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Resilience in education policy: Insights from Indonesia's school reopening amid COVID-19

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ABSTRACT

The COVID-19 pandemic has really left an impacted education, stimulating policymakers to introduce emergency remote learning. However, transitioning to online education has exposed huge problems in Indonesia, particularly inequalities in digital access, insufficient learning support, and mounting household costs. Finally, with many public outcries for schools to be reopened, the phased reopening policy was implemented through the SKB 4 Menteri decree. This study is hence concerned with an evaluation of the implementation and effect of school reopening policies that were put in place in Indonesia during the pandemic. The logical framework approach is used to assess inputs, processes, outputs, outcomes, and impacts. The conclusion is that the reopening of schools addresses the learning loss incurred by the students; however, these K-12 institutions do not have sufficient health infrastructure and there are poor enforcement protocols that altogether made these schools hotspot areas for the emergence of COVID clusters. However, decisions made at the policy level were reactive rather than evidence-based, portraying a gap in crisis preparedness and risk mitigation. The need to make adaptive education policies based on the lessons learned as described in this experience should be emphasized to realize the balance of learning continuity with public health priorities, strong engagement needed in terms of stakeholders, and decision-making that is based on data. The future needs of educational resilience will require strengthened digital infrastructures, hybrid learning models, and crisis-responsive governance in education.

Keywords: Educational resilience; school reopening policy; COVID-19; policy adaptation; crisis-responsive governance; Indonesia

1. INTRODUCTION

The government decided to conduct online learning since the beginning of COVID-19 cases in Indonesia. The Ministry of Education Regulation issued Circular Letter Number 4 of 2020 concerning the Implementation of Education Policies during the Emergency Period of the Spread of COVID-19 as a policy response to stop all face-to-face learning and replace it with distance learning with online methods. However, the policy, which has been running since March 24 until now has been running for about nine months, and raises various problems in its implementation. The shift in the use of fast-paced technology as an important element in the implementation of Distance Learning (PJJ) is also a problem. For example, starting from a slow Internet network, both in urban areas and in areas far from urban areas. In addition to network problems, a number of obstacles faced by students in the implementation of distance learning include lack of guidance from teachers, unsmooth internet access, lack of adequate gadgets or smartphone devices, difficulty accessing online learning application,s lack of assistance from parents or guardians of students, and other external obstacles (Kata Data, 2020a). The data even shows that Indonesia is ranked second from the bottom out of 45 countries that have internet speeds that are considered quite slow according to data from Ookla, where the average cable internet speed in Indonesia is 15.5 Mbps, while the average cable internet speed in the world is 54.3 Mbps (CNN Indonesia, 2020).

The implementation of distance learning also raises new problems for parents and families of students. For example, household budgets may increase due to the purchase of Internet access (Yuslianson, 2020). Public pressure to reopen schools arose as a reaction to the obstacles faced. The government responded by formulating a series of policies to reopen schools face-to-face during the pandemic. A package of policies starting from the Joint Decree of the 4 Ministers on June 15, 2020, along with guidelines regarding the adjustment of learning policies during the COVID-19 pandemic, was ratified as a policy guideline for implementing learning models during the pandemic. Although not yet official, the government has also conveyed information on the plan to reopen schools face-to-face, which will be implemented throughout Indonesia in January 2021 (Meiliana, 2020b). However, the policies that have been implemented are considered by many parties to be very risky for public health.

Several non-governmental organizations (NGOs) and communities have also expressed their stance regarding the rejection of reopening schools during the pandemic, because it will increase the transmission of positive COVID-19 cases in schools and communities. These institutions include the Independent Teachers Federation (FGII), the Indonesian Teachers Union Federation (FSGI), Hakasasi.id, Indonesia Corruption Watch (ICW), Kawal COVID-19, Banten Teachers Coalition (KGB), Lapor COVID-19, Lokataru, the Indonesian Center for Law and Policy Studies (PSHK), Transparency International Indonesia (TI-I), the Indonesian Legal Aid Foundation (YLBHI), and the Center for Indonesia's Strategic Development Initiatives (CISDI), which published their position statements on August 17, 2020, through their respective social media. In addition, the author considers the policy to lack an evidence-based approach to support it.

