

## Enhancing Financial Literacy, Digital Literacy, and Technology-Based Career Readiness among Students of SMK Perintis 1 Depok, West Java

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### ABSTRACT

*Digital transformation has shifted the competency paradigm required by vocational education graduates. Vocational High School (SMK) students currently face a triple challenge: financial management amidst the rise of fintech, ethical use of technology, and digitalized career competition. This community service activity aims to enhance the understanding and skills of SMK Perintis 1 Depok students through an integrated educational intervention. The method employed is an educational-participatory approach through seminars, practical training, and simulations involving 100 students. The effectiveness evaluation was conducted using a Paired Sample T-Test analysis on pre-test and post-test scores. Results showed significant improvements: financial literacy (58 to 82), digital literacy (61 to 85), and career readiness (55 to 84). A p-value < 0.05 proves the real impact of the intervention. The discussion highlights that the synergy between digital and financial literacy serves as a foundation for student resilience in facing economic uncertainty in the digital economy era.*

**Keywords:** financial literacy; digital literacy; career readiness; vocational education; SMK

### INTRODUCTION

#### 1.1 Background and Urgency

The global workforce is at a turning point of transformation driven by advancements in information and communication technology. The World Economic Forum (2025) report explicitly states that approximately 85 million jobs may be displaced by the division of labour between humans and machines by 2030. However, simultaneously, 97 million new roles are emerging that are more adaptive to the digital ecosystem. In this whirlwind of change, Vocational High School (SMK) graduates are in a position that is both vulnerable and strategic. As institutions designed to produce a ready-to-work force, SMKs must be able to go beyond conventional technical curricula.

In Indonesia, employment challenges remain a structural issue. Data from the Central Bureau of Statistics (2025) notes that the open unemployment rate is still dominated by SMK graduates compared to other educational levels. This phenomenon is often not caused by a lack of technical ability (hard skills), but rather a gap in adaptive competencies (soft skills), digital literacy, and mental readiness in facing career transitions.

## **1.2 Financial Literacy in the Fintech Era**

The development of the digital economy also brings consequences for how the younger generation manages their financial resources. The emergence of various digital payment platforms, e-wallets, and easy access to online loans (pay later) has changed the consumption behaviour of SMK students. Without adequate financial literacy, these technological conveniences can become a trap that triggers consumptive behaviour and financial instability at an early age. Financial literacy is not merely a mathematical ability but the proficiency to make rational and responsible financial decisions.

## **1.3 Digital Literacy and Professional Ethics**

Besides the financial aspect, the intensity of internet use among adolescents in Indonesia is very high, yet it is often not proportional to the level of digital literacy. SMK students tend to use technology for entertainment purposes rather than productivity. Digital literacy in this context includes personal data security, understanding digital footprints, and the ability to filter information amidst the flow of disinformation. For future job seekers, a negative digital footprint can be a serious hindrance in modern professional recruitment processes.

## **1.4 Technology-Based Career Readiness**

The transition from school to the workplace requires meticulous planning. In the era of Industry 4.0 and moving toward 5.0, recruitment processes have completely changed. The use of Applicant Tracking Systems (ATS) in CV screening and Artificial Intelligence (AI) Interviews requires students to have technology-literate career readiness. Students need to understand how to build personal branding through professional platforms like LinkedIn and compile competitive digital portfolios.

Based on this urgency, SMK Perintis 1 Depok was chosen as a community service partner due to its location in the capital's buffer zone with very rapid industrial dynamics. This activity aims to provide a comprehensive intervention to close these non-technical competency gaps.

## **Partner Problems**

Based on field observations and in-depth interviews with the counselling guidance department at SMK Perintis 1 Depok, several crucial problems were identified:

1. **Fragmented Financial Understanding:** Students have high access to digital payment tools but lack control over routine budgets. Pocket money is often spent on short-term wants rather than educational needs.
2. **Digital Paradox:** Students are proficient in operating smartphones for social media but struggle when asked to use the same device for searching career support literature or using productivity tools.

3. Career Anxiety: There is a high level of concern among final-year students regarding their future, which is not accompanied by knowledge of practical steps in searching for jobs digitally.
4. Lack of Non-Technical Mentoring Programs: The school curriculum is still heavily focused on academic achievement and vocational competence, leaving life skills literacy often neglected.

## REASERCH METHOE

This community service activity was carried out in the even semester of the 2025/2026 academic year, involving 100 student respondents from grades X, XI, and XII across various majors. The approach used is the Integrated Educational-Participatory Model.

