

KUBOTA Industry Class Study (Case Study at SMK Islam 1 Blitar)

Agustian Yohan Effendi¹, Syarif Suhartadi², Imam Alfianto³, Muhammad Idris Effendi⁴

^{1,2,3,4}Universitas Negeri Malang, Indonesia

¹agustianyohaneffendi@gmail.com

Abstract

Industrial classes are work experiences for students who are preparing themselves to adapt to the work environment, develop practical skills, and determine appropriate career choices. This research explores the implementation of Kubota industrial classes at SMK Islam 1 Blitar as an approach to preparing students for the world of work. The research method used is qualitative, with a case study and data collected through observation, documentation, and interviews. The results show that the cooperation between the school and industry allows for the integration of theoretical and practical learning, as well as specialized training for students. The preparation and implementation of industrial classes involve an important role for both SMK and business and industry world, with the support of adequate facilities and infrastructure. Supporting factors include the availability of facilities and close cooperation between schools and industries, while inhibiting factors include low student interest and limited resources. Impacts of the industrial classes include improved student skills, school reputation, and the supply of skilled labor for industry. Evaluation is conducted through summative evaluations and certification tests, assessing student progress and ensuring the fulfillment of industry standards. Thus, the Kubota industrial class at SMK Islam 1 Blitar is an effective model for preparing students for challenges in the world of work.

Keywords: *industry class, study, kubota*

Introduction

Vocational education in Vocational High Schools (VHS) has an important role in preparing young people for the world of work (Nuryanto & Eryandi, 2020). However, in its implementation, there are a number of obstacles that need to be overcome, ranging from educational quality issues to optimal services. In addition, a close relationship between schools and industries is also a major focus, with the aim of improving students' abilities in accordance with industry needs (Nurtanto, Ramdani, & Nurhaji, 2017; Rafidiyah & Kailani, 2020; Riza & Yoto, 2023). The underlying reason for the cooperation pattern between VHS and industry is the desire to gain practical experience and professional knowledge directly in the industrial environment (Rosara & Nugroho, 2018; Rudianta, 2022). Cooperation between VHS and industry, such as that between SMK Islam 1 Blitar and Kubota, offers opportunities to improve students' skills and support the advancement of agricultural technology in Indonesia. However, challenges in implementing such cooperation also need to be identified and addressed so that the cooperation program can run effectively. One of the programs that can bridge the collaboration is the industrial class.

Industrial classes are a form of dual-system education that is often implemented in vocational schools. This program provides direct experience in the world of work for students who are preparing for the transition from the school environment to the actual industrial world. According to Wutsqo, Rizky, and Hidayat (2020), industrial classes are work experiences for students who are preparing to adapt to the work environment, develop practical skills, and determine

appropriate career choices. Therefore, in this program, student participation should be based on direct learning experiences in the workplace and not just simulations.

One of the main problems faced in cooperation between VHS and industry, especially with companies such as Kubota, is the obstruction of program implementation due to various factors, including the COVID-19 pandemic. In addition, the declining public interest in free services organized by schools is also a challenge that needs to be resolved. Nonetheless, the importance of this research cannot be doubted, as it provides a deeper understanding of the preparation, implementation, and impact of cooperation between vocational schools and industries such as Kubota, as well as a comprehensive evaluation of the implementation of Kubota's industrial classes. Thus, it is hoped that the results of this study can make a meaningful contribution to improving the effectiveness of cooperation between schools and industries in the field of vocational education, especially through industrial class programs.

Method

This is a qualitative research with case studies. In accordance with the qualitative approach and the type of case study research, researchers tried to describe and analyze the Kubota industrial class at SMK Islam 1 Blitar. The data sources in this study are the head of the light vehicle engineering expertise program, the Kubota industrial class coordinator, the vice principal for facilities, and the productive teacher instructor who teaches in the Kubota class.

