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THE EFFECTIVENESS OF THE DIGITAL TECHNOLOGY-BASED EDUCATIONAL TRANSFORMATION MODEL TO STRENGTHEN POLICE PROFESSIONAL COMPETENCE
(Case Study at the College of Police Sciences, Jakarta)

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Abstract: This study aims to evaluate the effectiveness of the digital technology-based educational transformation model in improving the professional competence of students at the College of Police Science (STIK), Jakarta. Using a mixed method, this study involved 50 students who were surveyed to measure the level of satisfaction and impact of digital technology on professional competence. The results showed that 82% of college students felt better prepared for challenges in the field, while 78% reported improved analytical and investigative skills. The t-test showed p-value = 0.03, indicating the positive influence of digital technology on student competence. A qualitative approach through interviews and observations with 10 students and 5 teachers revealed that students felt more engaged and motivated, while teachers reported that technology supported more interactive learning, despite technical challenges. This study suggests improving technology infrastructure and teacher training to maximize the use of technology in learning. These findings can serve as a reference for police education institutions and other professional training institutions.

Keywords: Educational transformation, Digital technology, Professional competence

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INTRODUCTION

Improving the quality of education in Indonesia is a key aspect in preparing future generations to face various increasingly complex global challenges in the 21st century. Technological developments, globalization, and rapid social changes demand changes in the education system to be more relevant to the needs of the times. Quality education will produce human resources (HR) who are not only academically intelligent, but also have the skills needed by industry and society. Therefore, educational transformation is very important, both in terms of curriculum, teaching methods, and educational infrastructure. By improving the quality of education, Indonesia can produce individuals who are ready to compete at the global level while being able to make a positive contribution to the progress of the nation. One of the important steps in improving the quality of education is through the transformation of the curriculum that is more responsive to the needs of the community. The existing educational curriculum must be more adaptive to technological changes and social dynamics (Promise, 2024). Competency- and

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skill-based learning should be prioritized to ensure that students not only master theory, but also have practical abilities that are relevant to the challenges of the world of work and social life. In addition, the curriculum must also teach soft skills such as leadership, communication, and teamwork, which are becoming increasingly important in an increasingly connected and collaborative world. Thus, a curriculum that continues to evolve and is relevant to the needs of the community can prepare the younger generation to face greater and more diverse challenges. (Takamatsu, 2023). In this context, the transformation of digital technology-based education is a very relevant element, especially in improving professional competence, especially among members of the National Police (Vita Mayastinasari, Earliyanti, & Arnapi, 2024). Digital technology has the potential to redefine the learning process, making it more efficient, affordable, and accessible to more parties.

According to the Great Dictionary of the Indonesian Language, transformation means a change in form, form, and nature. Education, in Ki Hajar Dewantara's view, is a process of human learning as a whole, which lasts throughout life (Janah, n.d.). Educational transformation refers to continuous change efforts to develop lives and advance the quality of human resources. Therefore, educational transformation must always be carried out to remain relevant and effective in achieving better educational goals. This educational transformation is not only focused on curriculum changes, but also on the development of learning models that are more adaptive to technological developments (Ramadhani, Susanto, & Wicaksono, 2024). One of the methods that can be used is the application of digital technology in learning. By using an online learning platform, learning resources can be accessed anytime and anywhere, allowing members of the National Police to continuously update their knowledge and skills without time and place restrictions (Ilmi, 2024). This technology allows the National Police to improve their professionalism in dealing with the increasingly complex dynamics of police duties (AZMI, 2025)

The College of Police Science (STIK) has an important role in transforming the education of the National Police to be more in line with the demands of the times. So far, STIK has a limited institutional structure, with only one faculty providing education to produce professionals in the field of police. With a transformation based on digital technology, STIK seeks to redesign its institution into a more comprehensive Police College, by offering education that is not only limited to academic aspects, but also to technical and vocational skills needed in the police world.(Adi, 2023)

To support the vision *Precision Police* which is more responsive to the times, this institutional transformation is urgently needed. STIK will carry out institutional restructuring with a focus on the application of digital technology in the education and training process. Digital-based education allows for the use of more interactive online-based platforms, so that learning can be tailored to individual needs and can be accessed flexibly. Thus, members of the National Police can develop their competencies in an ongoing manner in accordance with the demands of the dynamic world of work. One of the main components in this educational transformation is the strengthening of the institutional capacity of higher education(May, 2021). For this reason, the development of the quality of teaching staff is a very important factor. Lecturers involved in National Police education need to be trained to master digital technology, so that they can design and deliver learning materials in a more engaging and effective way. Improving lecturer competencies through technology training will improve the quality of

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education received by students, as well as enrich their learning experience.

