AI AND DIGITAL COMMUNICATION INTEGRATION IN LEARNING: THE GOVERNMENT'S ADAPTIVE STRATEGY FOR CITIZEN RESPONSIVE EDUCATION IN THE DIGITAL AGE

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Abstract

The use of artificial intelligence (AI) and digital communication has changed the educational landscape, bringing new challenges and opportunities to the learning process. However, this technological integration requires a wise approach to maintaining a balance between technology and human interaction. This study aims to analyze how the use of AI technology and digital communication can shape the dynamics of modern education, explore potentials, challenges, as well as emerging social and ethical implications. This study adopts a descriptive qualitative approach, with data obtained from previous studies that are relevant to the role of AI and digital communication in the educational context. Through data analysis, this study identified best practices in using AI technology, challenges in integrating it, and its impact on the roles of teachers and students. The results of this study underscore the need for a holistic approach in the use of technology in education, by preserving the essence of human education and designing sustainable strategies to respond to technological changes. By deeply understanding the implications of using AI technology and digital communication in education, we can form a solid foundation for facing challenges and opportunities in digital era education.

Keywords: *Artificial Intelligence (AI), Digital Communication, Learning, Education, Digital Age.*

A. INTRODUCTION

The development of artificial intelligence (AI) technology has experienced a tremendous spike from year to year. Its emergence with features, functions, and views that are continuously updated not only has an impact on various aspects of human life but has also penetrated into the world of education (Lu et al., 2021). It is no longer surprising that artificial intelligence is now participating in the learning process at various levels of education, both in elementary schools and in tertiary institutions. Artificial intelligence has become a key component in the evolution of educational technology, which has major implications for the changing landscape of human work in the future (Laupichler et al., 2022).

In the discourse on educational technology, it needs to be recognized that the application of this technology in the learning process is still uneven. During the increasingly fierce competition in the current era, there are still educational institutions that are reluctant or unable to adopt this technology into their teaching methods. In fact, in this all-digital era, educational institutions must be able to make good use of technological advances that have been born to provide convenience to educators and students (Cui et al., 2023). Schools should be able to take advantage of various applications or media that are capable of automating tasks such as providing feedback to students, choosing learning materials that are appropriate to their level of development, and adapting the curriculum according to the individual needs of each student (Kasneci et al., 2023).

Furthermore, the integration of AI in education does not only stop at the use of tools or applications. Artificial intelligence technology can help create a more personal and adaptive learning environment. By analyzing data from each student, AI can help identify their specific

learning needs and provide recommendations on the most appropriate learning materials or strategies. This provides an opportunity to address common educational problems, such as gaps in students' abilities or problems of boredom due to material that is too easy or too difficult. Thus, the learning approach can be more focused and effective (Kabudi et al., 2021).

However, along with the benefits, several challenges need to be overcome in integrating AI into digital communication in education. One of them is the resistance of some teachers or educators who may feel threatened by the presence of this technology (Dwivedi et al., 2023). Some may worry that their role will be replaced by AI in providing feedback or even designing curricula. Therefore, a careful approach to outreach and training is needed to ensure that teachers understand that their role remains crucial in guiding and inspiring students, while AI can be a valuable tool (Zhang et al., 2022).

In addition, it is important to think about the ethical implications of using AI technology in education. Especially in the context of digital communication with students, it is necessary to pay attention to how student data is managed and safeguarded so that it is not misused (Cooper, 2023). Privacy protection and data security are aspects that cannot be ignored. AI integration must also be able to create an inclusive environment, ensuring that students of various backgrounds and ability levels continue to benefit equally, without discrimination or unintentional bias in the recommendations or assessments provided by AI (Rizi & Seno, 2022).

In seeing the potential for the integration of AI and digital communication in education, it is not just imagining the role of AI in providing subject matter or feedback. AI also has great potential in developing interactive and engaging learning platforms. For example, using educational chatbots that can answer student questions quickly and accurately, or even designing realistic learning simulations to understand complex concepts. In this way, the learning process can become more dynamic and keep abreast of the latest technological developments (Thurzo et al., 2023).

