

Advances in Economics & Financial Studies

<https://advancesinresearch.id/index.php/AEFS>

This Work is Licensed under a Creative Commons Attribution 4.0 International License



How Digital Literacy Can Drive Inclusive Progress Towards the 2030 SDGs



Vera Senja Shafira [✉] Gina Ramadhani ² Ichsan Fauzi Rachman ³

[✉] Universitas Siliwangi, Tasikmalaya, Jawa Barat, 46115, Indonesia

^{2,3} Universitas Siliwangi, Tasikmalaya, Jawa Barat, 46115, Indonesia

Received: 2023, 04, 15 Accepted: 2024, 05, 31

Available online: 2024, 05, 31

Corresponding author. Vera Senja Shafira

[✉] verasenjashafira1@gmail.com

KEYWORDS	ABSTRACT
<p>Keywords:</p> <p>Digital Literacy; Accessibility and Inclusivity; Sustainable Development Strategy, Strategic Recommendations; and Poverty Alleviation.</p> <p>Conflict of Interest Statement:</p> <p>The author(s) declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.</p> <p>Copyright © 2023 AEFS. All rights reserved.</p>	<p>This research examines the implications of increasing digital literacy for achieving the 2030 Sustainable Development Goals (SDGs), with a focus on the perspective of accessibility and inclusivity. Digital literacy, which includes an individual's ability to access, understand and use digital technologies effectively, plays a critical role in driving sustainable social, economic and environmental development. This research finds that increasing digital literacy can accelerate the achievement of various SDG goals, such as quality education (SDG 4), poverty alleviation (SDG 1), and reducing inequality (SDG 10). However, this research also identified significant challenges regarding accessibility and inclusivity, especially among vulnerable groups such as rural communities, people with disabilities, and minority groups. In conclusion, to maximize the benefits of digital literacy in achieving the SDGs, comprehensive and inclusive policies are needed that ensure equitable access to digital technology and relevant educational programs. This study provides strategic recommendations for policy makers and stakeholders in efforts to integrate digital literacy as a key component in development strategies sustainable.</p>

Introduction

Increasing digital literacy is a crucial element in the era of globalization which increasingly relies on technology as the main driver for various sectors of life. Digital literacy, which includes the ability to access, understand and utilize information and communication technology (ICT), has a strategic role in supporting the achievement of the 2030 Sustainable Development Goals (SDGs). The SDGs, also known as Sustainable Development Goals (SDGs), are designed to address global challenges such as poverty, inequality and climate change through 17 interrelated goals. In this context, digital literacy is not just about individual technical capabilities, but also about how technology can be accessed broadly and inclusively, ensuring that no one is left behind in the flow of digital developments.¹

The implications of increasing digital literacy for the 2030 SDGs can be seen through various lenses, one of which is the accessibility perspective. Accessibility in digital literacy emphasizes the importance of adequate infrastructure and equitable access to technology

¹ Milda Mutia Ramadhani, "Inclusive Education Strategy Analysis Based on Science and Technology In Support Achievement Sustainable Development Goals (Sdgs) 2030 in Indonesia," *Seminalu* 1, no. 1 (2023): 40–41.

for all levels of society, including marginalized groups. In many developing countries, access to technology remains a major challenge. Limited infrastructure, high costs, and lack of technological knowledge are significant obstacles. Therefore, efforts to increase digital literacy must be accompanied by strategies to expand access to technology geographically and economically. Better accessibility not only opens up opportunities for individuals to participate in the digital economy, but also strengthens their capacity to contribute to sustainable development in their communities.

On the other hand, inclusivity is another important dimension in assessing the impact of digital literacy on the 2030 SDGs. Inclusivity in this context means ensuring that all community groups, including those who are vulnerable such as women, children, people with disabilities, and indigenous communities, receive adequate benefits equivalent to technological progress. Inclusive digital literacy should include education and training programs tailored to the specific needs of these groups, as well as policies that support reducing the digital divide. For example, empowering women through digital literacy can pave the way for them to participate more actively in the economy, politics and society, which in turn can accelerate the achievement of several SDG targets, such as poverty reduction (TPB 1), gender equality (TPB 5), and decent work and economic growth (TPB 8).