In addition, a technology-based learning management system can make it easier to manage materials, evaluate, and monitor student progress (Zhang, 2021). The National Police's education curriculum must be designed by integrating technological aspects, as well as introducing competency-based learning. This curriculum not only teaches theory, but also provides opportunities for members of the National Police to develop practical skills that are relevant to their daily tasks. An effective National Police education curriculum in the digital era must integrate technology as an integral part of the learning process (Nugraha, Aziz, & Mulyadi, 2023). Technology not only enriches the way of teaching, but also increases the effectiveness and efficiency of the training provided to members of the National Police. For example, the use of technology-based simulations, such as Virtual Reality (VR) or Augmented Reality (AR), can provide a practical experience in dealing with dangerous or unexpected situations without risk. Through this technology, members of the National Police can practice dealing with emergency situations, such as pursuits, riot control, or criminal events, in a safe and controlled environment. The integration of this technology can also introduce members of the National Police to the advanced information systems they will use in their daily work, such as software to analyze crime data or emergency situation management.

In addition to the technological aspect, the National Police education curriculum must also prioritize competency-based learning (Boeraswati, 2023). Competency-based learning emphasizes the development of skills that can be directly applied in daily tasks. For example, tactical training, effective communication skills, as well as the ability to use technological tools and investigative tools, should be part of the curriculum provided. With a competency-based curriculum, members of the National Police can learn and master practical skills that are directly relevant to the situations and challenges they face in the field (Nugraha et al., 2023). It also allows for education that is more focused on developing the quality of human resources who are ready to work and contribute directly to society, rather than relying only on theories that cannot always be applied practically. Providing opportunities for members of the National Police to develop practical skills relevant to their duties is essential in improving the quality of police services (Yulianti, Kardian, & Rokoyah, 2022). Therefore, the National Police's educational curriculum must include field training and hands-on practice in the field that can equip them with real skills, such as forensic investigations, riot control, and handling high-risk situations. The integration of practical experience in the curriculum also helps members of the National Police to be better prepared to face tasks and challenges that are often unexpected. By emphasizing learning based on real situations and measurable competencies, this curriculum not only improves the quality of teaching, but also ensures that members of the National Police have better abilities and readiness in carrying out their duties, and are able to respond better to the development of the times.

By using technology, the curriculum can be adapted to the latest developments in the world of policing and accommodate individual needs (Lili, 2024) The National Police Chief's action plan related to strengthening the National Police's human resources, such as improving the quality of education and training towards world-class education standards (*world class standard*), is also very relevant to this educational transformation. One of the priorities of the National Police Chief is to make the National Police human resources superior in the era of *Font 4.0*, which demands a change in the way the National Police carries out education and training.

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With the application of digital technology, Police education can be more effective in developing the skills needed in the field. In addition, the structuring of the curriculum on specialized education and general development is also an important part of this action plan. The technology-based education curriculum of the National Police must be able to address new challenges faced in the digital era, such as skills in data analysis, the use of information technology, and a deep understanding of social issues that can affect police duties. By developing a curriculum that is relevant to the needs of the times, the National Police will have human resources who are better prepared to face future challenges.

Finally, the transformation of education based on digital technology must be balanced with improving the quality of supporting infrastructure. Budget operation for the implementation of digital-based education must be carried out in a structured manner in the medium and long term. In addition, regulations related to career paths and the development of lecturers' academic positions must also be considered. Strengthening integrated, systemic, and systematic career paths will support the sustainability of this educational transformation. Thus, STIK which transforms into a police college based on digital technology will become an educational institution that is able to produce professional members of the National Police and are ready to face the challenges of their duties.

