



Industrial work practice management to enhance students' industry-relevant competence

Edi Purwanto¹, Tina Rahmawati², Tarso³, Hidayah Uswatun Kasanah⁴

^{1,2,3} Universitas Negeri Yogyakarta, Kota Yogyakarta, Indonesia

edi0081fipp.2024@student.uny.ac.id¹, tinarahma@uny.ac.id², tarso.2024@student.uny.ac.id³,
hidayahuswatun.2024@student.uny.ac.id⁴

ABSTRACT

Industrial Work Practice (Praktik Kerja Industri or Prakerin) is a crucial component of vocational education aimed at strengthening the link between the world of education and the world of work. This study aims to describe the management of Prakerin implementation at SMK Muhammadiyah 1 Sleman in enhancing the alignment of students' competencies with the demands of the business and industrial sectors. Using a descriptive qualitative approach, data were collected through observation, interviews, and documentation. The findings reveal that the implementation of Prakerin is carried out through systematic stages of planning, organizing, implementation, and evaluation. The school has established partnerships with various industries, particularly official workshops such as Toyota and Daihatsu, to ensure the achievement of students' technical competencies. Student competencies are deemed in line with industry needs, particularly in technical skills and professional attitudes. Supporting factors for the implementation of Prakerin include the readiness of facilities, the quality of vocational teachers, and the school's network of industry partners. However, challenges remain, such as mismatches in internship placements, limited supervision in small-scale industries, and administrative obstacles. Therefore, strengthening partnerships, enhancing supervision, and improving the evaluation system are necessary to optimize and sustain the Prakerin program in bridging vocational education and the workforce.

ARTICLE INFO

Article History:

Received: 30 Mar 2025

Revised: 14 Jul 2025

Accepted: 20 Jul 2025

Available online: 18 Aug 2025

Publish: 29 Dec 2025

Keywords:

business and industrial world;
internship management;
student competencies

Open access

Curricula: Journal of Curriculum Development is a peer-reviewed open-access journal.

ABSTRAK

Praktik Kerja Industri (Prakerin) merupakan komponen penting dalam pendidikan vokasi yang bertujuan untuk memperkuat keterkaitan antara dunia pendidikan dan dunia kerja. Penelitian ini bertujuan untuk mendeskripsikan manajemen pelaksanaan Praktik Kerja Industri (Prakerin) di SMK Muhammadiyah 1 Sleman dalam meningkatkan kesesuaian kompetensi peserta didik dengan tuntutan Dunia Usaha dan Dunia Industri. Menggunakan pendekatan kualitatif deskriptif, data diperoleh melalui observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa pelaksanaan Prakerin dilaksanakan melalui tahapan perencanaan, pengorganisasian, pelaksanaan, dan evaluasi secara sistematis. Sekolah menjalin kerja sama dengan berbagai industri, terutama bengkel resmi seperti Toyota dan Daihatsu, untuk memastikan ketercapaian kompetensi teknis peserta didik. Kompetensi peserta didik dinilai sesuai dengan kebutuhan DUDI, khususnya dalam aspek teknis dan sikap profesional. Faktor pendukung pelaksanaan Prakerin meliputi kesiapan sarana, kualitas guru produktif, dan jaringan mitra industri. Namun, masih dijumpai kendala seperti ketidaksesuaian tempat praktik, keterbatasan pengawasan di industri kecil, serta hambatan administratif. Oleh karena itu, penguatan kemitraan, peningkatan pendampingan, dan perbaikan sistem evaluasi dibutuhkan agar program Prakerin dapat berjalan lebih optimal dan berkelanjutan dalam menjembatani pendidikan vokasi dengan dunia kerja.

Kata Kunci: dunia usaha dan industri; kompetensi peserta didik; manajemen prakerin

How to cite (APA 7)

Purwanto, E., Rahmawati, T., Tarso, T., & Kasanah, H. U. (2025). Industrial work practice management to enhance students' industry-relevant competence. *Curricula: Journal of Curriculum Development*, 4(2), 1177-1188.