Learning from other countries, the transmission of positive COVID-19 cases increased due to the reopening of schools, and gave birth to new clusters, namely, school clusters. The increase in cases after schools reopened occurred in Germany with the discovery of 9 cases, of which there were 20 cases with the number of positive cases that occurred. An outbreak also occurred in the American state of Kansas, where the reopening of schools caused two clusters of local transmission among students during sports activities (Tidd, 2020). The impact of the school reopening policy in the country should certainly be one of the important considerations before formulating policies by the Indonesian government. Previous case data need to be viewed using a sense of humanity approach and not just numbers. Here, it appears that the impact of school reopening is very risky for students, educators, and teachers. Examining the implementation of the policy currently in force in Indonesia, this article evaluates the real conditions of the implementation of the 4 Ministers' Joint Decree policy. This study aims to evaluate the impact of the policy that has been passed and to consider the sustainability of learning policies during the pandemic.

2. METHOD

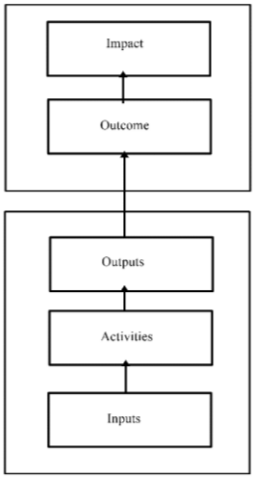
The literature review was the method applied in the present study around document observation into the reopening of schools during the first wave of Covid-19 in 2020. Therefore, this study delved into the examination of government policies, official guidelines, and public declarations on the part of key actors in this case, users from the Ministry of Education, public health organizations, and civil society groups. In addition, secondary data from national and international reports, surveys, and case studies were incorporated to provide a broader understanding of the policy's development and implementation. The study would supplement this by media coverage at both the local and global levels to obtain real-time events and reactions by the mainstream population during the study. The data collection period coincided with the peak first wave of COVID-19 in Indonesia. Thus, the findings represent the challenges and responses during a critical juncture of emergency. Triangulation of data from diverse sources provides a holistic and deep view of the school reopening policy and has wider implications for crisis management in the education sector. Analytically, the Logical Framework Approach was applied to all facets of the given policy: inputs, processes, outputs, outcomes, and impacts. The inputs included public demand, available health resources, and existing digital infrastructure. The processes have, in fact, been detailed: the matter of decision-making and implementation steps-by-steps, outputs as formal regulations issued such as SKB 4 Menteri. Next, outcomes and impacts were mapped using secondary data on health and education indicators, such as the number of COVID-19 clusters associated with educational institutions and the readiness of these institutions to follow health protocols.

Policy evaluation is designed as one of the steps in the policy cycle to produce information about the results or impacts of policies that have been formulated (Dunn, 2014). The results of the evaluation process are then able to show the effectiveness and efficiency of the policy. This can then be used to determine whether a policy that has been formulated needs to be continued, reformulated or stopped (Fischer & Miller, 2017). So that in order to produce a comprehensive policy, evaluation becomes a process that needs to be carried out repeatedly and continuously. There are nine approaches as policy evaluation methods including 1) Performance indicators, 2) The logical framework approach, 3) Theory-based evaluation, 4) Formal surveys, 5) Rapid appraisal methods, 6) Participatory methods, 7) Public expenditure tracking surveys, 8) Cost-benefit and cost effectiveness analysis, 9) Impact evaluation (Clark et al, 2004). Then in the analysis of the impact of face-to-face school policies during this pandemic, a method was built using a logical framework. Clark et al (2004) describe the approach in detail, where a logical framework is used because it can help clarify the objectives of a project, program, or policy, and assist in identifying the expected cause-and-effect relationships the "program logic" in the following results chain: inputs, processes, outputs (including coverage or "reach" across beneficiary groups), outcomes, and impacts. The approach also leads to the identification of discussions at each stage in the chain, as well as risks that may hinder the achievement of objectives. During implementation, the logical framework serves as a useful tool for reviewing progress and taking corrective action. The logical framework approach is also used to improve the quality of project and program design by requiring clear specification of objectives, use of indicators, and risk assessment by abstracting the design of complex activities.

