THE STUDY OF THE TRANSFORMATION EDUCATION POLICY AND REGULATION DURING THE COVID-19 PANDEMIC

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How to cite this paper: Harta, R., Susanti, E., Septiadi, M. A., & Alia, S. (2024). The study of the transformation education policy and regulation during the COVID-19 pandemic. *Journal of Governance & Regulation, 13*(4), 93–105.
https://doi.org/10.22495/jgrv13i4art10

ISSN Online: 2306-6784
ISSN Print: 2220-9352

Received: 14.09.2023
Accepted: 03.10.2024

JEL Classification: A2, M1, P3
DOI: 10.22495/jgrv13i4art10

Abstract

The research delves into the repercussions of the COVID-19 pandemic on Indonesia's education sector, notably the transition from conventional face-to-face teaching to distance learning policies (Haqien & Rahman, 2020). It centres on identifying challenges and appraising government policies responding to the crisis, focusing on effectively implementing distance learning, especially in remote regions grappling with network constraints and inadequate facilities. Employing a qualitative case study methodology rooted in Dunn's (2003) analytical theory, the research scrutinises the outcomes of Indonesian government policies during the pandemic, emphasising their impact on the shift to distance learning. The findings underscore the rapid governmental responses to the pandemic, particularly in education, necessitating a shift to distance learning for safety. However, challenges persist, notably in remote areas with connectivity and infrastructure limitations. The study advises reevaluating zoning policy's impact on learning modes. Research highlights challenges, urging policy reassessment and increased support in Indonesia. The paper is crucial for policymakers, educators, and stakeholders, providing vital insights to enhance the resilience and adaptability of the education system in unforeseen crises.

Keywords: Policy, Education, Retrospective, COVID-19, Learning Model

Authors' individual contribution: Conceptualization — R.H., E.S., M.A.S., and S.A.; Methodology — M.A.S. and S.A.; Formal Analysis — R.H. and E.S.; Resources — R.H.; Writing — Original Draft — R.H., E.S., M.A.S., and S.A.; Writing — Review & Editing — R.H., E.S., M.A.S., and S.A.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

The world has been experiencing the COVID-19 pandemic for almost two years. COVID-19 is discovering a new type of virus that spreads very quickly and becomes deadly. Many countries have implemented large-scale and social distancing policies (Haqien & Rahman, 2020). For this reason, many changes occur in the world of education, so innovative efforts from the government are needed to maintain teaching and learning activities for students who are required to study from home (Chick et al., 2020; Eva & Anderson, 2020; Sambo, 2023). Online lectures and webinars are a solution for teachers in carrying out their duties (Kim, 2006). It is just that online learning is not a significant problem in education during a pandemic. The inability of the government to provide adequate facilities and issue the right policies can cause

delays in the teaching and learning process (Peimani & Kamalipour, 2021).

The United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2020) estimates that more than 1.5 billion students and 63 million teaching staff are affected by the closure of educational institutions in 188 countries. This has become one of the crucial problems in the world of education; many private teachers have lost their jobs, and not all teachers have good gadgets. To carry out the online teaching and learning process (Akour et al., 2020; Choate et al., 2021; Joshi et al., 2021; Purwanto, Asbari, et al., 2020). However, home learning is acceptable (Zhao et al., 2020), but it is undeniable that there are students, teachers, and parents depressed by this change (Sifat, 2020; Tang et al., 2021; Volken et al., 2021). Although the distance learning method is suitable for dealing with COVID-19, it also risks increasing injustice in the teaching and learning process, be it fellow students or fellow teachers (Moreno & Gortazar, 2020).

Harries et al. (2021) and Medina-Guillen et al. (2021) underscore the challenges brought about by the COVID-19 pandemic, impacting the graduation of medical students and increasing teacher workload, respectively. Rafique et al. (2021) identify computers, internet access, and communication as primary hurdles in distance learning, while Karakaya et al. (2021) stress the crucial role of a teacher's health, economy, and education in maintaining the continuity of the learning process. Zhao et al. (2021) emphasise the importance of creating conditions that protect students' positive emotions. Previous studies highlight the significance of COVID-19 education research, particularly in distance learning innovation and the well-being of teaching staff and students. However, effective outcomes hinge on a robust regulatory foundation issued by the government, considering the socio-economic perspectives of students and teaching staff facing challenges such as tuition fees, network access, and internet quotas.

This study contributes new ideas and a theoretical basis for formulating education policies, aiming to address gaps in the existing literature, clarify research aims and questions, and establish the relevance and significance of the study. Employing a specific research methodology, the findings are anticipated to provide valuable insights into the multifaceted challenges posed by the COVID-19 pandemic in the realm of education.

The paper's structure is outlined as follows. Section 2 reviews the relevant literature, defining the research problem and addressing existing gaps in the literature. Section 3 explicates the research methodology employed to evaluate government policies in handling education during the pandemic. Section 4 presents research findings, offering a detailed analysis of policy data concerning Indonesia's response to COVID-19 in the education sector and highlighting observed changes. Section 5 engages in a substantive discussion, drawing insights from on-the-ground facts to assess the practical implementation of these policies. Section 6 concludes by summarising key insights, contributing to the existing body of knowledge, and suggesting directions for future research and policy considerations.