However, like all technologies, the integration of AI in education must also be followed by regular evaluation and adjustments. The educational environment is constantly changing, as are the needs and preferences of students. Therefore, it is important to continue to monitor the effectiveness of using AI technology in supporting digital communication in learning (Bennani et al., 2022). Based on the brief explanation above, this research then decided to look at how the integration of artificial intelligence and digital communication in the world of education, as well as government strategies in this digital era.

B. LITERATURE REVIEW

1. Artificial Intelligence

According to Hutahaean, Artificial Intelligence refers to machines that can think, weigh the actions to be taken, and can make decisions like those of humans. Artificial Intelligence (AI) or Artificial Intelligence is a branch of computer science that is concerned with automating intelligent behavior. This statement can also be used as a definition of AI (Gao et al., 2023). This definition shows that AI is part of the computer so it must be based on theoretical sound and application principles from the field. These principles include the data structures used in knowledge representation, the algorithms needed to apply that knowledge, and the programming languages and techniques used to implement them. Artificial intelligence technology is studied in fields such as robotics, computer vision, artificial neural networks, natural language processing, speech recognition, and expert systems (Borrego-Díaz & Galán-Páez, 2022).

Meanwhile, according to Dedi Nugraha and Sri Winiarti Artificial Intelligence is a branch of science related to the use of machines to solve complex problems more humanely. This is usually done by following/imitating the characteristics and analogies of thinking from human intelligence and applying them as algorithms known to computers. A more or less

flexible and efficient approach can be taken depending on the needs, which affect how the behavior of artificial intelligence manifests (Korteling et al., 2021). AI is usually associated with Computer Science but is also closely related to other fields such as Mathematics, Psychology, Observation, Biology, Philosophy, and others. The ability to combine knowledge from all of these fields will ultimately benefit progress in efforts to create artificial intelligence (Gibson et al., 2023).

The definition of artificial intelligence is a process in which mechanical equipment can carry out events using human-like thinking or intelligence. Several other experts define artificial intelligence as follows:

a. H. A. Simon: "Artificial intelligence (artificial intelligence) is an area of research, applications, and instructions related to computer programming to do things that -in human eyes - are intelligent"
b. Rich and Knight: "Artificial intelligence (artificial intelligence) is a study of how to make computers do things that humans can currently do better" (Ekaningrum et al., 2023)

According to Lenat and Feigenbaum, there are nine goals of Artificial Intelligence, namely:

a. Understand human cognition
   Trying to gain deep knowledge of human memory, problem-solving skills, learning, making decisions, etc.
b. Cost-effective automation
   Replacing humans in intelligence tasks, having programs that perform as well as humans in doing work.
c. Cost-effective intelligence strengthening
   Building systems to help humans think better, faster, deeper, and more. Example: a system to help diagnose disease.
d. Superhuman intelligence
   Build programs that can exceed human intelligence.
e. General problem-solving
   Wide range of problem-solving systems, this system has a breadth of mind.
f. Discourse is coherent
   Communication with humans uses natural language, for example, intelligent dialogue in the Turing Test.
g. Learning (induction)
   The system should be able to obtain its data and know how to obtain it, the system can generalize, make hypotheses, apply or learn heuristically, and reason by analogy.
h. Autonomy
   Having an intelligence system that acts on its initiative and must react to the real world.
i. Information
   Store information and know how to retrieve information (Saghiri et al., 2022).

2. Digital Communications

Communication is an integral part of everyday life that occurs in the process of interaction with the involvement of two or more individuals. Communication can occur if the parties involved have the same understanding of the language used. Therefore, West & Turner stated that the main purpose of communication is understanding. The failure of communication occurs because there are obstacles to being able to understand the meaning conveyed (Dirani et al., 2020).

Etymologically, communication comes from the Latin "communis" which can be interpreted as an effort to create togetherness between parties. In English, the word

communication is called "communicate" which means "exchange of thoughts"; "announcement" or "discussion together". Communication is the process of conveying messages from one party to another through certain communication channels. The party that sends the message is called the communicator, while the party that receives the message is called the communicant (Rasyid & Suyanto, 2022). A simple example of communication is a conversation that occurs between two parties. The first party becomes the communicator, while the second party is the communicant, audience, target, or listener. What is conveyed in communication is called the message, while the media used to convey the message is called the channel (Ainissyifa et al., 2022).

