

Case Study of the Implementation of the Use of the Pijar School Application as an Educational Technology in the Double System Partnership Program (PDS) at State of Senior High School (SMAN) 18 Garut

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Abstract

The digital transformation of education necessitates the integration of technology into learning processes. However, a gap persists between the potential of digital platforms and their effective implementation in partnership-based programs. This study aims to analyze the implementation of the Pijar Sekolah application as an educational technology to support the Partnership Double System (PDS) program at *SMAN 18 Garut*, focusing on its effectiveness, challenges, and optimization strategies. A qualitative approach with a case study design was employed. Data collection techniques included observation, in-depth interviews with the principal, teachers, and students, as well as documentation. The findings reveal that while Pijar Sekolah has the potential to improve learning effectiveness, strengthen school-industry collaboration, and support an integrated evaluation system, its implementation is suboptimal. Key obstacles include limited infrastructure, low digital literacy among users, resistance to change, and a lack of systematic integration with industry partners. The use of the platform remains predominantly administrative rather than pedagogical. This study concludes that the success of educational technology in a PDS context depends not only on platform availability but also on human resource competence, institutional support, and strategic integration. The implications suggest a need for targeted training, infrastructure improvement, and a systematic integration framework for school-industry partnerships.

INTRODUCTION

The development of information technology has driven a major transformation in the world of education. The integration of technology into learning is not only a necessity but also an indicator of the quality of modern education. The concept of digital learning enables flexible, interactive, and student-centered learning processes.

The integration of technology into the educational process is an integral requirement for improving the effectiveness, efficiency, and quality of learning in the digital era (Alenezi et al., 2023; Havryliuk et al., 2020). This aligns with research findings showing that the use of digital-

based learning technology can increase student interactivity and independence in learning (T. Hidayat and A. Suryadi, 2021). In the Indonesian context, the digital transformation of education is further strengthened by the presence of various technology-based learning platforms, one of which is Pijar Sekolah. This platform provides integrated digital learning services that encompass classroom management, learning content, and a computer-based evaluation system (Pijar Sekolah, 2023).

Furthermore, partnership-based educational approaches such as the Partnership Double System (PDS) have become an innovative model for increasing the relevance of education to the needs of the workplace. This model integrates school learning with industry practices (Billet, S, 2011). The use of digital platforms in education is growing with the emergence of various Learning Management Systems (LMS), one of which is Pijar Sekolah, which provides digital-based learning services, interactive content, and a learning evaluation system. The use of LMS in learning has been proven to facilitate the distribution of materials, monitoring of learning activities, and evaluating student learning outcomes in a more structured and systematic manner (SN Harahap, M. Simatupang, and L. Atika, 2023). Thus, digital technology plays a strategic role in supporting the transformation of education towards a more adaptive and flexible learning system.

On the other hand, the national education policy also emphasizes the importance of strengthening the link between education and industry through the Partnership Double System (PDS) program. This program is an adaptation of the dual system education concept, integrating school learning with practical work experience. This approach is considered effective in improving student competency because it provides real-world experiences relevant to industry needs (H. Susanto and A. Wibowo, 2022).

However, the implementation of the PDS program in the field still faces various obstacles, such as limited coordination between schools and industry partners, a suboptimal learning monitoring system, and low utilization of digital technology to support industry-based learning integration. Furthermore, unequal digital literacy among teachers and students and limited technological infrastructure are also inhibiting factors in the implementation of digital-based learning (D. Rahmawati and Y. Nugroho, 2022).

In this context, the use of educational technology such as Pijar Sekolah (School Jar) is highly relevant as a solution to bridge the gap between school learning and the needs of the industrial world. This platform has the potential to integrate theoretical and practical learning through a structured digital system, while simultaneously improving the effectiveness of monitoring and evaluation within the PDS program.

