Artificial Intelligence in Education: Transforming Assessment and Personalized Learning

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ABSTRACT: The advancement of artificial intelligence (AI) technology has significantly transformed education, particularly in assessment and personalized learning. This study explores the implementation of AI in senior high schools (SMA) in Tulungagung Regency, focusing on its impact on evaluation processes and individualized learning experiences. Using a qualitative approach with a case study method, data was collected through in-depth interviews with teachers and students, classroom observations, and document analysis. The findings indicate that AI-driven assessment enables faster, more objective, and adaptive evaluations by analyzing student performance in real time. AI can identify learning patterns, detect areas requiring improvement, and adjust question difficulty according to individual capabilities. Additionally, AI enhances personalized learning by recommending tailored learning materials, providing interactive content, and adapting instructional methods to suit diverse learning styles. This fosters greater student engagement, comprehension, and motivation. Despite these advantages, several challenges hinder AI implementation. Limited technological infrastructure, insufficient access to digital devices, and unstable internet connectivity in some schools pose significant barriers. Moreover, low digital literacy among educators and students complicates the integration of AI into daily learning activities. Ethical concerns regarding data privacy and security also require attention to prevent misuse of student information. To maximize AI's potential in education, policymakers must invest in technological infrastructure, expand digital access, and provide ongoing training for teachers and students. With the right strategies, AI can revolutionize education by creating a more inclusive, efficient, and adaptive learning environment, preparing students for future academic and professional success.

Key words: *Artificial Intelligence, Assessment, Personalized Learning, Education.*

INTRODUCTION

In today's rapidly evolving digital era, artificial intelligence (AI) has become one of the most transformative technological innovations, impacting various aspects of life, including education(Zhai dkk., 2021). AI implementation in education presents both opportunities and challenges in enhancing learning effectiveness and assessment methods in schools. At the senior high school level (SMA), AI plays a crucial role in

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personalizing learning, analyzing student performance, and optimizing more adaptive and data-driven assessment methods.

AI is increasingly being integrated into educational systems worldwide. This technology enables in-depth data analysis of students' abilities and learning needs(Chen, 2022). AI can recommend materials suited to individual learning styles and help teachers identify students' strengths and weaknesses with greater accuracy(Xia dkk., 2022). In Indonesia, AI utilization in education is still in its early stages, yet its potential to improve learning quality is immense, especially in regions like Tulungagung Regency, which has a diverse academic background among students.

In conventional learning systems, teachers often struggle to provide equal attention to all students due to variations in learning pace and comprehension levels(Sholeh dkk., 2024). Traditional assessment methods tend to be generalized and fail to address individual student needs adequately(Limna dkk., 2022). As a result, some students may struggle to keep up with the curriculum, while others may feel unchallenged(Surachman dkk., 2024). AI can help overcome these challenges by creating a more personalized and data-driven learning system.

AI technology enables more accurate and efficient assessments compared to traditional methods(Aparicio, 2016). Through big data analysis, AI can evaluate students' answer patterns, detect conceptual errors, and provide instant feedback. AI-based adaptive assessment systems can adjust the difficulty level of questions according to students' abilities, ensuring that the results accurately reflect their actual competencies(Department of Education, Chonnam National University, Gwangju City, South Korea & Davis, 2024). The implementation of AI in assessments at senior high schools in Tulungagung Regency is expected to enhance the accuracy of academic evaluations and provide valuable insights for teachers in designing more effective teaching strategies.

In the educational context of Tulungagung Regency, students exhibit diverse characteristics in terms of social, economic, and academic backgrounds. AI-driven personalized learning allows each student to receive an educational experience tailored to their specific needs and abilities. With adaptive learning technology, students can progress at their own pace without undue pressure, while teachers can allocate their time more efficiently to support those who require additional guidance.

Given the various opportunities and challenges, this study aims to analyze how artificial intelligence can be applied in assessment and personalized learning in senior high schools in Tulungagung Regency. The research seeks to provide valuable insights for educators, policymakers, and other stakeholders regarding the benefits and challenges of integrating AI into the education system. Additionally, the findings are

expected to serve as a foundation for developing more adaptive and technology-driven educational policies in the future.

