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BRIDGING SCHOOL AND CAREER: THE IMPACT OF WORK-BASED LEARNING ON CAREER ADAPTABILITY

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Abstract

The rapid transformation of the global labor market requires vocational education graduates to possess high career adaptability. This study investigates the relationship and influence of work-based learning on the career adaptability of vocational high school students in Surabaya. Employing a quantitative correlational design, data were collected from 101 final-year students participating in structured work-based learning programs, measured using the Career Adapt-Abilities Scale (CAAS) and a work-based learning participation questionnaire. Descriptive statistics, pearson correlation, and simple linear regression were applied to test the hypotheses. Results revealed a strong positive correlation between work-based learning and career adaptability ($r = 0.716$, $p < 0.001$), with work-based learning explaining 64% of the variance in adaptability scores. Curiosity emerged as the highest dimension, while concern and confidence remained moderate. These findings align with experiential learning and career construction theories, highlighting that authentic workplace engagement supported by structured mentoring, diverse tasks, and integration with school learning enhances the psychosocial resources necessary for managing career challenges. Practically, improving work-based learning quality through greater task variety, intensive mentoring, and structured reflection can better prepare adaptive, resilient, and work-ready graduates.

Keywords: *work-based learning, career adaptability, vocational education, experiential learning*

Abstrak

Transformasi cepat lanskap kerja global menuntut lulusan pendidikan vokasi memiliki kemampuan adaptabilitas karier yang tinggi. Penelitian ini bertujuan menguji hubungan dan pengaruh work-based learning terhadap adaptabilitas karier siswa SMK di Surabaya. Menggunakan

desain kuantitatif korelasional, data dikumpulkan dari 101 siswa kelas akhir yang mengikuti program work-based learning terstruktur, diukur melalui Career Adapt-Abilities Scale (CAAS) dan kuesioner work-based learning participation. Analisis deskriptif, korelasi Pearson, dan regresi linear sederhana digunakan untuk menguji hipotesis. Hasil penelitian menunjukkan work-based learning memiliki korelasi positif kuat dengan adaptabilitas karier (r = 0,716, p < 0,001) dan menjelaskan 64% varians adaptabilitas karier. Dimensi rasa ingin tahu menjadi yang tertinggi, sedangkan kepedulian dan kepercayaan diri cenderung moderat. Temuan ini mendukung teori experiential learning dan career construction, menegaskan bahwa keterlibatan kerja nyata, ketika didukung bimbingan terstruktur, variasi tugas, dan integrasi pembelajaran sekolah, mampu memperkuat sumber daya psikososial untuk menghadapi tantangan karier. Implikasi praktisnya adalah perlunya peningkatan kualitas work-based learning melalui diversifikasi tugas, mentoring intensif, dan sesi refleksi terstruktur untuk mempersiapkan lulusan yang adaptif, tangguh, dan siap kerja.

Kata Kunci: *work-based learning, career adaptability, sekolah menengah kejuruhan, experiential learning*

A. Introduction

The rapid transformation of the global labor landscape demands individuals to possess a high degree of adaptability, particularly in the context of career development. The era of the fourth industrial revolution, followed by the current transition toward Society 5.0, illustrates how technology, automation, and social change dynamically reshape job structures. In this context, graduates of vocational education particularly students from vocational high schools are required not only to master technical skills but also to navigate career uncertainty with flexibility and resilience (Mahfud et al., 2024).

This capacity is referred to as career adaptability, defined as the individual's ability to prepare for and manage unpredictable career transitions and challenges (Hadi et al., 2024; Hlaďo et al., 2020). Career adaptability reflects a psychological readiness to cope with future changes while proactively shaping one's career trajectory (Rudolph et al., 2017). Savickas (2005) theory conceptualizes career adaptability as comprising four core dimensions: concern (future career orientation), control (ability to direct career decisions), curiosity (willingness to explore career possibilities), and confidence (belief in one's ability to overcome career obstacles). Within this

demand-driven context, schools play a pivotal role in equipping students with adaptive competencies that align with the evolving dynamics of the labor market.

