Al Qalam: Jurnal Ilmiah Keagamaan dan Kemasyarakatan
https://jurnal.stiq-amuntai.ac.id/index.php/al-qalam
P-ISSN: 1907-4174; E-ISSN: 2621-0681
DOI : 10.35931/aq.v20i6.7614

THE PRINCIPAL'S STRATEGIC MANAGEMENT IN IMPLEMENTING DIGITAL CLASSROOM LEARNING AT SMPN 7 SIJUNJUNG

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Abstract

This study aims to analyze the strategic management of the school principal in implementing digital classroom learning at SMPN 7 Sijunjung. The study is motivated by the demands of educational transformation in the digital era, which encourage schools to adapt to the use of information and communication technology in the learning process. This research employed a qualitative approach with a descriptive method. Data were collected through in-depth interviews, observations, and documentation studies involving informants consisting of the principal, teachers, educational staff, and students. The results of the study indicate that in the planning stage, the principal formulated strategies for implementing digital classrooms through needs analysis, mapping of human resources, provision of facilities and infrastructure, as well as the formulation of policies and integration of the program into the school work plan. In the implementation stage, the principal acted as a transformational and instructional leader by fostering teacher collaboration, establishing clear task distribution, and conducting continuous supervision. Digital learning was implemented using various platforms such as Google Classroom, Wayground, Kahoot, Canva, Padlet, and YouTube. In the evaluation stage, supervision was carried out through routine monitoring, evaluation meetings, classroom observations, and feedback from teachers and students to improve the implementation of digital learning. This study concludes that the principal's strategic management in implementing digital classroom learning at SMPN 7 Sijunjung has been effective through systematic planning, collaborative implementation, and continuous evaluation. The success of the implementation is not only determined by the availability of technology but also by the principal's leadership that is adaptive and oriented toward improving the quality of learning.

Keywords: *Strategic Management, Principal Leadership, Digital Classroom Learning, Educational Transformation.*

Abstrak

Penelitian ini bertujuan untuk menganalisis manajemen strategis kepala sekolah dalam implementasi pembelajaran kelas digital di SMPN 7 Sijunjung. Penelitian ini dilatarbelakangi oleh tuntutan transformasi pendidikan di era digital yang mendorong sekolah untuk beradaptasi dengan pemanfaatan teknologi informasi dan komunikasi dalam proses pembelajaran. Penelitian menggunakan pendekatan kualitatif dengan metode deskriptif. Data dikumpulkan melalui wawancara mendalam, observasi, dan studi dokumentasi dengan informan yang terdiri atas kepala sekolah, guru, tenaga kependidikan, dan peserta didik. Hasil penelitian menunjukkan bahwa pada tahap perencanaan kepala sekolah menyusun strategi implementasi kelas digital melalui analisis kebutuhan, pemetaan sumber daya manusia, penyediaan sarana prasarana, serta penyusunan kebijakan dan integrasi program ke dalam rencana kerja sekolah. Pada tahap pelaksanaan, kepala sekolah berperan sebagai pemimpin transformasional dan instruksional dengan membangun kolaborasi guru, pembagian tugas yang jelas, serta supervisi berkelanjutan. Pembelajaran

digital dilaksanakan melalui berbagai platform seperti Google Classroom, Wayground, Kahoot, Canva, Padlet, dan YouTube. Pada tahap evaluasi, pengawasan dilakukan melalui monitoring rutin, rapat evaluasi, observasi kelas, serta umpan balik dari guru dan siswa untuk memperbaiki pelaksanaan pembelajaran digital. Penelitian ini menyimpulkan bahwa manajemen strategis kepala sekolah dalam implementasi pembelajaran kelas digital di SMPN 7 Sijunjung berjalan efektif melalui perencanaan yang sistematis, pelaksanaan yang kolaboratif, dan evaluasi yang berkelanjutan. Keberhasilan implementasi tidak hanya ditentukan oleh ketersediaan teknologi, tetapi juga oleh kepemimpinan kepala sekolah yang adaptif dan berorientasi pada peningkatan mutu pembelajaran.
Kata Kunci: *Manajemen Strategis, Kepemimpinan Kepala Sekolah, Pembelajaran Kelas Digital, Transformasi Pendidikan.*

