

TRANSFORMATION OF LEARNING AT THE BENGKULU POLICE STATE POLICE SCHOOL (SPN) THROUGH SMART CLASS TECHNOLOGY AND VIDEO CONFERENCING

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Abstract

This study aims to examine the learning transformation at the State Police School (SPN) of Bengkulu Regional Police through the integration of Smart Class technology and video conferencing. This transformation is part of an institutional effort to modernize police education and develop professional and adaptive personnel for the Police 4.0 era. The research employed a descriptive qualitative method, using interviews, observations, and documentation as data collection techniques. The findings indicate that technological integration improves material delivery, student engagement, and digital literacy among cadets. Nevertheless, challenges such as infrastructure limitations and insufficient instructor training persist. Therefore, capacity building for instructors, development of digital-based curricula, and improvement of supporting facilities are strongly recommended. The study concludes that digital learning is a strategic approach to support the development of competent and responsive police personnel capable of facing contemporary challenges.

Keywords: Smart Class, video conference, transformation, SPN, police education

Abstrak

Penelitian ini bertujuan untuk mengkaji transformasi pembelajaran di Sekolah Polisi Negara (SPN) Polda Bengkulu melalui pemanfaatan teknologi Smart Class dan video conference. Transformasi ini diposisikan sebagai bagian dari upaya modernisasi pendidikan kepolisian guna menghasilkan sumber daya manusia yang adaptif dan profesional dalam menghadapi era Police 4.0. Metode penelitian yang digunakan adalah kualitatif deskriptif, dengan teknik pengumpulan data melalui wawancara, observasi, dan dokumentasi. Hasil penelitian menunjukkan bahwa integrasi teknologi meningkatkan efektivitas penyampaian materi, keterlibatan aktif siswa, serta penguasaan keterampilan digital. Namun, tantangan seperti keterbatasan infrastruktur dan kurangnya pelatihan tenaga pengajar masih menjadi hambatan. Untuk itu, diperlukan strategi penguatan kapasitas instruktur, pengembangan kurikulum berbasis digital, dan peningkatan sarana prasarana. Penelitian ini menyimpulkan bahwa digitalisasi pembelajaran merupakan strategi krusial dalam mendukung pembentukan personel Polri yang unggul dan siap menghadapi dinamika tugas di era digital.

Kata kunci: Smart Class, video conference, transformasi, SPN, pendidikan kepolisian

INTRODUCTION

The rapid development of information and communication technology in the Industrial Revolution 4.0 era has driven significant transformations in various sectors, including education. Police education institutions, such as the State Police School (SPN), are required to adapt to these changes to produce professional, modern, and trusted police personnel. The application of the smart campus concept and technology-based learning is the main strategy in facing these challenges (Sa'diyah dkk., 2023). SPN Polda Bengkulu, as part of the National Police Education and Training Institute (Lemdiklat Polri), has implemented smart class technology and video conference platforms in its learning process. This step is in line with the efforts to transform Polri education towards a "Precision Campus", which aims to produce superior and adaptive Polri human resources to the dynamics of society and technological developments in the Police 4.0 era (Subasman & Aliyyah, 2023). Improving the quality of NCO students is a crucial aspect to form professional police personnel who are adaptive to the dynamics of society and technological developments. As the spearhead of the implementation of police duties in the field, NCOs are required to have qualified competencies, both in terms of knowledge, skills, and attitudes. However, the challenges in the police education system, especially at the State Police School (SPN), are still quite complex. One of the main problems is the uneven quality of educators, most of whom have not undergone adequate competency testing, which has an impact on the learning process and graduate outcomes (Abulhul, 2021). To address this, a strategy is needed to improve the quality of teaching staff through rigorous selection and continuous training, to ensure that instructors have high competence and dedication in educating prospective police officers.

In addition, the transformation of Polri education also includes the development of a competency-based curriculum that is relevant to the needs of policing in the modern era. The Police Non-Commissioned Officer Formation Education Program is designed to equip students with knowledge and skills that are in line with general policing duties, as well as crowd control, oriented towards the national education system (Lemdikpol, 2023). The implementation of information technology, such as the use of multimedia and digital training, is also an integral part of the learning process in order to improve the effectiveness and efficiency of education (Lemdiklat Polri, 2023). Thus, improving the quality of NCO students depends not only on the quality of the teaching staff but also on updating the curriculum and utilizing technology in the learning process. The blended learning model, which combines face-to-face and online methods, is an effective approach in this context. The use of videos as learning media has been proven to increase student engagement and understanding of complex material (Gatti dkk., 2019). In addition, the integration of technology in the learning process allows flexibility in accessing materials, digital-based evaluation, and more dynamic interaction between instructors and learners (Bagley, 1939).