Peer review

This article has been peer-reviewed through the journal's standard double-blind peer review, where both the reviewers and authors are anonymised during review.

Copyright



2025, Edi Purwanto, Tina Rahmawati, Tarso, Hidayah Uswatun Kasanah. This an open-access is article distributed under the terms of the Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) <https://creativecommons.org/licenses/by-sa/4.0/>, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author, and source are credited. *Corresponding author: tarso.2024@student.uny.ac.id

INTRODUCTION

Vocational education serves a crucial function in equipping individuals with the skills and readiness required for the modern industrial workforce. A key element within this educational framework is the implementation of Industrial Work Placements (*Praktik Kerja Industri* or Prakerin), designed to connect classroom instruction with the practical needs of the business and industrial sectors (Ingthias et al., 2022). Prakerin serves as a platform for students to develop technical competencies, professional work attitudes, and adaptability to dynamic work environments (Main et al., 2021). Therefore, effective management of Prakerin is essential to ensure that the learning process in the industry aligns with its objectives and supports the achievement of graduate competency standards. The management of Prakerin involves a series of structured activities, starting from planning, organizing, implementing, and evaluating. Each stage plays a crucial role in building a bridge between the competencies taught in schools and the skills required by the industry (Syah et al., 2025).

Comprehensive planning, mapping of relevant industry partners, student preparation, as well as regular monitoring and evaluation, are indicators of effective Prakerin management (Nugroho et al., 2025). Inconsistencies in any of these stages may result in a gap between education and the world of work, ultimately reducing the relevance of students' competencies. SMK Muhammadiyah 1 Sleman, as a vocational education institution, regularly implements Prakerin by partnering with various industries, including official workshops such as Toyota, Honda, and Daihatsu. The implementation of Prakerin in this school is designed using a competency-based approach aligned with the "Merdeka Curriculum" and supported by adequate practical facilities. However, to ensure effective execution, a systematic and adaptive management approach is needed to keep pace with the evolving needs of the industry (Janah et al., 2025). This is crucial to provide students with authentic and relevant learning experiences while equipping them with industry-standard skills.

Despite having a relatively well-structured Prakerin management system, SMK Muhammadiyah 1 Sleman still faces several challenges in its implementation. Not all students are placed in practice locations that optimally support their learning. Some students experience difficulties in adaptation, are assigned irrelevant tasks, or are placed in industries lacking clear operational standards (Haq, 2024). Additionally, challenges such as a mismatch between students' vocational programs and the background of supervising teachers also affect the quality of guidance provided (Gaffar et al., 2025). Therefore, a comprehensive evaluation of Prakerin management practices is necessary to enhance its quality and ensure it is oriented toward competency improvement. The alignment between student competencies and industry needs is a key indicator of Prakerin success. Studies showed students are expected to master not only technical skills but also work attitudes such as responsibility, discipline, and communication skills (Ayanwale et al., 2024; Firman et al., 2025). Saleh in a book entitled "*Kurikulum dan Pengembangan Kurikulum*" states that professional work environments, such as those found in official workshops, are proven to offer a more structured and systematic learning experience for Prakerin participants. In this context, the role of supervising teachers, accurate mapping of industry partners, and active

school involvement are critical factors in producing graduates who meet industry expectations.

Considering the above-mentioned descriptions, it is necessary to conduct research on the management of the implementation of Industrial Internship (Prakerin) at SMK Muhammadiyah 1 Sleman, particularly in efforts to align student competencies with the needs of the business and industrial worlds. This research not only provides a snapshot of the current implementation but also explores supporting factors, challenges faced, and applicable improvement strategies. A deep understanding of the processes and obstacles in Prakerin implementation allows schools to formulate policies that are more targeted and aligned with industry dynamics (Ubaidah et al., 2021). Therefore, this research is relevant in encouraging improvements in the quality of vocational school graduates to possess superior competencies, high adaptability, and firm competitiveness in the workplace. This study aims to describe the management of Prakerin implementation at SMK Muhammadiyah 1 Sleman in order to improve student competency achievement in accordance with the demands of the business and industrial world.