In this study, the data collection techniques used consisted of three ways, namely, observation techniques, documentation, and interviews used to strengthen the data. Observation was carried out by making a direct visit to SMK Islam 1 Blitar to find out the implementation of the Kubota industrial class. Documentation in this study is in the form of documents and archives from the school and photos of Kubota industrial class activities. Interviews are conducted in accordance with the guidelines and grids that have been prepared and will then be submitted to informants to obtain data. The focus of interview questions in this research is about: (1) preparation of Kubota industrial classes at SMK Islam 1 Blitar; (2) implementation of Kubota industrial classes at SMK Islam 1 Blitar; (3) supporting and inhibiting factors for Kubota industrial classes at SMK Islam 1 Blitar; (4) impact of the implementation of Kubota industrial classes at SMK Islam 1 Blitar; and (5) evaluation of the implementation of Kubota industrial classes at SMK Islam 1 Blitar.

The data analysis technique used in this study was carried out in three stages, namely data reduction, data presentation, and conclusion drawing or verification. Furthermore, checking the validity of the data using source triangulation to check the data that has been obtained from four sources that have an important role in the Kubota Industrial class, namely the head of the light vehicle engineering expertise program, the Kubota Industrial class coordinator, the deputy principal for facilities, and the productive teacher instructor who teaches in the Kubota class. Furthermore, triangulation techniques are used to verify data from the same source but with different techniques, namely observation, interviews, and supporting documents.

Results

Based on the results of the research that has been carried out, SMK Islam 1 Blitar has established a partnership with PT Kubota, so that from the cooperation process, a Kubota industrial class has been formed. The implementation of the Kubota industrial class produced at SMK Islam 1 Blitar includes the integration of theoretical and practical learning in the curriculum, where students gain a comprehensive understanding of the agricultural and construction industries. Theoretical learning is done by integrating Kubota product materials into

the school curriculum, while practical learning is done through field practice activities, such as mobile service. The flexibility of the block system allows students to understand each material well. Through this industrial class, students not only acquire technical skills but also practical experience relevant to the world of work, so that they are ready to face challenges in the field.

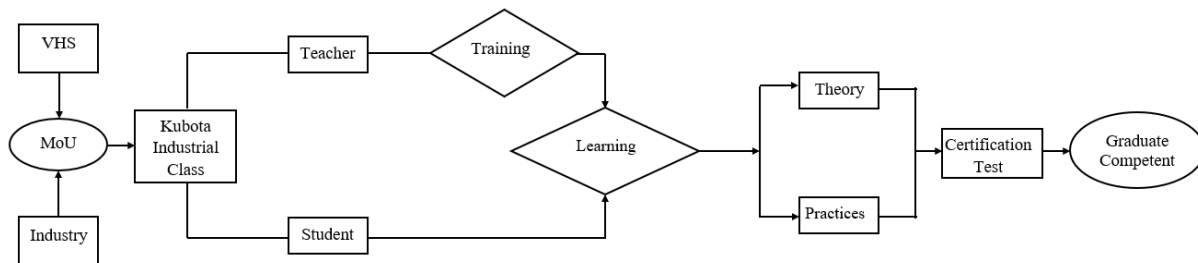


Figure 1. Implementation of Kubota Industrial Class at SMK Islam 1 Blitar

In Figure 1, it can be seen that the flow of the implementation of the Kubota industrial class starts with the MoU in the form of an agreement that has been agreed upon by the school and PT Kubota regarding the industrial class to be carried out. Based on the MoU that has been agreed upon, the Kubota industrial class is formed. After the formation of the industrial class, to run the industrial class, the teacher must attend training in the Kubota industry and pass the certificate as a requirement to be able to teach in the industrial class. Furthermore, students carry out learning, which in this industrial class consists of theoretical and practical learning. After learning, students undergo certification tests through theory and practice exams to obtain certificates according to their abilities. Therefore, with the Kubota industrial class, it is hoped that students can learn how to work in the industrial world, so that the existence of industrial classes can produce competent graduates who are ready to enter the industrial world.