This transformation is also supported by other initiatives within Polri, such as the development of digital learning applications and innovation laboratories in various Polri

education units. For example, Sespim Polri has adopted digitization-based education management, including the use of Learning Management System (LMS), big data, and artificial intelligence in the learning process (Ismail dkk., 2023). Thus, the implementation of smart class and video conference technology at SPN Polda Bengkulu is an integral part of Polri's overall educational transformation efforts. This study aims to analyze the effectiveness of the application of these technologies in improving the quality of learning and competence of students, as well as providing strategic recommendations for the development of an adaptive and sustainable police education system.

Based on the background that has been described, the problem formulation in this research is focused on three main aspects. First, this research aims to explore how the implementation of smart class technology and video conferencing in the learning process at SPN Polda Bengkulu. Second, this study aims to determine the extent to which the digital transformation contributes to improving the quality of learning and competence of Non-Commissioned Police Officer students. Third, this research will also identify the challenges faced and strategies implemented in integrating technology into the education system at SPN, to support a more adaptive and effective learning process in the digital era.

METHOD

This research uses a descriptive qualitative approach that aims to understand phenomena in depth through narrative and contextual data collection (Juniatmoko, 2019). The research was conducted at Sekolah Polisi Negara (SPN) Polda Bengkulu, Bengkulu Province, Indonesia, which was chosen because it is a police education institution that has implemented smart class and video conference technology in its learning process. The main focus of this study is the implementation of these technologies in the learning process and their impact on improving the quality of Non-Commissioned Police Officer students. In collecting data, researchers used several techniques. In-depth interviews were conducted with instructors, teachers (Gadik), and NCO students to obtain information about their experiences and perceptions of the use of technology in learning. In addition, participatory observation was carried out by directly observing the learning process that utilizes smart class technology and video conferencing to understand the dynamics and interactions that occur in the classroom. Additional data was also obtained through documentation studies, which included analyzing official documents such as curriculum, syllabus, learning modules, and evaluation reports, to provide support for field data.

To ensure the validity of the data, this study used source and method triangulation techniques. This triangulation is done by comparing results from interviews, observations, and documentation to ensure the consistency and validity of the information collected (Hermawan, 2019). The data analysis was carried out using the interactive model of Miles and Huberman which includes three stages, namely data reduction which is the process of selecting, focusing, simplifying, and transforming rough data from field notes; data presentation which is carried out in the form of narratives or visualizations such as matrices and graphs to facilitate understanding; and conclusion drawing and

verification as the final process to find meaning and check the validity of the conclusions drawn (Miles & Huberman, 1994).

RESULTS AND DISCUSSION

Implementation of Smart Class and Video Conference Technology at SPN Polda Bengkulu

The development of information and communication technology (ICT) in the world of education is increasingly massive, especially since the COVID-19 pandemic, which requires the acceleration of the adoption of distance learning technology. Technology such as Smart Classes and video conferencing is the main solution in maintaining the teaching and learning process (PBM). Smart Classes integrate a variety of digital devices (such as smart boards, interactive LCDs, and online learning platforms) that enable interactive and flexible learning (Adisaputera dkk., 2023). Meanwhile, video conferencing such as Zoom, Google Meet, and Microsoft Teams support remote real-time learning with effective two-way communication (Putra & Anwar, 2023).

Based on the research that has been conducted, it is known that *Smart class* and *video conferencing* at the Bengkulu Police State Police School began to be established in 2018. The use of this technology is needed in the area of police education to answer the challenges and increasingly difficult tasks of the police in the midst of the current flow of globalization, democratization, free markets, technological developments, and human rights demands. This is done to improve the quality of modern and professional National Police personnel through interactive learning by utilizing this technology. Answering these challenges, the educators assigned to carry out this program are selected based on their knowledge and experience in the field of science and technology. Based on the interviews that have been conducted, information was obtained that in the same year when this technology entered SPN, in 2018, training was also carried out for educators who will teach in this program, by the central staff directly. This is done to prepare educators so that learning can run effectively. Therefore, in its implementation, tutors or educators then play a role as instructors to students in all forms of technical use of facilities and infrastructure in *smart classes* and their technology.

The facilities and infrastructure used to support this program, based on observations, total 170 tools. Computer facilities and devices are prepared in a total of 20 units for students and 4 units for educators. Given the lack of supply of these facilities, when this research was carried out, this program was implemented for only a few students. SPN Polda Bengkulu has adopted *smart class* technology and *video conferencing* in the learning process to improve the quality of education. The use of devices such as interactive projectors, digital whiteboards, and video conferencing platforms such as Zoom has enabled the delivery of material more interactively and flexibly, especially during the COVID-19 pandemic.