2. LITERATURE REVIEW

2.1. Public policy

According to Dunn (2003), public policy analysis is an intellectual and practical activity devoted to creating, critically assessing, and communicating knowledge about and within the policy process. According to Dunn (2000), as cited in Damayanti (2017), there are three forms of policy analysis, namely:

1. *Prospective analysis.* This analysis is in the form of production and transformation of information before policy action is initiated and implemented. Policy analysis here is a tool to synthesize information to be used in formulating policy alternatives and preferences, which are stated comparatively predicted in quantitative and qualitative language as a basis or guide in policy decision-making. This analysis often creates an enormous gulf between superior problem-solving and government efforts to solve it.

2. *Retrospective analysis.* This analysis is the creation or transformation of information after the policy action has been taken. The retrospective analysis includes various types of activities developed by the three groups of analysis, namely:

- *Discipline-oriented analysis.* This analysis seeks to develop and test theories based on theories and explain the causes and consequences of policies. This group of analyses does not attempt to identify the goals and objectives of why a policy is made.
- *Problem-oriented analysis.* This analysis explains the causes and consequences of the policy. This analysis group is less concerned with developing and testing theories than identifying the variables that policymakers can manipulate to solve a problem.
- *Application-oriented analysis.* This analysis group also seeks to explain the causes and consequences of public policies and programs but does not undertake the development and testing of fundamental theories. This group pays attention to policy variables and identifies the goals and objectives of policymakers.

3. *Integrated analysis.* An integrated analysis is a combination of perspective and retrospective analysis. This analysis tends to create policy transformations before and after policy actions are taken. This analysis strives continuously to produce information all the time. This analysis will continue to be carried out repeatedly before finally finding a solution to the problem. This analysis is illustrated by contrasting the retrospective evaluation of public policy and the experimentation of policy programs. The retrospective evaluation assesses the performance of ongoing policies and programs. At the same time, policy and program experiments assess the performance of new programs and policies' intangible results.

2.2. Education policy

Since the government imposed a social distancing policy to prevent the spread of the COVID-19 outbreak, gathering large groups of people has been restricted, including in the field of education and changes in organisational culture (Sambo et al., 2023), this has an impact on teaching and learning activities in educational institutions that were

previously face-to-face in class and have now transitioned into distance learning in a network (online) with an online system (Sari et al., 2020).

Quoting Good's (1959) opinion on educational policy, as cited in Sari et al. (2020), these considerations are used as the basis for operating institutionalised education because they are based on a value system and several assessments of situational factors. These are plans that serve as guidelines for making decisions.

According to Minister of Education and Culture Regulation No. 109/2013 Article 2, distance learning aims to provide higher education services to community groups unable to attend face-to-face education and expand access to and facilitate higher education services in learning. Thus, distance learning can be interpreted as an education system that embodies open, independent, and complete learning through the use of information and communication technology (ICT) and other technologies and/or in the form of higher education integrated learning (Sari et al., 2020).

E-learning is classified into two types: 1) synchronous and 2) asynchronous. Synchronous refers to occurring at the same time. The learning process takes place simultaneously between teachers and students. This enables direct online interaction between teachers and students. Synchronous training requires both teaching staff and students to connect to the internet simultaneously. Teachers provide learning materials like papers or presentation slides, and students can listen to presentations online. Students can also ask questions directly or through the chat window or make comments (Pakpahan & Fitriani, 2020).

2.3. Adaptive education policies

Exploring adaptive education policies in response to the challenges posed by the COVID-19 pandemic represents a critical endeavour (Aquino et al., 2024). The global education landscape has witnessed a significant shift in recent years, necessitating policy adjustments to accommodate the abrupt transition to online learning (Wekullo et al., 2023). This transformation reflects a technological adaptation and a fundamental rethinking of traditional teaching methodologies.

A vital facet of this paradigm shift involves the flexibility inherent in new learning models (Hussain et al., 2023). Policymakers are tasked with devising strategies that cater to diverse learning styles while ensuring equitable access to educational resources. The effectiveness of these models, whether hybrid or fully remote, requires a thorough examination to ascertain their ability to meet the varied needs of students.

Digital infrastructure and accessibility emerge as paramount considerations in adaptive education policies (Wilandika et al., 2022). Policies targeting enhancing technological infrastructure in educational institutions play a pivotal role. Moreover, a commitment to fostering accessibility for all students, regardless of socioeconomic backgrounds, is integral to the success of these policies.

Teacher training and support represent another crucial dimension (Stevens et al., 2023). With educators at the forefront of delivering quality education, policies must address their evolving roles and provide adequate training for effective online instruction. Adaptive policies' success hinges on teachers' preparedness and adaptability in navigating the digital learning landscape.

The impact of adaptive policies on student outcomes constitutes a focal point of investigation. Beyond academic achievements, these policies shape the holistic development of students. Evaluating the effectiveness of assessment and evaluation strategies in the context of remote learning becomes imperative to gauge the overall success of adaptive policies.