Preparation of Kubota Industrial Class at SMK Islam 1 Blitar

School preparation in the implementation of the Kubota industrial class at SMK Islam 1 Blitar includes various strategic steps to ensure smooth cooperation between industry and school. According to Ixtiarto and Sutrisno (2016), this collaboration helps in determining the needs of the labor market so that students can be better prepared to face challenges in the workplace. In a similar context, Sutikno and Fitri (2017) highlighted the importance of having an efficient organizational structure in the school environment to manage cooperation with industry, so as to deal effectively with issues that arise. Therefore, the official cooperation agreement contained in the MoU between the school and PT Kubota is an important first step. In the agreement, it was agreed to provide practical experience for students through training, internships, and hands-on learning in an industrial environment. The importance of synchronizing the school curriculum with industry needs was also emphasized, so that students can be better prepared to face challenges in the workplace. Thus, the ultimate goal is to produce VHS graduates who are in line with industry needs so that they can be smoothly absorbed into the work environment. This is an effort to fulfill the school's role in producing a qualified workforce, which is in accordance with industry needs (Krisdianto, 2018). In addition, the school also provides teacher and student training. Teacher and student training activities as in Table 1.

Table 1. Teacher Training Activities and Kubota Industry Classroom Student Learning

	Teacher	Student
Duration	2 weeks	2 months
Place	PT Kubota Semarang and authorized Kubota workshop in Blitar	School and Community

Material	Theory of internal combustion engines, damage analysis (troubleshooting), and engine disassembly (overhaul)	Light service Kubota engine to overhaul Kubota engine
-----------------	---	---

Based on Table 1, training activities are conducted by teachers, while students conduct theoretical and practical learning. Teacher training was conducted for 2 weeks, 1 week at PT Kubota Semarang and 1 week at the official Kubota workshop around the school organizing the Kubota industrial class, in this case Blitar. The material studied includes the theory of internal combustion engines, damage analysis (troubleshooting), and engine disassembly (overhaul). Furthermore, student learning is carried out for 2 months, 1 month of theoretical learning at school and 1 month of practical learning through a free mobile service conducted in the community.

In addition, the main role of the instructor is to integrate the social values of corporate responsibility into learning. Therefore, the main criteria to become an instructor teacher in the industrial classroom is to have a training certificate issued by PT Kubota or relevant experience in attending mechanical training at PT Kubota. Support for this statement can be found in Dewi and Titisari's study (2022), which emphasizes the importance of teachers as the main pillar in managing students to constantly improve additional knowledge and skills. In line with Astuti, Muslim, and Bramasta (2020), the success rate of teaching and learning activities is influenced by the quality of teacher teaching, so it requires careful preparation. Therefore, all learning activities carried out by teachers and students must be directed towards achieving predetermined goals (Asmara & Nindianti, 2019; Sholeh, 2016; Zein, 2016).

In the preparation of the Kubota industrial class at SMK Islam 1 Blitar, the role of the industry is very significant. PT Kubota is actively involved in providing facilities, creating a practical learning environment, and involving experienced practitioners in the learning process. This collaboration ensures that the learning space matches student needs and industry conditions so that students can gain practical skills and knowledge relevant to the world of work. Providing adequate and quality facilities and infrastructure is essential to all activities. Complete and quality facilities and infrastructure are also a must in all activities (Megasari, 2020; Rukayat, 2017). However, obtaining this equipment is not easy because it must consider the characteristics of education that match the needs of the institution (Suryadi & Rahmawati, 2018). This opinion is also supported by research conducted by Pane and Dasopang (2017), which emphasizes that learning targets must be adjusted to factors such as time, infrastructure, and student safety.

Student preparation is also a major focus in the implementation of Kubota industrial classes at SMK Islam 1 Blitar. PT Kubota provides specialized training to students to enhance their understanding of the latest technologies in the agriculture and construction industries. Career guidance programs and soft skills training guided by industry experts are also organized to prepare students for a dynamic work environment. This is in line with Nugraha, Zaenudin, and Faizah (2023), who believe that enriching soft skills through holistic education and real-world practice is essential to facing a dynamic work environment. In addition, students who are interested in materials related to PT Kubota are given the opportunity to proceed to the interview stage and basic knowledge test at the PT Kubota training center, ensuring that they are ready to face challenges in the industrial world.