One relevant and strategic educational approach to developing career adaptability is work-based learning (Mahfud et al., 2024). Work-based learning refers to learning processes embedded within real work environments, such as the Praktik Kerja Lapangan (PKL) program implemented in vocational high schools (Sudarsono & Pratama, 2025). Such activities not only expose students to technical skills but also provide insight into organizational structures, work ethics, professional communication, and team dynamics. These experiences are believed to strengthen the dimensions of career adaptability by providing direct exposure to workplace challenges and realities (Sudarsono & Pratama, 2025; Hafid et al., 2019).

However, the effectiveness of work-based learning in enhancing career adaptability remains underexplored within the Indonesian vocational education context, particularly in the city of Surabaya. Most prior research has focused primarily on technical competencies or hard skills, with limited attention to the psychological aspects of career adaptation. Understanding the extent to which work-based learning experiences influence students' readiness to face career uncertainty is essential especially in preparing vocational school graduates not only to be job-ready but also future-ready in the face of evolving job demands.

This study aims to empirically explore the influence and relationship between work-based learning and career adaptability among vocational high school students. Such investigation is critical to bridging the gap between school-based learning and the continuously changing requirements of the labor market. By analyzing the relationship between work-based learning experiences and students' adaptive career readiness, this research is expected to contribute to the development of a more responsive and transformative vocational curriculum.

B. Literature Review

Work-Based Learning (WBL)

Work-based learning is a pedagogical approach that engages students in structured real-work activities as part of the formal curriculum (Hafid et al., 2019). This aligns with Kolb's (1984) Experiential Learning Theory (ELT), which posits that effective learning occurs through a four-stage cycle: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Work-based learning offers students the opportunity to

experience this learning cycle within authentic workplace contexts (Shore & Dinning, 2023).

In vocational education, work-based learning is commonly implemented through industry internships or PKL programs, designed not only to enhance technical skills but also to facilitate students' understanding of organizational structures, workplace culture, professional ethics, and labor market expectations. Hafid et al. (2019) emphasize the importance of aligning school-based theory with industry practice as the foundation for designing effective and relevant work-based learning programs. Mahfud et al. (2024) further demonstrate that work-based learning contributes to the development of career adaptability and fosters career exploration skills, which are essential in navigating the dynamics of modern work systems. McGaha-Martin (2023) also notes that student participation in work-based learning significantly improves workplace competencies such as communication and work ethic, directly reinforcing the four dimensions of career adaptability concern, control, curiosity, and confidence.

The quality of work-based learning encompassing duration, mentorship intensity, active engagement, and reflective processes determines the outcomes achieved by students. Jackson et al. (2022) find that work-based learning programs with structured guidance and reflective evaluation have a substantial impact on shaping students' mental readiness to navigate career dynamics. This aligns with Vygotsky's (1978) scaffolding theory, which argues that guided learning leads to better outcomes compared to passive learning approaches.

Career Adaptability

Career adaptability is a central construct in Savickas (2005) career construction theory, referring to individuals' psychosocial resources for managing career transitions, developmental tasks, and uncertainties. In vocational education, career adaptability is particularly critical as vocational high schools undergo a key transition from school to the labor market (Hadi, 2024). This competency enables them to navigate the complexity of modern work systems and make autonomous, responsible career decisions (Rudolph et al., 2017).

Savickas (2005) describes career adaptability as comprising four key dimensions. The first dimension, concern, refers to an individual's awareness of and preparation for their future career path, emphasizing the importance of forward-thinking and planning. The second dimension, control, reflects a person's ability to take ownership of their career direction, making deliberate choices and assuming responsibility for their professional growth. The third

dimension, curiosity, involves the willingness to explore and consider a variety of career options, encouraging openness to new possibilities and experiences. Finally, the fourth dimension, confidence, pertains to the self-assurance needed to face and overcome career-related challenges, fostering resilience and persistence in pursuing career goals.