In conclusion, the literature surrounding adaptive education policies is a dynamic landscape. The interplay between technological advancements, pedagogical shifts, and inclusive practices forms a complex tapestry that necessitates comprehensive exploration. By delving into these dimensions, researchers can contribute valuable insights to the ongoing discourse on reshaping education in an era of unprecedented challenges.

3. METHODS

We started this research by choosing which country to be the object of research. After going through a focus group discussion with Hennink (2013), we decided to choose Indonesia as the main object and compare its policies with other countries such as the USA. This is based on the fact that the research we are conducting is public policy research, which will be more accurate when compared with countries with many similarities. The USA is a democracy with a population of 331,002,651 in 2020 (Worldometers, n.d.). Likewise, Indonesia is a democratic country with 270,000,020 in 2020 (Biro Pusat Statistik [BPS], 2020), a country with a relatively large population of more than 250 million people has various ethnicities, so we decided to choose both countries.

To obtain data, we used a literature study from Hart (1998) and field research in Wanasari Cibitung District, Bekasi Regency and Bandung District Ibun. Because, in line with the aims and objectives of this research, namely distinguishing what has been done from what must be completed, finding essential variables that are relevant to the theme, synthesising and gaining new perspectives, identifying the relationship between ideas and practice, setting the context of the topic or problem, rationalising importance of problems, increasing and acquiring subject vocabulary, understanding the subject structure, linking ideas and theories with an application, identifying critical methodologies and research, and placing research in context to demonstrate research developments. In addition, the selection of case study and literature study methods for obtained data is to ensure the accuracy of the data because the data are sourced from official government institutions, research articles, and credible mass media. We limit the data to someone's opinion that has not been published and limit research to documents only related to government policies in education for the continuity of learning during a pandemic.

Using retrospective analysis with three discipline, problem and application orientation analyses (Dunn, 2003), the data obtained are loaded into several memos based on the theory of Corbin and Strauss (2014), where we organise a growing understanding of the data and create valuable memos to describe what we have learned, where the results will be classified into several themes and select data related to the research, after that, we use the analysis matrix from Miles and Huberman (1994)

to get a broad view of the data, which helps identify patterns across the data set so that they are finally explained qualitatively (Creswell, 1994). The three main findings that will be the focus of research are government policies in the field of education that affect the economy of teaching staff and students, the costs incurred by teachers and students during the distance learning process, and the level of readiness of teachers and students in carrying out government policies in the field of education. It begins with an understanding of public policy and distance learning.

In exploring alternative research methodologies, we carefully considered diverse comparative frameworks and international contexts. Ultimately, our decision to focus on Indonesia and America stemmed from a systematic evaluation of democratic structures and population size, ensuring a meaningful comparison within the realm of public policy research. The distinctive socio-political landscapes of these countries promise valuable insights into the challenges and successes of education policies amid the COVID-19 pandemic. To enrich our research, we incorporated statistical data from the Indonesian Central Statistics Agency (*Badan Pusat Statistik*), providing a more nuanced understanding of the prevailing conditions. The chosen approach, combining case study and literature study methods, was deemed optimal for extracting in-depth information from official government sources, scholarly literature, and statistical insights. This methodological integration enhances the reliability and comprehensiveness of our data, aligning seamlessly with the multifaceted objectives of our research.

4. FINDINGS

4.1. Government policies in the field of Indonesian education

Before the pandemic, Indonesia had put rules regarding distance learning in government laws and regulations. Since the pandemic, the Minister of Education and Culture issued a circular to carry out the learning process from home, which has become a guideline for educational institutions to organise distance learning.

Table 1. Policies on online learning/distance education in Indonesia

Number and year	*About*
20/2003	National Education System Law
12/2012	Higher Education Law
109/2013	Minister of Education and Culture Regulation concerning the Implementation of Distance Education in Higher Education
4/2014	Minister of Education and Culture Regulation on the Implementation of Higher Education
50/2014	Minister of Education and Culture Regulation on SPMI
87/2014	Minister of Education and Culture Regulation on Accreditation
44/2015	Minister of Education and Culture Regulation on National Standards for Higher Education
50/2015	Minister of Education and Culture Regulation concerning the Opening and Establishment of PT
2/2016	Minister of Education and Culture Regulation regarding Lecturer Registration

Source: Processed by researchers, 2021.

Table 1 explains that Indonesia is not a country that is anti-distance learning. Various forms of regulations have been made by the government that can be used as guidelines for implementing distance learning for educational institutions before the pandemic, there are still many educational institutions that use the offline system, this is due to the lack of internet network facilities spread throughout Indonesia (Subroto, 2015), considering that Indonesia is an archipelagic country, Indonesia still uses the offline system as a learning method, only a few educational institutions use distance learning systems such as open universities (Sadjati & Pertiwi, 2013; Susanti et al., 2018). In 2019, the end of the pandemic began to spread throughout the world. It spread quickly, including to Indonesia, so the government issued a circular that required distance learning.