Discussion

Implementation of Kubota Industrial Class at SMK Islam 1 Blitar

In the implementation of the Kubota industrial class at SMK Islam 1 Blitar, there are two learning systems applied, namely the theoretical learning system and the practical learning system. Theoretical learning begins with integrating Kubota product material into the existing

curriculum. This gives students the opportunity to gain a basic understanding of the technical and practical aspects of the agricultural and construction industries. The class timings are designed to be flexible to fit in with the regular learning schedule, so that students can engage in the program without compromising on other subject matter. The implementation of learning is carried out in a block system format for 2 months, where 1 month of theory learning is followed by 1 month of practical learning. This block system aims to enable students to easily understand each material taught (Anita & Marlin, 2021).

The practical learning system in the Kubota industrial class at SMK Islam 1 Blitar provides opportunities for students to explore Kubota-related materials through field practice activities. Students majoring in Light Vehicle Engineering can take Kubota industrial classes as part of the Creative Products and Entrepreneurship curriculum. The implementation of industrial classes must include learning that is tailored to the agreed curriculum and work practices in the industry (Danutirta, 2018; Achsani, Kustono, and Suhartadi, 2020). Field practice activities are conducted through mobile servicing, where students engage in maintenance and repair tasks at Kubota engine user sites. In addition to providing technical benefits, this mobile service also aims to develop students' interpersonal and time management skills. Practical learning was conducted for 1 month, during which the instructor or mentor teacher provided constructive feedback to guide students in improving their performance as competent Kubota diesel engine technicians.

Supporting and inhibiting factors for Kubota Industrial Class at SMK Islam 1 Blitar

Supporting and inhibiting factors can be influenced by internal and external factors (Hastono, 2020). Internal supporting factors in this case are from VHS, while external factors come from business and industry world. Supporting factors from VHS in the implementation of the Kubota industrial class at SMK Islam 1 Blitar include the provision of supporting facilities, such as automotive laboratories and classrooms equipped with the latest teaching equipment. Career guidance programs and soft skills training held by industry experts, including representatives from Kubota, are also supporting factors with the aim of equipping students with interpersonal, leadership, and adaptation skills that are essential in the modern world of work. Support from qualified and experienced educators in the automotive industry is also considered a key factor in facilitating efficient learning. In addition, assessments conducted by instructors after the training provide valuable feedback on each participant's development, ensuring that each student receives individualized attention and can maximize his or her potential in understanding and mastering the subject matter.

Meanwhile, supporting factors from business and industry world in the implementation of Kubota industrial classes are through support from the industrial sector, which allows VHS to utilize training centers or workshops equipped with Kubota equipment and machinery as practicum facilities. Close collaboration between schools and industries in developing relevant curriculum is also a supporting factor, as is the industry's commitment to providing access to skilled labor. The availability of industry facilities and infrastructure that allow students to gain hands-on experience in a real work environment is also part of the supporting factors at business and industry world. Collaborations with industries such as Kubota provide students with an in-depth understanding of the industrial world and direct access to the latest practices and technologies in the agriculture and construction industries, so that they are prepared for future career challenges. Through technology-based education, students can be prepared to face the ever-evolving challenges of the future. Therefore, there is a need for various supports to be able to provide technology-based education to students (Zakaria et al., 2023).

On the other hand, inhibiting factors from VHS in the implementation of Kubota industrial classes include low student interest, students' tendency to get bored easily, low student attendance rates, and financial problems. In line with Widiyanti, Solichin, and Yoto (2017),

inhibiting factors come from students, including low motivation and enthusiasm for learning. Students' lack of understanding of career opportunities and the benefits of the industrial class program, as well as a lack of understanding of the practical application of the skills learned, are also inhibiting factors. In addition, low motivation and enthusiasm for learning from students is also an obstacle that needs to be overcome.

While the inhibiting factors from business and industry world in the implementation of Kubota industrial classes include limited resources, both in terms of time and personnel, to provide adequate assistance to VHS students, Different schedules and operational priorities between the two parties can also be an obstacle, which can be overcome through the formation of joint teams or the creation of more flexible schedules. Solutions to this problem include improving communication between industry and educational institutions and considering additional personnel or the allocation of additional resources. Communication can be practiced through the preparation of activity reports, the presentation of project assignments, group or class discussions, online learning, and other activities that generate interaction between students and other students, teachers, and other school communities (Arnyana, 2019).