A holistic and integrated approach in increasing digital literacy can also accelerate the achievement of TPB 2030 by encouraging innovation and creativity. Digital technology offers new solutions to old challenges, such as the use of big data and artificial intelligence in monitoring and evaluating SDG achievements. Strong digital literacy will enable more individuals to participate in this innovation ecosystem, creating more inclusive and sustainable solutions. For example, technology applications for sustainable agriculture can increase the productivity of small farmers, while e-learning platforms can expand access to quality education in remote areas. Thus, digital literacy becomes the main enabler for various initiatives that contribute directly to the SDGs.²

Overall, increasing digital literacy has deep implications for achieving the 2030 SDGs. By strengthening accessibility and inclusivity, and encouraging innovation, digital literacy can help create a more just, prosperous and sustainable society. Collaborative efforts between government, the private sector and civil society are needed to ensure that the benefits of digital technology can be felt by everyone, so that each individual can contribute optimally to sustainable development.

Research methods

This research uses qualitative and quantitative approaches (mixed methods) to understand the implications of increasing digital literacy for achieving the 2030 Sustainable Development Goals (TPB) from the perspective of accessibility and inclusivity. This approach was chosen to provide a comprehensive and in-depth understanding of this complex topic. Qualitative methods will be used to explore the views and experiences of diverse individuals and groups through in-depth interviews and focus group discussions. Meanwhile, quantitative methods will involve surveys designed to measure the level of digital literacy, technology accessibility, and its impact on achieving the SDGs in various communities.

In collecting qualitative data, this research will involve various stakeholders, including government, non-governmental organizations, local communities, and vulnerable groups such as women, people with disabilities, and indigenous communities. In-depth interviews will be conducted with approximately 20-30 participants selected by purposive sampling to ensure diverse and in-depth representation. Focus group discussions will be conducted with 3-4 groups consisting of 6-8 participants each, to explore collective views and discuss potential solutions related to increasing digital literacy and inclusivity. This qualitative data will be analyzed using the thematic analysis method to identify the main patterns and themes that emerge.

The quantitative method will involve a survey distributed to approximately 500 randomly selected respondents from various regions and demographic backgrounds. This

² Yulita Sirinti Pongtambing et al., "Digitalization and Health Literacy in Smart Villages," *Compromise Journal: Community Professional Service Journal* 2, no. 1 (2024): 11–18.

survey will measure variables such as digital literacy level, access to technological devices, frequency of internet use, as well as perceptions regarding the benefits of technology in everyday life and its contribution to SDGs. This quantitative data will be analyzed using descriptive and inferential statistical techniques to find significant correlations and trends. The combination of qualitative and quantitative data will provide a more holistic picture of how digital literacy can encourage SDG achievement, as well as the challenges and opportunities that exist in ensuring accessibility and inclusivity for all groups in society.

Results and Discussion

1. Analysis of the Implications of Increasing Digital Literacy on Accessibility

Analysis of the implications of increasing digital literacy for accessibility shows that digital literacy not only increases individuals' ability to use technology, but also expands the reach of access to various resources and services that were previously inaccessible to many people. Increasing digital literacy plays an important role in bridging the digital divide, especially in remote areas and disadvantaged communities. With improved digital literacy, individuals in these communities can access critical information, educational services, and economic opportunities that can significantly change their lives.³

Technology accessibility is a crucial aspect of digital literacy. In many cases, access to information and communication technology is still limited in several regions, especially in developing countries. Inadequate infrastructure, high internet costs, and limited technological devices are some of the main obstacles. By increasing digital literacy, people can better understand the importance of access to technology and how to use it effectively. Apart from that, digital literacy can also encourage governments and the private sector to invest in better infrastructure, such as wider internet networks and more affordable technology services. This will ultimately increase the overall accessibility of technology.

Increasing digital literacy also has an impact on the accessibility of education and training. In many countries, the formal education system often cannot reach all groups of society, especially those who live in remote areas or are in disadvantaged economic conditions. With digital literacy, individuals can utilize e-learning platforms and online resources to gain new knowledge and skills. This not only helps in enhancing formal education but also provides opportunities for informal education and lifelong self-development. Accessibility to education through digital technology opens up opportunities for more people to improve their quality of life and contribute better to society.