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INTRODUCTION

The development of information and communication technology (ICT) in the era of the Fourth Industrial Revolution has brought significant changes to many aspects of human life, including education. Digital transformation requires education systems to adapt to technological developments so that learning can take place more effectively, flexibly, and innovatively.[1] ICT plays an important role in supporting learning through the use of hardware, learning software, the internet, and network technologies that enable wider learning interaction.[2] Moreover, the development of artificial intelligence–based technology has made it possible to personalize learning according to the needs and characteristics of students.[3] These changes have given rise to various educational innovations that concern not only technology but also learning methods, curricula, and the management of educational institutions. Educational innovation is a process of renewal that covers various components of education with the aim of increasing the effectiveness of learning.[4] Its effects are felt not only by students and teachers but also by educational institutions and society at large.[5]

[1] Dita Nanda Fitriana and Essa Nindia R, "Peran Inovasi Digital dalam Pengembangan Teknologi Pendidikan di Era Transformasi Pembelajaran," *Indonesian Journal of Education, Learning, and Evaluation* 1, no. 1 (2025): 41–48, https://doi.org/10.63199/idjele.v1i1.63.

[2] Edi Rohyadi and Cucu Atikah, "Peran Penting Teknologi Informasi Dan Komunikasi (Tik) Dalam Pendidikan," *Pendas : Jurnal Ilmiah Pendidikan Dasar* 09, no. 04 (2024).

[3] Nina Riska et al., "Integrasi Teknologi AI dalam Pembelajaran Adaptif untuk Meningkatkan Keterampilan Abad 21 di Sekolah Dasar," *Jurnal Inovasi dan Teknologi Pendidikan* 4, no. 1 (2025): 180–98.

[4] zhahratul Hafizhah, "Inovasi Pendidikan Era Revolusi Industri 4.0," *Seri Publikasi Pembelajaran* 1, no. 2 (2021).

[5] Fachry Fauzy Harahap et al., "Jenis dan Karakteristik Inovasi Pembelajaran," *AMI – Jurnal Pendidikan dan Riset* 1, no. 2 (2023), http://jurnaltarbiyah.uinsu.ac.id/index.php/ami.

In line with these developments, the learning paradigm has also shifted from teacher-centered to student-centered learning.[6] Digital technology enables learning to be more interactive, collaborative, and creative. The appropriate and ethical use of educational technology can improve students' performance and learning outcomes, provided that its positive and negative effects are considered and that it is accompanied by appropriate strategies of use.[7] In the context of twenty-first-century education, students are required to have important competencies such as critical thinking, communication, collaboration, and creativity, known as the 4Cs. Mastery of these competencies is closely related to the use of digital technology in learning.[8] Integrating technology into education is therefore not merely supplementary but a strategic necessity for preparing students to face global challenges in the digital era.

The use of technology in learning is also supported by the development of various digital platforms such as Learning Management Systems (LMS), which allow learning to be conducted online or in hybrid form. LMS and other digital ecosystems have become central to modern educational services because they can manage learning activities in an integrated way and strengthen interaction between teachers and students.[9] In addition, the concept of Education 5.0 emphasizes the use of technologies such as artificial intelligence, data analytics, and personalized digital interaction to create learning that is more humane and centered on students' needs. In Indonesia, technology-based educational transformation is also driven by various government policies aimed at improving the quality of learning through the digitalization of education.[10] These policies encourage schools to integrate technology into learning activities so as to create a more flexible, independent, and contextual learning system. One form of implementation of these policies is the digital classroom, which integrates information technology into teaching and learning.

Various studies show that the use of digital technology in learning can increase students' learning motivation, participation, and understanding of learning material. The use of interactive technology-based learning media can increase student engagement while developing their

[6] Asep Firmansyah and Nahnu Robid Jiwandono, "Kecenderungan Guru dalam Menerapkan Pendekatan Student Centre Learning dan Teacher Centre Learning dalam Pembelajaran," *Jurnal Guru Indonesia* 2, no. 1 (2022): 33–39, https://doi.org/10.51817/jgi.v2i1.229.

[7] Muh. Habibulloh and Himad Ali, "Strategi Pendidikan Islam Di Era Digital," *Jurnal Manajemen, Pendidikan, dan Pemikiran Islam* 2, no. 2 (2024), https://journal.as-salafiyah.id/index.php/jmpi.

[8] Tengku Darmansah et al., "Strategi Pengembangan Kompetensi Guru Dalam Penguasaan Teknologi Pembelajaran," *Jurnal Ilmu Manajemen Dan Pendidikan* 01, no. 03 (2024), https://jurnal.kopusindo.com/index.php/jimp/index.