Communication that occurs between humans involves the exchange of signs or symbols that are expressed verbally or non-verbally, which are understood both by the party that is the sender/transmitter and the recipient of the sign/symbol. Communication can be realized if there is a uniform understanding of the meaning of the signs or symbols conveyed in the interactions that occur. Without this uniformity of understanding, the signs or symbols conveyed cannot achieve the fundamental purpose of communication (Maloney et al., 2020).

In simple terms, it can be stated that digital communication is the process of delivering messages or information from communicators to communicants using digital media. Digital communication has characteristics that are far different from traditional communication (Priyowidodo et al., 2021). The first difference lies in the process of forming, packaging, and presenting messages, where digital communication has advantages in terms of speed and convenience. Furthermore, in terms of the attractiveness of the message, it is also far superior to digital communication because of a variety of technological features that allow messages to be packaged and delivered in unique and attractive ways (Dutta et al., 2023).

The high appeal of digital communication is the basis for forming a very large response from the recipient of the message. The magnitude of the response is also influenced by the wider reach of digital communication, which can even ignore the factors of place and time, where communicators and communicants can communicate with each other or send messages even though they are in far-flung places (Gaynor & Gimpel, 2021). Messages in digital communication can be accessed by the communicant quickly or at a time that is different from the time the message is delivered by the communicator. In other words, the flexibility of message delivery and access is another characteristic that distinguishes digital communication from traditional communication (Jandevi, 2019).

3. Learning

According to Thorndike learning is a process of interaction between stimulus and response. According to Thorndike, changes in behavior can be in the form of something that can be observed or something that cannot be observed (Drummond & Niv, 2020). According to Watson, learning is a process of interaction between a stimulus and a stimulus-response, in which the response is in the form of observable behavior. In other words, Watson ignores the various mental changes that may occur in learning and considers them as factors that do not need to be known because these factors cannot explain whether the learning process has occurred or not (Vervliet & Boddez, 2020).

Hull argued that a person's behavior serves to maintain survival. Therefore biological needs and the satisfaction of biological needs occupy a central position. According to Hull, needs are conceptualized as drives, stimuli are almost always related to biological needs (Stults-Kolehmainen, 2023).

Guthrie argued that learning is an associative link between a particular stimulus and response. Stimulus and response are critical factors in learning. Therefore it is necessary to provide frequent stimulus so that the relationship is more lasting. A response will be stronger (and even become a habit) if the response is related to various stimuli. Guthrie argued that

punishment plays an important role in the learning process. According to him a punishment given at the right time will be able to change a person's habits (Lavuri et al., 2023). An example of a girl who every time she comes home from school always throws her clothes and hat on the floor. His mother ordered his son to wear clothes and hats again. Then came back out, and entered the house again while hanging his clothes and hat on the hooks. After doing this several times, the response of hanging up hats and clothes becomes associated with the stimulus of entering the house (Matthews & Reddy-Best, 2023).

Robert Gagne argues that learning is not a single process but a broad process formed by the growth and development of behavior, where behavior is a cumulative process of learning. This means that many of the skills learned contribute to learning more complex skills. According to Gagne, learning contributes to the adaptations needed to develop logical processes, so that the development of behavior (behavior) is the result of cumulative learning effects. He further explained that learning is not a single process. Learning according to Gagne cannot be defined easily, because learning is complex (Sosa, 2022). Learning outcomes are capabilities. After learning, people have skills, knowledge, attitudes, and values. The emergence of these capabilities comes from (1) stimulation from the environment; and (2) students' cognitive processes. Thus, learning is a set of cognitive processes that change the nature of environmental stimulation, passing information processing into new capabilities. Also argued that learning is a broad factor that is shaped by growth, the development of behavior is the result of the cumulative aspect of learning (Marini et al., 2022).