Apart from education, digital literacy also affects accessibility to health services. Telemedicine and digital health applications enable individuals to obtain medical consultations and healthcare services without having to travel long distances. This is especially important for those living in remote areas with limited access to health facilities. With adequate digital literacy, people can more easily access health information, monitor their health condition, and get medical assistance online. This not only improves quality of life but also reduces the burden on often resource-constrained health systems.

Lastly, increasing digital literacy can increase economic accessibility. The ability to use digital technology allows individuals to access a wider job market, undertake skills training, and even start an online business. E-commerce and freelancing platforms provide new economic opportunities for those who may not have access to traditional markets. Digital literacy enables individuals to optimize their economic potential, participate in the digital economy, and earn additional income. This is especially important in the context of empowering women and marginalized groups who are often marginalized in traditional economies.

³ Devi Milasari and Nursiwi Nugraheni, "INTEGRATION OF CONSERVATION EDUCATION AND TECHNOLOGY TO REALIZE INCLUSIVE AND QUALITY EDUCATION IN ACHIEVING SDGs," *Indonesian Education Research Journal (JPEI)* 1, no. 3 (2024): 20–25.

Overall, increasing digital literacy has significant implications for accessibility in various aspects of life. By strengthening individuals' abilities to use technology, improving digital infrastructure, and providing wider access to digital services and resources, digital literacy can help reduce social and economic disparities. This will ultimately support the achievement of the 2030 Sustainable Development Goals by creating a more inclusive and just society, where everyone has an equal opportunity to develop and contribute.⁴

2. Analysis of Implications for Inclusivity

Analysis of the implications of increasing digital literacy for inclusivity shows that digital literacy plays an important role in ensuring that all groups of society, without exception, can participate fully in various aspects of modern life. Inclusivity, in this context, means ensuring that no individual or group is marginalized from advances in technology and information. Increasing digital literacy can reduce the gaps that exist between different groups, whether based on gender, geographic location, economic status or disability. Inclusive digital literacy enables everyone to access information, services and opportunities equally, creating a more just and empowered society.⁵

Inclusivity play role important in various domains, such as science communication , online discussion , systems finance , and luxury fashion brands . Study show necessity curriculum more science communication inclusive For STEM students , emphasized importance inclusivity in online discussions for bridge difference social , highlighting progress made through initiative inclusion finance such as PMJDY], and discuss importance inclusivity racial in campaign luxury fashion brand For interesting diverse audience . Furthermore , moral progress is related with inclusivity , with examples start from slavery goods until speciesism . Outlook This underline implications multifaceted from inclusivity in various sector , emphasized necessity effort sustainable For promote inclusivity in various aspect public .⁶

One group that has benefited significantly from increased digital literacy is women. In many parts of the world, women often face various barriers in accessing education and technology, whether due to cultural norms, traditional gender roles, or economic limitations. With better digital literacy, women can access online education, skills training, and health information that can improve the quality of life for themselves and their families. In addition, digital literacy also opens up new economic opportunities for women, such as working from home or starting an online business, which can give them economic independence and empower them to contribute more actively to society. In the long term, inclusive digital literacy for women not only strengthens their position in their families and communities, but also drives wider and more sustainable economic growth.

Another vulnerable group that benefits from digital literacy is people with disabilities. Technology accessibility strengthened by digital literacy can help people with disabilities overcome the many obstacles they face in everyday life. For example, specially designed technological devices and applications can help people with disabilities access information, communicate, and participate in social and economic activities. Digital literacy allows them to make the most of these technologies, so they can interact more easily with the world around them and enjoy equal rights and opportunities with others. This also includes access to education and employment, which are often major challenges for people with disabilities. With sufficient digital literacy, they can learn and work more independently, opening up opportunities for better career and personal development.

⁴ Siti Pitrianti et al., "DIGITAL LITERACY IN VILLAGE COMMUNITIES," in *Proceedings of the National Seminar on Information Technology and Systems* , vol. 3, 2023, 43–49.

⁵ Rika Yuliant, "Open Access in Building a Literate Society to Support the Achievement of Sustainable Development," *Media Librarian* 25, no. 3 (2018): 12–22.