[9] Khoirun Nisa and Rusdiana Navlia, "Evaluasi Efektivitas Penggunaan Learning Management System (Lms) Dalam Meningkatkan Kualitas Pembelajaran Daring," *Psikosospen : Jurnal Psikososial dan Pendidikan* 1, no. 3 (2025), https://publisherqu.com/index.php/psikosospen/.

[10] Zidan Fahman Arbi, "Transformasi Sosial dalam Pendidikan Karakter di Era Digital: Peluang dan Tantangan," *Social Studies in Education* 02, no. 02 (2024): 191–206, http://dx.doi.org/10.15642/sse.2024.2.1.191-206.

collaborative skills and digital literacy.[11] Technology thus serves not only as a learning medium but also as a strategic instrument for improving the quality of education. Nevertheless, the implementation of technology-based learning in schools still faces various challenges. The digitalization of learning in Indonesia continues to face obstacles, especially in areas with limited technological infrastructure. These obstacles include teachers' low digital literacy, limited training, and inadequate facilities and infrastructure. This shows a gap between the great potential of educational technology and schools' readiness to use it optimally. In facing these challenges, the principal plays a very important role as an educational leader capable of managing change and encouraging learning innovation. The principal is not only an administrator but also a visionary, adaptive, and innovative *instructional leader*, responsible for formulating policies, managing resources, and building a school culture that supports the use of technology in learning.[12]

SMPN 7 Sijunjung is one of the schools that has sought to implement digital classroom learning as part of efforts to improve the quality of learning. Initial interviews with the principal and teachers revealed that the school has used various digital platforms such as Google Classroom, Wayground, Canva, and Padlet in learning. Nevertheless, the implementation of digital learning at this school still faces several challenges, such as variation in teachers' digital competence, limited technological devices, and uneven student motivation to participate in digital learning. Interestingly, although it is located in an area with more limited access to technology than urban schools, SMPN 7 Sijunjung shows a strong commitment to developing digital classroom learning. This initiative stems not only from external policies but also from the leadership of the principal, who plays an active role in mobilizing teachers and developing the digital learning program gradually.

From the perspective of Islamic education, the use of technology in learning is also in line with the values of the Qur'an, which encourage human beings to seek knowledge. This is reflected in the word of Allah SWT in QS. al-'Alaq [96]: 1–3, which commands human beings to read and understand knowledge as part of the learning process. This command shows that the use of technology in education aims not only to improve academic competence but can also be directed toward shaping students' character and spiritual values.

Based on the above, the implementation of digital classroom learning requires effective strategic management by the principal in managing human resources, technology, and learning innovation at school. Previous studies have mostly discussed the digitalization of learning in terms of teachers' digital literacy or the availability of technological infrastructure. However,

[11] Resti Resti et al., "Pemanfaatan Media Pembelajaran Berbasis Teknologi sebagai Alat Untuk Meningkatkan Kemampuan Literasi Digital Siswa Sekolah Dasar," *Al Madrasah Jurnal Pendidikan Madrasah Ibtidaiya* 8, no. 3 (2024): 1145, https://doi.org/10.35931/am.v8i3.3563.

[12] Zikry Indra Fadillah, "Peran Kepala Sekolah Dalam Mendorong Inovasi Dan Perubahan Positif," *JME Jurnal Management Education* 2, no. 3 (2024), https://journal.sabajayapublisher.com/index.php/jme.

studies that specifically examine the principal's strategic management in managing the implementation of digital classrooms remain relatively limited, especially in schools in areas with limited access to technology.

This study therefore aims to analyze the principal's strategic management in implementing digital classroom learning at SMPN 7 Sijunjung. It is expected to make a theoretical contribution to the development of educational management studies, particularly regarding principal leadership in facing the digital transformation of education, and a practical contribution in the form of strategic recommendations for schools in optimizing the implementation of technology-based learning.

RESEARCH METHODS

This study is field research. It used a qualitative descriptive method, which aims to describe phenomena in the field as they are.[13] A qualitative descriptive approach was chosen because the authors sought to understand and describe actual conditions in the field, particularly the strategic management of the principal of SMPN 7 Sijunjung in implementing digital classroom learning. With this method, the authors can present findings in detail and in context, in accordance with the reality at the school.

The research was conducted at SMPN 7 Sijunjung, Sijunjung Regency, West Sumatra. The site was selected purposively because the school had initiated the implementation of digital classroom learning as part of its efforts to improve the quality of technology-based learning. The research subjects consisted of the principal, teachers, educational staff, and students involved in digital classroom learning. Informants were selected using *purposive sampling*, that is, by choosing informants considered to have knowledge of and direct involvement in the digital classroom program at the school.