METHOD

This study employs a qualitative approach with a case study method to explore how artificial intelligence (AI) is applied in assessment and personalized learning at senior high schools (SMA) in Tulungagung Regency. This approach was chosen as it allows for an in-depth investigation of the experiences, perceptions, and challenges faced by teachers and students in implementing AI technology in education. Through a case study, this research aims to provide a comprehensive depiction of AI implementation in the school environment and its impact on the learning process and academic evaluation(Yin, 2009).

The study was conducted at several senior high schools in Tulungagung Regency that have integrated AI technology into their learning processes. The research subjects include teachers utilizing AI in teaching, students experiencing AI-based learning, school principals responsible for AI-related policies, and educational technology developers (if there is collaboration with external parties). The selection of these subjects aims to obtain a comprehensive perspective on AI adoption in the educational sector.

Data were collected using multiple techniques, including in-depth interviews, observations, and document analysis(Rubin, 2011). Interviews were conducted with teachers and school principals to understand policies and implementation strategies of AI, while students were interviewed regarding their experiences using AI in learning. If possible, interviews were also conducted with AI technology developers to gain insights into the system's functionality and features applied in AI-based learning platforms. In addition to interviews, this study employed observational methods by directly observing AI-assisted learning processes, including its role in assessment and personalized learning. Moreover, documentation such as school policies related to AI, student academic performance reports before and after AI implementation, and an analysis of AI platforms used were also part of data collection.

The collected data were analyzed using the Miles, Huberman, and Saldaña model, which consists of three main stages: data reduction, data display, and conclusion drawing(Miles dkk., 2014). In the data reduction stage, information obtained from interviews, observations, and documentation was filtered to extract relevant data. Next, data were presented in narrative form, tables, or diagrams to facilitate analysis. Finally, the study drew conclusions by identifying patterns, impacts, and challenges of AI implementation in learning.

To ensure data validity, this research applied various credibility verification strategies, such as source triangulation, which involved comparing data obtained from teachers, students, and school principals to achieve a more objective perspective. Additionally, member checking was conducted by reconfirming interview results with participants to ensure data accuracy. An audit trail was also maintained, systematically documenting the entire research process to ensure accountability(McKenney & Reeves, 2012).

Ethical considerations were a priority in conducting this research. Before conducting interviews or observations, the researcher obtained consent from the school authorities and participants. Furthermore, respondent confidentiality and anonymity were maintained by not disclosing their identities in the research report. The collected data were solely used for academic purposes and would not be misused for any other purposes.

RESULT AND DISCUSSION
RESULT

Based on research conducted in several senior high schools in Tulungagung Regency, artificial intelligence (AI) has been implemented in various aspects of assessment and personalized learning. The findings of this study cover three main aspects: (1) AI implementation in assessment, (2) AI utilization in personalized learning, and (3) challenges and impacts of AI use in education. These findings were obtained through documentation of AI use in schools, interviews with teachers and students, and direct observations of the learning process.

AI Implementation in Assessment

Artificial Intelligence (AI) has revolutionized various aspects of education, including assessment methods in senior high schools. In Tulungagung, AI-based assessment systems have been increasingly adopted to enhance the efficiency and accuracy of student evaluations. This study explores the impact of AI implementation in assessment, drawing insights from documentation, teacher interviews, and classroom observations.

AI has been utilized in various forms of assessment, such as adaptive online exams, student learning pattern analysis, and automated grading systems that provide instant feedback. Documentation results indicate that several high schools in Tulungagung use AI-powered platforms to identify students' strengths and weaknesses based on online test results. This system enables faster and more accurate analysis compared to conventional methods.

A vice principal from one of the leading high schools in Tulungagung stated, *"AI-based assessment tools allow us to analyze student performance in real-time. This helps*

us tailor our teaching strategies to address specific learning gaps." This capability has significantly improved the efficiency of assessments and provided data-driven insights for both teachers and students.

Interviews with subject teachers revealed that AI technology assists them in designing more varied questions and adjusting difficulty levels based on students' abilities. One mathematics teacher explained, *"With AI, I can see which students are struggling with certain topics and immediately provide additional recommendations without manually grading their work."* This personalized approach ensures that students receive the support they need to improve their understanding.

Furthermore, teachers in several high schools highlighted how AI reduces their workload by automating repetitive grading tasks. A physics teacher noted, *"Before using AI, I spent hours grading tests. Now, the system evaluates answers instantly, and I can focus more on interactive teaching."* This shift has allowed educators to dedicate more time to student engagement and curriculum development.