Table 2. Government policy in education during the pandemic

Number and year	*About*	*Institution*	*Type*
3/2020	Prevention of coronavirus disease (COVID-19) in education units.	Ministry of Education and Culture	Circular letter
36962/MPK.A/HK/2020	Online learning and working from home in the context of preventing the spread of COVID-19.	Ministry of Education and Culture	Circular letter
4/2020	Implementation of education policies in the emergency period for the spread of COVID-19.	Ministry of Education and Culture	Circular letter
15/2020	Guidelines for organizing learning from home (BDR) in an emergency period for the spread of COVID-19.	Secretary-General of the Ministry of Education and Culture	Circular letter
302/E.E2/KR/2020	Study time. Education program implementation.	Ministry of Education and Culture	Circular letter
-	COVID-19 response cross-sector guidance package | Towards a 'new normal' situation.	Task Force for the Acceleration of Handling COVID-19	Publication mastery
331/E.E2/K.M./2020	Online learning facilities assistance to students.	Ministry of Education and Culture	Circular letter
01/K.B./2020, 516/2020 HK.03.01/Menkes/363/2020, 440-882/2020	New school year learning SKB during the COVID-19 pandemic.	Ministry of Education and Culture, Minister of Religion, Minister of Health, and Minister of Home Affairs of the Republic of Indonesia	Decree

Source: Processed by researchers, 2021.

Even though the COVID-19 virus was discovered at the end of 2019 (Tian et al., 2020), Table 2 explains that the Indonesian government only issued a policy on education in March 2020, where the Indonesian government, through the Ministry of Education and Culture issued five circulars regarding the implementation of education at home. And in June 2020, a joint decree of three ministers was issued regarding learning during the pandemic. These policies are actions the ministry takes based on the follow-up to the five COVID-19 health protocols issued by the Presidential Staff Office (*Kantor Staf Presiden*, KSP) on March 6, 2020 (Kantor Staf Presiden, 2020).

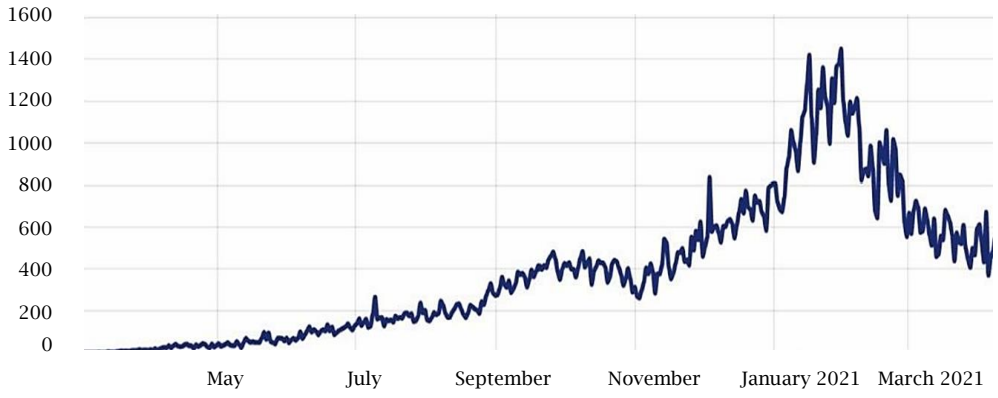
Table 3. Economic assistance policy during COVID-19 related to education

Subsidy name	*Help recipient*
Credit assistance for students and private/private teachers	Students, teachers, and lecturers with certain criteria set by the aid agency.
Food assistance	The general public based on the criteria determined by the food supply agency.
Cash direct assistance	Communities who have not received the Family Hope Programme assistance and meet the specified requirements.
Direct village fund cash assistance	Poor families in the village, according to the data collection of village volunteers.
Electricity tariff incentive	Customers household group 450 and 900 VA.
Pre-employment card	Employees affected by layoffs, unemployment, MSME actors affected by COVID-19.
Employee salary subsidy	Private and honorary employees with salaries below five million.
MSME cash direct assistance	Micro, small, and medium enterprises.
ASN credit assistance	State civil apparatus.
Free quota	Students, teachers, lecturers, and students.

Source: Processed by researchers, 2021.

Table 3 shows ten government programs in improving the community's economy affected by the COVID-19 pandemic. Some of these assistances directly help the learning process, and some can indirectly help the learning process. Economics is an important thing in the teaching and learning process. A student will not be able to take part in the online learning process if he cannot fill the internet quota and the teacher (Purwanto, Pramono, et al., 2020). Many things indirectly affect the learning process. Therefore, government policies in education during a pandemic must be in tandem with economic policies. Figure 1 shows that since March 2021, the number of people affected by the COVID-19 virus tends to increase from day today. Even on January 30, there were 14,518 confirmed positives. This can indicate that the level of community discipline is still lacking. The government's efforts in disciplining, ranging from appeals to sanctions, are considered insufficient to create a deterrent effect on the community (Arditama & Lestari, 2020; Wahidah et al., 2020).

Figure 1. Development of positive confirmed cases of COVID-19 per day until March 2020–April 4, 2021



Source: COVID19.go.id (2021).

