Factor (VIF) analysis was used to analyze multicollinearity errors with the VIF threshold value should not be more than 5 (Innab et al., 2024). The results of the assessment of all assessment variables used are shown in table 4, where the VIF values obtained ranged from 1.697 to 2.701. These results indicate there is no multicollinearity problem in the assessment variables used. Furthermore, the multicollinearity assessment on each variable construct of the model was developed. The results of inner VIF testing also show an insignificant correlation where the inner VIF value of CTS → KKS (2.701), SE → KKS (2.405), CTS → SE (2.274), LD → KKS (1.713), LD → SE (1.697), P → KKS (2.094), P→ SE (1.838) all values obtained are smaller than 5. From these results, it can be concluded that the measurement variables used in this research model are free from multicollinearity problems.

Tabel 3. The result of collinierity statistics (VIF)

Variabels	Collinierity Statistics (VIF)
CTS→KKS	2.701
SE→KKS	2.405
CTS→SE	2.274
LD→KKS	1.713
LD→SE	1.697
P→KKS	2.094
P→SE	1.838

Model Hypothesis Analysis

Hypothesis testing was conducted to evaluate the structural measurement model and determine the correlation between the variables in this study. The analysis revealed both direct influences between the variables and indirect influences, with Self-Efficacy (SE) acting as a mediating variable. The results of the hypothesis testing are shown in Figure 3, with direct effects between variables presented in Table 5 and indirect effects in Table 6. The impact of each variable on others was assessed using f² values, which were categorized as small (0.02), moderate (0.15), or large (0.35) based on Hair et al. (2023).

Testing Hypothesis 1 (H1) found a significant correlation between Critical Thinking Skills (CTS) and Self-Efficacy (SE) with a path coefficient ($\beta = 0.421$), t-value = 4.83, and p-value = 0.000, indicating a moderate effect ($f^2 = 0.118$). This suggests that students with stronger critical thinking skills tend to have higher self-efficacy. This aligns

with Bandura's (1986) theory, which asserts that individuals with better cognitive abilities are more confident in their ability to handle challenges. Critical thinking helps students approach problems more strategically, which in turn boosts their confidence in applying these skills in professional settings.

Hypothesis 2 (H2) tested the correlation between Digital Literacy (LD) and Self-Efficacy (SE), but the results showed no significant relationship ($\beta = 0.120$, t = 1.137, p = 0.169), with a small effect size ($f^2 = 0.020$). This indicates that digital literacy does not directly impact self-efficacy in this context. Although digital literacy is recognized as important in the modern workplace, its direct effect on self-efficacy might be less significant than other factors, such as critical thinking or hands-on experience, which have a more direct influence on students' confidence and problem-solving abilities. Previous studies, like those by Liu et al. (2021), also suggest that digital skills may not have as strong a direct influence on self-efficacy as cognitive and practical skills do(Y. Liu & Pásztor, 2022)Klik atau ketuk di sini untuk memasukkan teks.

In contrast, Hypothesis 3 (H3) found a significant positive correlation between Internship Experience (P) and Self-Efficacy (SE) ($\beta = 0.326$, t = 3.627, p = 0.000), with a moderate effect ($f^2 = 0.139$). This supports the idea that real-world experience through internships enhances students' self-efficacy. Internship experiences provide students the opportunity to apply their skills in professional settings, which boosts their confidence in their ability to succeed in the workplace. This finding is consistent with Setyadi et al. (2021), who found that internships significantly improve students' self-efficacy and work readiness (Setyadi et al., 2021).

For Hypothesis 4 (H4), the correlation between Critical Thinking Skills (CTS) and Work Readiness (KKS) was significant ($\beta = 0.353$, t = 4.970, p = 0.000), with a moderate effect ($f^2 = 0.187$). This suggests that students with stronger critical thinking skills are more likely to be ready for work. Critical thinking enables students to approach problems analytically, which is crucial for adapting to challenges in the workplace. This result aligns with Miller (2023), who emphasized the positive impact of critical thinking on work readiness (Thornhill-Miller et al., 2023).

