Digital Affirmative Assistance and Contribution of Guru Penggerak for Equal Education in Sarmi

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Abstract

This article explains the importance of equalizing the digitalization of education. The President of the Republic of Indonesia, Joko Widodo, has launched the Making Indonesia 4.0 program, a strategic roadmap to enter the world's digital era. The preparation of this roadmap involves various stakeholders ranging from the government, industry associations, research institutions, and educational institutions. The Ministry of Education and Culture launched a school digitalization program as an effort to prepare human resources to face the industrial revolution 4.0. The Minister of Education and Culture at that time, Muhadjir Effendy, said that the school digitalization program was a new breakthrough in the world of education by utilizing the development of information and communication technology (ICT) in various aspects of life. The Minister of Education and Culture at that time, Muhadjir Effendy, allocated Affirmative School Operational Assistance (BOS) funds to support routine operations and accelerate learning for schools in the frontier, outermost, disadvantaged, and very disadvantaged areas. Educational digitalization assistance was also allocated through the Sarmi Regency APBD funds and the Papua Special Autonomy Fund. The use of digitalization in the world of education cannot be separated from the role of a teacher or educator. The Minister of Education and Culture also emphasized that driving teachers as drivers of the transformation of Indonesian education are expected to be able to support the growth and development of students holistically.

Keywords: Digitalization of Education; Affirmation; Sarmi Regency

Introduction

At the end of this decade, the digitalization of industry 4.0 has often been echoed by many people, but until now in 2024, many people still do not understand what digitalization of industry 4.0 is and how digitalization of industry 4.0 impacts people's lives. The factors behind the industrial revolution were the scientific revolution in the 16th century with the emergence of scientists such as Francis Bacon, Rene Descartes, Galileo Gallilei, as well as the development of research and studies with the establishment of research institutions such as *The Royal Improving Knowledge, The Royal Society of England* and *The French Academy of Science.*(Purba dkk., t.t., hlm. 91)

The term industrial digitalization 4.0 was first introduced at the Hannover Fair in 2011. The term industrial digitalization is also used by the German government to advance the industrial sector to a more sophisticated stage with the help of technology. The term industrial digitalization 4.0 has become a trending topic in recent years. This phase is a continuation of the industrial revolutions 1.0, 2.0, and 3.0. In each phase, there was a very significant real change from the first industrial revolution, namely the discovery of the steam engine and continued with the second industrial revolution, namely the discovery of electricity.

Quoting from the Forbes page, the fourth generation industrial revolution can be interpreted as the involvement of intelligent systems and automation in industry. This is driven by data through machine learning technology and artificial intelligence. The core

of industrial digitalization 4.0 is technological automation, global network connections, cloud storage, big data, and system integration. The development of industrial digitalization 4.0 in Indonesia is strongly encouraged by the central government through cooperation between ministerial institutions such as the Ministry of Communication and Information, the Ministry of Education, Culture, Research, and Technology, the Ministry of Religion, the Ministry of Health, and several other government institutions to launch the industrial digitalization program 4.0.

The President of the Republic of Indonesia, Mr. Joko Widodo on April 4, 2018 launched the *Making* Indonesia 4.0 program, a strategic roadmap for entering the world's digital era. The preparation of this roadmap involves various *stakeholders ranging* from the government, industry associations, research institutions, and educational institutions. Through the *Making* Indonesia 4.0 Strategy, the government will focus on five main technologies, namely (1) *the internet of things* , (2) *artificial intelligence,* (3) *human machine interface,* (4) robotics and sensor technology, and (5) 3D *printing technology.* These five types of technology contribute greatly to Indonesia's gross domestic product and have international competitiveness (Abdullah, t.t., hlm. 48).

The phenomenon of digital utilization in human life in the Industrial Revolution 4.0 era has increased sharply. This phenomenon can be found in various daily activities of society, such as digital computer technology, digital games, digitalization of currency use (e-money), use of digital media (e-media), to the rapid development of digital-based films. The digital phenomenon in world cities can be studied through the philosophical thoughts of Edmund Husserl (1859-1938). (Abdullah, t.t., hlm. 48–49)In its development, a technological society perspective emerged which emphasized that technological developments in the production system would provide a strong impetus for change in the field of education. Innovation activities in the field of education also influence structural changes in the education system.