Data were collected through in-depth interviews, observation, *field notes*, and documentation. Interviews were conducted in person with the principal, teachers, and educational staff to obtain information on the planning, implementation, and evaluation of digital classroom learning. Observation was carried out to see directly the digital learning process in the classroom and activities related to the use of technology in learning. Field notes were taken during interviews and observation, recording additional information such as non-verbal expressions, the school environment, informants' spontaneous responses, and the researcher's personal reflections on the situations observed at SMPN 7 Sijunjung. These notes were an important complement for understanding the context of the data as a whole. Documentation involved examining relevant

[13] Hasan Syahrizal and M. Syahran Jailani, "Jenis-Jenis Penelitian Dalam Penelitian Kuantitatif dan Kualitatif," *Jurnal QOSIM Jurnal Pendidikan Sosial & Humaniora* 1, no. 1 (2023): 13–23, https://doi.org/10.61104/jq.v1i1.49.

documents such as the school work plan, policies related to digital learning, and records of technology-based learning activities.

The data obtained were analyzed using qualitative data analysis techniques consisting of data reduction, data display, and conclusion drawing. In data reduction, the researcher selected, focused, and simplified the data obtained from the field. The reduced data were then presented as descriptive narratives to make it easier to understand patterns and relationships among the data. The final stage, conclusion drawing, was carried out gradually throughout the research until a comprehensive understanding of the principal's strategic management in implementing digital classroom learning was obtained.

To ensure data trustworthiness, this study used source triangulation and technique triangulation. Source triangulation was carried out by comparing information obtained from different informants, such as the principal, teachers, educational staff, and students. Technique triangulation was carried out by comparing data obtained through interviews, observation, and documentation. The data produced in this study are thus expected to have a high level of validity and credibility.

RESULTS AND DISCUSSION

The Planning Stage of Digital Classroom Learning Implementation

The planning of digital classroom implementation at SMPN 7 Sijunjung began with the formulation of a shared vision involving the entire school community. According to an interview with the principal of SMPN 7 Sijunjung, Mr. Carly Marlinton,[14] planning for the digital classroom started with identifying the school's conditions, students' potential, teachers' readiness, and support from the school environment. The principal explained that the vision for developing the digital classroom was formulated together with the learning committee and the school leadership and then communicated at a teachers' council meeting so that all teaching staff would share an understanding of the direction of school policy. Planning also included increasing internet network capacity, identifying information and communication technology (ICT) assets, and mapping teachers who are competent in using learning technology.

[14] Carly Marlinton, principal of SMPN 7 Sijunjung, interview by the author, Sijunjung.



Figure 1**.** Interview with the principal
Source: Researcher's documentation.

This planning focused not only on the readiness of facilities and infrastructure but also on strengthening support from students' parents. The school held outreach sessions with parents to build a shared commitment to supporting the implementation of the digital classroom, especially regarding the provision of learning devices such as laptops or mobile devices.

In the planning process, the school also conducted a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis to identify internal and external factors affecting the program's success. In terms of strengths, the school has a relatively stable internet network and fairly strong support from the community and parents for the digitalization of learning. In terms of weaknesses, some students are not yet accustomed to using digital devices. In terms of opportunities, the school sees the increasingly rapid development of educational technology and government policy support for the digitalization of education. In addition, the opportunity to conduct benchmarking visits to other schools that have already implemented digital classrooms allows the school to adopt best practices in digital learning. On the other hand, there are also threats, such as parents' concerns about the misuse of devices, the risk of access to content inconsistent with moral values, and differences in families' economic capacity to provide digital devices.

Based on this analysis, the school mapped its needs for facilities and infrastructure through coordination with the vice principal and the IT team. The mapping covered the condition of the internet network, the availability of LCD projectors and laptops, and the readiness of classrooms to support technology-based learning. Teachers' abilities were also mapped through discussion and observation to determine their readiness to operate digital learning platforms. All results of this needs analysis were then set out in the school's official planning documents. The digital classroom program was included in the School Activity and Budget Plan (RKAS) and reinforced by policy documents such as a decree (SK) establishing the Digital Classroom Team,

implementation guidelines, and a clear division of tasks for each team member. Beyond technical aspects, digital classroom planning at SMPN 7 Sijunjung also integrates character values through the slogan JEMPOL (*Jujur, Empati, Mandiri, Prestasi, Optimis, Literatif*: honest, empathetic, independent, high-achieving, optimistic, and literate).