METHOD

This study uses a mixed method that combines quantitative and qualitative approaches to provide a more complete and comprehensive picture of the effectiveness of digital technology-based educational transformation models in strengthening students' professional competencies at the College of Police Science (STIK), Jakarta. This study uses surveys to collect quantitative data. The survey consisted of questionnaires distributed to 50 STIK students involved in digital technology-based learning programs. The data collected from the survey will be analyzed using descriptive statistical techniques to describe the results in general, in addition to a t-test analysis is carried out to improve students' professional competence. This qualitative approach uses in-depth interviews and observations. Several students and teachers will be interviewed to explore their opinions on the implementation of digital technology in learning. Data obtained from interviews and observations will be analyzed using thematic coding.

RESULT AND DISCUSSION

A. Results of Student Satisfaction Survey for Digital Technology-Based Learning

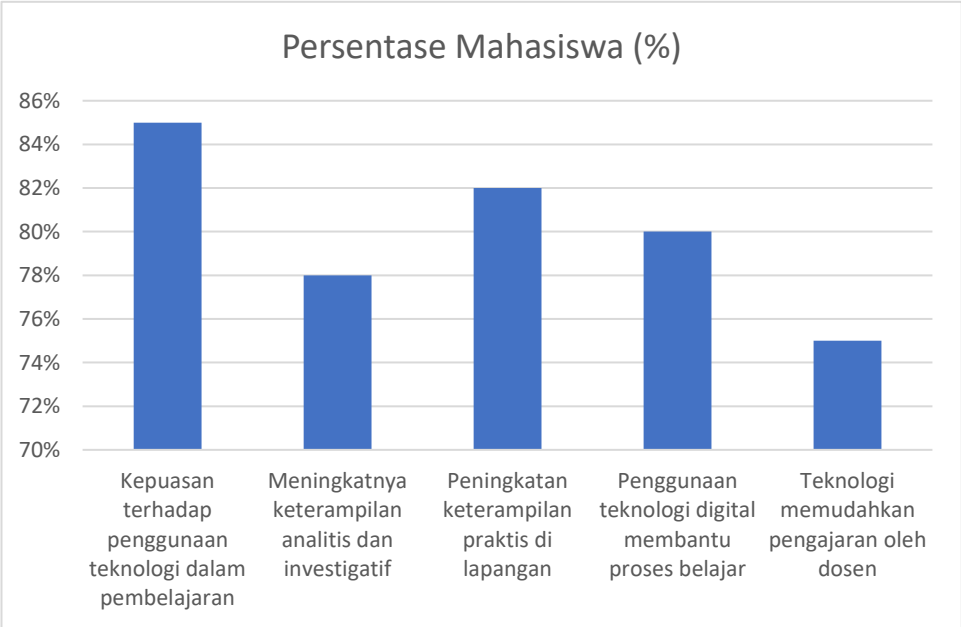
Quantitative data was collected through a survey of 50 STIK students involving questions related to their level of satisfaction with technology-based learning and its impact on their professional competence. The table below shows the results of the survey which includes students' satisfaction levels with technology-based learning, as well as their perceptions of improving professional competence

Yes	Statement	Percentage of Students (%)

1	Satisfaction with the use of technology in learning	85%
2	Increased analytical and investigative skills	78%
3	Improvement of practical skills in the field	82%
4	The use of digital technology helps the learning process	80%
5	Technology facilitates teaching by lecturers	75%

The table above presents data on the level of student satisfaction with the use of technology in learning at the College of Police Science (STIK). Based on the survey results, most students are satisfied with the use of technology in the teaching and learning process, with 85% of students expressing high satisfaction with the use of this technology. In addition, as many as 82% of college students report that their practical skills in the field have improved thanks to the use of digital technology, suggesting that technology is not only helpful in theoretical learning but also in practical applications in the real world.