4.2. Distance learning policy in the United States of America

Quoted from research conducted by Natanson and Strauss (2020), the USA is about to begin Act 2 of an unplanned experiment in online education as the start of school draws near and is already underway in some places — many teachers have not been trained how to become more proficient with online learning. Based on the Economic Policy Institute research by García and Weiss (2020) It is difficult to plan and design effective teaching during the COVID-19 pandemic when district teachers and schools don't have the framework (or even the right language to accommodate what they're doing). Teachers are required to deal with the very sudden and rapid change to distance learning starting in March 2020 (Waller et al., 2020).

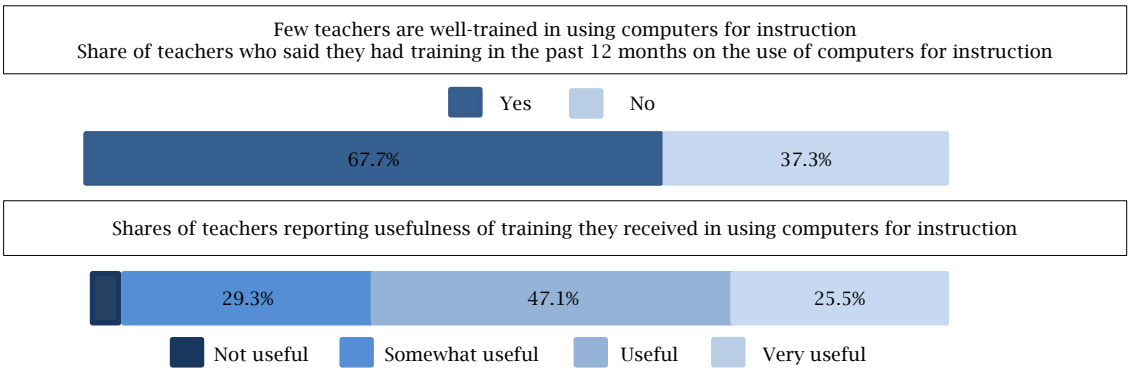
The second is quoted from the research of García and Weiss (2020). Weak support systems, as well as a lack of professional development on how to integrate computers into the classroom, have left teachers less than optimally prepared to teach during the pandemic. Figure 2 shows that two out of every three teachers in public schools reported participating in professional development activities involving the use of computers for teaching in the previous year (García & Weiss, 2020).

Data are for teachers in public noncharter schools. The bottom Figure 2 shows the share of

a teacher who answered "very useful", "useful", or "not useful" when asked, about the specific professional development activity: "overall, how useful were the activities to you?". Based on the study results, one in four teachers felt the activity was very useful among these teachers. One in three felt the activity was useless or only slightly useful. Teachers who participate in such activities must overcome barriers to doing so because access to work time and support to participate in professional development is very limited. Only half have given up teaching time to participate in professional development activities, around (50.9%) of all teachers. As a result, teachers have to find options quickly, from assigning daily or weekly courses that students submit online to full classes conducted via Zoom and various other means. From the results above, according to the study results, it can be seen that García and Weiss (2020). It is suspected that several online strategies launched during the COVID-19 pandemic did not lead to optimal results.

Third, an insufficient online system for tracking attendance leaves teachers unaware of the most important "input" of education: student learning time. Even the best online teacher will be ineffective if students are not online and following instructions. At the most basic level, schools attempt to assess how frequently and extensively students interact with teachers and receive instruction. One considered ambitious effort was made in South Florida, where the district strictly tracks attendance and contacts parents when students are absent. Fourth, the emotional bond that is essential for any type of learning is also essential for distance learning or home-schooling, but it is difficult to achieve in the current pandemic situation (García & Weiss, 2020).

Figure 2. Development of the use of computers for teaching in the last 12 months



Source: Adapted from Garcia and Weiss (2020), based on data from the National Assessment of Educational Progress (NAEP).

Given the increasing number of COVID-19 cases during the American summer, more and more schools in the districts have announced plans to start the 2020–2021 school year entirely online, and the gap will remain. Low-income families struggle to get a computer or other device for each child, with parts of the family without an internet connection that allows the children to do assigned work online or a representative place to do the work themselves (let alone attend the Zoom calls that are often made in teaching and learning process) (Waller et al., 2020).

Table 4. Student's ability to participate in distance learning

Category	*All students*	*Non-poor*	*Poor*
Internet at home	95.8%	98,4%	93%
A desktop computer or laptop	84.4%	92.3%	76.3%
A tablet	76.3%	81.8%	70.6%
Experience using home internet frequently for homework	51.3%	56.1%	46.4%
Teacher trained but already proficient in software applications	43.4%	45%	41.7%
Teacher trained but least proficient in using computer as instruction	69.2%	71.4%	66.8%
Teacher proficient in software applications	32.5%	32.5%	32.6%
Teacher proficient in using computer as instruction	19.3%	18.3%	20.3%

Note: Not all students are set up for online learning, and students who are poor have less access to key tools. Share of eight-grades with access to online learning, by income level and tool, 2017.
Source: Adapted from García and Weiss (2020), based on data from the National Assessment of Educational Progress (NAEP).