Based on this view, Gagne defines the notion of learning formally that learning is a change in human disposition or capability that lasts for a period of time and is not solely caused by a growth process. The change takes the form of a behavior change. This can be known by comparing the behavior before learning and the behavior obtained after learning (Sak, 2023). Changes in behavior can take the form of changes in the capabilities of types of work or changes in attitudes, interests, or values. The change must be sustainable over a period of time and can be distinguished from changes due to growth, for example, changes in height or muscle development and others (Pung et al., 2020).

C. METHOD

This research will be applied using a descriptive qualitative approach that is relevant to the issues discussed above, especially regarding the use of artificial intelligence (AI) and digital communication in the educational context. The data that will be accessed and processed comes from various previous studies and studies related to educational technology, AI capabilities, human-technology interaction, and changes in learning paradigms. In this approach, the focus of research will be on an in-depth understanding of how technology is integrated into the learning process, its impact on the roles of teachers and students, as well as the constraints and potential in its application in education. The collected data will be processed by identifying patterns, trends, and findings that emerge from previous studies. In the analysis process, best practices will be identified in the use of AI technology, the challenges faced in adopting it in an educational context, as well as the social and ethical implications that arise from the integration of technology in learning. The results of this research are expected to provide deeper insight into how AI and digital communication technology can support and change education, as well as provide direction for the development of appropriate strategies in dealing with these changes sustainably (Agustianti et al., 2022).

D. RESULT AND DISCUSSION

1. Independent Learning

Every parent has an important role in identifying the hidden potential, interests, and talents in every child. Every child has uniqueness and potential that needs to be discovered and

developed from an early age. Why is this important? Because if we succeed in recognizing and teaching skills according to children's interests at a young age, then children can continue to develop them during their education at school (Smith & Wood, 2020). One of the skills that can be taught early is the ability to control and monitor learning, which is often referred to as independent learning. This concept equips students with the skills to proactively transform their mental potential into academic abilities through processes of thinking, feeling, and acting that help them achieve their learning goals.

Learners who can organize and control their learning in this way gain an edge. Both at home and at school, through both parental support and teacher guidance, they can navigate the speed of change brought about by the era of artificial intelligence. They can better understand and manage the boundaries and challenges that arise during the learning process. However, on the ground, the reality may be different. Although independent learning skills have clear benefits in an academic sense, there are still many children who do not get adequate opportunities at school to explore and practice these skills under teacher guidance. The use of informal digital learning applications, such as Youtube, Instagram, or Tiktok, by children can cause them to be too free in learning and ultimately result in unproductive learning. It appears that schools tend to support more formal educational technologies, such as e-books or animated videos.

However, to return to the relevant question, are our children able to control and navigate themselves in the context of artificial intelligence? This choice presents a dilemma: by relying on artificial intelligence in learning, we simultaneously give technology greater control. This has the potential to get children used to the convenience of automation, which can hinder the development of very important independent learning skills. Therefore, the role of parents and teachers is very important in providing guidance, supervision, and evaluation to children. They need to assist children in building a balanced learning system, which combines educational technology with independent learning abilities.

In facing this challenge, parents and teachers need to provide proper assistance to children. They need to provide direction that helps children realize the full potential of educational technology without compromising their ability to learn independently. Parents and teachers need to help children understand how technology can be used as a tool to support learning, not as a substitute for independent skills. In addition, there is a need to emphasize the development of critical thinking skills and problem-solving that do not only depend on technology but also individual skills.

Teaching children to develop independent learning skills in line with technological advances is an important challenge in today's education. The utilization of educational technology, including artificial intelligence, must be balanced with efforts to form a generation that has independence in learning and critical thinking. In this effort, collaboration between parents, teachers, and technology will form a solid educational foundation for children to face an increasingly complex future.

2. Liaison Between Students and Teachers

In an era of increasingly sophisticated and connected education, there is a bias phenomenon that needs attention when children develop independent learning skills and when they interact with educational technology. The concept of independent learning focuses on giving students the freedom to explore and process information (Hu et al., 2021). Meanwhile, the use of digital tools in learning raises fundamental questions, namely who is responsible? Is that responsibility attached to the student, the teacher, or even the digital tool itself? Here, digital communication, which is also a new form of student-teacher relationship, becomes even more important.