### 3.1 Preparation Phase

This stage included coordination with the school principal and the teaching team for schedule alignment. The service team compiled training modules validated by experts in financial literacy and information technology. Additionally, evaluation instruments in the form of pre-test and post-test questions were developed with clear indicators to measure participants' cognitive levels.

### 3.2 Implementation Phase (Intervention)

The intervention was conducted through three main material blocks:

- Financial Literacy Block: Covering simple inflation concepts, app-based pocket money management, and simulations of compound interest calculations in savings.
- Digital Literacy Block: Covering cybersecurity (privacy settings), communication ethics on digital platforms, and the use of Cloud Computing for task collaboration.
- Career Readiness Block: ATS-based CV writing workshops, LinkedIn profile optimization, and online job interview simulations.

### 3.3 Data Analysis Techniques

Data analysis in this community service activity was conducted quantitatively to evaluate the effectiveness of the educational intervention in improving students' competencies. The data obtained through pre-test and post-test instruments were processed using statistical software through two main stages of analysis:

#### 1. Comparative Analysis (Difference Test)

To determine whether there is a significant difference in the average level of students' understanding before and after the intervention, a difference test was conducted using the *Paired Sample t-Test* method. This technique was selected because the data are paired (derived from the same subjects). Mathematically, the formula used is as follows:

$$t = \frac{D}{S_d/\sqrt{n}}$$

Where:

*t*: Calculated t-value to be compared with the critical t-value (t-table)

*D*: Mean difference between pre-test and post-test scores

*Sd*: Standard deviation of the differences

*n*: Total number of respondents (100 students)

The decision-making criterion is based on the significance value (*p-value*). If the Sig. (2-tailed) < 0.05, the null hypothesis is rejected, indicating a statistically significant effect of the training program.

## 2. Effectiveness Analysis (Normalized Gain)

In addition to testing the difference in means, this study also measures the level of effectiveness or the magnitude of students' knowledge improvement objectively using the *Normalized Gain (N-Gain)* formula. The use of N-Gain aims to minimize potential bias arising from differences in students' initial abilities. The N-Gain formula is defined as follows:

$$g = \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{Maximum Score} - \text{Pretest Score}}$$

The resulting *g* scores are then categorized based on Hake's criteria to determine the level of intervention effectiveness, as follows:

- High, if  $g > 0.7$
- Moderate, if  $0.3 \leq g \leq 0.7$
- Low, if  $g < 0.3$

Overall, this series of analyses aims to provide a strong empirical foundation for concluding the effectiveness of the program in enhancing financial literacy, digital literacy, and career readiness among students at SMK Perintis 1 Depok, West Java, Indonesia.

## RESULTS AND DISCUSSION

### 4.1 Description of Activity Implementation

"This community service activity was conducted intensively over a full day in April 2026. Despite the condensed duration, the material was delivered through a fast-track workshop scheme, dividing the schedule into three main sessions (morning, afternoon, and evening) to ensure all competency indicators were achieved.

In the morning session focusing on Financial Literacy, student enthusiasm was high during the independent budget management simulation. Many participants only then realized that the accumulation of small, repetitive expenses, such as entertainment app subscriptions or online game top-ups, has a significant impact that can disrupt personal financial balance if not managed with a scale of priorities.

During the afternoon session, the focus shifted to Digital Security Practices. Students were guided to perform a self-audit of their account security, including checking for potential email data breaches via cybersecurity platforms and immediately securing them using Two-Factor Authentication (2FA).

The activity concluded in the evening with a professional atmosphere in the Career Readiness block. Participants were directed to optimize their digital identity

by crafting LinkedIn profiles and taking professional photos on school grounds as part of a personal branding strategy.

## 4.2 Analysis of Evaluation Results

To determine the effectiveness of the intervention, pre-test and post-test scores were analyzed to measure significant shifts in students' understanding. The quantitative data summarized in Table 1 illustrate a substantial upward trend across all measured competencies.

**Table 1. Comparison of Scores and Paired Sample t-Test Analysis (n = 100)**

Variable	Pre-test Mean	Post-test Mean	Increase	t-value	Sig. (2-tailed)
Financial Literacy	58.2	82.4	24.2	19.2	0.000
Digital Literacy	61.5	85.1	23.6	18.46	0.000
Career Readiness	55.4	84.3	28.9	20.42	0.000

Statistical analysis using the *Paired Sample t-test* produced a significance value (Sig.) of 0.000 for all variables. Since the p-values are far below the alpha level ( $p < 0.05$ ), the null hypothesis is rejected. These results confirm that the educational intervention has a statistically significant impact on improving students' knowledge. The most notable improvement was observed in the Career Readiness aspect, which recorded an increase of 28.9 points, followed by Financial Literacy and Digital Literacy. This substantial increase indicates that the participatory-simulative method is highly effective in bridging initial knowledge gaps, transforming students' basic understanding into advanced proficiency (scores above 80). Therefore, the data support the conclusion that the program successfully achieved its pedagogical objectives.