In addition, the data also shows that digital technology plays an important role in improving students' analytical and investigative skills, with 78% of respondents admitting to an improvement in this aspect. As many as 80% of students also feel that the use of digital technology facilitates the learning process, making it easier for them to understand the material more effectively. However, although technology is very beneficial in learning, only 75% of students feel that technology makes teaching easier by lecturers, indicating that there is still room for improvement in terms of the application of technology in teaching.



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From the data above, it can be seen that most students are satisfied with the use of technology in learning, with **85%** stating that they are satisfied with the use of technology in learning. This shows that digital technology makes a positive contribution to the student learning experience.

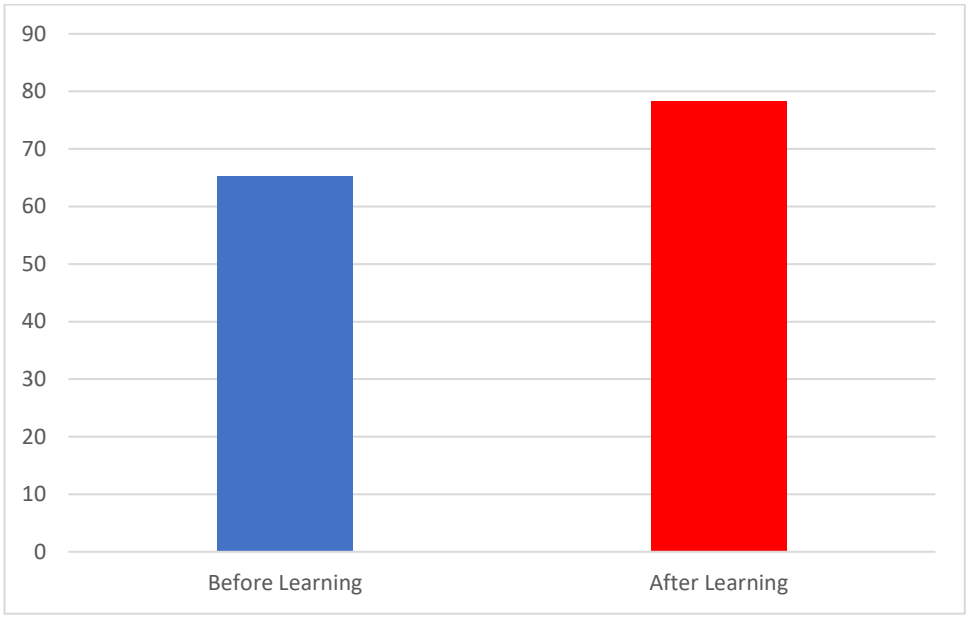
B. The Influence of Technology Use on Professional Competence

The t-test was carried out to measure the difference in student competency scores before and after participating in digital technology-based learning. The results of the t-test showed p-value = 0.03, which indicates that there is a significant influence between the use of digital technology and the improvement of students' professional competence.

Group	Mean	Standard Deviation	Number of Samples	P-Value
Before Learning	65.2	5.4	50	
After Learning	78.3	4.9	50	0,03

The table above shows descriptive statistics that illustrate students' competency scores before and after participating in digital technology-based learning. In the "Before Learning" group, the average student competency score was 65.2, with a standard deviation of 5.4, indicating that there was considerable variation in student competency scores before the implementation of digital technology. Meanwhile, in the "After Learning" group, the average score increased to 78.3, with a standard deviation of 4.9, indicating a decrease in score variation and a more even increase among students after participating in technology-based learning.

This significant increase in average competency scores shows that the use of digital technology in learning has a positive impact on improving students' professional competence. Although there is a slight difference in score variation, i.e. a decrease in standard deviation, this can be interpreted that students tend to show more consistent results in mastering the material after being given technology-based training. These findings support the results of the t-test showing p-value = 0.03, which indicates a significant difference between pre- and post-learning scores, which proves that digital technology plays a role in effectively improving student competence.



The diagram shown illustrates the comparison of student competency scores at the Police Science College (STIK), Jakarta, before and after participating in digital technology-based learning. In the Pre-Learning category, which is indicated by a blue bar, the student's competency score is around 60, indicating a lower level of competence before the application of technology in the learning process. In contrast, in the After Learning category (with red bars), the average score of student competencies increased significantly, reaching around 78. This shows a clear improvement in student competence after participating in digital technology-based learning.