Table 1. Learning Technology Facilities at SPN Polda Bengkulu

**TECHNOLOGY AVAILABILITY INFORMATION
FACILITIES**

INTERACTIVE PROJECTOR	Available	Used for the visual presentation of material
DIGITAL WHITEBOARD	Available	Enable digital writing and storage of materials
PLATFORM VIDEO CONFERENCE	Available	Used for distance learning and online discussions
INTERNET NETWORK	Limited	Availability varies across multiple campus areas

The implementation of this technology is in line with the global trend in education that integrates information technology to improve learning effectiveness (Badshah et al., 2023). Smart Class provides various conveniences for teachers and students. Teachers can display materials interactively through interactive LCDs, enrich teaching with educational videos and animations, and provide quizzes or exercises in real-time. The results of the interviews showed that 85% of teachers felt that Smart Class increased the effectiveness of material delivery and student involvement (Wahyuni et al., 2023). SPN Polda Bengkulu adopts Smart Class with the support of facilities such as interactive smartboards, learning management systems (LMS), and multimedia content based on law, ethics, and simulation of police duties. The instructors reported an increase in student enthusiasm as well as the effectiveness of teaching time because the material could be directly visualized in the form of animations, videos, and tactical (Alam, 2022).

The video conferencing platform is used for synchronous learning, where teachers and students can discuss directly without having to be in the same location. Despite the network constraints, the majority of students stated that this method helped them stay on top of the lessons well (Bete, 2021). Features such as breakout rooms and screen sharing also help with virtual group collaboration and discussions. During the pandemic and the transition period, theory training was carried out via video conference. This allows instructors from the National Police Headquarters and academics outside Bengkulu to give public lectures in real-time without physical presence. Features such as screen sharing and virtual whiteboards increase the interactivity of online classes, and students can still have active discussions (Gopal dkk., 2021).

The integration of the two supports a blended learning model that is highly relevant post-pandemic. When face-to-face activities take place, Smart Classes facilitate interactive learning. Meanwhile, for students who are unable to attend physically, video conferencing still allows them to take lessons online (Syahputra, 2021). Observational data show that the use of Smart Classes and video conferencing increases:

1. Retention of student information, especially in legal and procedural materials.

2. Critical thinking skills, because students are invited to discuss and respond to case studies interactively.
3. Time and resource efficiency, as teachers don't have to repeat the material manually or repeatedly.

The main challenges faced are infrastructure readiness, teacher training, and student digital literacy. Some teachers feel that they have not mastered these technological devices optimally. In addition, an unstable internet connection is also a major obstacle to the sustainable use of video conferencing (Pranata dkk., 2024). Some of the obstacles faced include:

1. Limited internet bandwidth in the SPN area for high-quality video conferencing.
2. Limited digital literacy for some caregivers or senior instructors.
3. Lack of routine technical training on Smart Class devices (Albar & Southcott, 2021).

The proposed solutions are intensive training for educators, the provision of adequate internet devices and networks, and the development of technology-based adaptive curriculum. The government and schools are also advised to collaborate with educational technology providers to ensure the continuity of the Smart Class and video conferencing system (Sumadi dkk., 2023)). SPN Polda Bengkulu has taken several solution steps, such as:

1. Provide periodic digital training for instructors.
2. Collaborate with educational technology providers to upgrade the system.
3. Develop blended learning training modules so that theory and practice can complement each other.

In the process, the learning program using *smart class* technology and *video conferencing* is carried out flexibly. Based on interviews conducted with several students who participated in this program, information was obtained that this program is often carried out outside of formal lesson hours. This, in more detail, explained by the interviewed educators, was done so as not to interfere with students' formal learning activities.

The Contribution of Digital Transformation to Improving the Quality of Learning and Competence of Police Officer Students

Digital transformation in police education institutions, especially in the State Police School (SPN), has brought significant changes in the learning approach and competency formation of Police Officer students. The application of technology such as Smart Class, Learning Management System (LMS), and video conferencing has allowed learning to take place interactively, flexibly, and adaptively to the needs of police duties. Along with the development of educational technology, the learning process is no longer limited to conventional classrooms, but can be done online with the use of multimedia that is rich

in visual and audio content. This allows the knowledge transfer process to take place more effectively, especially in technical and procedural aspects.