These values serve as guidelines for building a learning culture oriented not only toward mastering technology but also toward shaping students' character. The main work programs drawn up at the planning stage included teacher training, the procurement of ICT facilities, the development of digital teaching materials, and periodic evaluation of the program. Digital classroom planning at SMPN 7 Sijunjung thus emphasizes not only technology but also strengthening human resource capacity and a learning culture adaptive to digital developments. This finding is consistent with the view of Aisyah et al. that strategic planning is a core function of educational management because it determines the direction and success of educational programs at school.[15]

The Implementation Stage of Digital Classroom Learning

The implementation of the digital classroom at SMPN 7 Sijunjung began once the entire planning process and the formation of the implementation team had been completed. At this stage, the principal ensured that every element of the school understood its duties and role in supporting the program.

The IT team is responsible for managing the internet network and the technological devices used in learning. Meanwhile, the vice principal arranges the learning schedule and ensures that teaching and learning proceed according to plan. The principal also builds intensive coordination through open communication and regular meetings to monitor the program's progress.

[15] Juwita Nur Aisyah et al., "Perencanaan Strategis Dalam Meningkatkan Kinerja Organisasi," *Jurnal Manajemen dan Pendidikan Agama Islam* 2, no. 4 (2024): 147–55, https://doi.org/10.61132/jmpai.v2i4.392.

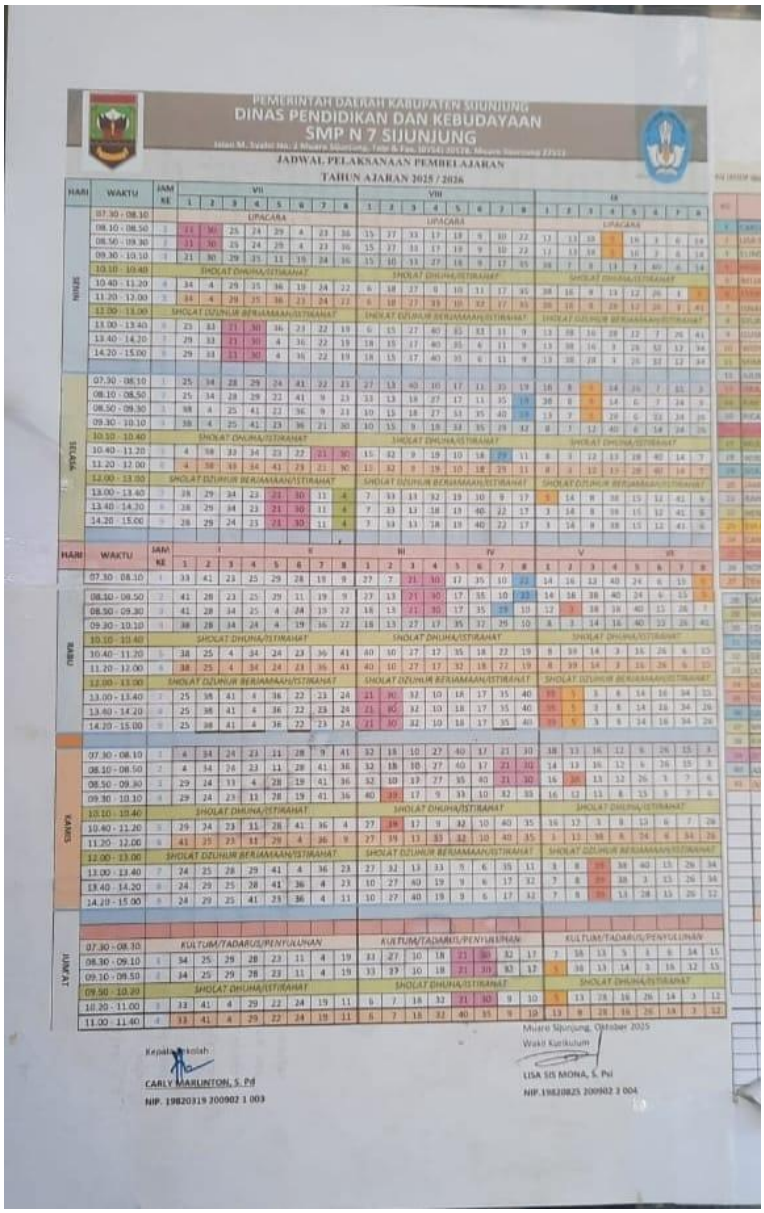

PEMERINTAH DAERAH KABUPATEN SIJUNJUNG
DINAS PENDIDIKAN DAN KEBUDAYAAN
SMP N 7 SIJUNJUNG
JADWAL PELAKSANAAN PEMBELAJARAN
TAHUN AJARAN 2025 / 2026

Figure 2. Digital classroom learning schedule
Source: Researcher's documentation.