The improvements reflected in this diagram support the key findings in this study, which focuses on the effectiveness of digital technology-based educational transformation models for strengthening students' professional competencies. The transformation of digital technology-based education has been proven to have a positive impact on improving the quality of learning and professional skills of students at STIK Jakarta, in accordance with the purpose of research that wants to explore the role of technology in improving professional competence in the context of police education.

C. Student Satisfaction with Digital Technology-Based Learning

The qualitative results of this study were obtained through in-depth interviews with 10 students and 5 teachers, as well as observations of digital technology-based learning sessions at the College of Police Science (STIK), Jakarta. Based on interviews and observations, several main themes were found that reflect the experiences, challenges, and perceptions of students and teachers towards the use of digital technology in learning. First, most college students report that they feel more engaged and motivated after using technology in learning. They consider that technology provides a more interactive and real-case learning experience**.** In police learning, the use of simulations, videos, and interactive applications allows them to better

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understand material that was previously difficult to understand. Students also stated that technology makes training materials feel more practical and more relevant to the challenges they will face in the field.

However, students also face several technical challenges in using digital technology. Some students revealed that they had difficulty operating the new software used in technology-based simulations and training. In addition, internet connection problems and device limitations are obstacles for some students in accessing learning materials optimally. Despite this, the majority of students feel that this challenge can be overcome with further guidance and infrastructure improvements. On the other hand, teachers report that the use of digital technology in learning allows them to present more interactive and real-world-based materials**.** Teachers stated that technology allows them to make learning more engaging by using realistic simulations of police incidents. Teachers also feel that technology makes it easier for them to provide real-time feedback to students, which speeds up the process of understanding and learning students.

However, the lecturer also revealed challenges related to training and mastery of technology. Some teachers feel that they need more training to be able to make the most of technology in the teaching process. They also note that some of the technologies used require additional time and effort to master, which can interfere with the smooth teaching at first. However, they believe that with more intensive training, the use of technology will be more effective in enriching learning and improving the quality of teaching.

Overall, the qualitative results show that the use of digital technology in police education at STIK Jakarta has a positive impact on increasing student involvement and making teaching easier. However, technical challenges and the need for further training for students and teachers are factors that need to be considered in further development. Strengthening infrastructure and providing adequate technology training for teachers and students will be critical to ensure that technology can be optimally utilized in future digital technology-based learning.

Manuscript Layout

The research manuscript guide includes a basic structure that includes a title that describes the core of the research, an abstract that summarizes the objectives, methods, results, and conclusions, and relevant keywords. The introduction explains the background, objectives, and importance of the research, followed by a literature review that connects theory and previous research. The research methodology outlines the approaches used, data collection techniques, and analysis procedures. The results and discussion section presents the main findings and interpretation of the data, while the conclusion summarizes the results of the research and provides recommendations. Finally, the bibliography lists the references used, and the appendices contain additional instruments or data that support the research. This structure ensures that manuscripts are organized systematically and easily understood.

CONCLUSION

The conclusion of this study shows that the application of digital technology in education at the Police Science College (STIK), Jakarta has a significant impact on improving

students' professional competence. Based on the quantitative results, there was a significant increase in student competency scores after participating in digital technology-based learning, with a higher average score after the application of technology. The t-test showed a significant difference between the score before and after learning, with p-value = 0.03, which confirms that digital technology plays an important role in improving students' skills and competencies in the context of police education.

From the qualitative results, it was found that students and teachers felt the benefits of technology-based learning, especially in terms of interactivity and more real practical experiences through simulations and technology applications. Despite challenges related to infrastructure and training, these findings reinforce the belief that digital technology can be an effective tool in optimizing learning and strengthening students' professional competencies. Therefore, it is recommended to continue to develop and improve the application of digital technology at STIK Jakarta, by providing more intensive training for teachers and improving technology infrastructure to support the successful implementation of technology-based learning in the future.

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