LITERATURE REVIEW

Industrial Work Practice (*Praktik Kerja Industri* or Prakerin) Management

The management of Industrial Work Practice (*Praktik Kerja Industri* or Prakerin) implementation is a crucial component in vocational education, aiming to ensure alignment between school-based learning and the demands of real-world employment. Effective Prakerin management should include thorough planning, systematic organization, structured implementation, and objective evaluation (Ramírez-Montoya et al., 2021). The process begins with mapping the core competencies required by industry, aligning school curricula with the needs of business and industrial partners, and establishing relevant evaluation standards. The involvement of various stakeholders, such as vocational teachers, industry mentors, and alumni, as sources of input is essential throughout this process (He & Liu, 2024).

Without a systematic and well-directed management approach, Prakerin is at risk of being ineffective and failing to enhance students' competencies significantly. Furthermore, the school's managerial role in administering Prakerin is primarily determined by its capacity to build sustainable partnerships with the industrial sector. The success of Prakerin depends significantly on the school's ability to place students in internships aligned with their vocational expertise (Smith & Tuck, 2023). This includes the readiness of supporting documents such as handbooks, organizational structures, and clearly defined monitoring and evaluation procedures. When these managerial aspects are carried out professionally and consistently, Prakerin becomes more than just a curricular requirement it becomes a strategic platform for preparing graduates who are competent, adaptable, and highly competitive in the labor market.

Student Competence

Student competence in vocational education encompasses three key domains: cognitive (knowledge), affective (attitude), and psychomotor (skills). These areas must be developed in a balanced manner to produce well-rounded graduates (Chiriac et al., 2023; Soubra et al., 2022). Within the context of Prakerin, students' competencies are tested directly in workplace settings, making the alignment between school-taught material and industry needs critically important. The success of Prakerin is reflected in students' ability to communicate, work independently, apply practical skills, and adapt to industrial work cultures (Marougkas et al., 2024). Therefore, strengthening student competence must be the primary focus across all stages of Prakerin implementation.

One indicator of successful competence development is students' increased ability to handle real-world workplace challenges. Students placed in internships aligned with their areas of expertise often show marked improvements in self-confidence, technical skills, and work ethic (Chaudhry et al., 2023). This underscores the importance of continuously refining the competency-based learning (CBL) approach in schools, including curriculum development, instructional methods, and instructor training (Wang et al., 2023). Competency evaluation should not be limited to school-based assessments but must also involve industry partners who understand real field requirements. Thus, student competence becomes a central benchmark for assessing the effectiveness of vocational education in responding to labor market dynamics.

Business and Industrial Sector

The business and industrial sectors serve as strategic partners in vocational education, acting as a secondary learning environment for students. Such partnerships aim to bridge the gap between theoretical knowledge and practical application, while also familiarizing students with the realities and professional culture of the workplace. Vocational education is expected to be able to build strong relationships with the world of work in order to produce graduates who are ready to enter the labor market, as mandated. In the context of Prakerin, the business and industrial sectors serve not only as a training site but also as a mentor, evaluator, and facilitator of student potential (Febrianti et al., 2023). Active involvement of DUDI in both the planning and evaluation stages of Prakerin ensures that students' learning experiences remain relevant to the evolving demands of the industry.

However, not all business and industrial sector institutions maintain operational standards or learning environments conducive to optimal student development. Many small-scale industries are still unable to provide adequate facilities or qualified mentors (Ratnawati et al., 2023). Therefore, a rigorous selection process for industry partners is necessary, taking into account field compatibility, infrastructure availability, and commitment to student mentoring. Additionally, continuous communication and coordination between schools and industry partners are vital to align expectations regarding competency outcomes (Kim et al., 2022). A strong and collaborative partnership between schools and business and industrial sectors is a key determinant of Prakerin success and directly impacts the quality of graduates entering the professional workforce (Mogas et al., 2022).