The use of digitalization in the world of education cannot be separated from the role of a teacher or educator. Digitalization is a tool, method, or media that definitely requires humans to run the technology. In the world of education, a teacher is obliged and must teach his students about digitalization in education. One of the programs of the Minister of Education, Culture, Research and Technology in 2022 is the driving teacher. The education of driving teachers is part of the Ministry of Education, Culture, Research and Technology's strategic plan for 2020-2024 which focuses on the independent learning policy. Driving Teachers as drivers of the transformation of Indonesian education are expected to support the growth and development of students holistically so that students become Pancasila students, become mentors or trainers for other teachers for student-centered learning, and become role models and agents of transformation for the education ecosystem (Makarim, 2020)

Digitalization of Education

The development of the industrial revolution 4.0 in Indonesia has an impact on all aspects of life, including in the world of education. The digitalization of education in Indonesia has been most felt since the COVID-19 pandemic which caused major changes in all fields, especially in education. Before the COVID-19 pandemic, students carried out activities in a classical manner and there were already several educational institutions that integrated education with technology or digital education, but not as massive as when the COVID-19 pandemic hit Indonesia. The COVID-19 pandemic required the learning process that was previously carried out face-to-face to then change or be shifted to Distance Learning (PJJ). This is in accordance with the circular of the Ministry of Education, Culture, Research, and Technology so that even though the COVID-19 pandemic hit, the rights of students to obtain educational services must continue and students receive protection from the negative impacts of COVID-19 and prevent the spread of COVID-19 in the educational unit environment. Responding to the industrial era 4.0 and post-COVID-19 pandemic, the education sector has begun to utilize technology that has a wider reach to remote areas of Indonesia. Technology that will make teaching and learning activities more effective, efficient, and enjoyable so that students are more interested and motivated in the learning

process and do not feel isolated because their school is far from the city.

The digitalization of schools or educational units is one of the logical consequences that must be implemented because it takes into account the nature of the development of the era, so that adjustments to be able to master science through technology are absolutely necessary (Isma dkk., 2022, hlm. 130). In this situation, the central government through the Ministry of Education, Culture, Research, and Technology issued a breakthrough policy regarding the digitalization of educational units or schools to provide digital learning support by providing online teaching materials so that they can be used together with *educational stakeholders* , both educators or teachers, students, schools, and the community. The policy issued by the Ministry of Education, Culture, Research, and Technology emphasizes the use of information technology facilities in the form of PC computers, Tablets, Chromebooks, and learning applications such as learning houses as assistance from the Ministry of Education, Culture, Research, and Technology to educational units.

Affirmation of Digitalization of Education

Making Indonesia 4.0 in 2018 and the emergence of the COVID-19 pandemic, digitalization began to grow and develop massively in all sectors of life, especially the education sector. Early October 2019, the Ministry of Education and Culture (Kemendikbud) launched a school digitalization program as an effort to prepare human resources to face the industrial revolution 4.0. The Minister of Education and Culture at that time, Muhadjir Effendy, said that the school digitalization program was a new breakthrough in the world of education by utilizing the development of information and communication technology (ICT) in various aspects of life.

This school digitalization program is in line with President Joko Widodo's direction to prepare human resources to welcome the industrial revolution 4.0. The President asked all ministers to pay attention to the outermost, remote, and underdeveloped regions so that these regions are not left behind in obtaining development facilities including in the education sector. President Joko Widodo also gave direction to immediately realize the use of Information and Communication Technology (ICT) to accelerate access to digitalization of education in remote areas.