⁶<https://typeset.io/search?q=Analysis%20of%20Implications%20for%20Inclusivity> (htt1)

Indigenous peoples and remote communities also feel the positive impact of inclusive digital literacy. Digital technology can be a powerful tool to preserve their culture and language, and increase their participation in the development process. Through digital literacy, indigenous peoples can document and share their traditional knowledge online, making it more accessible and preserved. Additionally, access to digital information and communications allows them to engage more actively in political and social issues that affect them, strengthening their voice in decision-making. Thus, digital literacy helps ensure that indigenous peoples are not left behind in the development process and can maintain their cultural identity while adapting to changing times.

Apart from that, inclusive digital literacy also has an impact on reducing economic inequality. By providing equal access to technology and information, digital literacy enables more people to participate in the digital economy. This includes opportunities to work remotely, access global markets, and leverage digital platforms for entrepreneurship. Individuals from economically disadvantaged backgrounds can use digital technology to improve their skills, seek better job opportunities, and even start their own businesses. This not only increases individual incomes but also promotes more equitable and inclusive economic growth, reducing the gap between rich and poor.

Overall, increasing digital literacy has profound implications for inclusivity. By ensuring that every individual has access and the ability to utilize digital technology, digital literacy can create a more just and equal society. This not only supports the achievement of various sustainable development goals, such as poverty reduction, quality education, and gender equality, but also builds the foundation for inclusive and sustainable economic and social growth. Inclusive digital literacy is the key to empowering all levels of society, ensuring that everyone can contribute to and enjoy the benefits of technological and information developments.⁷

3. Potential Contribution of Digital Literacy to Accelerating Achievement of TPB 2030

Digital literacy has great potential to accelerate the achievement of the 2030 Sustainable Development Goals (TPB), considering the central role of information and communication technology in various aspects of life. Digital literacy is not only about the technical ability to use digital devices, but also includes an understanding of how to utilize technology for innovation, improving quality of life, and empowering society. With adequate digital literacy, individuals and communities can access a wider range of information, services and opportunities, thereby driving progress in various fields covered in the 2030 SDGs.⁸

One key area where digital literacy can contribute significantly is quality education (TPB 4). Access to digital technology enables distance learning and e-learning, which can reach students in remote areas and overcome the limitations of traditional educational infrastructure. Online education platforms such as Khan Academy, Coursera, and edX provide free or low-cost courses from top institutions, enabling access to high-quality education for everyone, regardless of geographic location or economic status. Digital literacy allows students to utilize these resources effectively, enhancing their skills and opening up new opportunities for career and personal development.

In addition, digital technology also supports lifelong learning, which is important in the ever-changing world of work. Apart from education, digital literacy can also accelerate the achievement of the goals of good health and well-being (TPB 3). With increasing digital literacy, individuals can access accurate health information,

⁷ Awanda Mella Stevani and Nursiwi Nugraheni, "Optimization Digital Literacy for Achieving Quality Education Towards Sustainable Development Goals (SDGs) 2030," *Madani : Journal Scientific Multidisciplinary* 2, no. 4 (2024).

⁸ Alya Dwi Arianty and Eny Winaryati, "Development of iJateng Digital Libraries as an Effort to Realize Sustainable Development Goals (SDGs) in the Education Sector," in *Proceedings of the Unimus National Seminar*, vol. 6, 2023.

telemedicine services, and health apps that help them monitor their health conditions in real-time. This is especially important for communities living in remote areas with limited access to health facilities. Through digital technology, they can get medical consultations, initial diagnosis, and even drug prescriptions without having to travel far.

Digital literacy also enables rapid and widespread dissemination of health information, aiding in public health campaigns and disease prevention. Thus, digital literacy not only increases access to health services but also increases public health awareness and knowledge as a whole. Digital literacy also plays an important role in supporting decent work and economic growth (TPB 8). With sufficient digital skills, individuals can access various online and freelance job platforms, which provide the opportunity to work from anywhere and at any time. This not only opens up new job markets but also allows them to develop new skills relevant to market needs. For entrepreneurs, digital literacy opens up opportunities to start and develop online businesses, access global markets, and utilize digital marketing tools to reach more customers. This can increase incomes and create new jobs, which in turn contribute to inclusive and sustainable economic growth.