Digital educational tools can collect large amounts of data about learning processes. Furthermore, artificial intelligence technology (Artificial Intelligence) can analyze and process the data to understand the learning process in more depth. However, the question that arises is whether the data and algorithms from artificial intelligence can empower students and teachers. Of course, to achieve this goal, students and teachers need to have strong skills in making optimal use of this technological support.

There are several things to note in this regard. First, students and teachers must have the ability to adapt to new situations and tasks. The era of artificial intelligence (Artificial Intelligence) is bringing more rapid social change, and the use of digital tools is increasingly widespread in educational settings. Therefore, cooperation between teachers and students in understanding and integrating technology is very important to ensure its effectiveness.

Second, students and teachers need to develop productive collaboration skills, both with fellow humans and with artificial intelligence technology (Artificial Intelligence). Social skills and regulatory abilities such as planning and monitoring are especially relevant in this context. When students work collectively with technology in groups, positive social interaction and organizational abilities become important factors that support a good learning process.

Third, it needs to be recognized that socio-emotional support also has an important role in helping students face complex learning challenges. In this context, the role of family and parents is very meaningful in providing emotional support and guidance to students. With this support, students can better understand and manage their own emotional and motivational states. In addition, students need to adopt adaptation skills on a small scale to be able to make significant progress. For example, they can take initiative, set learning goals, and independently monitor their progress, both in collaboration with peers and in interactions with artificial intelligence technologies. All of these skills and competencies are essential to produce a free and effective learning environment amidst the increasingly dominant presence of technology.

In the development of an increasingly modern world of education, there have also been significant changes in the way of communication between students and teachers. Digital communication, as a new form of communication between students and teachers, plays a crucial role in the context of education in the era of artificial intelligence. Through digital tools such as online learning platforms, instant messages, email, and various other applications, efficient and instant communication between teachers and students becomes easier to realize. This allows students to interact with the teacher outside of formal lesson time, seek help or clarification when needed, and share their views and understanding of the subject matter.

Digital communication also presents the possibility of distance learning or hybrid learning, in which teachers can provide instruction virtually via video conferencing or video recording platforms. This opens the door for students to access quality learning without having to be in the same physical location as the teacher. However, in using digital communication, a thorough understanding of ethics in communication is required, as well as an awareness of the importance of maintaining ethics in forms of online interaction.

In addition, artificial intelligence technology can also be applied in the form of chatbots or virtual assistants in learning contexts. Chatbots can provide students with immediate assistance with questions about assignments, course materials, or general information. However, the use of chatbots also raises questions about the role of human interaction. While digital communication is helpful, it is also important to maintain the human aspects of learning, such as supporting face-to-face interactions, collaboration within groups, and immersive, direct communication between teachers and students.

Thus, digital communication has become an important means of connecting students and teachers in the world of modern education. However, while technology brings great advantages in expanding the reach and efficiency of communications, it is also important to strike a balance between human interaction and technology. This will ensure that the human

aspect of the learning process is maintained, while still leveraging technological advances to support a richer and more rewarding learning experience.

3. Utilization of Digital Communication in Learning

Digital communication has become one of the main aspects of the transformation of the world of education. The digital era brings significant changes in the way we interact, including in the context of learning. In this case, the use of digital communication has great potential to change the way learning is done, improve teaching quality, and prepare students to face global challenges (Oliveira et al., 2021). First of all, the use of online learning platforms has revolutionized the way students and teachers interact. With discussion forums, students can participate in online discussions about specific topics, share their views, and learn from multiple perspectives. This not only develops students' communication skills but also allows them to gain wider insights from their classmates in different parts of the world.

In addition, digital communication also allows for more effective collaboration between students and teachers. With a variety of collaborative tools such as Google Docs or Microsoft Teams, students can work together virtually on group projects or assignments. This not only teaches them about cooperation and coordination but also helps hone the technological skills that are essential in the digital age. Not only students benefit from digital communication, but also educators. Teachers can use online communication platforms to provide direct feedback to students on their work. This reduces the distance between teachers and students, creating a more inclusive and responsive learning environment.