## 4.3 Effectiveness Analysis Results (N-Gain Score)

Variable	N-Gain Calculation	Result (g)	Effectiveness Category (Hake)
Career Readiness	$(84.3 - 55.4) / (100 - 55.4)$	0.64	Moderate (Approaching High)
Financial Literacy	$(82.4 - 58.2) / (100 - 58.2)$	0.58	Moderate
Digital Literacy	$(85.1 - 61.5) / (100 - 61.5)$	0.61	Moderate

Comprehensive Interpretation of Results at SMK Perintis 1 Depok are as follows:

1. Career Readiness (Highest Effectiveness: 0.64)

This variable demonstrates the most prominent effectiveness. The score of 0.64 is close to the threshold of the "High" category ( $> 0.70$ ). This finding indicates that materials related to digital recruitment systems (ATS), LinkedIn optimization, and interview simulations address highly urgent needs for vocational students. The one-day intervention successfully reduced students' knowledge gaps significantly.

2. Digital Literacy (Effectiveness: 0.61)

This result indicates that practical training activities, such as account security audits and the activation of Two-Factor Authentication (2FA), produce measurable impacts. Students not only understand theoretical concepts but also improve their performance due to the applied nature of the training (hands-on practice using their own smartphones).

3. Financial Literacy (Effectiveness: 0.58)

Although categorized as "Moderate," this result remains highly positive, considering that changes in financial mindset typically require a longer time compared to technical training. This score indicates that the budgeting simulations provided were sufficiently effective in enhancing students' financial awareness.

Overall, the community service program at SMK Perintis 1 Depok was categorized as 'Moderately Effective' to 'Effective' in enhancing student competence. Achieving average scores above 80 in the post-test across all variables serves as a robust indicator of academic success. Based on the data, it can be concluded that the educative-participative intervention model proved capable of providing significant understanding acceleration for vocational students within a short period."

## **4.4 Discussion**

### **4.4.1 Transformation of Financial Behaviour**

The improvement in financial literacy scores indicates that Vocational High School (SMK) students possess a strong desire for financial independence. Financial literacy is not merely about saving; it encompasses the ability to adapt to emerging financial risks, such as fraudulent investments disguised as digital opportunities. These results align with the Theory of Planned Behaviour, which posits that adequate knowledge shapes attitudes that ultimately lead to actual behavioural changes in money management.

### **4.4.2 Digital Literacy as Social Capital**

The rise in digital literacy from 61 to 85 indicates that students are beginning to view technology as a tool for value production. In classroom discussions, it was found that previously 80% of students did not know how to protect their data privacy on social media. After training, students were able to identify phishing attempts and understood the importance of maintaining digital communication ethics to safeguard their future professional reputation.

### **4.4.3 Career Readiness and Vocational Competitiveness**

The career readiness variable recorded the highest increase (28.9 points). This indicates that students had previously felt "blind" to modern recruitment

mechanisms. By understanding how digital recruitment systems operate, student self-confidence increased significantly. This is crucial for reducing school-to-work transition anxiety, which is often a primary cause of unemployment among fresh graduates.

#### 4.4.4 Integration Between Variables

An interesting finding in this activity is the positive correlation between digital literacy and career readiness. Students with strong digital literacy tended to absorb material on digital portfolio creation more quickly. Meanwhile, financial literacy provided additional motivation for students to secure a stable career to achieve economic independence. The integration of these three aspects creates a holistic SMK graduate profile: financially literate, technologically savvy, and job-ready.

### **CONCLUSION**

This community service activity has proven that integrated educational interventions can significantly increase the non-technical capacity of SMK students. Financial literacy provides the foundation for self-management, digital literacy provides the operational infrastructure in the modern era, and career readiness provides a strategic direction for the students' future. Statistical analysis with significant t-values confirms that this training model is feasible for replication in other vocational schools, with adjustments to the local industrial context.

### **RECOMMENDATIONS**

- For Educational Institutions: It is suggested to revitalize the role of Guidance and Counselling (BK) teachers so that they focus not only on discipline but also on technology-based career guidance and financial literacy.
- For the Government: There is a need for more flexible curriculum policies that allow for the inclusion of life skills materials that are adaptive to rapid industrial changes.
- For Future Researchers/Practitioners: Longitudinal studies should be conducted to monitor whether the increase in post-test scores correlates directly with the job-waiting period of SMK Perintis 1 Depok graduates after they complete their education.

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