The urgency of this research is driven by the pressing need to improve the quality and relevance of vocational and partnership-based education in Indonesia. Without an effective technological bridge, the PDS program risks remaining a fragmented experience, where school learning and industry practice are not meaningfully integrated. This can lead to a mismatch of graduate competencies with industry needs. The findings from *SMAN 18 Garut*, as one of the pioneering schools implementing this integrated model, will provide critical insights and actionable lessons for other schools, policymakers, and educational technology developers. Delaying this research could perpetuate the cycle of suboptimal program implementation and wasted potential.

The novelty of this research lies in its specific and holistic focus on the Pijar Sekolah platform not as a stand-alone LMS, but as a core component of the PDS program's infrastructure. It analyzes the platform's role across multiple dimensions: pedagogical (learning delivery), managerial (monitoring and administration), and relational (school-industry communication). Unlike prior studies that focus on either technology adoption or partnership models separately, this research provides an integrated analysis of a "technology-mediated partnership." It uses a qualitative case study approach to capture the nuanced, context-dependent experiences of all key actors (principal, teachers, students) involved.

SMAN 18 Garut, one of the educational institutions implementing the Partnership Double System (PDS) program, has utilized the Pijar Sekolah application in its learning process. However, the application's implementation still faces various challenges, such as suboptimal use of LMS features, limited user digital competency, and the lack of systematic integration of the digital platform with industry-based curricula. This situation indicates a gap between the potential of available technology and its implementation in the field.

Based on these issues, an in-depth scientific study is needed to analyze the implementation of Pijar Sekolah as an educational technology within the Partnership Double System (PDS) program. This research is crucial for identifying the effectiveness of technology use, the challenges encountered, and optimization strategies to support industry-based learning.

Thus, this research is expected to provide theoretical contributions to the development of educational technology studies and practical contributions to improving the implementation of digital-based PDS programs in educational institutions. However, the implementation of educational technology is not without challenges, such as limited infrastructure, human resource readiness, and the digital literacy gap. Therefore, this research is crucial.

RESEARCH METHOD

This research used a qualitative approach with a case study design. A qualitative approach was chosen because it provides a deep and comprehensive understanding of social phenomena, particularly regarding the implementation of educational technology in real-world contexts. The case study design was used to intensively and in detail explore the use of the Pijar Sekolah application within the Partnership Double System (PDS) program in school settings (JW Creswell, 2018).

This research was conducted at *SMAN 18 Garut*, West Java. The selection of the research location was based on the consideration that the school has implemented the Partnership Double System (PDS) program and utilizes the Pijar Sekolah application in the learning process. The research subjects in this study include the Principal as the policy maker, Teachers as learning implementers, Students as the main users of the application, and Industrial Partners (if involved in the PDS program). The selection of subjects was carried out using purposive sampling, namely by selecting informants who are considered to have knowledge and experience relevant to the research focus.

RESULTS AND DISCUSSION

Based on the results of observations, interviews, and documentation at *SMAN 18 Garut*, several findings were obtained regarding the implementation of the use of the Pijar Sekolah application in the Partnership Double System (PDS) program as follows:

Implementation of the Pijar Sekolah Application as Educational Technology in the Implementation of the Partnership Double System (PDS) Program at *SMAN* 18 Garut

The use of School Incandescent includes several main functions, namely:

Digital learning management, such as class management, material distribution, and assignments

- a) Computer Based Test (CBT)
- b) Monitoring student learning activities
- c) Learning administration management

Teachers utilize digital classroom features to upload materials in the form of videos, modules, and interactive learning materials. Meanwhile, students access the materials through their individual devices, whether smartphones or laptops. Within the context of the PDS program, Pijar Sekolah serves as a medium for integrating school learning with industry practice. Based on interviews, this implementation is evident in several aspects:

- (a) Digital reporting of student practical/internship activities
- (b) Monitoring of student competencies by teachers and industry partners
- (c) Performance-based assessment
- (d) Access industry materials relevant to the school curriculum

However, this implementation is not yet fully optimal due to limited system integration with industry (Observation, 2026). The implementation of Pijar Sekolah within the Partnership Double System (PDS) program at *SMAN* 18 Garut has great potential to improve the quality of technology-based education and industry partnerships. However, to achieve optimal effectiveness, systematic and sustained efforts are needed to overcome various existing obstacles.