The Impact of Kubota Industrial Class Implementation at SMK Islam 1 Blitar

The impact of the implementation of Kubota industrial classes at SMK Islam 1 Blitar on students is significant. They not only gain technical skills that are essential for entering the job market, but also develop soft skills. Soft skills are crucial in their career planning (Riyanto et al., 2023). With knowledge of Kubota machines, students have the opportunity to become skilled workers, entrepreneurs, or even innovators in the agriculture and construction industries. Soft skills such as leadership and adaptation are key in shaping students as agents of change who are ready to contribute to the progress of the industry and society as a whole.

The impact for VHS is the improvement of educational standards and school reputation. The implementation of Kubota's industrial classroom is not only a promotional platform for the school, but also enhances the curriculum with relevant practical knowledge. Schools can also expand their industry network through student participation in field practice and mobile servicing with companies such as PT Kubota, opening up internship and project partnership opportunities for graduates. With a flexible learning environment, VHS can attract students to explore the agriculture and construction industries, preparing them well to enter the workforce.

Meanwhile, the impact for business and industry world includes an increased supply of skilled labor in accordance with industry needs and the development of training programs that are relevant to technological developments. Collaboration with VHS also allows industries to search more widely for young talent, expanding their reach in finding potential employees. In addition, such cooperation enhances the industry's reputation as a stakeholder that cares about local human resource development, forms sustainable partnerships to support the development of quality human resources, and improves the overall performance of the industry. This is in line with Hatijah and Sholeh (2019), who state that maintaining good cooperation is not simple, requiring effective communication and close relationships between various internal and external parties.

Evaluation of the Implementation of the Kubota Industrial Class at SMK Islam 1 Blitar

Evaluation of the implementation of Kubota industrial classes includes summative evaluation and certification tests. Summative evaluation in the implementation of Kubota industrial classes at SMK Islam 1 Blitar is an important stage to evaluate students' progress and mastery of skills. Conducted at the end of the training period, this evaluation includes practical and theoretical tests to reflect students' understanding in both contexts. The aim is to measure the extent to which students have mastered Kubota engine service skills, ranging from light service to overhaul. The results of this evaluation are used as a basis for providing feedback and direction

to students in the development of their skills. Evaluations are conducted by instructors over several days, allowing for immediate feedback and the identification of development areas. By combining theoretical and practical tests, the weight of the theoretical test is 25%, while the practical test has a weight of 75%. A balanced assessment standard has been set by SMK Islam 1 Blitar, in accordance with the needs of the world of work, to ensure a thorough understanding of students. Evaluation in the context of education can be explained as a process that aims to collect information that can later be used as a basis for making decisions on whether to improve the learning system in accordance with predetermined goals (Suardipa & Primayana, 2020). This is in line with Bhakti's (2017) view that evaluation is an activity that aims to assess whether the teaching and learning process has succeeded in achieving the predetermined goals or still requires improvement.

Furthermore, certification testing in Kubota's industrial classes involves preparation according to competency standards, intensive training, and skills assessment through written and practical exams. Students are evaluated to assess their ability to maintain and service Kubota engines, and to ensure that they meet established industry standards. The results of this evaluation form the basis for certifying students who successfully complete the program. This certification test ensures that students have achieved a level of skill that is officially recognized by the industry, opening the door for them to enter the job market with confidence and credibility.

Conclusion

In implementing the Kubota industrial class at SMK Islam 1 Blitar, careful preparation is the key to success. The school and industry have established cooperation through an official cooperation agreement, ensuring the provision of supporting facilities and synchronizing the school curriculum with industry needs. Student preparation is also a key focus, with PT Kubota providing specialized training and career guidance programs. All of this aims to prepare students with practical skills and relevant soft skills to enter the world of work.

During the implementation of Kubota's industrial classes, there are two learning systems, namely theoretical and practical learning systems. Theoretical learning is integrated into the school curriculum, while practical learning is done through field practice activities, such as mobile service. The flexible block system allows students to understand each material well. Through this system, students can gain a comprehensive understanding of the agriculture and construction industries.

Supporting and inhibiting factors are an important part of the implementation of the Kubota industrial class. SMK Islam 1 Blitar has identified these factors, including support from the school and industry as well as constraints such as low student interest and limited resources. With a good understanding of these factors, steps can be taken to maximize support and overcome obstacles in the implementation of industrial classes.