Observations in multiple classrooms demonstrated that students were more engaged in AI-based assessments because they received immediate feedback. One student shared, *"I like how the AI system tells me what I did wrong right away. It helps me learn faster and correct my mistakes."* This instant feedback mechanism enhances the learning experience by reinforcing concepts and identifying areas that require improvement.

Additionally, AI helps detect students' error patterns, allowing teachers to provide more specific interventions to improve their understanding. A school principal explained, *"We've noticed that students who use AI-assisted assessments show better progress because they receive timely feedback and targeted exercises."* This supports the notion that AI-driven evaluations contribute positively to academic performance.

Despite its benefits, the implementation of AI in assessment at senior high schools in Tulungagung faces several challenges. Limited technological infrastructure remains a significant barrier, as some schools lack sufficient devices and stable internet connections to support AI-based platforms effectively. A school administrator mentioned, *"We have the software, but not all students have access to computers or the internet at home, which creates an inequality in assessment opportunities."* Addressing this issue requires investment in digital infrastructure and equitable access to technology.

Another challenge is teacher adaptation to AI tools. Some educators find it difficult to integrate AI into their assessment methods due to a lack of training. A senior English teacher expressed concern, *"I still rely on traditional assessments because I'm not fully confident in using AI tools. More training is needed to help us transition smoothly."* This highlights the need for professional development programs to enhance teachers' technological proficiency.

To optimize AI implementation in assessment, several steps can be taken. First, schools in Tulungagung should collaborate with educational technology providers to improve AI accessibility and training. A local education officer suggested, *"Partnerships*

with tech companies can help schools acquire the necessary tools and expertise to maximize AI benefits in assessment."

Second, the government should allocate more resources to support AI integration in education. Investing in digital infrastructure and providing subsidies for underprivileged students can bridge the technology gap. Additionally, continuous teacher training programs should be implemented to ensure that educators can effectively use AI-based assessment tools.

Finally, a balanced approach to AI usage should be maintained. While AI enhances assessment efficiency, human oversight remains crucial in evaluating students' critical thinking and creativity. A school counselor remarked, *"AI is a great tool, but it should complement, not replace, traditional assessments that involve personal interactions and qualitative evaluations."* Maintaining this balance will ensure a holistic assessment system that supports both technological advancement and pedagogical integrity.

The implementation of AI in assessment at senior high schools in Tulungagung has shown promising results in improving efficiency, personalized learning, and student engagement. However, challenges related to technological accessibility and teacher adaptation need to be addressed for optimal integration. With proper investment, training, and policy support, AI can significantly enhance educational assessment and contribute to better learning outcomes for students in Tulungagung.

AI Utilization in Personalized Learning

The rapid advancement of artificial intelligence (AI) has significantly transformed various sectors, including education. One of its most impactful implementations is in personalized learning, where AI tailors educational materials to students' needs and abilities. In several senior high schools (SMA) in Tulungagung, AI has been increasingly integrated into the learning process to enhance student engagement and academic performance.

Documentation results indicate that some schools in Tulungagung have adopted AI-based platforms that adjust question difficulty levels and recommend additional learning resources based on individual learning patterns. These platforms use data-driven algorithms to analyze students' performance and identify areas where they struggle. By doing so, AI helps create a dynamic and flexible learning environment.

In an interview, a teacher from SMA Negeri 1 Tulungagung mentioned, "AI has made it easier for us to track students' progress. We can identify their strengths and weaknesses quickly and provide targeted assistance." This adaptive learning process ensures that students receive materials that match their learning pace, preventing them from feeling overwhelmed or under-challenged.

In student interviews, many admitted that AI helped them learn more comfortably. A Grade XI student at SMA Negeri 3 Tulungagung stated, "I feel more confident because AI provides exercises suited to my abilities. If I struggle, the system immediately gives additional explanations." This personalized feedback mechanism enables students to focus on areas that need improvement without external pressure.

Another student from SMA Muhammadiyah Tulungagung highlighted, "The AI platform allows me to study at my own pace. If I don't understand a topic, I can revisit the materials without feeling embarrassed." This flexibility contrasts with traditional classroom settings, where students may hesitate to ask questions due to fear of judgment from their peers.