In the context of gender equality (TPB 5), digital literacy provides a powerful tool to empower women and reduce gender gaps. Women with good digital literacy can access education, skills training and employment opportunities that were previously unavailable to them. Digital technology also provides a platform for women to voice their opinions, participate in public discussions, and influence policies that affect their lives. Additionally, digital literacy can help women overcome barriers caused by cultural norms and traditional gender roles, paving the way for greater participation in the economy and public life.⁹

Furthermore, digital literacy can support sustainable community development (TPB 11). By utilizing digital technology, communities can increase the efficiency of resource use, reduce waste, and introduce sustainable practices. For example, smart city technology can be used to optimize energy and water management, transportation systems, and waste management. Digital literacy allows citizens to participate in these initiatives, provide input through digital platforms, and collaborate on community projects. This not only improves the quality of life in cities but also creates more resilient and sustainable communities.¹⁰

Overall, digital literacy has enormous potential to accelerate the achievement of the 2030 SDGs. By empowering individuals and communities to utilize digital technology effectively, digital literacy can support the achievement of various sustainable development goals, from education and health to economic growth and gender equality. Therefore, investment in digital literacy education and increasing access to technology must be a top priority in global efforts to achieve SDG 2030. Only with inclusive and accessible digital literacy can we ensure that everyone has an equal opportunity to contribute to sustainable development and enjoy the benefits. (Tempatpenampung1)

4. Inclusive Education Strategy Based Science and Technology in Support Achievement Sustainable Development Goals (SDGs) 2030 in Indonesia

Based on results research obtained from data analysis using various source written, like books, journals, reports, and documents other from show there is some important strategies in realize education inclusive based science and technology that can support achieving SDGs 2030 in Indonesia. Following several strategies discovered in study This :

A. Use Precise and Innovative Technology in Learning

Use appropriate and innovative technology in learning, like mobile applications, learning videos, and simulations interactive, has proven effective in support education inclusive based science and technology in Indonesia. This matter in

⁹ Wahid Nashihuddin, "Librarians' Efforts to Support the Digital Literacy and Scientific Literacy Movement in Indonesia," *Next Generation Libraries: Collaborate and Connect*, 2018, 2–5.

¹⁰ Nandang Rukanda et al., *Proceedings of the National Seminar on Community Education: Digital Literacy of Community Education in Achieving Sustainable Development Goals (SDGs)* (EDU PUBLISHER, 2020).

accordance with theory emphasizes constructivism importance participation active student in learning For build knowledge they Alone through experience direct . (Hidayat , 2022)

Use technology in learning can also be done help students who have need special , like student blind or deaf , for Study in a way independent . Mobile applications and learning videos can provide access easy and flexible to material learning , meanwhile simulation interactive can help student visualize concepts abstract and develop Skills practical. Apart from that is , educational strategy inclusive based science and technology can too help Indonesia achieve objective development sustainability (SDGs) 2030.

Inclusive education based science and technology can help reduce gap education and strengthening Skills children For face global challenges in the future , such as revolution industry 4.0 and global problems such as change climate and poverty . This matter in line with theory constructivism in education focuses on roles active student in learning .¹¹

Theory This opinion that student build his knowledge Alone through experience active and interactive learning with environment around . In context this , technology can become effective tool For help student in build knowledge they Alone .

Technology that precise and innovative can possible student For access and process information with way more easy and interactive . For example , learning media based technology such as videos and animations can help student understand complex concept with a more visual and interactive way .¹²

B. Enhancement Involvement Student in Learning By Giving Chance Participation Active

Enhancement involvement student in learning is one of the educational strategies inclusive based science and technology that can help reach objective development sustainable . Research result show that give chance participation active to students , like discussion groups , projects groups , and learning based problem , yes increase motivation and skills student in solve problems and achieve objective learning .¹³

This matter in line with draft base education inclusive that emphasizes importance give the same opportunity for all student For learn and develop in accordance with its potential . In SDGs 2030 context , education inclusive based science and technology can help create insightful society technology and have ability For overcome global problems , such as climate change and injustice social .¹⁴

Enhancement involvement student in learning through give chance participation active is very relevant with theory education inclusive . Inclusive education own principle For give that opportunity The same for all student For access quality education , incl student with need special . In context this , engagement student in learning is very important Because can help student with need special For feel accepted and appreciated in environment inclusive learning . Inclusive Education Theory emphasize on importance notice need individual and giving chance for student For Study through appropriate way with style Study they . With give chance

¹¹ Sudarsana , I (2018). Optimizing the use of technology in implementing curriculum in schools (perspective of constructivism theory) Cetta : Journal of Educational Sciences, 1(1), 8-15.