METHODS

The research method employed in this study is a qualitative descriptive approach, aimed at obtaining an in-depth understanding of the implementation of Industrial Work Practice (Prakerin) at SMK Muhammadiyah 1 Sleman. Data were collected through observation, interviews, and documentation. Observation was used to directly examine the processes of planning, organizing, implementation, and evaluation of the Prakerin program, including the interactions between the school and industry partners. Interviews were conducted with key informants such as Prakerin supervisors, participating students, vocational subject teachers, and industry representatives to explore their perceptions, experiences, and the challenges encountered during the program. Documentation was gathered from school records, including the Prakerin guidebook, organizational structure of the program, activity schedules, lists of industry partners, student preparation notes, and evaluation and assessment results. Data analysis was carried out interactively through the stages of data reduction, data display, and conclusion drawing, as proposed by Miles and Huberman. The validity of the data was strengthened using source and method triangulation to ensure the accuracy and consistency of the information obtained from various stakeholders. This approach enabled the researcher to gain a holistic and contextual understanding of the actual implementation of Prakerin following the dynamics observed in the field.

RESULTS AND DISCUSSION

Implementation of Industrial Work Practice

The implementation of Industrial Work Practice (Prakerin) at SMK Muhammadiyah 1 Sleman begins with a well-structured planning phase. Based on interviews with supervising teachers, this planning includes defining learning objectives, mapping industry partners, aligning materials with school competencies, providing student orientation, determining the implementation schedule, and appointing supervising teachers. Observations show that the school has developed plans by Prakerin guidelines, as evidenced by documentation such as handbooks, implementation schedules, and lists of partner industries. Throughout this process, the school actively coordinates with business and industrial sectors to ensure that the materials taught at school align with field practices. This indicates that the planning aspect has been carried out effectively to support the achievement of student competencies (Saraya et al., 2023).

In the organizing phase, Prakerin implementation shows clear task distribution within the school environment. Observations of the Prakerin organizational structure reveal the formation of a working team, assignment of roles and responsibilities, and effective coordination lines between divisions. Interviews with school personnel indicate that the management process adheres to key organizational principles such as resource allocation, work procedures, and selection of supervising teachers. Supporting documents such as organizational charts, meeting minutes on task distribution, and assignment letters demonstrate that the organizing mechanism is well established. These measures ensure the school's technical and administrative readiness to support the success of Prakerin implementation while providing a clear direction for all involved parties (Rofiah et al., 2024).

During the implementation and evaluation phases, data from documentation and interviews show that the process includes student placement, handover to industry, regular monitoring, and report guidance and evaluation. Monitoring is conducted at least three times during the internship, with supervising teachers actively assisting and facilitating problem-solving. Final evaluation is carried out using a composite grading format that includes industry assessments, internship journals, oral exams, and written reports. Documentation indicates that students placed in official workshops (e.g., Toyota, Honda, Daihatsu) perform better in both technical and entrepreneurial competencies compared to those placed in individual or informal garages. This is supported by interviews with students and teachers, which state that the professional work environment in authorized workshops provides richer and more systematic learning experiences.

Alignment of Student Competence with Industry Demands

The competencies of students in the Light Vehicle Automotive Engineering Program at SMK Muhammadiyah 1 Sleman demonstrate a strong correlation between school-based theory and industrial practice. Interviews with student interns reveal that the theoretical knowledge taught at school forms a solid foundation for practice, particularly for those placed in official workshops such as Toyota, Daihatsu, and Honda. However, students must still adapt to the professional work culture prevalent in the industry. On the other hand, students assigned to community garages generally face fewer challenges due to the more flexible and less structured nature of the work environment (Heryuriani et al., 2025). Interviews with vocational teachers indicate that students have been adequately equipped with fundamental competencies before being placed in the industry.

The school provides relevant facilities such as fuel injection system vehicles and standard workshop equipment. Observations of school-based practical learning show that basic skills such as engine maintenance, injection systems, and vehicle electronics are taught following the curriculum. These findings are supported by instructional documentation and student readiness evaluations prior to their internships. Teachers confirm that the competency-based learning approach has helped students understand industrial workflows more quickly and adaptively. Field observations indicate that students are capable of following practical work procedures, task organization, and self-development. Their competency achievements range from beginner to specialist level, depending on the internship placement and the intensity of supervision. Overall, student competencies align with the Merdeka Curriculum and are relevant to the tasks they perform during Prakerin.