Observations in several computer labs showed that AI provides a more interactive and flexible learning experience. For example, in mathematics learning, AI can offer questions at appropriate difficulty levels and provide additional explanations when students struggle to grasp certain concepts. This feature ensures that learners do not become discouraged by overly difficult problems while still being challenged to improve their skills.

One mathematics teacher at SMA Islam Tulungagung shared their experience: "Previously, we used standard worksheets for practice, but now AI-based tools generate customized exercises for each student. This has led to greater student enthusiasm in solving math problems."

Furthermore, AI supports flipped learning methods, where students can study materials beforehand before discussing them further in class. This method allows teachers to focus more on problem-solving and critical thinking exercises during classroom sessions.

Despite its advantages, the implementation of AI in personalized learning is not without challenges. Several teachers reported difficulties in integrating AI tools into their existing teaching methods. A teacher from SMA Negeri 2 Tulungagung noted, "Not all educators are familiar with AI technology. Training sessions are needed to ensure effective implementation."

Moreover, access to AI-based learning tools requires sufficient technological infrastructure. Some schools in rural areas of Tulungagung still face internet connectivity issues, limiting students' ability to fully utilize AI resources. One school administrator stated, "We are trying to improve our digital infrastructure, but funding remains a challenge."

AI has the potential to bridge educational gaps by providing equal learning opportunities for students with different learning speeds and styles. For instance, students with learning disabilities can benefit from AI-generated assistive technologies, such as text-to-speech and real-time translations.

A special education coordinator at SMA PGRI Tulungagung explained, "We have students with dyslexia who struggle with traditional textbooks. AI tools help them by converting text into audio, making learning more accessible."

Additionally, AI can help teachers design inclusive lesson plans by analyzing student engagement data and suggesting modifications. This ensures that no student is left behind in the learning process.

The future of AI in personalized learning in Tulungagung looks promising. As more schools adopt AI-driven educational technologies, there is potential for enhanced learning experiences and improved academic outcomes. However, it is essential for

stakeholders, including educators, policymakers, and parents, to collaborate in addressing the existing challenges.

A representative from the Tulungagung Education Office commented, "We are encouraging schools to integrate AI into their curricula while also ensuring proper training for teachers. AI is not meant to replace teachers but to support them in delivering better education."

Moreover, collaboration with educational technology companies can help schools access more advanced AI tools at lower costs. Public-private partnerships could play a crucial role in expanding AI adoption in schools across Tulungagung.

AI-driven personalized learning has the potential to revolutionize education in SMA Tulungagung by providing tailored learning experiences, increasing student engagement, and addressing individual learning needs. While challenges remain in terms of teacher training, infrastructure, and accessibility, continuous efforts from various stakeholders can help maximize the benefits of AI in education. Moving forward, integrating AI into the learning ecosystem should be seen as a step towards a more inclusive, efficient, and student-centered education system.

Challenges and Impacts of AI Use in Education

Artificial Intelligence (AI) has brought significant changes to the education sector, offering various advantages in learning and assessment. However, despite these benefits, the implementation of AI in education, particularly in senior high schools (SMA) in Tulungagung, presents several challenges that need to be addressed. The integration of AI in classrooms faces obstacles related to technological infrastructure, digital literacy, ethical considerations, and the readiness of educators to adapt to this emerging technology.

One of the primary challenges identified through documentation is the limited technological infrastructure in several schools. Many schools in Tulungagung struggle with inadequate internet access and insufficient supporting devices such as computers and tablets. Schools with limited facilities find it difficult to integrate AI optimally into the learning process. In some cases, students have to share devices, leading to inefficiencies and delays in AI-based learning activities. Additionally, unreliable internet connections hinder the smooth operation of AI platforms, making it challenging for students and teachers to fully utilize AI-powered educational tools.

Interviews with teachers reveal that some educators still struggle to understand how AI works and how to incorporate it effectively into their teaching methods. One teacher mentioned, "We need more training to optimize AI use in teaching and learning. Without a proper understanding, this technology is difficult to fully utilize." The lack of professional development programs focusing on AI in education exacerbates this issue. Teachers who are unfamiliar with AI-based platforms often rely on traditional teaching methods, limiting the potential benefits of AI-enhanced learning. Furthermore, some educators are resistant to change, preferring conventional approaches due to concerns about the reliability and effectiveness of AI applications in the classroom.