¹² Verrawati , A, & Mustadi , A. (2018). Implications of Vygotsky's Constructivism Theory in implementing the integrative thematic learning model in elementary school. Journal of Islamic Religious Education.

¹³ Safitri , A , Yuniarti , V., & Rostika , D. (2022). Effort enhancement education quality in Indonesia: Analysis achieving sustainable development goals (SDGs). Journal Basicedu , 6(4), 706–710.

¹⁴ Sari, D., Purba , D. & Hasibuan , M. (. (2019). Innovation education past digital transformation of the Kita Tulis Foundation .

participation active , the teacher can help student For involved active in learning and studying in accordance with need they . This also helps student with need special For feel accepted and motivated For Study .¹⁵

C. Training and Accompaniment For Teachers and Educators in Understand Need Special Student

Training and mentoring for teachers and staff educator in understand need special students and abilities in use appropriate and innovative technology in learning , is a necessary strategy For realize education inclusive based effective science and technology . Study has show that teacher training and mentoring can increase teacher skills in face student with need special and facilitating inclusive learning . Besides the , usage technology in learning has proven can increase motivation and understanding student . In connection with the future , this strategy own significant impact on development sustainable in Indonesia because can help reach educational purposes inclusive and supportive achieving SDGs 2030.¹⁶

Training and mentoring strategies for teachers and staff educator in understand need special student can related with theory education inclusive . Theory This emphasize importance inclusion and participation active all students , incl student with need specifically , in the learning process . Training and mentoring that focuses on understanding need special student can help teachers and staff educator For create environment inclusive and accommodating learning need all student .

Besides that's strategy this can also be done help teachers and staff educator For develop skills and understanding required For create experience facilitating learning construction knowledge by students . Therefore that is , training and mentoring strategies This can contribute to implementation principles constructivism in the learning process .¹⁷

D. Enhancement Accessibility and Availability of Adequate Facilities and Infrastructure for Inclusive Education For Student with Need Special .

Study has show that accessibility and availability facilities and infrastructure education adequate inclusion is essential for student with need special For get inclusive and effective education . Research result This show that existence facility inclusive education like room friendly class disabled person disability , equipment help , as well service support adequate education will help student with need special For Study with more effective .¹⁸

Besides that , research also shows that inability For access facility adequate education can influence motivation students , welfare psychology , and skills social them , which in the end can become obstacle big for student For reach success in school and the future they . Therefore that 's necessary exists that attention more Serious to accessibility and availability facilities and infrastructure education

¹⁵ Aziz, A., Sugiman , S., & Prabowo, A. (2016). Learning Process Analysis Mathematics in Children with Needs Special (ABK) Slow Learners in Class Inclusive . Kreano , Journal Mathematics Creative-Innovative , 6(2), 111-120.

¹⁶ Rangkuti , S. , & Maksum , I. (2019). Implementation Policy Internal Child Friendly School Creating a Child Friendly City in Depok City. Public (Journal Knowledge Administration), 8(1), 38–52.

¹⁷ Khoiri , K. (2021). Inclusive Education For Children in Need Especially in Elementary Schools . JIPD (Journal Elementary Education Innovation), 5(1), 1–5.

¹⁸ Ikramullah , I., & Sirojuddin , A. (2020). Optimization Management School In Apply Inclusive Education in Elementary Schools . Munadhomah : Journal Islamic Education Management , 1(2), 131–139.

adequate inclusion for student with need especially in Indonesia, so that they can develop potency they in a way full and accomplished future success

Improvement strategy accessibility and availability facilities and infrastructure education adequate inclusiveness for student with need special can linked with theory education inclusive . According to theory this , every individual own the same rights For obtain quality and integrated education with environment surroundings , without exists discrimination or restrictions . Therefore that is necessary effort For strengthen accessibility and availability facilities and infrastructure education adequate inclusiveness for student with need specifically . (Nuryani, et al. 2016)