Utilization of the Pijar Sekolah Application to Support Learning Activities and Management of the PDS Program at *SMAN* 18 Garut

The results of the study indicate that the use of Pijar Sekolah is in line with the concept of modern educational technology that emphasizes the integration of technology, pedagogy, and content (TPACK). However, in practice, the pedagogical aspect is still not optimal because teachers tend to use technology as an administrative tool, not as a learning innovation. This shows that the success of educational technology depends not only on the availability of the system, but also on the competence of the user. When analyzed using the theory of innovation diffusion, the implementation of Pijar Sekolah at *SMAN* 18 Garut is still in the early adoption stage towards the early majority. Indicators are that some teachers are already actively using technology, others are still in the adaptation stage and there is resistance to change.

Research findings indicate that Pijar Sekolah-based learning can improve learning effectiveness. This aligns with e-learning theory, which states that digital learning can increase flexibility, interactivity, and accessibility. However, this effectiveness still depends on the quality of the learning content, teacher-student interaction, and infrastructure availability (Observation, 2026).

Factors Supporting and Inhibiting the Use of the Pijar Sekolah Application in the Double System Partnership Program at *SMAN* 18 Garut

One of the main challenges in implementing technology-based learning is limited infrastructure, particularly internet access and supporting devices. Numerous studies have shown that unstable internet connectivity is the biggest barrier to the use of educational technology, affecting over 60% of Indonesian schools.

At *SMAN* 18 Garut, this situation has the potential to hinder the optimal use of Pijar Sekolah, particularly in online learning activities, CBT-based evaluations, and integration with industrial systems in the PDS (Observation, 2026). Another problem is the low digital competence (digital literacy) among teachers and students. Teachers' ability to operate technology and integrate it into learning remains uneven. This results in the use of digital platforms such as Pijar Sekolah being less than optimal and tending to be used only for administrative, rather than pedagogical, purposes. Furthermore, students' low digital literacy also impacts the less than optimal utilization of the platform's interactive learning features.

The implementation of Pijar Sekolah (School Glow) within the Partnership Double System (PDS) program at *SMAN* 18 Garut has significant potential to improve the quality of technology-based education and industry partnerships. This platform has been utilized as a medium to support student practical activities and reporting in partnership programs with the industry. However, system integration between schools and industry partners has not yet been fully implemented systematically and in real time. However, to achieve optimal effectiveness, systematic and sustained efforts are needed to overcome various existing obstacles (Observation, 2026).

Implementation of the Pijar Sekolah Application as Educational Technology in the Implementation of the Partnership Double System (PDS) Program at *SMAN* 18 Garut

In this study, the Pijar Sekolah application is not positioned as a stand-alone variable, but rather as a technological component within the Partnership Double System (PDS) learning system. The platform is analyzed as a form of educational technology implementation because it is used in an integrated manner in the planning, implementation, and management of learning and program management. The analysis was conducted qualitatively based on the experiences, practices, and perceptions of educational practitioners at *SMAN* 18 Garut, thus providing a contextual overview of how educational technology principles are realized through the use of the platform.

Conceptually, Pijar Sekolah itself is an application presented by Telkom Indonesia to assist schools in managing their school information systems digitally and integrated. For more information about Pijar Sekolah, please visit:

<https://pijarsekolah.id/blog/apa-itu-pijar-sekolah-telkom/>

TEACHER LOGIN/ENTER THE PIJAR SCHOOL APPLICATION

To access the PIJAR SEKOLAH application, please open the browser application on your computer. (We recommend using Google Chrome).

- 1) Type the url address <https://sim.pijarschool.id/SMAN18garut/login> pada addressbox will appear as shown below.