Supporting and Inhibiting Factors in Prakerin Implementation

The implementation of Prakerin at SMK Muhammadiyah 1 Sleman is supported by various factors that enhance student preparedness for entering the industrial world. The school possesses adequate facilities, including spacious practice areas and advanced technology vehicles as learning media. In addition, the vocational teachers have relevant expertise and perform well, enabling them to provide students with strong technical competency training. Trust from official workshops such as Daihatsu, Toyota, and Honda serves as an indicator of the school's credibility in establishing industry partnerships. The school also maintains a vast

network of internship sites, allowing for placement adjustments based on students' interests and vocational programs.

Nevertheless, several obstacles were identified during the implementation process through observations and documentation. Some students were placed in internship sites lacking adequate facilities, mentoring, or alignment with their skill areas. Others struggled to adapt to the work environment, especially in terms of discipline and responsibility. In the preparation phase, some students had difficulty securing internships aligned with their interests and abilities, with some having to find placements independently without school assistance. Additionally, several students faced non-technical barriers, such as finding temporary housing during the internship period.

Other issues arose during the implementation and evaluation stages. Some students were assigned tasks unrelated to their competencies or vocational programs. Specific internship locations lacked clear operational standards, hindering optimal learning. Poor workplace discipline also posed challenges. In the evaluation phase, career planning following Prakerin was found to be insufficiently structured. Structural constraints, such as the limited number of school Prakerin administrators and misalignment between students' expertise and supervising teachers' competencies, further widened the gap between planning and implementation. The lack of strong collaboration between the school and small-scale business and industrial sectors remains a critical concern that must be addressed to enhance the overall effectiveness of the Prakerin program (Vachruddin et al., 2023).

Discussion

The implementation of Industrial Work Practice (Prakerin) begins with a systematically structured planning process conducted by the school, involving various key stakeholders. This planning encompasses the formulation of learning objectives aligned with labor market needs, the mapping of partner industries relevant to students' areas of expertise, the synchronization of subject matter between school and industry to ensure competency continuity, as well as the preparation of activity schedules and the selection of competent supervising teachers. Documentation shows that the school has developed a written guideline outlining Prakerin implementation procedures, an organized activity schedule, and a comprehensive and diverse list of partner industries. In addition, students receive thorough preparatory training before their placement, covering technical knowledge, work ethics, and mental readiness to face real-world industrial environments (Ling & Leong, 2025; Lukashe et al., 2024).

At the organizational stage, the school establishes a Prakerin implementation team with a clear structure and division of responsibilities to ensure optimal program delivery. This team comprises the head of the vocational program acting as the primary coordinator, a Prakerin coordinator responsible for scheduling and communication with industries, and field supervising teachers who accompany students throughout the internship. Observations indicate that the organizational structure operates with effective coordination, as evidenced by meeting minutes on task distribution, official assignment letters for supervising teachers, and documentation of multi-stakeholder coordination meetings. The school has also established a clear workflow mechanism, a student activity reporting system, and well-

documented standard evaluation procedures, thereby facilitating efficient and consistent coordination both internally and externally (Destini & Tony, 2024; Santos et al., 2024).

The implementation phase is carried out in a structured and gradual manner, starting with the placement of students in suitable industry partners, followed by the official handover between the school and the company, periodic monitoring by supervising teachers, and the preparation of final reports by students. Monitoring is conducted at least three times during the internship period to ensure program compliance, track student progress, and resolve any issues encountered. The final assessment is based on students' daily activity journals, performance evaluations by industry supervisors, and systematically written final reports. Students placed in certified or well-established workshops generally receive higher evaluation scores, indicating that a professional and standardized work environment significantly enhances their technical competencies (Ahmid et al., 2023; Löfgren et al., 2023).