Logical framework can also assist decision makers in preparing detailed operational plans for improvement. In addition, this approach also provides an objective basis for review, monitoring, and evaluation of activities, ensuring that decision makers ask fundamental questions and analyze assumptions and risks. MacArthur (1993) explains several important stages in the logical framework that are the focus of policy evaluation analysis, including; input, activities, output, outcomes, and impact. Various matrices that simply describe the evaluation stages have been described with various models (Cummings, 1997; MacArthur, 1993; NORAD, 1996; Roduner et al., 2008; Technologies, 2005). Input is the raw material used as input in a policy system. Input can be in the form of human resources, financial resources, time (Dunn, 2014), demands or community support (Subarsono, 2005). Inputs must realistically reflect what is needed to produce the desired output, and must be well described, and precisely identified regarding the basis of the problem (NORAD, 1996). Meanwhile, activities can also be referred to as the process of

converting inputs into outputs within a certain period of time. During this process, bargaining and negotiation can occur between all stakeholders in policy formulation (Subarsono, 2005). In this process, the process must focus on achieving the objectives and outputs of the policy later, where an in-depth investigation of the problem also needs to be carried out at this stage (NORAD, 1996). Figure 1 is matrix that is the basis for the analysis of the evaluation of face-to-face school policies during the pandemic.

Figure 1. Basic elements of the logical framework approach in Program / Policy Evaluation



Sources: (Cummings, 1997; NORAD, 1996; Roduner et al., 2008)

Then, Output is the result of a formal decision-making process or the output of a policy system/process (Subarsono, 2005). It can also be defined as goods or products and services resulting from development interventions; it may also include changes related to the results achieved by the intervention (INTRAC, 2015). In relation to the policy context, the manifestation of output is in the form of regulations, policies, programs (Subarsono, 2005). Meanwhile, Outcomes are estimates: short-term and medium-term impacts that may or will be achieved by the intervention output (INTRAC, 2015). Outcomes are the results of a policy within a certain period of time that refer to the achievement of formulated goals. Furthermore, Policy Impact is the overall effect caused by a policy in realistic conditions. Impact is about development interventions directly or indirectly, intentionally or unintentionally, positive and negative, primary and secondary long-term effects (INTRAC, 2015). In simple terms, impact is the further effect on society as a consequence of the implementation of a policy (Subarsono, 2005).

The collection period of data in this study coincided with the peak of Indonesia's first COVID-19 wave so that what we found can be said to reflect the challenges and responses that occurred in an emergency situation at a critical juncture. Thus, this method can give a holistic and detailed assessment of the school reopening policy and its wider implications for crisis management in the education sector. It gives holistic and detailed assessment by the triangulation of data of different sources.

3. RESULT AND DISCUSSION

3.1. Result

3.1.1. Impact Analysis of Face-to-Face School Policy During the Pandemic: An Initial Evaluation

The logical framework approach that has been described theoretically before is the basis for analyzing the impact of face-to-face school policies during the pandemic. This policy evaluation was prepared with the aim of finding out the reality on the ground in implementing the Joint Decree of the 4 Ministers regarding the opening of schools during the pandemic. The following will explain the details of the evaluation analysis at each stage starting from input and activities, output, outcome, and impact and the author's critical analysis is also provided at each stage.