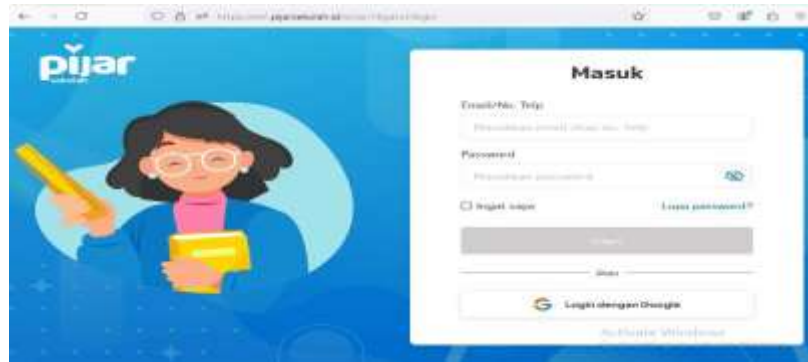


Figure 1 Address box view

- 2) Msports Active Email Address (provided by School Admin)
- 3) Fork Password enter the date, month and last 2 digits of the year of birth (in the format ddmmyy)

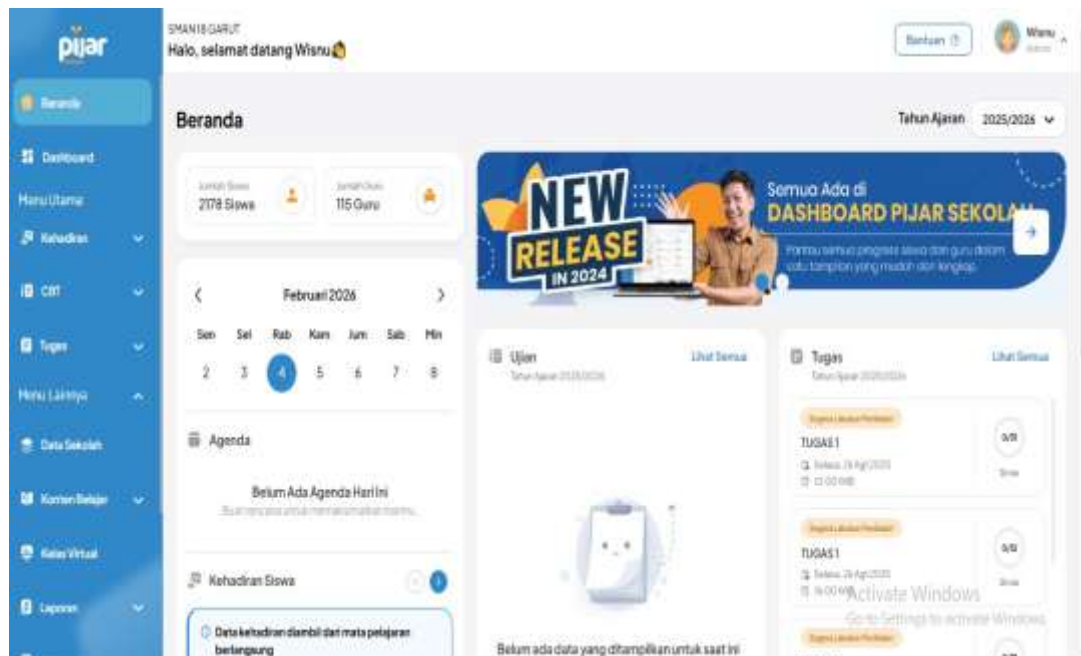


Figure 2. Displayn Main Menu of the Pijar School Application

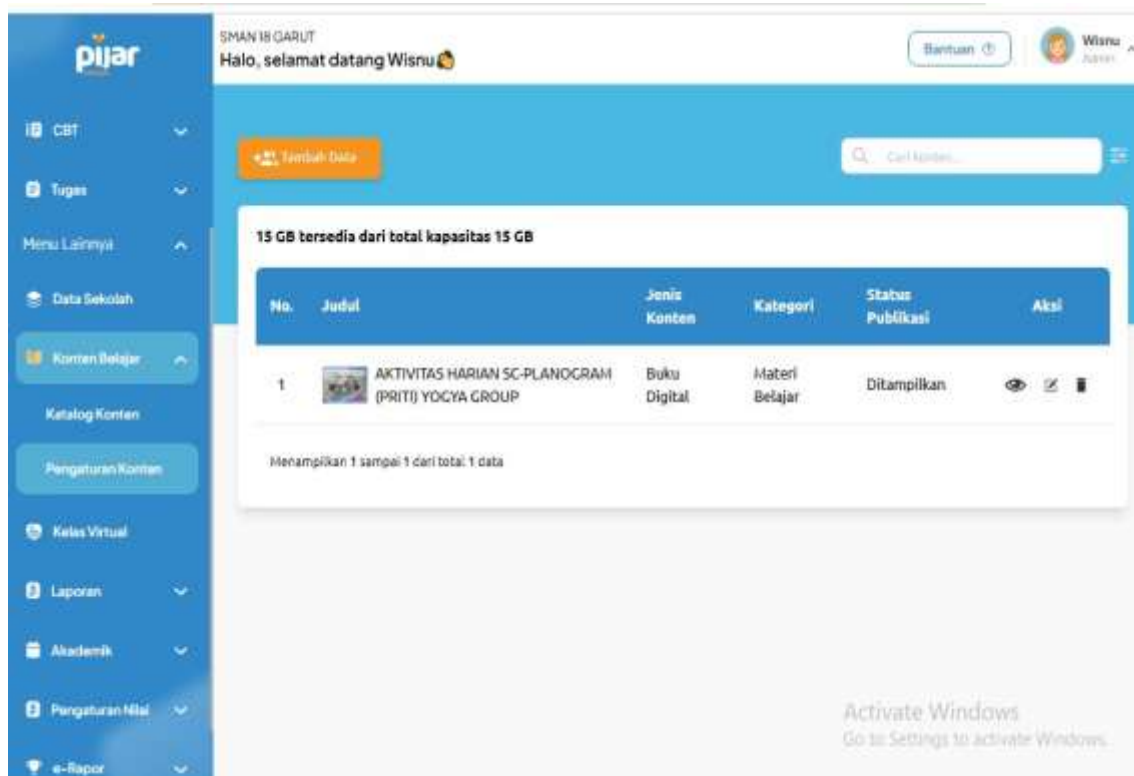


Figure 3. Learning content menu display

Yesta Partnership Double System PDS Class (ENGINEERING MOVING CLASS)

No.	Nama Siswa	NISN	Nama Orang Tua	Jenis	Status Login	Aksi
1	ARRAHMAN AL AZHAR	00000	ARI HIRI PAULON	SD/TK/PAUD	Status Login	Lampirkan
2	ARI HIRI PAULON	00000	ARRAHMAN AL AZHAR	SD/TK/PAUD	Status Login	Lampirkan
3	ARIFULILAH RAHMANA	00000	ARKHA SULWESAH SORAH	SD/TK/PAUD	Status Login	Lampirkan
4	ARKHA SULWESAH SORAH	00000	ARIFULILAH RAHMANA	SD/TK/PAUD	Status Login	Lampirkan
5	Almes, Raka	00000	ARI HIRI PAULON	SD/TK/PAUD	Status Login	Lampirkan
6	ARIKA KANDIA PESTYAN	00000	ARI HIRI PAULON	SD/TK/PAUD	Status Login	Lampirkan
7	CEP REZQY	00000	ARI HIRI PAULON	SD/TK/PAUD	Status Login	Lampirkan
8	DANI AHMAD BASTIAN	00000	ARI HIRI PAULON	SD/TK/PAUD	Status Login	Lampirkan
9	Ezer Dwi Radhya	00000	ARI HIRI PAULON	SD/TK/PAUD	Status Login	Lampirkan

Figure 4. PDS class data display (Engineering class)

As one form of educational technology implementation in a digital learning environment, a Learning Management System (LMS) functions as a system that supports integrated learning management. An LMS not only provides a medium for distributing learning materials but also supports the management of learning activities, monitoring student participation, and systematically documenting the learning process. In the context of educational technology implementation at the educational unit level, various LMS platforms have been developed to meet the needs of digital-based learning management.