Student competencies in the Light Vehicle Engineering program are considered to align well with the demands of the business and industrial sectors, particularly in terms of technical skills and work discipline. Prior to Prakerin, students are equipped with foundational competencies through hands-on practice in school workshops using up-to-date technologies such as fuel injection systems and digital diagnostic tools. Interviews revealed that most students were able to apply their knowledge and skills effectively during the internship, especially in areas such as engine maintenance, injection systems, and vehicle electrical systems. Productive teachers observed that the implementation of a competency-based learning approach at school positively supports students' adaptation to the industrial work environment. This is corroborated by evaluation documents, which show that the majority of students met or even exceeded the competency standards expected by industry partners (Suhartanta et al., 2024; Vachruddin et al., 2023).

Several supporting factors contribute to the success of Prakerin implementation, including the availability of adequate infrastructure, the quality of productive teachers, and a vast network of collaborations with certified workshops. Comprehensive school facilities, such as vehicles with fuel injection technology, industry-standard service tools, and well-equipped practice rooms, provide students with relevant learning experiences before entering the workforce. Furthermore, the competence and experience of productive teachers serve as vital assets in guiding students through technical challenges during internships. The school's strong reputation also fosters trust from industry partners, allowing collaborations with prominent workshops such as Toyota and Daihatsu. This extensive industrial network enables the school to place students according to their interests and competencies, making the Prakerin learning process more effective and targeted (Kiram et al., 2025; Suhartanta et al., 2024).

Nevertheless, the implementation of Prakerin is not without challenges that require serious attention from the school. Some students still face difficulties in securing internship placements relevant to their fields of study, particularly in programs with limited industrial networks. Additionally, not all internship sites maintain clear operational standards, which can hinder students' learning and lead to unstructured experiences. Other issues include the limited number of school staff assigned to manage Prakerin and mismatches between supervising teachers' competencies and students' vocational backgrounds. These problems

indicate a gap between planning and execution that must be addressed through improved coordination systems, more responsive curriculum adjustments to match industrial needs, and strengthened partnerships with small and medium enterprises (SMEs) as alternative placement opportunities (Iskandar, 2022; Syaela et al., 2024).

CONCLUSION

The implementation of Industrial Work Practice (Prakerin) at SMK Muhammadiyah 1 Sleman has been carried out systematically through the stages of planning, organizing, implementation, and evaluation. The school has demonstrated both administrative and technical readiness and has established strong partnerships with official industries such as Toyota, Daihatsu, and Honda. Overall, student competencies have aligned well with industry demands, particularly for those placed in authorized workshops. However, several challenges remain, including gaps in facilities at internship sites, limited availability of mentors with relevant expertise, and suboptimal post-Prakerin career planning. Therefore, future research is recommended to explore strategies for enhancing the quality of partnerships between schools and small-scale industries, to conduct deeper analysis on the influence of industrial mentors on student competency achievement, and to develop digital-based monitoring and evaluation models to improve the effectiveness of Prakerin supervision and follow-up.

AUTHOR'S NOTE

The author declares no conflict of interest concerning the publication of this article. The author also affirms that the data and content presented are original and free from any form of plagiarism.

REFERENCES

- Ahmid, S. S., Tiew, C. C., & Abdullah, M. N. L. Y. (2023). The influence of innovative characteristics, work readiness, and vocational self-concept on employability of vocational college students. *International Journal for Research in Vocational Education and Training*, 10(3), 288-317.
- Ayanwale, M. A., Adelana, O. P., Molefi, R. R., Adeeko, O., & Ishola, A. M. (2024). Examining artificial intelligence literacy among pre-service teachers for future classrooms. *Computers and Education Open*, 6(2), 1-15.
- Chaudhry, I. S., Sarwary, S. A. M., El Refae, G. A., & Chabchoub, H. (2023). Time to revisit existing student's performance evaluation approach in higher education sector in a new era of ChatGPT—a case study. *Cogent Education*, 10(1), 1-31.
- Chiriac, E. H., Forsberg, C., & Thornberg, R. (2023). Teacher teams: A safe place to work on creating and maintaining a positive school climate. *Social Psychology of Education*, 27(4), 1775-1795.