The impact of the implementation of Kubota industrial classes at SMK Islam 1 Blitar is very positive, both for students, schools, and industries. Students gain important technical and soft skills, and the school improves its educational standards and reputation. In addition, the industry also gets a supply of skilled labor that suits their needs.

Summative evaluation and certification tests in the Kubota industrial class at SMK Islam 1 Blitar are important stages in evaluating students' progress and ensuring that they have mastered skills in accordance with industry standards. Summative evaluations are conducted through practical and theoretical tests with equal value weights, while certification tests ensure that students meet the set competency standards. The results of these evaluations provide a

basis for providing feedback to students and certifying those who successfully complete the program, opening up opportunities for them to enter the workforce with high confidence and credibility.

Based on the implementation of the Kubota industrial class at SMK Islam 1 Blitar, there are several recommendations that can be given. First, improve the promotion and socialization of the program with students to increase their interest and participation. Second, further strengthen collaboration between VHS, industry, and students by facilitating open dialog and regular meetings to monitor progress and hear input from all relevant parties. Third, identify and address barriers that may arise during program implementation, such as student attendance issues or resource limitations. Finally, continue to evaluate and continuously improve the program, both in terms of curriculum, learning methods, and student evaluation, to ensure suitability with industry developments and student needs. By implementing these recommendations, the implementation of the Kubota industrial class at SMK Islam 1 Blitar can be more effective and have a greater impact on students, schools, and industries.

References

- Achsani, H., Kustono, D., & Suhartadi, S. (2020). Model Kelas Industri pada Mitsubishi School Program di Sekolah Menengah Kejuruan. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 5(8), 1078-1085. Doi: <http://dx.doi.org/10.17977/jptpp.v5i8.13878>.
- Anita, A., & Marlin, V. (2021). Penyusunan Bahan Ajar Digital Akuntansi Keuangan Pada Sekolah SMK Permata Harapan. In *ConCEPt-Conference on Community Engagement Project*, 1(1), 972-977. Retrieved from <https://journal.uib.ac.id/index.php/concept/article/view/4805>.
- Arnyana, I. B. P. (2019). Pembelajaran untuk meningkatkan kompetensi 4c (communication, collaboration, critical thinking dan creative thinking) untuk menyongsong era abad 21. *Prosiding: Konferensi Nasional Matematika dan IPA Universitas PGRI Banyuwangi*, 1(1), i-xiii. Retrieved from <https://ejournal.unibabwi.ac.id/index.php/knmipa/article/view/829>.
- Asmara, Y., & Nindianti, D. S. (2019). Urgensi Manajemen Kelas untuk mencapai tujuan pembelajaran. *Sindang: Jurnal Pendidikan Sejarah dan Kajian Sejarah*, 1(1), 12-24. Doi: <https://doi.org/10.31540/sdg.v1i1.192>.
- Astuti, D. P., Muslim, A., & Bramasta, D. (2020). Analisis persiapan guru dalam pelaksanaan pembelajaran matematika di kelas IV SD Negeri Jambu 01. *Jurnal Wahana Pendidikan*, 7(2), 185-192. Doi: [10.25157/wa.v7i2.3676](https://doi.org/10.25157/wa.v7i2.3676).
- Bhakti, Y. B. (2017). Evaluasi Program Model CIPP pada Proses Pembelajaran IPA. *Jurnal Inovasi Pendidikan Fisika dan Riset Ilmiah*, 1(2), 75-82. Doi: <https://doi.org/10.30599/jipfri.v1i2.109>.
- Danutirta, S. S. (2018). Pengelolaan Kelas Industri di SMK N 2 Klaten. *Hanata Widya*, 7(6), 30-44. Retrieved from <https://journal.student.uny.ac.id/index.php/fipmp/article/view/12150>.
- Dewi, R. R., & Titisari, K. H. (2022). Best Practice Guru Dalam Proses Pembelajaran di Sekolah Menengah Kejuruan Menuju Guru yang Berkompeten. *Selaparang: Jurnal Pengabdian Masyarakat Berkemajuan*, 6(2), 947-951. Doi: <https://doi.org/10.31764/jpmb.v6i2.8466>.
- Hastono, H. (2020). Faktor-faktor pendukung prestasi belajar mahasiswa (studi pada mahasiswa pengaruh rumah kost di lingkungan kampus universitas teknologi yogyakarta). *Jurnal Guru Kita*, 4(3), 59-65. Doi: [10.24114/jgk.v4i3.19486](https://doi.org/10.24114/jgk.v4i3.19486).
- Hatijah, F., & Sholeh, M. (2019). Peran Humas dalam Membangun Kemitraan Sekolah dengan Dunia Usaha dan Dunia Industri (DUDI) di SMK Muhammadiyah 1 Surabaya. *Inspirasi*