In addition, the use of digital communication also encourages continuous learning outside the classroom. With online learning resources such as video tutorials, e-books, and online courses, students and teachers have unlimited access to develop knowledge in various fields. It stimulates the spirit of lifelong learning and opens the door for deeper exploration. However, in adopting digital communications, it is important to consider the challenges that may arise. One of them is the problem of accessibility. Not all students have stable access to the internet or adequate devices. This is what creates the digital divide among these students. Therefore, efforts are needed to ensure that all students have equal opportunities to utilize digital communication in learning.

Furthermore, the protection of privacy and security is also an important issue in digital communication in education. Student data and personal information must be strictly guarded and used only for educational purposes. Robust systems to manage data and prevent potential security breaches must be put in place. In addition, it is important to integrate digital communication into an effective learning strategy. The use of technology should not only be an additional tool but must follow a pedagogy that is by learning objectives. Teachers need to have a deep understanding of how to properly integrate technology in every aspect of the curriculum.

In looking to the future, digital communication in learning will continue to develop along with technological developments. The use of artificial intelligence (AI) and data analysis will further change the way we measure student progress and provide more personalized learning recommendations. However, even though technology continues to advance, the human role in guiding, motivating, and inspiring students remains irreplaceable. The use of digital communication in learning has great potential to bring about positive changes in education. By leveraging online platforms, collaborative tools, and online learning resources, learning approaches can become more inclusive, responsive, and sustainable. However, challenges such as the digital divide and privacy concerns must be taken seriously. With wise use, digital communication can become a strong pillar in creating an innovative and adaptive learning environment.

4. Application of AI in Learning Activities

In an era of increasingly dynamic change, two approaches can be taken to implement artificial intelligence (AI) in educational environments. The first approach is the transfer of some of the tasks that are usually done by the teacher into the AI system. In this case, AI acts as an individual tutor who provides learning tailored to the needs of each student (Valle-Cruz et al., 2020). This kind of intelligent technology has gained wide application in various classrooms in the form of smart tutor systems. An alternative approach to using AI is to make it support human intelligence, assisting in carrying out the learning process more effectively and efficiently.

There is no denying that the role of AI in education is very diverse and sophisticated. Along with the times, the demands to adapt and collaborate in solving problems are increasing. Artificial intelligence enables learning content customization capabilities, which gives students access to materials that match their interests and needs. This brings a more relevant and interesting learning experience, motivating students to be more actively engaged in learning.

One clear example of using AI in education is the concept of Virtual Mentors. Through the Internet which has now become universal, programs such as Virtual Mentors are used to disseminate information and knowledge through various media. This system works as a multimedia environment with integrated eLearning, which shows higher effectiveness than traditional classroom instruction. Besides that, the Learning by Asking (LBA) approach provides substantial interaction in learning. This involves using components such as Video Streaming Server and Web Server, which work to generate relevant queries based on video analysis. The use of this technology facilitates learning that is more efficient managerially and financially.

One interesting AI implementation is the voice assistant feature. This feature allows users to learn without having to read, replacing human cognitive processes in absorbing information. Voice Assistant also has applications in helping teachers understand student perspectives. The use of this technology opens up opportunities to optimize the learning experience and increase interaction in the classroom.

Meanwhile, the Smart Content concept includes applications that present actual data such as weather reports, the latest news, alarms, and stock market reports. Its function is to provide access to the latest reading materials from newly released books, as well as assist students in finding information that is relevant to their learning needs. This ability is also applied in dividing digital textbooks into chapters, making it easier for students to find the information they want.

Furthermore, Presentation Translator technology facilitates the translation of presentation text from different languages into the desired language. With this technology, users can listen to speeches, articles, or digital books in foreign languages and get translations into their native languages immediately, without having to involve in the time-consuming manual translation process.