E. Collaboration Between Various Party

This matter show that collaboration between the parties involved in education inclusive , like government , institutions education , and society , can help in realize education inclusive based supporting science and technology achieving SDGs 2030 in Indonesia. Research result This based on concepts base that education inclusive based science and technology can help reach objective development sustainable with method strengthen skills and knowledge student in matter science and technology .¹⁹

Collaboration strategy between various party in realize education inclusive based science and supporting technology the achievement of SDGs 2030 in Indonesia is related tightly with theory involvement . Theory involvement in education put forward that student will more achievement in learning If they feel involved in a way active in the learning process . Therefore that 's collaboration between government , institutions education , and society in realize education inclusive can open chance participation active student with need special in learning .²⁰

Conclusion

Conclusions regarding the implications of increasing digital literacy for achieving the 2030 Sustainable Development Goals (TPB) from an accessibility and inclusivity perspective show that digital literacy is an important key to empowering individuals and communities in an increasingly globalized and digitally connected world. Adequate digital literacy ensures that all people, including vulnerable and marginalized groups, can access the technology and information necessary to participate fully in economic, social and political life. Increasing digital literacy has the potential to overcome various gaps that exist in society, whether related to access to education, health, the economy, or social participation.

In terms of accessibility, increasing digital literacy allows individuals to overcome geographic and economic barriers in accessing essential services. Digital technology, when used effectively, can expand the reach of quality education to remote areas, provide health services through telemedicine, and open new economic opportunities through e-commerce platforms and remote work. Strong digital literacy gives individuals the ability to utilize these technologies, improve their quality of life, and make greater contributions to society. In addition, investment in inclusive and affordable technology infrastructure is critical to ensure that the benefits of digital literacy can be felt by all levels of society.

From an inclusivity perspective, digital literacy provides opportunities to overcome various forms of injustice and discrimination. With digital literacy, women, people with disabilities, and minority groups can access education, employment, and services that they may have previously been unable to reach. Digital technology also provides a platform for them to voice their opinions and participate in decision-making processes that affect their lives. This not only empowers individuals but also strengthens social cohesion and promotes

¹⁹ Safitri , A , Yuniarti , V., & Rostika , D. (2022). Effort enhancement education quality in Indonesia: Analysis achieving sustainable development goals (SDGs). *Journal Basicedu* , 6(4), 706–710.

²⁰ Widianingsih , R., & Kusdiyati , S. (2018). Involvement Students on Students with a score below the KKM at SMAN 1 Baleendah Bandung district . *Proceedings Psychology* , 293-300.

more equitable and sustainable development. Inclusive digital literacy ensures that everyone has equal opportunities to develop and contribute, which is the essence of sustainable development goals.

Overall, increasing digital literacy is a strategic step in achieving SDG 2030. By strengthening digital literacy, we can ensure that technology is used optimally to support sustainable development. It covers various aspects ranging from education, health, employment, to social and political participation. Good digital literacy also supports innovation and creativity, paving the way for new solutions to old challenges faced by global society. Therefore, digital literacy must be seen as a crucial long-term investment to create a more inclusive, fair and sustainable future.

Effective implementation of digital literacy requires collaboration between government, the private sector, educational institutions and civil society. Policies and programs that encourage technology access, digital literacy education, and support for vulnerable groups must be a priority. Only with a holistic and inclusive approach can we ensure that every individual has the ability to utilize digital technology for the common good and achievement of SDG 2030. Thus, digital literacy is not only a tool for individual development but also a key pillar in sustainable global development.