3.1.2. Input and Activities

Kata Data released a perception survey on the best time to start school activities. The results showed that 50% of respondents indicated that the best time to start school activities is when the number of COVID-19 cases decreases (Kata Data, 2020b). A survey conducted by Cyrus Network also found that 80% of respondents wanted schools from kindergarten to high school to reopen. Meanwhile, 54.1% stated that they strongly agreed with the idea of reopening schools (Meiliana, 2020a). These public demands then became input for the preparation of policies for reopening face-to-face schools. Furthermore, examining the guidelines for adjusting learning policies during the COVID-19 pandemic released by the Ministry of Education and Culture on August 7, 2020, several aspects of the problems faced during the implementation of PJJ were listed which became the basis for the implementation of face-to-face schools again. There were several obstacles faced by teachers, parents and children during the PJJ period which can be seen in the following Table 1.

Table 1. Obstacles faced in implementing Distance Learning

Teacher	Parents	Student/ Student
Teachers have difficulty managing PJJ and tend to focus on completing the curriculum.	Not all parents are able to accompany their children to study at home because they have other responsibilities (work, housework, etc.).	Students have difficulty concentrating on learning from home and complain about the severity of the assignment of questions from teachers.
Learning time is reduced so that teachers cannot meet the burden of teaching hours.	Parents' difficulties in understanding lessons and motivating children when accompanying learning at home	Increased stress and boredom due to continuous isolation have the potential to cause anxiety and depression for children.
Teachers have difficulty communicating with parents as partners at home.		

Source: Ministry of Education, 2020

The existence of public demands then encouraged the government to formulate a policy for implementing education during the pandemic. The formulation of the policy was prepared by the Ministry of Education and Culture, Ministry of Religion, Ministry of Health, and Minister of Home Affairs by organizing the preparation of a Joint Decree of 4 Ministers which in its implementation has undergone changes or revisions once as far as this article was written.

3.1.3. Output

The previous policy formulation then resulted in the Joint Decree of the Minister of Education and Culture, Minister of Religion, Minister of Health, and Minister of Home Affairs Number 01/Kb/2020, Number 516 of 2020, Number Hk.03.01/Menkes/363/2020, Number 440-882 of 2020 concerning Guidelines for Implementing Learning in the 2020/2021 Academic Year and the 2020/2021 Academic Year During the Coronavirus Disease 2019 (COVID-19) Pandemic which was ratified on June 15, 2020. The regulation is a policy output in the form of a formal legal basis for the implementation of face-to-face schools. However, the regulation later became the Joint Decree of the Minister of Education and Culture, Minister of Religion, Minister of Health, and Minister of Home Affairs of the Republic of Indonesia Number 03/Kb/2020 Number 612 of 2020 Number Hk.01.08/Menkes/502/2020 Number 119/4536/Sj Concerning Amendments to the Joint Decree of the Minister of Education and Culture, Minister of Religion, Minister of Health, and Minister of Home Affairs Number 01/Kb/2020, Number 516 of 2020, Number Hk.03.01/Menkes/363/2020, Number 440-882 of 2020 Concerning Guidelines for Implementing Learning in the 2020/2021 Academic Year and the 2020/2021 Academic Year During the Coronavirus Disease 2019 (COVID-19) Pandemic.