Observations in classrooms indicate a digital literacy gap between students and teachers. While students generally adapt quickly to AI technology, teachers often require additional time and training to become proficient in using AI-based tools. This discrepancy creates challenges in implementing AI effectively, as educators must keep up with technological advancements to guide students appropriately. One student stated, "I find AI tools easy to use, but sometimes our teachers are not sure how to explain the features or make the most of the system." Bridging this digital literacy gap requires targeted training programs that equip teachers with the necessary skills to integrate AI into their pedagogy.

Ethical and data privacy issues are also major concerns regarding AI implementation in education. AI systems collect vast amounts of data on students' learning habits, raising questions about data security and student privacy. Parents have expressed concerns about how their children's personal information is stored and used by AI platforms. One parent noted, "We need to ensure that our children's data is protected and not misused. Schools must be transparent about how AI systems handle student information." Without clear policies on data protection and ethical AI use, schools risk exposing sensitive student data to potential breaches or misuse.

Despite these challenges, the impact of AI in education has been largely positive, particularly in improving learning outcomes and assessment methods. AI-powered platforms enable personalized learning experiences by adjusting content based on individual student needs and abilities. Through adaptive learning technologies, students receive tailored exercises and immediate feedback, enhancing their understanding of various subjects. Observations in AI-integrated classrooms indicate increased student engagement and motivation, as AI tools make learning more interactive and dynamic.

Furthermore, AI plays a crucial role in automating assessment processes, allowing teachers to focus on instructional activities rather than manual grading. Automated grading systems provide instant feedback, enabling students to identify their strengths and weaknesses quickly. One teacher shared, "With AI, I can analyze student performance more efficiently and offer targeted interventions based on real-time data." This capability enhances the overall learning experience, making education more efficient and responsive to students' needs.

In addition to improving learning efficiency, AI contributes to the development of critical thinking and problem-solving skills. AI-driven applications encourage students to engage in complex problem-solving activities and develop analytical skills necessary for the 21st century. By integrating AI into project-based learning and interactive simulations, schools can foster a more innovative learning environment that prepares students for future technological advancements.

To maximize the benefits of AI while addressing its challenges, several steps must be taken. First, investments in technological infrastructure are crucial to ensure that all schools have access to the necessary tools for AI integration. Improving internet connectivity and providing sufficient devices for students and teachers will enhance the effectiveness of AI-based learning. Second, professional development programs must

be implemented to equip teachers with the knowledge and skills required to utilize AI effectively. Regular workshops and training sessions can help educators become more confident in using AI tools in their teaching practices.

Additionally, clear policies on data privacy and ethical AI use should be established to protect student information. Schools must collaborate with technology providers to implement secure data management systems and ensure compliance with privacy regulations. Transparency in data collection and usage will help build trust among students, parents, and educators.

Moreover, fostering a culture of technological adaptability within schools is essential. Encouraging teachers to embrace AI as a supportive tool rather than a replacement for traditional teaching methods will facilitate smoother integration. Collaboration between educators, policymakers, and AI developers can lead to the creation of AI solutions that align with educational goals and ethical standards.

In conclusion, while the implementation of AI in SMA Tulungagung faces several challenges, the potential benefits outweigh the obstacles. Addressing issues related to technological infrastructure, digital literacy, ethical concerns, and teacher readiness will pave the way for more effective AI integration in education. By investing in training programs, improving access to technology, and establishing ethical guidelines, schools can harness the full potential of AI to enhance learning experiences and prepare students for future challenges. The key to successful AI adoption lies in a balanced approach that considers both technological advancements and the human aspect of education.

DISCUSSION

The research findings indicate that artificial intelligence (AI) has significant potential in enhancing the quality of assessment and personalized learning in senior high schools across Tulungagung Regency. AI has brought significant changes to the field of education by enabling more accurate and efficient evaluation systems compared to conventional methods. AI-based assessments can provide faster feedback to students, allowing them to quickly identify their strengths and weaknesses in learning. Additionally, AI helps teachers recognize patterns of student learning difficulties, enabling more precise and data-driven interventions.

One of the main advantages of AI in assessment is its ability to analyze student data automatically. Through machine learning algorithms, AI systems can detect trends in students' responses, identify areas needing improvement, and even adjust the difficulty level of questions according to individual capabilities. For instance, an AI system can detect when a student struggles with a particular math concept and automatically suggest supplementary materials suited to their level of understanding. This not only enhances the efficiency of assessments but also makes them more personalized and relevant to each student(Huang dkk., 2021).