In the learning process, teachers use various digital platforms such as Google Classroom, Canva, Kahoot, Quizizz, and Wordwall. Google Classroom is used as a Learning Management System (LMS) to manage learning materials, give assignments, and monitor students' learning progress online. This platform facilitates communication between teachers and students and enables learning to proceed in a more structured way.

The digital classroom has also had a positive effect on students' learning culture. The principal stated, "The children have become enthusiastic about learning… they are motivated to keep learning both at school and at home." This can be seen every day in classroom activities.

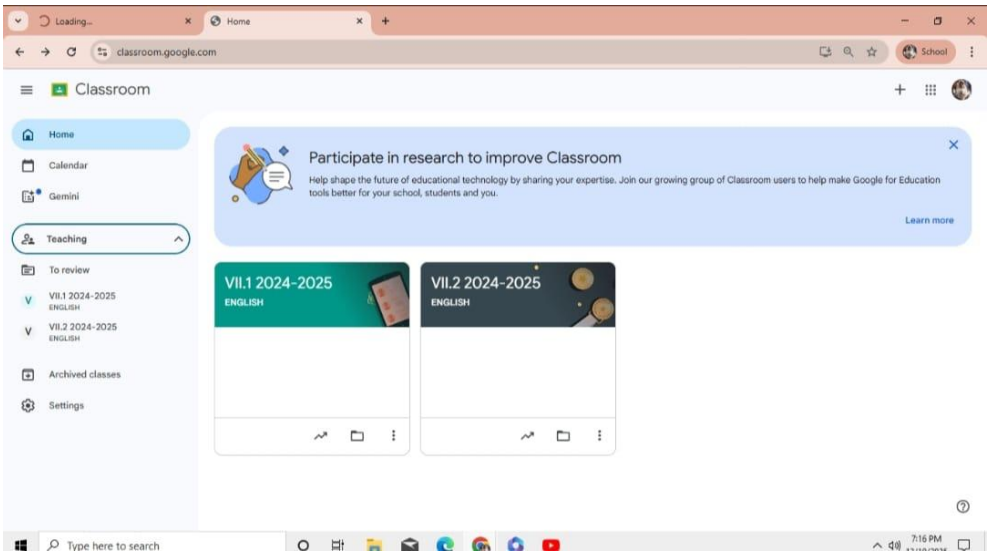


Figure 3. Learning platform used (Google Classroom)

Source: Researcher's documentation.

Learning is carried out in a more structured way thanks to Google Classroom, which serves as the center of activities. A student, Bismillahi, said, "In Google Classroom it is divided by subject, ma'am, so I think it's fun."[16] The platform makes it easier for students to access material independently.



Figure 4. Interview with a student learning in the digital classroom

Source: Researcher's documentation.

The use of digital media has also had a positive effect on students' understanding of the learning material. The physical education (PJOK) teacher stated that using videos in learning helps students understand the material more visually than through oral explanation alone.

The implementation of the digital classroom also shows a high level of enthusiasm among students. Students are more interested in participating in learning because the material is delivered

[16] Bismillahi Mandala Wamora, student at SMPN 7 Sijunjung, interview by the author, Sijunjung, November 4, 2025.

through more interactive media. In addition, quiz applications such as Kahoot and Quizizz provide an enjoyable learning experience through gamification. Nevertheless, some technical obstacles are still encountered, such as occasional disruptions to the internet network or technical problems with students' laptops. However, these obstacles can be overcome with the support of the IT team and teachers' flexibility in adjusting the learning process. The implementation of the digital classroom is also supported by the local government. The principal recounted, "The Head of the Education Office came to see how the digital classroom works." This support gives the school legitimacy and additional motivation in running the program.

Overall, the digital classroom runs smoothly and steadily thanks to strong collaboration, continuous supervision, the readiness of teachers and students, and the support of facilities and infrastructure. The principal emphasized that the digital classroom has become part of a school culture that continues to develop: "So far it has gone smoothly; there have been no major obstacles." This implementation provides a strong foundation for the school's comprehensive digital transformation.