Designed to prepare schools to enter the industrial revolution 4.0 era, the Ministry of Education and Culture is developing a school digitalization program. This program uses the allocation of development funds that have been prepared through School Operational Assistance in the form of Affirmative School Operational Assistance, High-Achieving School Operational Assistance, and for regions with special autonomy, the allocation of school development funds for education digitalization is prepared through special autonomy funds. One of the challenges of the education sector in Indonesia today is access to education in the outermost, disadvantaged, and marginalized areas is character education and technological developments that must be balanced with expertise and abilities. These challenges and obstacles force the government to accelerate and increase access that is not yet evenly distributed and in accordance with President Joko Widodo's Nawacita, namely building from the periphery. In 2019, the Minister of Education and Culture at that time, Muhadjir Effendy, allocated Affirmative School Operational Assistance (BOS) funds to support routine operations and accelerate learning for schools in the outermost, disadvantaged, and very disadvantaged areas with a fund allocation of IDR 2.85 trillion. In addition to the BOS Affirmation funds, the Ministry of Education and Culture also allocates BOS Performance funds of IDR 1.50 trillion which are allocated to educational units/schools that are considered to have good performance in providing educational services sourced from school quality report data.

In 2019, the school digitalization program will be implemented in 30,227 schools through BOS Affirmation and 6,004 schools through BOS Performance. Through this program, the Government will provide learning facilities in schools in the form of tablets to 1,753,000 students in grades 6, 7, and 10 throughout Indonesia, especially schools in remote and underdeveloped areas.

Next year, according to the Minister of Education and Culture Muhadjir Effendy, the school digitalization program will be further intensified and improved and the budget

allocation will not only come from BOS Affirmation and BOS Performance. These steps and efforts are expected to accelerate school digitalization. To ensure that the use of learning facilities functions and runs effectively, the Ministry of Education and Culture is working with various ministries or other government institutions.

Education Digitalization Assistance in Sarmi Regency to build digital space and catch up

The 2016 National Examination was the initial step of the Papua Provincial Government through the Regional Library and Archives Education Office (DPPAD) to digitize education. 2016 was the first year in Papua Province to implement the Computer-Based National Examination (UNBK). Based on data from the Regional Library and Archives Education Office, only a few schools throughout Papua Province implemented the Computer-Based National Examination. This happened because at that time there were still very few computer devices and internet networks that could support the implementation of the Computer-Based National Examination in schools in Papua Province, including schools in the Sarmi Regency Government area.

Based on the constraints of the lack of computerization facilities to support the implementation of the Computer-Based National Examination, the Sarmi Regency Government through the Education and Culture Office took quick action by making changes to the 2016 Regional Revenue and Expenditure Budget to include computer equipment assistance in several schools through special autonomy funds at that time. Data from the Sarmi Regency Education and Culture Office in mid-2016 had begun to provide computer and supporting equipment assistance to several schools in Sarmi Regency, such as SMA Negeri 1 Sarmi, SMA Negeri 2 Sarmi, and SMK Negeri 1 Sarmi. The three schools are schools that received computer and supporting equipment assistance in preparation for the Computer-Based National Examination in Sarmi Regency.

In the 2016-2017 academic year, several schools in Sarmi Regency have implemented the Computer-Based National Examination and have continued to increase each academic year until in the 2023-2024 academic year, schools at the elementary, junior high and senior high/vocational high school levels in Sarmi Regency have implemented the Computer-Based National Examination 100% and this is one of the improvements in educational value in Sarmi Regency. The Computer-Based National Examination is the first step in equalizing the digitalization of education in Papua Province and especially in Sarmi Regency. After the start of the Computer-Based National Examination, the central government through the Ministry of Education and Culture also provided assistance with chromebook laptops to several schools and the Ministry of Communication and Information in collaboration with the Ministry of Education and Culture also provided assistance in the form of digitalization support tools, namely *satellite wifi* which was distributed to several schools in Sarmi Regency. The provision of chromebook laptop assistance to several schools in Sarmi Regency is very useful and is supported by the assistance of *satellite wifi* so that chromebook laptops can be used for learning. For example, at SMP Negeri 1 Pantai Timur. A school that is located quite far from the center of Sarmi Regency. Schools with poor internet connections and electricity that only turns on at night, but it does not dampen the enthusiasm of teachers and students to learn computers at night and try to catch up. SMP Negeri 1 Pantai Timur created a typing learning program at night using chromebooks with *Google Docs* .