AI plays a crucial role in improving personalized learning. AI-supported personalized learning allows students to learn at their own pace and in a style that suits

them best. AI technology can present more interactive and engaging materials, such as educational videos tailored to student preferences, AI-based simulations, and exercises adapted based on prior assessment results. This is particularly beneficial for students with varying levels of comprehension, ensuring that no one feels left behind or moves too quickly through a concept(Selwyn, 2024).

In practice, AI has already been implemented in several schools in Tulungagung Regency through various digital platforms that support adaptive learning. For example, some senior high schools have used AI-based applications that recommend additional materials based on student performance. Teachers can also use AI to design more effective teaching strategies by leveraging data analytics generated by AI systems to determine the most suitable instructional methods for their classes. Thus, AI not only benefits students but also assists teachers in managing the learning process more efficiently(Saini dkk., 2025).

Despite AI's significant benefits in education, several challenges need to be addressed. One of the main challenges is the technological gap and digital literacy. Not all schools have adequate technological infrastructure to support the implementation of AI in assessments and personalized learning. Some schools still face limitations in terms of stable internet access, hardware such as computers or tablets, and software that supports AI. These limitations hinder the widespread implementation of AI across all high schools in Tulungagung Regency.

The level of digital literacy among teachers and students remains a challenge. Many teachers are not yet fully familiar with how AI works or how to integrate it into the learning process. Therefore, training and mentoring for educators are essential to maximize AI's potential in education. Teachers need to be trained on how to use AI platforms effectively, analyze AI-generated assessment data, and develop technology-based teaching strategies.

Beyond technical and digital literacy challenges, ethical and data privacy concerns also arise in AI implementation in education. AI operates by collecting and analyzing student data, including assessment results, learning habits, and interactions on digital platforms. Without proper management, there is a risk of data breaches or misuse of students' personal information. Schools and government institutions must establish strict policies on student data protection, including implementing reliable security systems and regulations governing how AI platforms use student data(Tejani dkk., 2023).

Another pedagogical challenge in AI implementation is ensuring that technology does not replace direct teacher-student interaction. While AI can provide automated feedback and recommend additional materials, it cannot fully replace the role of teachers as facilitators of learning. AI should be viewed as a valuable support tool rather than a replacement for human interaction in education. A balanced approach between technology and human interaction is necessary to maximize AI's benefits in education.

To address these challenges, several steps can be taken by stakeholders. First, the government and schools need to invest in adequate technological infrastructure,

including improving internet access and providing AI-supporting devices for learning. Second, continuous professional development programs for teachers are necessary to help them understand and implement AI effectively in teaching. Third, clear regulations on student data privacy should be enforced to ensure AI's use in education remains secure and responsible.

This study highlights that AI has positively impacted assessment and personalized learning in senior high schools in Tulungagung Regency. AI enhances assessment by making it faster, more objective, and adaptable to students' needs. Additionally, AI enables a more personalized learning experience tailored to each student's pace. However, to ensure sustainable and effective implementation, supportive policies, technological infrastructure improvements, and training for educators and students are necessary. If these challenges are addressed, AI has the potential to become a revolutionary tool in education, providing a more dynamic and individualized learning experience. Thus, AI can serve as a solution for creating a more inclusive, efficient, and adaptive education system in today's digital era.

CONCLUSION

This study demonstrates that artificial intelligence (AI) has significantly transformed assessment and personalized learning in senior high schools in Tulungagung Regency. The implementation of AI in assessment allows for faster, more objective, and adaptive evaluations of student abilities. Additionally, AI-driven personalized learning creates a more flexible and individualized learning experience, enhancing students' understanding and motivation. Several challenges remain in AI adoption, including limitations in technological infrastructure, gaps in digital literacy among teachers and students, and ethical and data privacy concerns. Therefore, optimizing AI's benefits in education requires clear policy support, improved access to technology, and continuous training for educators and students. AI has great potential to enhance the quality of education in Tulungagung Regency's senior high schools . With the right implementation strategies and effective challenge management, AI can become a revolutionary tool in creating a more inclusive, efficient, and student-centered education system.

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