These findings show that the success of the digital classroom depends not only on the availability of technology but also on collaboration among teachers, students, the IT team, and the school leadership. This is consistent with the study by Wulansari and Amalia, which states that principal leadership plays an important role in driving the success of digital transformation in schools.[17]

The Evaluation Stage of Digital Classroom Learning Implementation

The evaluation stage is an important part of the strategic management of digital classroom implementation at SMPN 7 Sijunjung. The principal carries out evaluation continuously to ensure that the program proceeds in line with its objectives. Evaluation takes place through various mechanisms, such as direct classroom monitoring, teacher reports, and regular evaluation meetings. The principal also coordinates routinely with the vice principal, the IT team, and teachers to discuss the program's progress and identify emerging obstacles.

One focus of evaluation is the quality of the internet network and the safe use of technology. The IT team regularly checks the network and restricts access to sites irrelevant to learning. This is done to ensure that the use of technology remains consistent with educational values and is safe for students.

Beyond technical aspects, evaluation also covers changes in students' learning behavior. Observation shows that students have become more independent in accessing learning materials

[17] Eka Wulansari and Kaniati Amalia, "Strategi Kepala Sekolah Dalam Menerapkan Smart School Untuk Membangun Mutu Pembelajaran Di SMP Labschool Unesa 3," *e-Jurnal Inspirasi Manajemen Pendidikan* 12, no. 2 (2024): 333–47.

and more active in learning activities. Teachers also find that digital platforms help them deliver material more effectively and efficiently. The school also uses feedback from teachers and students as part of the evaluation process. Teachers report learning progress regularly, while students give feedback on their learning experience in the digital classroom. This information is then used as the basis for improving and developing the program.

Based on the results of regular evaluation, the principal concluded that the implementation of the digital classroom at SMPN 7 Sijunjung has been effective and has had a positive effect on learning. The program has not only increased students' learning motivation but also encouraged teachers to keep developing technology-based learning innovations.

This finding reinforces Mustofa's view that the success of strategic management in education depends heavily on continuous evaluation, so that educational programs can be developed adaptively.[18]

CONCLUSION

Based on the results and discussion, it can be concluded that the principal's strategic management in implementing digital classroom learning at SMPN 7 Sijunjung is carried out through gradual and contextual planning, implementation oriented toward strengthening teachers' competence and the use of learning technology, and continuous evaluation for program improvement. The principal plays a strategic role as the director, mobilizer, and controller of the school's digital transformation, adjusting policies to the condition of resources and the readiness of the school community. These findings show that the success of digital classroom implementation is determined not only by the availability of technological facilities but above all by the principal's managerial leadership that is adaptive, collaborative, and oriented toward improving the quality of learning, so that the digital classroom develops as a continuous process that is meaningful and valuable for improving the quality of education.

Based on these findings, the following suggestions and recommendations can be made: (1) The school, particularly the principal, is expected to continue strengthening the strategy for developing the digital classroom by continuously improving teachers' digital competence. Training and mentoring in the use of learning technology should be conducted regularly so that all teachers have equal ability to use digital platforms in learning. (2) Teachers are expected to keep developing technology-based learning innovations using a variety of interactive and creative digital media. Teachers also need to improve their digital literacy and integrate technology into the planning, implementation, and evaluation of learning so that teaching and learning become more effective and engaging for students. (3) The government and education policymakers are

[18] Welidul Mustofa, "Manajemen Strategi Berbasis Berbasis Kompetensi," *Jurnal Akuntansi* 2, no. 1 (2026), https://journal.yapakama.com/index.php/JAMED.

expected to provide more optimal support in the form of technological infrastructure, training for educators, and policies that support the digitalization of education in schools. Such support is very important for expanding digital learning, especially in schools in areas with limited access to technology. (4) Future researchers are advised to study the implementation of digital learning using different approaches, such as quantitative or mixed-methods designs, to provide a more comprehensive picture of the effects of digital learning on students' learning outcomes, learning motivation, and digital competence.

BIBLIOGRAPHY

Aisyah, Juwita Nur, M. Alfi Aulia, Qurotul Ayuni, and Mualimin Mualimin. "Perencanaan Strategis Dalam Meningkatkan Kinerja Organisasi." *Jurnal Manajemen dan Pendidikan Agama Islam* 2, no. 4 (2024): 147–55. https://doi.org/10.61132/jmpai.v2i4.392.

Arbi, Zidan Fahman. "Transformasi Sosial dalam Pendidikan Karakter di Era Digital: Peluang dan Tantangan." *Social Studies in Education* 02, no. 02 (2024): 191–206. http://dx.doi.org/10.15642/sse.2024.2.1.191-206.