Table 4 depicts poor students who are eligible for federal free or reduced-price lunch programs. Students who are not poor are ineligible for these programs. Use of the Internet at home on a regular basis for in "have not" received training in, or "had received training" in "software application" and integrating computers into instruction" in the last two years. It is clear here that recessions, natural disasters, and pandemics most disrupt learning when they occur unexpectedly and unexpectedly. Researchers studying the effects of recessions such as the Great Recession have also noted the emergence of the current economic crisis, which may have an impact on children's education.

According to Sekarwati (2021), new positive cases of COVID-19 in the USA last week were recorded to have decreased by 16% to around 409 thousand positive cases. According to a Reuters analysis, the reduction was the most in a week for new positive cases of coronavirus infection since February 2021. The death rate from COVID-19 last weekend in the USA also decreased by 4% or to 4,972 deaths as of April 25, 2021, or below 5,000 deaths for the first time since October 2020.

Data from the Centers for Disease Control and Prevention in the USA, as of Sunday, April 25, 2021, as many as 43% of the population in the USA have received the first dose of the COVID-19 vaccine. At the same time, those who received the second dose of injection were 29%.

By looking at the declining number of COVID-19 cases, according to Collin (2021), President Joe Biden fulfilled his plan to have most primary and secondary schools open to full face-to-face learning within the first 100 days, according to a recent survey of students who choose to return to face-to-face schooling continues to lag far behind. A survey conducted in March by the Ministry of Education and released on Thursday found that 54% of public schools below high school offer full-time classroom learning to any student who wants it. This indicates an improvement compared to January 2021, which at that time was at 46%.

But this is contrary to the wishes of most teachers in the USA. According to Ani (2021), US schools are under pressure to start face-to-face learning given the authorisation of vaccines for children ages 12 to 15 and a new federal rule that people who have been vaccinated do not need to wear masks indoors or outdoors. Secretary of Education Miguel Cardona confirmed in an interview with *TODAY* that he expects 100% of schools to fully reopen for in-person learning by the fall. He emphasized the importance of continuing mitigation strategies and utilizing American Rescue Plan funding to ensure safe environments for students. Cardona also mentioned that there would be updates to vaccine and mask-wearing guidelines soon, which would likely influence how schools plan for the next school year (Stump, 2021).

4.3. Education technology landscape in Indonesia: Statistical insights into levels, access, and preferences

The statistical survey on information and communication technology (ICT) utilisation in the education sector in Indonesia involved 4,014 schools spread across 34 provinces. Among these, 64.55% were primary schools (elementary school — *sekolah dasar*, SD or equivalent), 19.22% were junior high schools (first middle-grade school — *sekolah menengah pertama,* SMP or equivalent), and 16.23% were senior high schools (upper middle-grade school — *sekolah menengah atas,* SMA or equivalent). The survey revealed that radio is integrated into the teaching and learning activities of 19.08% of the schools across all educational levels, with senior high schools leading at 22.36%, followed by primary schools at 18.48%, and junior high schools at 18.30%. Similarly, television is utilised in the teaching and learning process of 21.32% of the schools overall, with senior high schools demonstrating higher utilisation at 25.59%, followed by junior high schools at 25.57%, and primary schools at 18.97%.The survey also highlighted that 46.01% of the schools, irrespective of educational levels, incorporate telephone usage in their teaching and learning activities, with senior high schools leading at 73.56%, followed by junior high schools at 54.84%, and primary schools at 36.45%. In terms of internet access, 62.41% of the schools across all educational levels prefer fixed broadband, while 9.90% opt for fixed narrowband. Mobile broadband is used by 34.85%, and very small aperture terminal (VSAT) (satellite) is utilised by 4.01%. Additionally, 33.67% of students across all educational levels access the internet at school, and 10.10% of teachers have qualifications in ICT. Further analysis based on educational hierarchy reveals that senior high schools have a higher percentage of teachers with ICT qualifications at 14.43%, followed by junior high schools at 11.33%, and primary schools at 6.90% (BPS, 2018).

5. DISCUSSION

In an era that is very advanced in terms of technology, of course, in overcoming distance learning, many online applications can support the implementation of online learning, including those that are widely used: 1) WhatsApp Group, 2) Google Classroom, 3) Google Meet, 4) Zoom and 5) e-learning Websites (Dewangga et al., 2020; Loloçi & Halilaj, 2022; Susilawati & Supriyatno, 2020). The COVID-19 pandemic, which has been around for almost two years, shows no signs of ending. COVID-19 has made many changes and habits in our lives, especially in Indonesia, including the world of education (Hadarah, 2020). In the field of education, there have been many changes, starting from the way of learning, places to study and the media used for learning have also changed, this is done so that the entire educational community can carry out their activities in the midst of a pandemic The government issued a policy of learning to be carried out with a remote or online system.

We compare it with the distance learning experience in the USA. A big country like USA is not much different from Indonesia because every country must have areas that lack adequate facilities to carry out online learning activities. This distance learning, of course, really needs the role of parents because it is parents who have the role in supervising and guiding their children to learn according to the directions given by the teachers. In addition, parents also need to ensure the facilities needed by children to support online learning. The necessary facilities such as cell phones, laptops, adequate internet quotas, and networks that support all of them must be ensured by parents.