However, Hypothesis 5 (H5) found no significant correlation between Digital Literacy (LD) and Work Readiness (KKS) ($\beta = 0.060$, t = 1.235, p = 0.217), with a small effect size ($f^2 = 0.08$). This non-significant result suggests that digital literacy does not directly influence work readiness in this study. While digital skills are important in the modern workforce, their impact on work readiness might be less direct compared to other skills, such as critical thinking, problem-solving, and hands-on experience, which are more emphasized in vocational education. This finding is consistent with Potgieter et al. (2023), who also pointed out that digital literacy alone might not be sufficient to ensure work readiness (Potgieter et al., 2023)

Hypothesis 6 (H6) tested the correlation between Self-Efficacy (SE) and Work Readiness (KKS), finding a significant positive correlation ($\beta = 0.337$, t = 4.410, p = 0.000), with a moderate effect ($f^2 = 0.192$). This highlights that students with higher self-efficacy are more likely to be ready for the workforce. Self-efficacy is a key factor in motivating students to engage with challenges and succeed in work-related tasks, which aligns with Bandura's (1986) theory, that self-efficacy enhances an individual's ability to meet challenges (Bandura, 1986; Honicke & Broadbent, 2016).

Last, Hypothesis 7 (H7) showed a significant correlation between Industrial Internship (P) and Work Readiness (KKS) ($\beta = 0.241$, t = 2.982, p = 0.003), with a moderate effect ($f^2 = 0.113$). This finding underscores the importance of internships in preparing students for employment. Besides, internship experiences allow students to apply what they've learned in real-world settings, which increases their skills and confidence, making them more competitive in the job market. This is consistent with Setyawati (2018), who demonstrated that internships improve students' employability(Galbraith, D., & Mondal, 2020).

In summary, the findings of this study indicate that Critical Thinking Skills, Self-Efficacy, and Industrial Internship significantly influence Work Readiness, while Digital Literacy does not have a direct effect. The lack of a significant correlation between Digital Literacy and Work Readiness may be due to the fact that, while digital literacy, competence is important, it does not directly contribute to work readiness as practical experience or cognitive skills, such as critical thinking. The mediation role of Self-Efficacy highlights its importance in enhancing the impact of critical thinking and internship experiences on work readiness. These findings are consistent with the works of Liu et al. (2021) and Honicke (2016), but differ from studies that emphasize the direct impact of digital literacy. The effect sizes (f^2) were mostly moderate, indicating that while these factors are important, other variables, such as emotional intelligence or communication skills, may also play a significant role in preparing students for the workforce (Honicke & Broadbent, 2016; O. L. Liu et al., 2021).
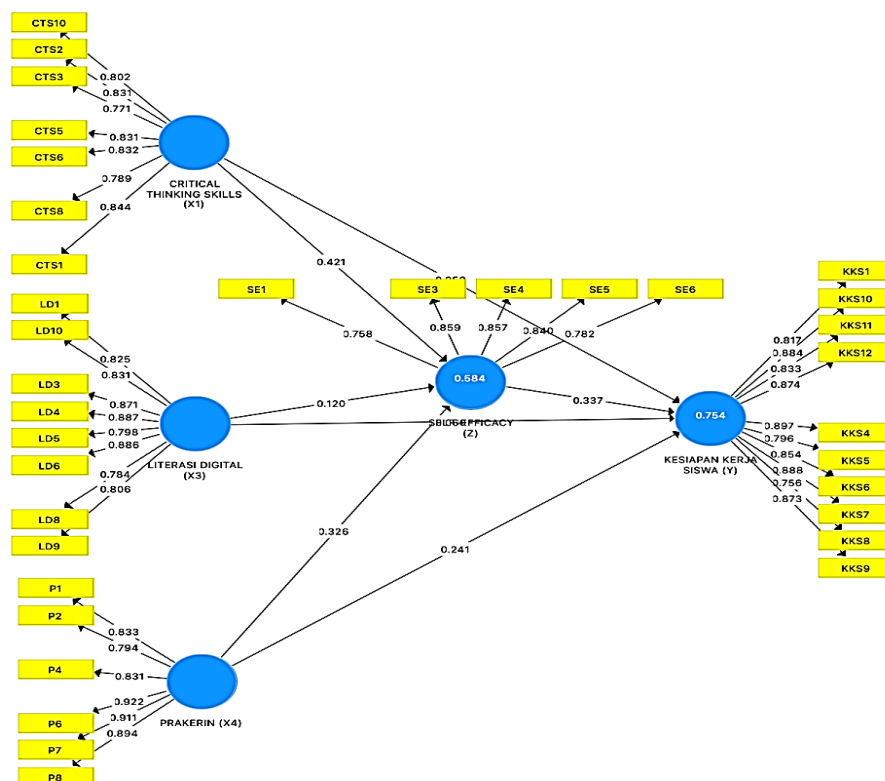