These dimensions form a mutually reinforcing adaptive framework that enables individuals not only to respond to but also to proactively shape their career futures. Hlaďo et al. (2020) and Kirchknopf (2020) show that career adaptability can be enhanced through social support from parents, teachers, and peers, as well as intensive interactions with educators and school leaders. Koen et al. (2012) highlight that targeted training programs focused on career adaptability significantly increase graduates' chances of securing better and more suitable employment. Overall, fostering career adaptability in vocational school contexts is essential for preparing students to face labor market volatility while maintaining autonomy in career decision-making.

Vocational High School Students

Vocational high school students are prepared to enter the workforce directly through skill-oriented education and industry-based practice. However, the transition from school to work is often challenging due to limited professional experience and career direction uncertainty (Hlaďo et al., 2020) In such circumstances, developing career adaptability becomes vital to enabling students to navigate labor market changes flexibly and proactively (Harsantik et al., 2025).

These students are generally in the early stages of career development, where readiness and decision-making will influence their long-term professional trajectories (Zeng et al., 2022). When equipped only with technical skills without adaptive capacities such as career planning (concern), decision autonomy (control), opportunity exploration (curiosity), and self-confidence (confidence) individuals are more likely to encounter difficulties in managing complex work transitions (Savickas, 2005).

Hafid et al. (2019) underscore the role of work-based learning as an effective bridge between school-based learning and workplace demands. Through work-based learning, students gain direct exposure to professional environments, which not only strengthens their practical skills but also supports the development of career adaptability (McGaha-Martin, 2023). Consequently, work-based learning emerges as a key strategy for preparing vocational high school students to be both work-ready and future-ready.

C. Method

This study employed a quantitative correlational design to investigate the relationship and influence between work-based learning and career adaptability among vocational high school students. The research was motivated by a growing concern over students' limited readiness to transition from school to the labor market, particularly their adaptability in navigating complex and uncertain career environments. As such, this study not only sought to explore the existence and strength of a relationship between work-based learning and acreer adaptability, but also to test the predictive influence of work-based learning on students' adaptability outcomes in four dimensions: concern, control, curiosity, and confidence.

Population and Sample

The population in this study comprised all final-year students enrolled in vocational high schools offering structured Work-based learning programs in Surabaya. Based on school records, the total target population consisted of 101 students.

The minimum sample size was determined using the qualtrics sample size calculator, with a confidence level of 95% and a margin of error of 5%. Based on the total population, the calculator indicated that at least 80 respondents were required to ensure the results could be generalized with the specified confidence level. To increase the robustness of statistical analyses and compensate for potential non-response, the final number of participants exceeded this minimum requirement.

Sampling Technique

The sample was selected using a judgmental sampling technique, in which participants were chosen based on specific criteria relevant to the research objectives. The inclusion criteria were: (1) active vocational high school students enrolled in the final year of study, (2) students who had participated in structured work-based learning programs, including internships or industry placements, and (3) students with complete and accessible participation records to ensure accurate measurement of work-based learning engagement. This purposive approach ensured that the selected respondents possessed direct, relevant experiences that could meaningfully reflect the relationship between work-based learning and career adaptability.

Data Collection Techniques

Data were obtained using two standardized instruments. The first was the Career Adapt-Abilities Scale (CAAS) by (Savickas & Porfeli, 2012), adapted and validated for use in the Indonesian vocational education context. The second was a self-constructed work-based learning participation questionnaire, developed based on theoretical indicators from the OECD and established work-based learning models. To ensure conceptual and linguistic clarity, a cognitive interviewing process was conducted with a pilot group of final-year vocational high schools. This process ensured that item interpretation was consistent with student cognitive levels and cultural context, with revisions made accordingly to improve measurement quality.

To ensure strong construct validity, Confirmatory Factor Analysis (CFA) was performed using AMOS software. For both instruments, items with factor loadings below 0.50 were removed or revised, and model fit indices were assessed using multiple benchmarks (CFI > 0.90, RMSEA < 0.08). In addition, reliability was measured using Cronbach's Alpha, with each subscale of both instruments exceeding $\alpha > 0.70$, indicating high internal consistency and measurement stability.