- Destini, J. S., & Tony, T. (2024). Implementing hierarchical role-based access control for document administration in student organizations. *Internet of Things and Artificial Intelligence Journal*, 4(4), 785-802.
- Febrianti, H., Aulia, Y., & Yolanda, S. (2023). Education financing in realizing quality education. *International Journal of Educational Dynamics*, 5(2), 281-288.
- Firman, A. B. P. D. A., Siswanto, D. H., Rambe, M. Y., & Anggraeni, T. O. (2025). From curriculum sync to job placement: Managing sustainable partnerships in vocational education. *Juperan: Jurnal Pendidikan dan Pembelajaran*, 04(2), 760-770.
- Gaffar, M. A., Nafisah, I. J., Narkum, & Husna, S. M. (2025). Analysis of the Indonesian presidential regulation on the revitalization of vocational education and training: Policy implications for strategic decision making in vocational education institutions. *International Journal of Advanced Technology and Social Sciences (IJATSS)*, 3(6), 837-852.
- Haq, H. (2024). Evaluation of the implementation of the merdeka belajar curriculum in secondary Schools in the digital era. *International Journal of Post Axial: Futuristic Teaching and Learning*, 2(4), 215-228.
- He, Y., & Liu, S. (2024). Research and practice of curriculum intrinsic value development method based on OBE concept. *Curriculum and Teaching Methodology*, 7(2), 135-142.
- Heryuriani, B., Efendi, R. A., Rambe, M. Y., & Siswanto, D. H. (2025). Fostering academic self-efficacy in adolescents: A case study of counseling strategies in secondary schools. *Jurnal Pendidikan dan Pembelajaran*, 4(2), 667-675.
- Ingtias, F. T., Ampera, D., Farihah, F., Amal, B. K., & Purba, A. S. (2022). Implementation of teaching practitioners in improving the quality of learning and implementing the curriculum merdeka belajar. *Jurnal Studi Guru dan Pembelajaran*, 5(2), 157-169.
- Iskandar, A. G. (2022). Optimalisasi link and match melalui revitalisasi pendidikan vokasi dan pelatihan vokasi. *Jurnal Kewarganegaraan*, 6(3), 4773-4791.
- Janah, N., Setiawan, A., Putri, H. A., & Siswanto, D. H. (2025). Assistance of digital information systems to improve learning quality in vocational students. *Dedicated: Journal of Community Services (Pengabdian kepada Masyarakat)*, 3(1), 251-262.
- Kim, J., Lee, H., & Cho, Y. H. (2022). Learning design to support student-AI collaboration: Perspectives of leading teachers for AI in education. *Education and information technologies*, 27(5), 6069-6104.
- Kiram, S., Junaedi, E., & Arifin, Z. (2025). CIPP-Based analysis of industrial work practice effectiveness at a private Vocational High School. *Manageria: Jurnal Manajemen Pendidikan Islam*, 10(1), 93-114.
- Ling, J. H., & Leong, W. K. (2025). Evaluation of industrial training learning experiences. *Indonesian Journal of Education and Social Sciences*, 4(1), 127-139.