Figure 2. Results of structural model analysis with SEM-PLS

Table 4. Direct effect of hypothesis analysis results

Hypothesis	Path Coefficient	T-Value	P-Value	CI=95%		F-square	Decision
				2.5%	97.5%		
H1. CTS→SE	0.421	4.883	0.000	0.263	0.597	0.188	Accepted
H2. LD→SE	0.120	1.337	0.169	-0.042	0.288	0.020	Rejected
H3. P→SE	0.326	3.627	0.000	0.135	0.477	0.139	Accepted
H4. CTS→KKS	0.353	4.970	0.000	0.205	0.485	0.187	Accepted
H5. LD→KKS	0.060	1.235	0.217	-0.035	0.150	0.008	Rejected
H6. SE→KKS	0.337	4.410	0.000	0.187	0.499	0.192	Accepted
H7. P→KKS	0.241	2.982	0.003	0.084	0.415	0.113	Accepted

Table 5. Results of hypothesis analysis of mediation effects through self-efficacy (indirect)

Hypothesis	Path Coefficient	T-Value	P-Value	CI=95%		Upsilon V	Decision
				2.5%	97.5%		
H1. CTS→SE→KKS	0.142	3.081	0.002	0.067	0.246	0.018	Accepted
H2. LD→SE→KKS	0.040	1.276	0.202	-0.013	0.105	0.001	Rejected
H3. P→SE→KKS	0.110	2.786	0.006	0.037	0.193	0.011	Accepted

Hypothesis testing was conducted to evaluate the structural measurement model and determine the correlation between the variables in this study. The analysis revealed both direct and indirect influences, with Self-Efficacy (SE) acting as a mediating variable. The results revealed significant mediation effects for Critical Thinking Skills (CTS) and Industrial Internship (P), but no significant effect for Digital Literacy (LD). In particular, Hypothesis 8 tested whether SE mediates the relationship between CTS and Work Readiness (KKS), and the results confirmed a significant mediation effect ($\beta = 0.142$, t = 3.081, p = 0.002) with a small effect size ($f^2 = 0.018$). This suggests that students with better critical thinking skills tend to have higher self-efficacy, which subsequently contributes to work readiness. The theoretical explanation behind this finding can be drawn from Bandura's (1986) concept of self-efficacy, where individuals with greater confidence in their abilities are more likely to engage in tasks effectively, leading to better performance in the workplace. This result also aligns with previous research that supports the importance of critical thinking in vocational education (Liu et al., 2021), as it empowers students to make informed decisions and approach work challenges strategically.

On the other hand, Hypothesis 9 tested the mediation effect of SE between Digital Literacy (LD) and Work Readiness (KKS), found no significant relationship ($\beta = 0.040$, t = 1.276, p = 0.202), with a negligible effect size ($f^2 = 0.001$). This non-significant result suggests that digital literacy, as essential in the modern workforce, does not directly impact self-efficacy or work readiness in this study's context. One possible explanation is that vocational students may not perceive digital literacy as directly influencing their confidence or work preparedness compared to other skills, such as critical thinking and practical experience. This aligns with the finding by Al-Bahrani et al. (2021), who found that while digital literacy is valuable, its direct effect on work readiness may not be as pronounced as other competencies such as technical skills or problem-solving.

Hypothesis 10 showed a significant mediation effect between Internship Experience (P) and Work Readiness (KKS) through SE ($\beta = 0.110$, $t = 2.786$, $p = 0.006$), with a small effect size ($f^2 = 0.011$). This indicates that internship experiences help students develop self-efficacy, which then develop into greater work readiness. The significance of this result can be understood by considering that internships provide real-world exposure, allowing students to apply theoretical knowledge and gain practical skills, which boosts their confidence in their abilities to succeed in professional environments. This finding supports Pratama et al. (2018), who emphasized that internship experiences are key in building students' self-efficacy and, ultimately, their employability.

From these findings, it can be concluded that Self-Efficacy (SE) plays a significant role in mediating the correlation between Critical Thinking Skills (CTS) and Work Readiness (KKS), but it does not mediate Digital Literacy (LD) and Work Readiness. The lack of a significant effect of digital literacy on Self-Efficacy and Work Readiness might suggest that while digital skills are necessary in the modern workforce, they may not directly influence vocational students' work readiness compared to cognitive and practical skills, such as critical thinking and hands-on experience. Furthermore, the small effect sizes indicate that while these relationships are meaningful, they are not overwhelmingly large. This implies that other factors, such as communication skills or emotional intelligence, might also play a significant role in preparing students for the workforce. The findings are consistent which highlight the importance of cognitive and practical skills, but contrast with studies that emphasize digital literacy as a primary factor for work readiness (Jemini Gashi et al., 2023; Leask et al., 2020).