Data Analysis Techniques

The data were analyzed using SPSS 23. Descriptive statistics provided an overview of students' participation in work-based learning and their levels of career adaptability. To examine the relationship between work-based learning and career adaptability, Pearson's product-moment correlation analysis was conducted. To assess the influence or predictive power of work-based learning on career adaptability, a simple linear regression analysis was employed, treating work-based learning as the independent variable and career adaptability as the dependent variable. This approach allowed the researcher to quantify the extent to which work-based learning experiences contribute to the development of adaptive career resources. Statistical significance was set at $p < 0.05$.

D. Finding and Discussion

Demographic Profile of Respondents

To provide contextual clarity for interpreting the findings, this section presents the demographic characteristics of the study participants. A total of 101 final-year vocational high school students in Surabaya participated in this study. The majority were male (n = 91; 90.10%), while females constituted only n = 10 (9.90%), reflecting the gender imbalance often observed in technical vocational programs. Participants were distributed across three fields of study with relatively balanced proportions: Electrical power

engineering (n = 31; 30.69%), computer and network engineering (n = 34; 33.66%), and mechanical engineering (n = 36; 35.64%).

Regarding post-graduation plans, most students (n = 65; 64.36%) intended to enter the workforce immediately after graduation, n = 26 (25.74%) planned to pursue higher education, and n = 10 (9.90%) remained undecided. This profile indicates a predominantly male, technically oriented cohort, with the majority aiming for direct school-to-work transition underscoring the relevance of examining Work-Based Learning in relation to career adaptability.

Descriptive Statistics of Research Variables

Before conducting inferential statistical tests, descriptive statistics were calculated to provide an overview of the distribution, central tendency, and variability of the research variables. This step is essential to understand the general characteristics of work-based learning and career adaptability among respondents, as well as to identify potential patterns prior to hypothesis testing.The work-based learning scores (n = 101) ranged from 53 to 77, with a mean of 71.06 (SD = 5.212). This relatively high mean score indicates that, on average, students reported a strong engagement with work-based learning activities, such as internships, industry placements, and structured workplace tasks. The low standard deviation suggests that the level of WBL engagement was relatively homogeneous among respondents.

Career Adaptability scores (n = 101) ranged from 68 to 81, with a mean of 73.18 (SD = 6.704). The higher variability, as reflected in the standard deviation, indicates a broader dispersion in students' adaptability levels, suggesting that while some participants demonstrated strong readiness to cope with career challenges and transitions, others reported moderate adaptability.

Overall, the descriptive results reveal that the sample had consistently high WBL participation but exhibited more diverse levels of career adaptability, providing an important foundation for further inferential analysis on the relationship between the two variables.

Descriptive Analysis by Variable Dimensions

The descriptive results for the work-based learning variable, measured across four dimensions, showed varying participation levels. For duration of participation, most respondents were in the moderate category (49%), followed by high (41%), and low (10%). This suggests that the majority of students were engaged in work-based learning activities for a substantial duration. The variety of tasks dimension revealed a different pattern, with the

moderate category dominating (58%), followed by low (39%) and high (14%). This indicates that, although the duration of participation was generally adequate, the range of tasks performed during work-based learning remained limited for many students. In mentorship and supervision dimension, the majority fell into the moderate category (51%), followed by high (25%) and low (26%). This suggests that guidance and supervision during work-based learning were generally at a moderate level, though a notable proportion of students experienced limited mentoring. For integration with school learning dimension, the distribution was relatively balanced, with the moderate category highest (46%), followed by high (28%) and low (27%). This indicates that the integration of work-based learning experiences with school learning was reasonably good but not yet optimal.