In all of these contexts, the application of artificial intelligence in education opens up great opportunities to improve the efficiency, accessibility, and quality of learning. However, it is important to always consider the balance between technology and the human aspects of learning, to create a holistic and effective learning experience.

5. Government Strategy for Education in the Digital Age

The Indonesian government has a central role in ensuring that educational transformation that focuses on the digital era can run effectively and evenly throughout the country. The strategy developed must consider various aspects, including the application of artificial intelligence (AI) and digital communication, as well as maintaining a balance between technology and human interaction (Anshari & Almunawar, 2022). First, the government can

develop a national action plan that focuses on the use of technology in education. This involves providing adequate digital infrastructure throughout the region, including broad and affordable internet access, as well as distributing appropriate technology tools to students and teachers.

Furthermore, strategic steps must also be taken in terms of training for teachers and teaching staff. Education for educators in the use of technology, the integration of AI in learning, and digital communication will ensure that they have the skills necessary to deliver quality teaching in a digital environment. Encouraging the development and adoption of interactive and inclusive digital learning platforms is also an important step. The government can collaborate with private institutions and non-profit organizations to create platforms that are following the national curriculum, can accommodate the diversity of student learning styles, and have features that support communication between students and teachers.

The government also needs to promote the development of educational content that is innovative and follows the needs of the times. This includes creating teaching materials that are responsive to AI technologies, integrating interactive features, and exploring the potential of media such as videos, animations, and simulations to enhance student understanding. In addition, steps to ensure accessibility for all levels of society must be prioritized. The government needs to design programs that provide subsidies or assistance to families who have difficulty meeting educational technology needs. This will ensure that access gaps are minimized, and all students have equal opportunities in digital learning.

Empowering teachers in adopting technology and AI is also an important focus. Governments can support the formation of learning communities and the exchange of experiences between teachers, as well as provide incentives for those who successfully integrate technology into learning. Evaluation and monitoring systems need to be strengthened, by using technology to measure the impact of implementing digital education strategies. The resulting data can be used to identify areas that need improvement, as well as guide more effective policy planning.

Encouraging research and development in the field of digital education and AI also needs to be done. The government can provide financial support and incentives for research institutions and universities to conduct research that focuses on the development of educational technology. In this case, the involvement of various parties such as the technology industry, educational institutions, and the general public is very important. The government can initiate strategic partnerships between the public and private sectors, and listen to the aspirations and input of various stakeholders in shaping digital education policies. Finally, the government also needs to prioritize a responsive approach to ongoing technological changes. Action plans must be flexible and adaptable to developments in AI technology and digital communications so that Indonesian education can remain relevant and competitive in the ever-evolving digital era.

E. CONCLUSION

In an era of education that is increasingly driven by technology, the presence of artificial intelligence (AI) has opened up new opportunities and great potential to advance the learning process. In the discussion above, we've seen how AI can act as an intelligent tutor that can adapt to individual student needs, enabling more personalized and effective learning. With this approach, the teacher's role is not lost but transformed into a facilitator who provides enlightenment and direction with substantial keywords. Teachers can focus more on assisting students to develop the morals, behaviors, and critical thinking skills needed in modern life. In addition, the use of AI technology in the educational environment needs to be done wisely and under control. The application of technology must consider ethics and its impact on human interaction and maintain a balance between technology and traditional approaches. The presence of digital communication has also brought significant changes in the way students and teachers interact. Instant and efficient digital communication allows teachers to assist

outside of formal lesson time, but must also be balanced with face-to-face interactions that are valuable for students' social and interpersonal development. Amidst the digital education and AI revolution, the government has a central role in ensuring this transformation has a positive and equitable impact. The government's strategy must cover aspects of teacher training, the development of inclusive learning platforms, and effective oversight of technology implementation. The government must also ensure that digital education can be accessed by all levels of society, promote innovation and research in the field of education, and maintain a balance between technology and human aspects of learning. By wisely integrating artificial intelligence and digital communications into the education system, Indonesia can formulate a holistic and progressive approach to address challenges and opportunities in the digital age. The better our adaptation to these technological changes, the greater the opportunities for students to develop and contribute to an increasingly connected and complex global society.

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