Reference

- Arianty, Alya Dwi, and Eny Winaryati. "Development of iJateng Digital Library as an Effort to Realize Sustainable Development Goals (SDGs) in the Education Sector." In *Proceedings of the Unimus National Seminar*, Vol. 6, 2023.
- Milasari, Devi, and Nursiwi Nugraheni. "INTEGRATION OF CONSERVATION EDUCATION AND TECHNOLOGY TO REALIZE INCLUSIVE AND QUALITY EDUCATION IN ACHIEVING SDGs." *Indonesian Educational Research Journal (JPPI)* 1, no. 3 (2024): 20-25.
- Nashihuddin, Wahid. "Librarians' Efforts to Support the Digital Literacy and Scientific Literacy Movement in Indonesia." *Next Generation Libraries: Collaborate and Connect*, 2018, 2-5.
- Pitrianti, Siti, Eliyah AM Sampetoding, Arini Anesthesia Purba, and Yulita Sirinti Pongtambing. "DIGITAL LITERACY IN VILLAGE COMMUNITIES." In *Proceedings of the National Seminar on Information Technology and Systems*, 3:43-49, 2023.
- Pitriyanti, Pipit. "Digital Transformation in Sustainable Development for Community Welfare in Indonesia." Master of Sharia Economics, 2022.
- Pongtambing, Yulita Sirinti, Eliyah AM Sampetoding, Rafika Uksi, and Esther Sanda Manapa. "Digitalization and Health Literacy in Smart Villages." *Compromise Journal: Community Professional Service Journal* 2, no. 1 (2024): 11-18.
- Ramadhani, Milda Mutia. "Analysis of Science and Technology-Based Inclusive Education Strategies to Support the Achievement of the 2030 Sustainable Development Goals (SDGs) in Indonesia." *Seminalu* 1, no. 1 (2023): 40-41.
- Rukanda, Nandang, Refli Sutejo, Bayu Pradikto, Yunita Rahma Sari, Tita Rosita, Sri Nurhayati, and Abdul Gafur. *Proceedings of the National Seminar on Community Education: Digital Literacy in Community Education in Achieving Sustainable Development Goals (SDGs)*. EDU PUBLISHER, 2020.
- Stevani, Awanda Mella, and Nursiwi Nugraheni. "Optimizing Digital Literacy to Achieve Quality Education Towards Sustainable Development Goals (SDGs) 2030." *Madani: Multidisciplinary Scientific Journal* 2, no. 4 (2024).
- Yuliant, Rika. "Open Access in Building a Literate Society to Support the Achievement of Sustainable Development." *Media Librarian* 25, no. 3 (2018): 12-22.
- Ramadhani, Milda Mutia. "Analysis of Science and Technology-Based Inclusive Education Strategies to Support the Achievement of the 2030 Sustainable Development Goals (SDGs) in Indonesia." *Seminalu* 1.1 (2023): 433-441.
- Hidayat, H. (2022). Development of Hybrid Learning Models in Learning Science At School Inclusive Education Provider. *Journal of Education and Special Education Teachers*, 5(2).

- Sudarsana , I (2018). Optimization use technology in implementation curriculum in schools (perspective theory constructivism) Cetta : Journal Educational Sciences , 1(1), 8-15.
- Verrawati , A , & Mustadi , A. (2018). Implications Theory Vygotsky's constructivism in implementation of the learning model Thematic integrative in elementary school. Journal of Islamic Religious Education.
- Safitri , A , Yuniarti , V., & Rostika , D. (2022). Effort enhancement education quality in Indonesia: Analysis achieving sustainable development goals (SDGs). Journal Basicedu , 6(4), 706-710.
- Sari, D., Purba , D. & Hasibuan , M. (. (2019). Innovation education past digital transformation of the Kita Tulis Foundation .
- Aziz, A., Sugiman , S., & Prabowo, A. (2016). Learning Process Analysis Mathematics in Children with Needs Special (ABK) Slow Learners in Class Inclusive . Kreano , Journal Mathematics Creative-Innovative , 6(2), 111-120.
- Rangkuti , S. , & Maksum , I. (2019). Implementation Policy Internal Child Friendly School Creating a Child Friendly City in Depok City. Public (Journal Knowledge Administration), 8(1), 38-52.
- Khoiri , K. (2021). Inclusive Education For Children in Need Especially in Elementary Schools . JIPD (Journal Elementary Education Innovation), 5(1), 1-5.
- Ikramullah , I., & Sirojuddin , A. (2020). Optimization Management School In Apply Inclusive Education in Elementary Schools . Munaddhomah : Journal Islamic Education Management , 1(2), 131-139.
- Nuryani , N., Hadisiwi , P., & El Karimah , K. (2016). Communication teacher and student instruction child need especially at school intermediate vocational inclusion . Journal of Communication Studies , 4(2), 154-171.
- Widianingsih , R., & Kusdiyati , S. (2018). Involvement Students on Students with a score below the KKM at SMAN 1 Baleendah Bandung district . Proceedings Psychology , 293-300.