Apart from the role of parents, teachers also have quite a challenge in online learning, see Table 4. They must be smart and creative in providing material to their students. They must have new methods that are creative and not boring during this distance learning. In addition, teachers are required to master the technology used in distance learning, teachers who have limitations in mastering technology will certainly find it difficult during distance learning. The same thing was also conveyed by Anderson et al (2020) and Schiavio et al. (2021). This application requires qualified supervision from both school supervisors. It is included in the school accreditation criteria (Education Unit Accreditation Instruments) to encourage schools to create an active and creative learning process.

The statistical survey on ICT utilisation in the education sector in Indonesia provides valuable insights into the technological landscape of schools across different levels (BPS, 2018). The data indicates a substantial integration of radio,

television, and telephone usage in the teaching and learning activities of schools, with varying degrees of adoption across primary, junior high, and senior high schools. Notably, senior high schools exhibit a higher propensity for employing these technologies. Furthermore, the prevalence of fixed broadband as the preferred internet access method, along with the substantial use of mobile broadband, suggests a reliance on robust connectivity for educational purposes.

In the context of implementing distance learning, the data underscores the necessity of technological tools to facilitate teaching and learning activities (KBM). The diverse range of applications mentioned, such as Zoom, Google Meet, Google Classroom, Teacher's Room, and Edmodo, highlights the flexibility that teachers and students have in choosing platforms that suit their preferences. However, the mention of paid applications, like the teacher's room, raises concerns about economic considerations, as not all students may afford these services. This emphasizes the importance of considering the economic background of students, particularly in providing equitable access to online education. Additionally, the widespread use of free applications like WhatsApp and Google Classroom by teachers reflects practical approaches to overcoming economic barriers and ensuring effective communication of learning materials to students.

In contrast, for face-to-face virtually, they usually use Google Meet and Zoom. Although it takes up a lot of internet quota, the application is not paid so that anyone can use it. To operate the application, of course, teachers and students must have knowledge about the use of technology, and this is a challenge for parents and students as well as teachers who do not have the skills to operate the application, they will have difficulty and be left behind if they do not learn about the procedures for using learning applications. Several previous studies have also shown that the lack of knowledge of teachers, students, and parents about technology is one of the main problems in implementing distance learning (Muhson, 2010). Several things that the government has done to overcome this problem are issuing circulars to take part in learning by watching television with material that the government has prepared with this policy, it can even touch people who live in rural areas (Astini, 2020).

In addition to adequate and mutually supportive facilities and infrastructure, a good and easy learning model is also needed for students. It is the duty of a teacher to innovate to create a good learning model that students can follow. Providing a good learning model is certainly a challenge for teachers, they are forced to be more creative and innovative in submitting material to be distributed to students. At the early age education (*pendidikan anak usia dini*, PAUD) level, most teachers do learning models using the WhatsApp application media via video call, this method is considered less effective because the video call feature in WhatsApp cannot load a maximum of eight people, this will certainly make the teacher tired, and the children will not focus on the teacher (Shofa, 2020; Syafi'i et al., 2020). Learning methods can be implemented well when there is good cooperation between instructors, students, and parents (Azhari, 2020). Most schools and teachers use the method by giving assignments and materials through WhatsApp groups at the elementary school level. There is a need for collaboration between teachers and parents to ensure children learn according to directions.

In contrast to the elementary, junior high, and high school levels, many have used Zoom or Google Meet applications to learn face-to-face virtually, middle-school-age children are said to be able and understand the use of technology and applications that can support their learning, but even so, the role of people. Parents are still needed to control the learning activities of students (Kurniati et al., 2020). The college level also uses the Zoom application and Google Meet for face-to-face learning, not much different from the high school level. Still, for the collection of assignments, absences, and giving materials, each university already has its website to support the learning of its students, which is commonly called e-learning. The students must have mastered the technology that makes it easier for them to implement this online learning. The government's policy on distance learning has made schools and universities start to make various innovations in the learning process, both in applications and learning via e-learning (website). To support this, the Indonesian government issued rules for providing credit subsidies and quotas for students to teaching staff (see Table 3).

The implementation of distance learning is easy to access because it can be done online so that you can carry out activities at home and outside the home, such as work. Although distance learning, students are required to maintain disciplined behaviour (Gangopadhyay et al., 2022). Television media is one of the media factors that support learning during this pandemic. The government has used television as an alternative to learning activities through distance television which is no longer a problem and obstacle. The content presented is also quite comprehensive for elementary to high school students. Therefore, it is hoped that students will continue to take advantage of this opportunity to learn as well as possible.