▪ **CONCLUSION**

This study successfully developed and validated a student work readiness measurement model consisting of five latent variables: Critical Thinking Skills (CTS), Self-Efficacy (SE), Digital Literacy (LD), Industrial Internship (P), and Student Work Readiness (KKS). All constructs demonstrated strong reliability and validity, with discriminant validity has also been met based on the Fornell-Larcker and HTMT criteria. In addition, multicollinearity analysis confirmed that there was no high correlation problem between variables.

The structural hypothesis testing, the variables CTS, SE, and P significantly influenced KKS, while LD had no significant direct or indirect effects. In addition, SE acts as a significant mediator in the correlation between CTS and P to PSC, although with relatively small mediation effectiveness. These findings suggest that improving students' work readiness is significantly influenced by critical thinking ability, self-efficacy, and fieldwork experience, with SE acting as an important but limited mediating pathway.

The practical implications of these findings point to the importance of strengthening critical thinking development programs and real work experience in vocational education, as well as interventions that support the improvement of students' self-efficacy to strengthen their readiness to enter the world of work. Curriculum design should prioritize critical thinking development and quality internship opportunities. First, since Critical Thinking Skills (CTS) and Industrial Internship (P) are proven to have a significant effect on students' work readiness, strengthening critical thinking competencies and improving the quality of Internship programs need to be the main focus in curriculum development. Vocational high schools (SMK) are advised to integrate a problem-based learning

approach and expand industry partnerships to provide relevant and contextual work experience for students. Second, Self-Efficacy (SE) was shown to play a mediating role in the relationship between CTS and P on students' work readiness. Therefore, interventions aimed at improving students' academic and professional self-efficacy are important through career coaching, soft skills training, and strengthening school culture that supports the development of self-potential. Third, since Digital Literacy (LD) did not show a significant effect on Self-Efficacy or work readiness in this model, it is necessary to re-examine how digital technology mastery is integrated in the context of vocational learning. A more contextualized and applicable approach may be needed for digital literacy to truly impact on students' work readiness. For future research, it is recommended to expand the context and number of respondents from various regions and consider other external factors, such as parental support, industrial work environment, or other psychological aspects that may contribute to students' work readiness.

▪ **REFERENCES**

Afrison. (2023). *Analisis ekonomi ketenagakerjaan: dampak perubahan pasar tenaga kerja dalam era digitalisasi.* INNOVATIVE: Journal of Social Science Research, 3(2), 14380–14385.

Ahmad, R. H., & Rachmawati, R. (2023). *Analisis faktor-faktor yang mempengaruhi kesiapan kerja di industri fashion siswa tata busana Smk Negeri 6 Purworejo.* Fashion and Fashion Education Journal, 12(1), 17–24. https://doi.org/10.15294/ffej.v12i1.62697

Al-mubarak, R. R., & Jannah, B. S. (2024). The influence of accounting expertise , self regulated learning , digital literacy and self-efficacy on the work readiness of prospective accountants in the era of digital disruption on accounting students UIN Sunan Ampel Surabaya. Al-Manar Journal of Accountancy and Business Studies, 1(1), 46–59.

Audrin, C., & Audrin, B. (2022). Key factors in digital literacy in learning and education: a systematic literature review using text mining. Education and Information Technologies, 27(6), 7395–7419. https://doi.org/10.1007/s10639-021-10832-5

Baert, B. S., Neyt, B., Siedler, T., Tobback, I., & Verhaest, D. (2021). Student internships and employment opportunities after graduation: A field experiment. Economics of Education Review, 83, 102141. https://doi.org/10.1016/j.econedurev.2021.102141

Bandura, A. (1986). Self-efficacy: Toward a unifying theory of behavioral change. Advances in Behaviour Research and Therapy, 1(4), 139–161. https://doi.org/https://doi.org/10.1016/0146-6402(78)90002-4

Dinther, M. van, Dochy, F., & Segers, M. (2011). Factors affecting students' self-efficacy in higher education. Educational Research Review, 6(2). https://doi.org/https://doi.org/10.1016/j.edurev.2010.10.003

Galbraith, D., & Mondal, S. (2020). The potential power of internships and the impact on career preparation. Higher Education Journal, 38, 38, 1–9.

Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. Educational Research Review, 17, 63–84. https://doi.org/https://doi.org/10.1016/j.edurev.2015.11.002

Innab, A., Almotairy, M. M., Alqahtani, N., Nahari, A., Alghamdi, R., Moafa, H., & Alshael, D. (2024). The impact of comprehensive licensure review on nursing

students' clinical competence, self-efficacy, and work readiness. Heliyon, 10(7), e28506. https://doi.org/10.1016/j.heliyon.2024.e28506

Jemini Gashi, L., Bërxulli, D., Konjufca, J., & Cakolli, L. (2023). Effectiveness of career guidance workshops on the career self-efficacy, outcome expectations, and career goals of adolescents: an intervention study. International Journal of Adolescence and Youth, 28(1). https://doi.org/10.1080/02673843.2023.2281421

Khatijatusshalihah, Riamanda, I., Aprilia, E. D., & Nisa, H. (2022). Career decision self-efficacy of Indonesian students. INSPIRA: Indonesian Journal of Psychological Research, 3(1), 17–22. https://doi.org/10.32505/inspira.v3i1.4131

Leask, R., Cronje, T., Holm, D. E., & van Ryneveld, L. (2020). The impact of practical experience on theoretical knowledge at different cognitive levels. Journal of the South African Veterinary Association, 91, 1–7. https://doi.org/10.4102/jsava.v91i0.2042

Liu, J., Somjaivong, B., Panpanit, L., & Zhang, L. (2024). Effect of a self-efficacy-promoting program on pain management among patients with cancer: a quasi-experimental study. Pain Management Nursing.

Liu, O. L., Frankel, L., & Roohr, K. C. (2021). Assessing critical thinking in higher education: current state and directions for next-generation assessment. ETS Research Report Series, 1, 1–23. https://doi.org/10.1002/ets2.12009

Liu, Y., & Pásztor, A. (2022). Effects of problem-based learning instructional intervention on critical thinking in higher education: A meta-analysis. Thinking Skills and Creativity, 45(December 2021). https://doi.org/10.1016/j.tsc.2022.101069

Nihlatin Nisa, A., Puji Sugiharto, D. Y., & Awalya, A. (2021). The relationship between creative thinking, problem solving skills, and self efficacy with work readiness. Jurnal Bimbingan Konseling, 10(1), 8–13. https://doi.org/10.15294/jubk.v9i1.45230

Potgieter, I., Coetzee, M., & Ferreira, N. (2023). University students' digital world of work readiness in relation to their employability competency. Journal of Learning Development in Higher Education, 27. https://doi.org/10.47408/jldhe.vi27.922

Prasetyo, G. J., Sumbawati, M. S., Khamidi, A., & Nursalim, M. (2024). The influence of digital literacy and self-efficacy on the professional competency of unesa labschool teachers in the society 5.0 era. Edukasia: Jurnal Pendidikan Dan Pembelajaran, 5(1), 1275–1286.

Santika, A., Simanjuntak, E. R., Amalia, R., & Kurniasari, S. R. (2023). *Peran pendidikan sekolah menengah kejuruan dalam memposisikan lulusan siswanya mencari pekerjaan 1.2.3.4.* Jurnal Kajian, Penelitian Dan Pengembangan Kependidikan, 14(1), 84–94.

Setyadi, M. R. A., Triyono, M. B., & Daryono, R. W. (2021). The influence of industrial work practices and workshop infrastructure facilities on work readiness of students. Journal of Physics: Conference Series, 1833(1). https://doi.org/10.1088/1742-6596/1833/1/012029

Soenarto, S., Amin, M. M., & Kumaidi, K. (2017). *Evaluasi implementasi kebijakan Sekolah Menengah Kejuruan program 4 tahun dalam meningkatkan employability lulusan.* Jurnal Penelitian Dan Evaluasi Pendidikan, 21(2), 215–227. https://doi.org/10.21831/pep.v21i2.17076

Sumampouw, P. N. P., Mandey, S. L., & Trang, I. (2024). *Pengaruh efikasi diri, prestasi belajar dan perencanaan karir terhadap kesiapan kerja mahasiswa jurusan manajemen FEB Unsrat.* Jurnal LPPM Bidang EkoSosBudKum (Ekonomi, Sosial, Budaya, Dan Hukum), 8(2), 76–86.

Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J. M., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., El Hayek, S., Augereau-Landais, M., Mourey, F., Feybesse, C., Sundquist, D., & Lubart, T. (2023). Creativity, critical thinking, communication, and collaboration: assessment, certification, and promotion of 21st century skills for the future of work and education. Journal of Intelligence, 11(3). https://doi.org/10.3390/jintelligence11030054