- Manajemen Pendidikan, 7(1). Retrieved from <https://ejournal.unesa.ac.id/index.php/inspirasi-manajemen-pendidikan/article/view/28347>.
- Ixtiarto, B., & Sutrisno, B. (2016). Kemitraan sekolah menengah kejuruan dengan dunia usaha dan dunia industri (Kajian aspek penhgelolaan pada SMK Muhammadiyah 2 Wuryantoro Kabupaten Wonogiri). *Jurnal Pendidikan Ilmu Sosial*, 26(1), 57-69. Doi: <https://doi.org/10.2317 /jpis.v26i1.2130>.
- Krisdianto, A. (2018). Implementasi Kurikulum Sinkronisasi Dalam Meningkatkan Kompetensi Siswa Alfamart Class. *Inspirasi: Jurnal Ilmu-Ilmu Sosial*, 15(1). Doi: <https://doi.org/10.29100/insp. v15i1.403>.
- Megasari, R. (2020). Peningkatan pengelolaan sarana dan prasarana pendidikan untuk meningkatkan kualitas pembelajaran di SMPN 5 Bukittinggi. *Jurnal Bahana Manajemen Pendidikan*, 2(1), 636-648. Doi: <https://doi.org/10.24036/bmp.v2i1.3808>.
- Nugraha, D., Zaenudin, M., & Faizah, S. (2023). Pengembangan Diri Dalam Standardisasi Dunia Usaha Dan Industri Melalui Kegiatan Talkshow. *Jurnal Abdi Insani*, 10(3), 1616-1627. Doi: <https://doi.org/10.29303/abdiinsani.v10i3.1078>.
- Nurtanto, M., Ramdani, S. D., & Nurhaji, S. (2017). Pengembangan model teaching factory di Sekolah Kejuruan. In *Prosiding Seminar Nasional Pendidikan FKI*, 1(2). Retrieved from <https://jurnal.untirta.ac.id/index.php/psnp/article/view/447-454>.
- Nuryanto, A., & Eryandi, K. Y. (2020). The 21st Century Ideal Skills for Vocational High Schools. In *International Conference on Educational Research and Innovation (ICERI 2019)*, 142-147. Atlantis Press. Doi: <https://doi.org/10.2991/assehr.k.200204.026>.
- Pane, A., & Dasopang, M, D. (2017). Belajar dan Pembelajaran. *Jurnal Kajian Ilmu-ilmu Keislaman*, 3(2). Doi: <https://doi.org/10.24952/fitrah.v3i2.945>.
- Rafidiyah, D., & Kailani, A. (2020). Identifikasi Potensi SMK Muhammadiyah Sebagai Lembaga Pendidikan Vokasi Yang Berkemajuan: Studi Fenomenologi Terhadap Penerapan Program Revitalisasi SMK Di Indonesia: Identification of Potential of SMK Muhammadiyah As A Progressing Vocational Education Institution: A Phenomenology Study of The Implementation of Vocational School Revitalization Programs in Indonesia. *Pedagogik: Jurnal Pendidikan*, 15(1), 49-66. Doi: <https://doi.org/10.33084/pedagogik.v15i1.1284>.
- Riyanto, F., Astuti, S. D., Mahmud, M., & Panjaitan, R. (2023). Hard Skill Sebagai Faktor Dominan Kesiapan Kerja Di Era Industri 4.0. *Jurnal Nusantara Aplikasi Manajemen Bisnis*, 8(1), 46-65. Doi: <https://doi.org/10.29407/nusamba.v8i1.18676>.
- Riza, F., & Yoto, Y. (2023). Membangun Kecerdasan Emosional Siswa SMK untuk Menjawab Tantangan Industri Modern. *Briliant: Jurnal Riset dan Konseptual*, 8(4), 940-947. Doi: <http://dx.doi.org/10.28926/briliant.v8i4.1643>.
- Rosara, D. B., & Nugroho, J. A. (2018). Pengaruh Pengalaman Praktik Kerja Industri dan Motivasi Memasuki Dunia Kerja terhadap Kesiapan Kerja Peserta Didik SMK Kristen 1 Surakarta Tahun Angkatan 2017/2018. *Jurnal Pendidikan Bisnis dan Ekonomi*, 4(1). Retrieved from <https://jurnal.fkip.uns.ac.id/index.php/ptn/article/view/11984/0>.
- Rudiatna, R. D. (2022). Strategi Peningkatan Kompetensi Siswa Melalui Penerapan New Teaching factory Pada Kompetensi Keahlian Kriya Kayu Smk Negeri 14 Bandung. *JOEL: Journal of Educational and Language Research*, 2(4), 617-632. Doi: <https://doi.org/10.53625/joel. v2i4.4120>.
- Rukayat, Y. (2017). Kualitas pelayanan publik bidang administrasi kependudukan di kecamatan pasirjambu. *Jurnal Ilmiah Magister Ilmu Administrasi*, 11(2). Retrieved from <https://jurnal.unnur.ac.id/index.php/jimia/article/view/32>.