This change in learning is very surprising because without good and thorough preparation for this distance learning, especially in rural areas where there is a lack of networks and technology needed in the online learning process. According to van Meter and van Horn (1975), Judging from the various cases that have occurred, a new policy that is set will get a lot of opposition from the community (Annisa & Tabassum, 2023). Still, over time especially if the policy has a good impact, it will get support. Still, on the contrary, if the policy has a bad impact, it will get resistance, and dan Zainuddin (2013) states that changes can marginally affect the very well-implemented policies. If it is directed at the stages of implementing policies on education in Indonesia, the policies that have been taken have experienced many conflicts. Still, if you look further, the policies on education are starting to experience acceptance by the community because people are getting used to distance learning patterns and the government does not forget to describe assistance in the form of internet quotas, learning materials via television and others in Table 3 so that

with reduced parental income, distance education is also a solution for family economic savings.

The economic sector has also influenced the ongoing activities in the field of education since the implementation of social distancing, which caused small factories to go bankrupt and the occurrence of salary and income cuts so that it had an impact on the ability of parents to facilitate their children in the online learning process. Distance learning requires supporting media, which is quite expensive, so some students cannot participate in learning due to the lack of supporting media such as quotas and laptops. In addition, geographical factors are also one of the obstacles in distance learning during a pandemic. To cause a lack of interaction between students and teachers or student interactions with other students is the effect of distance learning. This lack of interaction makes it slow to form personality values from students in the learning process (Subahri, 2021). Then depending on the motivation or encouragement of the students themselves, if there is no motivation to learn, they will fail in their learning. Previous research has shown that the economic and geographical conditions of student and student residence are problems that are often complained of even from geographical factors where students and students do not have a network to interact with teachers and fellow students, resulting in a decrease in learning motivation (Haryadi & Selviani, 2021; Subahri, 2021).

The online learning method by relying on the internet network is not something new in the learning process, see Table 1, for example, such as e-learning which uses the internet network is the application of online learning that relies on the Internet network, so this e-learning requires teachers to be more creative in the process teaching. Learning and this system can be followed by teachers and students who are hindered by distance. But not all of them are implemented properly. Many factors hinder learning using e-learning, one of which is the system's ability to receive large numbers of student visits, student supervision, and data security. But behind these shortcomings, distance learning has benefits for the learning process, including being more cost-effective. Because if face-to-face learning may require additional costs for boarding and accommodation costs during learning at school/university. As a result of the implementation of distance learning, students only require purchasing a gadget and buying data packages to access e-learning, supported by government policies addressing data quota issues. The implementation of online or online learning during the COVID-19 pandemic has changed the learning system. The application of online learning has a good impact on student learning independence. Online learning encourages students to learn more actively, especially in understanding the teaching materials delivered by the lecturers through learning applications, so that students can actively read, discuss, or ask questions to the teachers — the flexibility of online study time and the ability to allow students to manage their own study time.

The government also stipulates a policy for students' graduation requirements from each education, not using the National Examination scores (Rifadi, 2021) but using each school's policies. Plus, continuing education does not use the National Examination scores but uses the final semester report card scores. The process for those who take package A, package B, and package C will be determined later. Government policies also have interrelationships between the economic capabilities of teaching staff and students, which is the main thing that must be completed so that the learning process can run well. For this reason, in addition to issuing policies in education, the government issues several other policies to encourage the economy of teachers, students, and even people.

This is by the concept proposed by Dunn (2003), which states that the policy is made based on three things, namely: first, a discipline where the policy can be followed well by the community, secondly, the problems of the policies issued can solve the problems that have been identified and thirdly, the application of whether the policy can be implemented properly with the situation and conditions in Indonesia. These three things can be said to already exist in the policy process issued by the government. However, it has not solved all problems such as injustice that occurs due to remote regulations, which causes a gap between students who have complete facilities and not at least with existing policies the government has managed to minimise the impact of injustice.

6. CONCLUSION

This pandemic causes various learning processes because, in this situation, learning is done through online or distance learning. In implementing distance learning, of course, several aspects need to be considered, including planning, measuring student needs, support systems, teacher competencies, material design, appropriate platforms, and evaluating student learning outcomes. This can be realised if government policies fully support it. Government policies that tend to wait for problems and make solutions may be the right step, but they may also negatively impact. As a result of the pandemic, we need various types of research on problem inventory studies. Every government policy has an overview policy or a first step to prevent problems from becoming larger and more difficult to solve. We also propose that areas with limited networks and facilities should be allowed to conduct face-to-face learning by following existing regulations. Urban areas with adequate facilities should continue to carry out the online learning process until the pandemic is completely controlled.

Conducting crucial research on educational policies amid the COVID-19 pandemic is imperative, particularly given the unexpected disruptions in various sectors, with a specific focus on evolving learning models. The government's response in addressing challenges related to the virus has influenced multiple sectors, notably education. Despite some delays in response, government policies have played a crucial role in mitigating concerns surrounding distance learning. However, there are notable drawbacks, including the impact on the economy, leading to widespread layoffs and financial constraints for parents, hindering access to educational resources for their children. The government's precision in identifying potential

issues and prioritizing prevention over treatment must be enhanced. Additionally, reviewing policies on zoning permits for face-to-face learning, especially in remote areas, is suggested to address challenges related to network availability and gadgets. While this research acknowledges its limitations, focusing on previous studies, government data, and expert opinions, the identification of field experiences and community perceptions could fortify future research endeavours.

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