- Löfgren, S., Ilomäki, L., Lipsanen, J., & Toom, A. (2023). How does the learning environment support vocational student learning of domain-general competencies?. *Vocations and Learning*, 16(2), 343-369.
- Lukashe, M., Chigbu, B. I., & Umejiesi, I. (2024). Synchronous online learning and career readiness in higher education: Student perceptions, challenges, and solutions. *Frontiers in Education*, 9(2), 1-15.
- Main, J. B., Johnson, B. N., & Wang, Y. (2021). Gatekeepers of engineering workforce diversity? The academic and employment returns to student participation in voluntary cooperative education Programs. *Research in Higher Education*, 62(4), 448-477.
- Maroungkas, A., Troussas, C., Krouska, A., & Sgouropoulou, C. (2024). How personalized and effective is immersive virtual reality in education? A systematic literature review for the last decade. *Multimedia Tools and Applications*, 83(6), 18185-18233.
- Mogas, J., Palau, R., Fuentes, M., & Cebrián, G. (2022). Smart schools on the way: How school principals from Catalonia approach the future of education within the fourth industrial revolution. *Learning Environments Research*, 25(3), 875-893.
- Nugroho, A. P., Dimara, E. A., & Siswanto, D. H. (2025). School-based management in student admission, orientation, and development: A qualitative case study. *JIMU: Jurnal Ilmiah Multidisipliner*, 3(4), 295-304.
- Ramírez-Montoya, M. S., Loaiza-Aguirre, M. I., Zúñiga-Ojeda, A., & Portuguese-Castro, M. (2021). Characterization of the teaching profile within the framework of education 4.0. *Future Internet*, 13(4), 1-17.
- Ratnawati, R., Riza, T. D. S., & Wafi, A. (2023). The school principal's strategy in enhancing academic achievement of students through olympiad coaching at State Junior High School 1 Galis. *Re-JIEM (Research Journal of Islamic Education Management)*, 6(2), 247-261.
- Rofiah, N. H., Restiana, R., & Dewi, R. (2024). Promoting digital literacy: Assessing teachers readiness in utilizing information and communication technology for learning in rural area. *Jurnal Prima Edukasia*, 12(1), 41-51.
- Santos, J. V., Ramos, L., & Mallari, M. (2024). Assessment of facility management performance: A basis for digitalizing reporting systems in educational institutions. *Journal of Interdisciplinary Perspectives*, 3(2), 14-21.
- Saraya, A., Mardhatillah, A., Fitriani, E. N., & Adiyono, A. (2023). The role of Islamic religious education teachers: Problems in evaluating student learning outcomes in Junior High Schools. *Dharmas Education Journal*, 4(2), 565-572.
- Smith, E., & Tuck, J. (2023). Do the qualifications of vocational teachers make a difference to their teaching?. *Research in Post-Compulsory Education*, 28(1), 1-25.

- Soubra, L., Al-Ghouti, M. A., Abu-Dieyeh, M., Crovella, S., & Abou-Saleh, H. (2022). Impacts on student learning and skills and implementation challenges of two student-centered learning methods applied in online education. *Sustainability (Switzerland)*, 14(15), 1-15.
- Suhartanta, S., Soewito, N., Hiryanto, H., Sugesti, N., Efendi, Y., Rahayu, S. P., & Bin Kamin, Y. (2024). Evaluation of student internship programs to support the sustainability of vocational education institutions and industrial cooperation programs. *Jurnal Pendidikan Vokasi*, 14(1), 63-73.
- Syaela, B. N. A. P., Fauziah, F. N., Syahida, S. A., & Tazkia, Z. (2024). Challenges in curriculum implementation and development at SMK Profita Bandung. *Hipkin Journal of Educational Research*, 2(2), 163-176.
- Syah, A. B. P. D. A. F., Janah, N., & Siswanto, D. H. (2025). School strategies in instilling student discipline to improving education quality. *Curricula: Journal of Curriculum Development*, 4(1), 303-314.
- Ubaidah, S., Trisnamansyah, S., Insan, H. S., & Harahap, N. (2021). Partnership management between Vocational Schools with the world of business and industry to improve the quality of graduates who are ready to work. *International Journal of Nusantara Islam*, 9(1), 58-69.
- Vachruddin, V. P., Susanto, B. A., Karim, A. R., Kusaeri, K., & Aditomo, A. (2023). Industrial-based competency and expertise assessment: Study of management assessments at SMK center of excellence and Vocational Education and Training (VET). *Jurnal Pendidikan Teknologi dan Kejuruan*, 29(2), 208-229.
- Wang, Y., Xu, Z. L., Lou, J. Y., & Chen, K. D. (2023). Factors influencing the complex problem-solving skills in reflective learning: Results from partial least square structural equation modeling and fuzzy set qualitative comparative analysis. *BMC Medical Education*, 23(1), 1-17.