Digital affirmation assistance for education in Sarmi Regency is still ongoing, after the assistance of computers and supporting tools for the implementation of the Computer-Based National Examination, the Ministry of Education and Culture also provided assistance in the form of chromebook computers. The Ministry of Information and Communication also participated in providing *satellite wifi assistance* for schools in remote areas that do not have an internet network at all. This digital affirmation assistance is used to support the information technology-based learning process and reduce the digital gap between Eastern Indonesia and Western Indonesia.

In addition to computer assistance,

chromebooks, and *satellite wifi* , the central government through the Ministry of Education and Culture also provides assistance in the form of mobile devices in the form of tablets in several schools to support the teaching and learning process in schools, the assistance is allocated for operational assistance funds for affirmative schools. One of the schools that received the assistance was SMP Negeri 1 Pantai Timur. SMP Negeri 1 Pantai Timur received assistance in the form of 90 mobile devices in the form of tablets. This educational affirmation assistance is used by schools for the learning process, especially during the Mid-Semester Assessment (PTS) and End-Semester Assessment (PAS) schools use tablets even though they are carried out offline and only use local networks. Educational Units can also utilize the Quizizz application, Utilization of the Rumah Belajar application from the Ministry of Education and Culture or other applications to support the teaching and learning process and catch up with other regions in Indonesia. Currently, assistance for the digitalization of education in Sarmi Regency has become more widespread in schools and one hundred percent of schools in Sarmi Regency have implemented the Computer-Based National Assessment. Although there are still schools that rely on ANBK in other schools because access is very difficult and remote, it does not dampen the enthusiasm of local governments, schools, and students to continue to develop and catch up. This computerization assistance is also very beneficial for other institutions. For example, the religious institution of the Indonesian Christian Church (GKI). In April-May 2024, the GKI management held a Computer Course for Indigenous Papuans and GKI collaborated with schools that had computer equipment to be loaned for the computer course. This indicates that assistance for the digitalization of education is very beneficial in Sarmi Regency.

This is where the contribution of the driving teacher in Sarmi Regency must be moved to start providing insight into teaching educational digitalization to their students and move to practice technology-based learning. For example, *Quizizz Paper Mode, Wordwall, and* the Canva Application. The driving teacher must also move his colleagues to jointly teach digital literacy to students so that students in Sarmi Regency, especially SMPN 1 Pantai Timur, are not left behind in terms of digital use. The driving teacher must also share good practices with fellow teachers regarding the use of educational digitalization. This aims so that other fellow teachers can also get to know educational digitalization and apply it in the learning process.

Conclusion

Digital Affirmation Assistance in Papua Province, especially in Sarmi Regency, has been very good. Digitalization assistance in the form of *all-in-one computer devices, projectors,* satellite wifi, laptops, chromebook laptops, and tablets is very useful for educational units in Sarmi Regency. Educational units utilize this assistance to support an increasingly better learning process by using digital technology such as the use of projectors and tablets in the learning process, mid-semester assessments, and end-of-semester assessments. *All-in-one computers* and chromebooks are also used for the implementation of the Computer-Based National Assessment which is held every year at the beginning of the school year. The results of schools in Sarmi Regency are quite good because one hundred percent of schools have implemented the Computer-Based National Assessment, one hundred percent of junior high schools, senior high schools, and vocational schools already have computer labs complete with computer facilities and can implement the Computer-Based National Assessment independently.

For the sake of the sustainability of digitalization of education in Sarmi Regency, the allocation of digital affirmation assistance for educational units in Sarmi Regency needs to be further encouraged, because for elementary school level educational units, not one hundred percent have independent computer devices (especially elementary schools in remote areas) have information technology devices that can support digital learning. Elementary school level educational units, in the implementation of the Computer-Based National Assessment (ANBK), many still piggyback on other educational units and of course require costs to mobilize computer-based national assessment participants from their schools of origin to schools that have

adequate information technology devices in the implementation of ANBK (schools that are piggybacked).

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