Darmansah, Tengku, Hadawiyanti Sinaga, Shakila Putri Suhara, and Maulana Harin Hanafi. "Strategi Pengembangan Kompetensi Guru Dalam Penguasaan Teknologi Pembelajaran." *Jurnal Ilmu Manajemen Dan Pendidikan* 01, no. 03 (2024). https://jurnal.kopusindo.com/index.php/jimp/index.

Fadillah, Zikry Indra. "Peran Kepala Sekolah Dalam Mendorong Inovasi Dan Perubahan Positif." *JME Jurnal Management Education* 2, no. 3 (2024). https://journal.sabajayapublisher.com/index.php/jme.

Firmansyah, Asep, and Nahnu Robid Jiwandono. "Kecenderungan Guru dalam Menerapkan Pendekatan Student Centre Learning dan Teacher Centre Learning dalam Pembelajaran." *Jurnal Guru Indonesia* 2, no. 1 (2022): 33–39. https://doi.org/10.51817/jgi.v2i1.229.

Fitriana, Dita Nanda, and Essa Nindia R. "Peran Inovasi Digital dalam Pengembangan Teknologi Pendidikan di Era Transformasi Pembelajaran." *Indonesian Journal of Education, Learning, and Evaluation* 1, no. 1 (2025): 41–48. https://doi.org/10.63199/idjele.v1i1.63.

Habibulloh, Muh., and Himad Ali. "Strategi Pendidikan Islam Di Era Digital." *Jurnal Manajemen, Pendidikan, dan Pemikiran Islam* 2, no. 2 (2024). https://journal.as-salafiyah.id/index.php/jmpi.

Hafizhah, Zhahratul. "Inovasi Pendidikan Era Revolusi Industri 4.0." *Seri Publikasi Pembelajaran* 1, no. 2 (2021).

Harahap, Fachry Fauzy, Fatimah Lubis, Mita Fitria, and Nora Khairani. "Jenis dan Karakteristik Inovasi Pembelajaran." *AMI – Jurnal Pendidikan dan Riset* 1, no. 2 (2023). http://jurnaltarbiyah.uinsu.ac.id/index.php/ami.

Mustofa, Welidul. "Manajemen Strategi Berbasis Berbasis Kompetensi." *Jurnal Akuntansi* 2, no. 1 (2026). https://journal.yapakama.com/index.php/JAMED.

Nisa, Khoirun, and Rusdiana Navlia. "Evaluasi Efektivitas Penggunaan Learning Management System (LMS) Dalam Meningkatkan Kualitas Pembelajaran Daring." *Psikosospen : Jurnal Psikososial dan Pendidikan* 1, no. 3 (2025). https://publisherqu.com/index.php/psikosospen/.

Resti, Resti, Rizka Annisa Wati, Salamun Ma'Arif, and Syarifuddin Syarifuddin. "Pemanfaatan Media Pembelajaran Berbasis Teknologi sebagai Alat Untuk Meningkatkan Kemampuan Literasi Digital Siswa Sekolah Dasar." *Al Madrasah Jurnal Pendidikan Madrasah Ibtidaiya* 8, no. 3 (2024): 1145. https://doi.org/10.35931/am.v8i3.3563.

Riska, Nina, Ila Rosmilawati, and Dase Erwin Juansah. "Integrasi Teknologi Ai Dalam Pembelajaran Adaptif Untuk Meningkatkan Keterampilan Abad 21 Di Sekolah Dasar." *Jurnal Inovasi dan Teknologi Pendidikan* 4, no. 1 (2025): 180–98. https://doi.org/10.46306/jurinotep.v3i1.

Rohyadi, Edi, and Cucu Atikah. "Peran Penting Teknologi Informasi Dan Komunikasi (TIK) Dalam Pendidikan." *Pendas : Jurnal Ilmiah Pendidikan Dasar* 09, no. 04 (2024).

Syahrizal, Hasan, and M. Syahran Jailani. "Jenis-Jenis Penelitian Dalam Penelitian Kuantitatif dan Kualitatif." *Jurnal QOSIM Jurnal Pendidikan Sosial & Humaniora* 1, no. 1 (2023): 13–23. https://doi.org/10.61104/jq.v1i1.49.

Wulansari, Eka, and Kaniati Amalia. "Strategi Kepala Sekolah Dalam Menerapkan Smart School Untuk Membangun Mutu Pembelajaran Di SMP Labschool Unesa 3." *e-Jurnal Inspirasi Manajemen Pendidikan* 12, no. 2 (2024): 333–47.