Until now, training by the industrial world has been implemented similarly to the learning process carried out in formal educational institutions. Training is carried out according to the training design. The material provided in the training is tailored to the needs of the company. With the rapid technological changes mentioned above, the need for training is very high (Ayu Sandra Dewi, et.al, 2023) (Tafakur, 2023). In this era of rapid technological advancement, many processes occur, one of which is the learning management system (LMS). LMS is software that enables online training, administration, communication, searching for materials and activities, providing materials, and online training (Fikar & Harimurti, 2019).

Pijar Sekolah is an integrated digital learning platform that supports schools in creating exciting and enjoyable digital learning. Pijar Sekolah has thousands of interesting digital content, ranging from Interactive Digital Books, Digital Books, Learning Videos, to Virtual Laboratories that can be utilized by all (Afriyanti, Teknologi, & Padang, 2024). With the help of Pijar Sekolah, educational institutions can create an interesting and enjoyable digital curriculum. Interactive Digital Books are one of thousands of digital resources available at Pijar Sekolah, Digital Books, Learning Videos, to Virtual Laboratories that can be used by all students to support learning at school (Rendy Ismail. Handoyo Widi Nugroho, 2024). The implementation of the Pijar application as an educational technology in the Partnership Double System (PDS) Program at *SMAN 18 Garut* with the use of an integrated online learning platform called Pijar Sekolah, schools can develop an interesting and enjoyable learning environment.

Utilization of the Pijar Sekolah Application to Support Learning Activities and Management of the PDS Program at *SMAN 18 Garut*

Pijar Sekolah is also available to assist schools with exam administration. Schools can easily administer the USBA Application-Based Entrance Exam thanks to Pijar Sekolah. Pijar Sekolah can be used to create exam questions, schedule exams, proctor exams, and verify exam results. Furthermore, Pijar Sekolah can be used to handle school operations, administration, and management.

Furthermore, the use of Pijar Sekolah also contributes to the learning process of the teacher's role as a learning facilitator. Teachers no longer function solely as the primary source of information, but rather as companions who help students develop their own understanding (Riyanti, Yasin, & Wahyuni, 2025). Telkom Indonesia presents a solution, namely the School Management system, Pijar Sekolah. Pijar has a mission to help schools utilize technology to improve the efficiency and effectiveness of the teaching and learning process, with a system that simplifies administrative management (Erik Wiranata, et.all, 2025). With its mission to improve the efficiency and effectiveness of learning, Pijar Sekolah helps simplify educational administration so that teachers can focus more on the teaching and learning process.

There are several features in the glow application, namely as follows:

a. Computer Based Test (CBT)

Digitizing exams with Computer-Based Exam features that simplify scheduling, evaluation, and analysis, while supporting technology-based education to create an innovative generation and a productive learning environment.

- b. Task
The Assignment feature in Pijar Sekolah simplifies the management of structured and flexible assignments according to the curriculum, enabling teachers to adapt to students' needs and supporting collaboration to build a modern education ecosystem and future competencies.
- c. Presence
Optimize school efficiency with integrated attendance features that simplify attendance recording, reporting, and analysis, while enabling parents and teachers to monitor attendance and collaborate to create a positive learning environment.
- d. School Management Features
Pijar Sekolah's School Management feature simplifies data management, supports administration and learning, and assists student development to create quality education that is relevant to current and future needs.
- e. Learning Content
Pijar Sekolah offers comprehensive digital learning content, including e-books, interactive videos, and virtual lab simulations. It's designed to support the teaching and learning process, accessible anytime, anywhere.
- f. E-Report Card
Digital e-Reports simplify academic data management with efficient modern solutions, providing informative reports, in-depth analysis, and guaranteed security to support effective communication between schools and parents.(Erik Wiranata, Et.all, 2025).