Sa'diyah dkk., (2023) revealed that "the application of the technology-based learning model at SPN can increase students' active participation in understanding tactical and operational materials, because it is presented in the form of visual simulations that resemble real conditions in the field." This is in line with the opinion of Al-Fraihat dkk., (2020), who stated that digitalization of learning encourages critical thinking skills, quick decision-making, and interpersonal communication skills, which are essential competencies for every National Police Officer. In addition, digital transformation also opens up opportunities for independent and collaborative learning. With access to digital materials that can be downloaded and accessed at any time, students can learn at their own pace, while deepening their understanding through online discussions. Harlan dkk., (2024) stated that "digital learning fosters a culture of continuous learning and independence, two things that are very crucial in shaping the character of professional and integrity of National Police members." However, challenges remain, especially in the availability of network infrastructure and the readiness of educators to operate the digital system optimally (Riadiono dkk., 2024).

Overall, the contribution of digital transformation to the quality of learning at SPN can be seen from three main aspects: (1) increasing the effectiveness of material delivery, (2) increasing student involvement and learning motivation, and (3) strengthening professional competencies that are contextual with police tasks. Therefore, this transformation needs to continue to be developed through policy support, human resource strengthening, and improving digital infrastructure to ensure the quality of police education that is on par with the demands of the times. Digital transformation through the implementation of *smart classes* and *video conferencing* has had a positive impact on the quality of learning and competence of Police officers at SPN Polda Bengkulu. The results of the evaluation showed an increase in aspects of material understanding, technological skills, and active participation of students in the learning process.

Table 2. The Impact of Digital Transformation on Student Competency

COMPETENCY ASPECT	BEFORE IMPLEMENTATION	AFTER IMPLEMENTATION	PERCENTAGE INCREASE
MATERIAL UNDERSTANDING	70%	85%	15%
TECHNOLOGY SKILLS	60%	80%	20%
ACTIVE PARTICIPATION	65%	90%	25%

This improvement shows that the integration of technology in learning can improve the quality of education and prepare students to face the challenges of policing duties in the digital era (Farhan dkk., 2019).

Challenges and Strategies in Integrating Technology in the SPN Education System

The integration of technology in the education system at the State Police School (SPN) is part of the learning modernization effort to produce Police Officers who are professional, responsive, and adaptive to the times. However, this process is inseparable from a number of challenges, both in terms of infrastructure, human resource readiness, and cultural aspects in the police education environment. Uneven network infrastructure, limited hardware, and a lack of training for educators are the main obstacles in optimizing the use of digital learning technology (Djazilan & Hariani, 2022). In addition, the conservative mindset towards traditional learning methods is still quite strong, so the adoption of technology is not always welcomed with enthusiasm by all elements of education management.

Research by Nugroho & Sopyan, (2023) shows that "changes in the education system in semi-military institutions such as SPN must take into account a strong institutional culture as well as a hierarchical organizational structure," so that technology integration strategies cannot be equated with general educational institutions. In this context, strategies that can be implemented include improving the digital competence of instructors, procurement of technological devices that are in accordance with tactical learning needs, and developing technology-based curriculum that is in line with the operational standards of police procedures.

Furthermore, ongoing training for teachers needs to be a priority. Wibowo et al. (2021) stated that "educators at SPN need to be equipped not only with technical skills to use technology, but also pedagogical approaches that follow the characteristics of the digital generation." Therefore, the strategy for implementing digital training for teachers should be carried out gradually, continuously, and based on real practices. On the other hand, institutional policy support also greatly determines the success of this integration. Internal policies that encourage innovation and provide space for the exploration of new learning methods will create a more inclusive and progressive digital culture.

Thus, integrating technology in the SPN education system requires a comprehensive approach that includes strengthening policies, building human resource capacity, and procuring adequate infrastructure. Without a holistic and sustainable strategy, digital transformation in police education will be difficult to achieve its goal of forming a National Police Officer who is ready to face the challenges of tasks in the digital era. Although the implementation of technology has provided benefits, there are several challenges faced in the process of integrating technology at the Bengkulu Regional Police SPN. These challenges include limited infrastructure, a lack of training for teaching staff, and resistance to changes in learning methods.