The career adaptability variable, measured using four CAAS dimensions, also displayed diverse characteristics. In concern dimension, the moderate category was most common (41%), followed by low (32%) and high (28%), suggesting that awareness and planning for career development were at a medium level for most students. For control dimension, the majority were in the moderate category (45%), followed by high (32%) and low (24%). This indicates that many students possessed a reasonable level of self-control and decision-making ability in directing their career paths. In curiosity dimension, the highest proportion fell in the high category (35%), followed by moderate (39%) and low (27%), showing that many students had a strong interest in exploring career opportunities and the world of work. Finally, confidence dimension was dominated by the moderate category (53%), followed by low (30%) and high (18%). This suggests that while most students had a fair degree of confidence in facing career challenges, the level of self-assurance was not consistently high across all respondents.

Pearson Correlation Analysis of the Relationship between Work-Based Learning and Career Adaptability

The results of the pearson product–moment correlation analysis demonstrate a strong and positive association between work-based learning and career adaptability *(r* =0.716, $p < 0.001$). This implies that students who engage more actively and extensively in work-based learning activities tend to report higher levels of adaptability in their career planning and development. in other words, the more varied, integrated, and well-supported the learning experiences in a workplace context, the better students are able to anticipate, manage, and navigate the demands of future employment. This strong correlation reflects not only the importance of

workplace exposure but also the relevance of aligning such experiences with the competencies required for successful career transitions.

From a practical perspective, these findings highlight the potential of work-based learning as a strategic educational approach to foster career adaptability in vocational education settings. Strengthening elements such as mentorship, task variety, and integration with academic learning could significantly enhance students' readiness to face dynamic labor market conditions. The magnitude of the correlation also suggests that interventions aimed at improving the structure and quality of work-based learning programs may yield substantial benefits for students' long-term employability. By embedding real-world experiences into the educational process, institutions can better prepare graduates to adapt to evolving industry demands and sustain their career development over time.

Regression Analysis of the Effect of Work-Based Learning on Career Adaptability

Regression analysis was conducted to examine the predictive power of work-based learning on career Adaptability. The model summary indicated a strong positive relationship between the two variables, with an R value of 0.800, suggesting a high level of correlation. The coefficient of determination (R^2=0.640) revealed that approximately 64% of the variance in career adaptability could be explained by work-based learning. The adjusted R^2 value of 0.631 indicated that the model maintained a high explanatory power even after adjusting for the sample size, while the standard error of the estimate (3.89) suggested relatively low prediction errors.

The coefficients table further showed that work-based learning had a statistically significant and positive effect on career adaptability (B = 1.245, β = 0.800, t = 12.205, p < 0.001). This implies that for every one-unit increase in work-based learning, career adaptability increased by 1.245 units on average, holding other factors constant. The constant term (B = 28.452, p < 0.001) reflected the predicted value of career adaptability when work-based learning was at zero. These results highlight that higher participation in work-based learning is strongly associated with greater adaptability in managing and navigating career development tasks among vocational education students.

Discussion

The results of this study revealed a strong positive correlation between work-based learning and career adaptability among vocational high school students in Surabaya (r = 0.716, p < 0.001), as well as a significant predictive effect of work-based learning, explaining 64% of the variance in career

adaptability. These findings underscore that structured workplace engagement, such as internships or industry placements, substantially contributes to students' ability to anticipate, manage, and adapt to evolving career demands.

These results align with Mahfud et al. (2024), who found that work-based learning plays a significant role in enhancing career adaptability in both Indonesian and Malaysian contexts. Their study emphasized that work-based learning not only equips students with technical skills but also develops the psychosocial resources needed to manage career transitions. From the perspective of Kolb (1984) experiential learning theory, authentic workplace experiences allow students to progress through the learning cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation all of which contribute to the development of Savickas (2005) four dimensions of career adaptability: concern, control, curiosity, and confidence.

Similarly, Shore and Dinning (2023) highlighted that experiential learning frameworks foster both employability skills and work readiness, while McGaha-Martin (2023) reported that work-based learning enhances competencies such as communication and work ethic, which directly strengthen control and confidence. In the present study, the curiosity dimension tended to be higher than other dimensions, suggesting that workplace exposure encourages students to actively explore career opportunities.