In the Society 5.0 era, the use of online learning applications has become a very effective alternative learning space where in this era, education has developed according to technological needs, so that many people, especially those involved in the world of education, are developing educational platforms, namely online-based learning to support technological needs in the field of education (Harahap, Simatupang, & Atika, 2023). Pijar Sekolah is a digital platform that provides integrated technology-based learning solutions developed to support the digitalization of education in Indonesia.

Factors Supporting and Inhibiting the Use of the Pijar Sekolah Application in the Double System Partnership Program at *SMAN 18 Garut*

Many factors influence low student learning interest, some factors are caused by lack of motivation from teachers and parents, lack of understanding of student character resulting in students tending to be uninterested in learning, lack of learning innovation, learning methods that still use lectures, these are all factors that influence low student learning interest (Mohammad Diky Fahrizal Lumban Gaol, 2022). In learning at school, teachers play an important and dominant role in transforming knowledge, where each teacher will have their own style, teachers can use various learning strategies, such as dialogue, simulation, role playing, observation, and case handling (Wisnu Fathur Rahman, 2022).

In an era of technological maturity, teacher professionalism is key to achieving quality education. Undeniably, the educational problems frequently encountered today are due to

teachers who are not well-trained in carrying out their duties, who lack commitment to their duties, and who are pragmatic (Maulany & Simon, 2024). Most students' digital skills are not in line with the development of digital technology that can be utilized for learning. This condition indicates that students' digital skills are still unsatisfactory, therefore, students' understanding of digital literacy is needed (Ramdani, Syukur, & Restu, 2024).

Learning motivation is crucial because it is one of the main factors influencing the success of the learning process (Simanjuntak, Mei, Pasaribu, Pardede, & Marpaung, 2025). Key supporting factors were the high level of motivation and openness among participants to adopt new technological and pedagogical practices. Teachers were eager to explore the LMS as an adaptable tool for personalized learning, and the training environment encouraged collaboration and active participation (Fathurohman, Susiloningsih, & Kurdiati, 2025).

The Partnership Double System (PDS) program conceptually emphasizes integration between education and industry. However, in practice, there is often a gap between the ideal concept and its implementation. The use of Pijar Sekolah as a liaison between schools and industry has not been fully optimized, particularly in:

- a. Synchronizing the curriculum with industry needs
- b. Monitoring student practical activities
- c. Work competency-based evaluation

This demonstrates that technology integration has not fully bridged the needs of education and the workplace. Lack of training and mentoring for teachers is a crucial issue in the implementation of educational technology. Many teachers have not received adequate training in the effective use of digital platforms. As a result, the use of Pijar Sekolah tends to be partial and not fully integrated into the learning process or the PDS program.

CONCLUSION

The implementation of Pijar Sekolah (School Glow) within the Partnership Double System (PDS) program at *SMAN 18 Garut* holds significant potential for improving the quality of technology-based education and industry partnerships. However, achieving optimal effectiveness requires systematic and sustained efforts to address various existing obstacles. Pijar Sekolah within the PDS program also encourages increased student learning independence, digital literacy skills, and technological adaptability. For teachers, this application assists in more systematic and integrated learning planning, implementation, and evaluation. Furthermore, collaboration between schools and industry partners becomes more structured through the utilization of available digital features. However, this study also identified several obstacles, such as limited technological infrastructure, varying levels of digital literacy among users, and the need for ongoing training for teachers and students. Therefore, policy support, improved infrastructure, and strengthened human resource capacity are needed to ensure optimal and sustainable implementation of Pijar Sekolah within the PDS program.

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