- Sholeh, M. (2016). Keefektifan Peran Kepala Sekolah dalam Meningkatkan Kinerja Guru. *JDMP (Jurnal Dinamika Manajemen Pendidikan)*, 1(1), 41-54. Doi: <https://doi.org/10.26740/jdmp.v1n1.p41-54>.
- Suardipa, I. P., & Primayana, K. H. (2020). Peran desain evaluasi pembelajaran untuk meningkatkan kualitas pembelajaran. *Widyacarya: Jurnal Pendidikan, Agama dan Budaya*, 4(2), 88-100. Doi: <https://doi.org/10.55115/widyacarya.v4i2.796>.
- Suryadi, B., & Rahmawati, S. (2018). *Otomasi Tata Kelola Sarana dan Prasarana*. Jakarta: PT Gramedia Widiasarana.
- Sutikno, T. A., & Fitri, G. D. (2017). Studi Kemitraan SMK dengan Dunia Usaha dan Industri (Studi Kasus Di SMK PGRI 3 Malang). *TEKNO*, 26(2). Retrieved from <http://journal.um.ac.id/index.php/tekno/article/view/8273>.
- Widiyanti, W., Solichin, S., & Yoto, Y. (2017). Kerjasama Sekolah Menengah Kejuruan Dan Industri (Studi Kasus Pendidikan Kelas Industri Smk Nasional Malang Dengan Astra Honda Motor). *Teknologi dan Kejuruan: Jurnal teknologi, Kejuruan dan Pengajarannya*, 40(2), 181-192. Doi: <http://dx.doi.org/10.17977/tk.v40i2.10049>.
- Wutsqo, B. U., Rizky, D. M., & Hidayat, D. R. (2020). Hubungan konsep diri dengan kematangan vokasional pada siswa SMK. *Jurnal Ilmiah Bimbingan Konseling Undiksha*, 11(1). Doi: <https://doi.org/10.23887/jjbk.v11i1.27391>.
- Zakaria, Z., Sukomardojo, T., Sugiyem, S., Razali, G., & Iskandar, I. (2023). Menyiapkan Siswa untuk Karir Masa Depan Melalui Pendidikan Berbasis Teknologi: Meninjau Peran Penting Kecerdasan Buatan. *Journal on Education*, 5(4), 14141-14155. Retrieved from <https://jonedu.org/index.php/joe/article/view/2436>.
- Zein, M. (2016). Peran guru dalam pengembangan pembelajaran. *Inspiratif Pendidikan*, 5(2), 274-285. Doi: <https://doi.org/10.24252/ip.v5i2.3480>.