Descriptive analysis indicated that while students' duration of participation in work-based learning was generally adequate, the variety of tasks and intensity of mentorship were mostly at a moderate level. This pattern resonates with Jackson et al. (2022), who emphasized that the quality of work-based learning outcomes is determined by program structure, mentoring, and integration with school-based learning. Drawing from Vygotsky (1978) scaffolding theory, guided learning in workplace settings is likely to produce stronger adaptability outcomes than passive participation. Therefore, increasing task variety and strengthening supervision could further enhance confidence and concern, which in this study still showed moderate tendencies among many participants.

Savickas (2005) conceptualized career adaptability as a set of psychosocial resources enabling individuals to cope with career transitions, developmental tasks, and uncertainties. The current findings are consistent with Rudolph et al. (2017) meta-analysis, which demonstrated that career adaptability is strongly associated with proactive career exploration, effective problem-solving, and positive adaptation outcomes. In the context of

vocational education, Hadi (2024) emphasized that personal traits such as hardiness contribute to adaptability, but structured work-based learning experiences serve as a key external factor.

This study's results also reinforce Hlaďo et al. (2019), who found that graduates of vocational education and training (VET) with higher career adaptability were more successful in navigating the school-to-work transition. Given that most respondents in this study planned to enter the workforce directly after graduation, work-based learning functions as a realistic job preview that strengthens control (ownership of career decisions) and concern (future orientation) both essential for a successful transition.

Beyond work-based learning quality, social support from teachers, industry supervisors, and peers is another critical factor influencing adaptability. Hlaďo et al. (2019) and Kirchknopf (2020) stressed that intensive interaction with educators and industry mentors bolsters confidence and curiosity. The moderate confidence levels found in this study suggest that mentoring and feedback mechanisms during work-based learning could be improved. Koen et al. (2012) further demonstrated that targeted training programs focusing on career adaptability significantly enhance graduates' chances of securing suitable employment.

The findings have several practical implications. First, the design of work-based learning programs should incorporate greater task diversity, intensive mentoring, and stronger integration with classroom learning, as advocated by Sudarsono and Pratama (2025) in their industry-oriented learning model. Second, schools should implement structured post work-based learning reflection sessions, enabling students to link workplace experiences to long-term career planning. Third, active involvement of industry partners in providing performance feedback can effectively strengthen control and confidence.

This study is limited to vocational high school students in one city, which may restrict the generalizability of the findings to other contexts. Furthermore, personal and contextual variables such as hardiness (Hadi, 2024), hope, and future work self (Zeng et al., 2022) were not included, even though they may significantly influence career adaptability. Future research should test more comprehensive models incorporating both personal attributes and environmental factors and compare the effectiveness of different work-based learning models across various industrial sectors.

E. Conclusion

The findings of this study demonstrate that work-based learning plays a critical role in shaping the career adaptability of vocational high school students in Surabaya. The respondents, predominantly male and enrolled in technical fields, generally exhibited high levels of work-based learning participation, particularly in terms of duration, although task variety and mentorship were mostly at moderate levels. In career adaptability, curiosity emerged as the strongest dimension, while concern and confidence tended to remain moderate. Statistical analysis confirmed a strong and positive correlation between work-based learning and career adaptability ($r = 0.716$, $p < 0.001$), with regression results indicating that work-based learning significantly predicted 64% of the variance in adaptability scores. These findings are consistent with experiential learning theory and career construction theory, underscoring that authentic workplace engagement when supported by structured mentoring, diverse tasks, and integration with academic learning fosters the psychosocial resources essential for navigating career challenges. Practically, enhancing work-based learning program quality through increased task diversity, more intensive supervision, and structured reflection sessions can further strengthen students' readiness for the school-to-work transition. While the study is limited to one city and does not account for personal traits such as hardiness, hope, and future work self, it provides strong evidence that well-designed WBL initiatives are a strategic pathway to developing adaptable, resilient, and employment-ready graduates in vocational education contexts.

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