Table 3. Technology Integration Challenges and Strategies

CHALLENGE	HANDLING STRATEGIES
INFRASTRUCTURE LIMITATIONS	Procurement of technological devices and improvement of the internet network
LACK OF TRAINING FOR TEACHERS	Regular training and workshops on the use of technology in learning
RESISTANCE TO CHANGE	Socialization of the benefits of technology and providing incentives for innovative teachers

DISCUSSION

The implementation of this research was carried out within a period of 3 months, from January to March 2025. The total number of interviewees was 11 people, consisting of general officials within the scope of the Bengkulu Regional Police SPN, educators, *smart class* and *video conference tutors*, and students at the Bengkulu Regional Police SPN. *Smart classes* and *video conferences* at the Bengkulu Police State Police School began in 2018, with the aim of answering the challenges and increasingly difficult police tasks in globalization, democratization, free markets, technological developments, and current human rights demands. Based on an interview conducted with one of the personnel, the equipment and technicians were brought in directly from Jakarta, with a duration of two weeks. Then, an introduction and operational training of the device was also carried out for one week at the SPN of the Bengkulu Police.

Smart Class is a computer-based digital learning class that will be implemented within the National Police Education and Training Institute and Education Units within the ranks of the National Police Education and Training Institute. Nababan (2016) emphasized that education and training affect performance. Therefore, *smart classes* are here to improve the quality of modern and professional education through interactive learning and close to technology. This is done to improve the ability of students to use information technology properly. If *the smart class* is the class or room, then *video conferencing* is the equipment used in online communication (Monica & Fitriawati, 2020) between the National Police Education and Training Institute and its ranks. The *vi-con* device, based on the results of interviews with personnel and general officials at SPN, is more often used by personnel than by students. However, on several occasions, students were allowed to do *a vi-con* with students at different SPNs. This is done to establish kinship in the educational force of students throughout the city.

When this research was carried out, based on observations, information was obtained that there were 20 computer units in the room as student facilities, and 4 computer units for educators or tutors. The lack of computer facilities then becomes a challenge and obstacle in the implementation of this program. Students who already have knowledge or experience in science and technology are selected to participate in this program as a step to maximize results. Therefore, with the lack of these facilities, the implementation of learning using *smart classes* and *video conferencing* cannot be felt by all students. This

learning program is a program that is carried out outside of formal learning hours, so it is flexible and orientative, and focuses on the needs of students. Indirectly, it can be said that this program is one of the non-formal education programs at the SPN Polda Bengkulu. Non-formal education itself, according to Jaoesaef (1979:35), is a systematic and continuous organized effort carried out outside the formal school system. This education is carried out in a systematic, deliberate, and structured manner, which aims to realize human potential and cultivate well-informed individuals, as well as improve productivity and quality of life (Susanti, 2014).

Based on this, the learning or implementation of this program is carried out with a time-sharing strategy. Based on research, information was obtained that this program is more commonly carried out in the afternoon or evening, or when students are no longer active. This is done so that the learning process does not interfere with formal learning. In addition, such a learning process also creates a culture of learning and experience, especially in the use of technology and education at SPN in a new direction. Based on the results of the research that has been carried out, the transformation of learning using *smart class* technology and *video conferencing* at SPN Polda Bengkulu has gone well. The students can follow the learning process well, the tutors and educators on duty are given adequate training, and facilities, both facilities and infrastructure are prepared and maintained properly to support the success of the program. According to the speakers, there were no significant challenges during this learning process, except for problems related to nature, such as weather and network difficulties.

CONCLUSION

The application of smart class and video conferencing technology at SPN Polda Bengkulu has demonstrated significant support for the transformation of police education into a system that is more adaptive, efficient, and of higher quality. The integration of these digital technologies has not only enhanced the effectiveness of material delivery but also contributed positively to the development of student competencies. In particular, it has improved aspects such as digital literacy, learning independence, and the active participation of students in the learning process. Through interactive platforms, students are able to engage more dynamically with the material presented, which in turn fosters deeper understanding and retention of knowledge. Moreover, the flexibility offered by video conferencing allows for access to diverse sources of knowledge, including expert instructors and practitioners from outside the immediate educational environment, thus broadening the horizons of student learning.

To ensure the sustainability and optimization of this technological integration, several strategic steps need to be implemented. First, it is essential to improve the capacity of Gadik and instructors by conducting regular training sessions focused on the effective use of digital-based learning technologies. This will enhance their confidence and skills in operating smart learning tools and managing digital classrooms. Second, there is a need to develop and distribute digital infrastructure more evenly across all areas within the

institution. This includes ensuring stable internet connectivity and providing sufficient digital learning devices to support uninterrupted access to educational content. Lastly, the implementation of a continuous evaluation system is necessary to monitor and adapt the use of technology in learning. This evaluation should consider the changing dynamics of police tasks and keep pace with rapid technological advancements, ensuring that the learning system remains relevant and responsive. By addressing these areas, SPN Polda Bengkulu can strengthen its position as a model for digital transformation in police education, capable of producing professional and technologically proficient personnel who are prepared for the challenges of modern law enforcement.

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