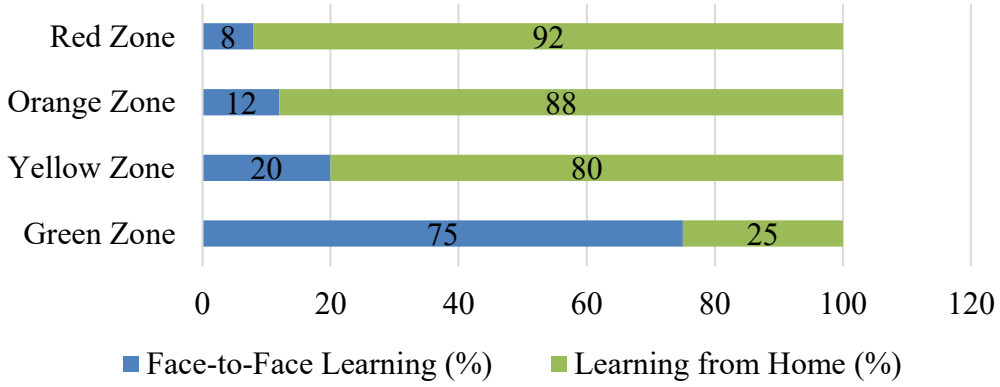
Identification found that the changes to the regulation were very fundamental and crucial in the first point. The regulation before the revision stated that only green zone areas were allowed to hold face-to-face schools again. Then, the revised regulation stated that yellow zone areas were also allowed to hold

face-to-face schools again. This then gave rise to criticism from the Indonesian Teachers Union Federation (FSGI) which considered that the relaxation of the opening of face-to-face schools risked increasing COVID-19 cases (Kuswandi, 2020). In addition to the Joint Decree of the 4 Ministers which was ratified on August 7, 2020, the Decree of the Minister of Education and Culture of the Republic of Indonesia Number 719/P/2020 concerning Guidelines for the Implementation of the Curriculum in Educational Units in Special Conditions is also a guideline for the implementation of education policies throughout Indonesia.

3.1.4. Outcome

The Joint Decree of the 4 Ministers does not mention the target achievement of results, because it is based on the principle of prioritizing health. However, the change in the regulation explicitly aims to expand the opening of schools in the yellow zone with the implementation of health protocols. The results show that throughout the implementation of the regulation until November 18, the Ministry of Education and Culture released that 75% of schools in the green zone had implemented face-to-face learning. Meanwhile, in the yellow zone, 20% of learning had been carried out face-to-face. More details regarding the infographic on the percentage of schools with face-to-face learning in Indonesia can be seen in the following Figure 2.

Figure 2. Percentage of Schools with Face-to-Face Learning and Learning from Home (as of November 18, 2020)



Source: (Kata Data, 2020c)

Referring to the policy objectives by the government to expand the implementation of face-to-face schooling, a fairly high percentage is shown by the data. However, the opening of schools in orange and red zones should not be allowed if referring to the policy because of the high risk. Meanwhile, regarding the implementation of health protocols in schools, an assessment was conducted by the Indonesian Child Protection Commission (KPAI) from June to November 2020 in 49 schools. Findings in the field showed that 83.68% of schools were not ready to implement face-to-face learning (PTM), and only 16.32% were ready with health protocols (Meiliana, 2020c). This shows that the policy of opening face-to-face schools still has a high risk of transmission, and is not in accordance with the principle of the policy that prioritizes the health and safety of all parties, especially educators and students.

3.1.5. Impact

The previous presentation has explained in detail about the policy evaluation analysis by looking at the stages starting from input and activities, output, and outcome or results of the policy of implementing face-to-face learning during the pandemic. Furthermore, the very important stages of analysis will be described in detail in the evaluation of the impact of this policy. However, previously, the author conducted a re-assessment to identify the feasibility of implementing learning during the pandemic in Indonesia. This assessment was carried out as a comparison of whether the policies formulated by the

government had been implemented appropriately. Here, the health and safety of every community needs to be taken into account and not just recorded as mere data. The Center for Disease Control and Prevention (CDC) together with the World Health Organization (WHO) as an institution that plays an important role in controlling the global pandemic released a number of indicators that show the threshold for the spread or transmission of the virus in schools, which can be seen in the following Figure 3.

Figure 3. Threshold indicators for the risk of COVID-19 transmission in schools

INDICATORS	Lowest risk of transmission in schools	Lower risk of transmission in schools	Moderate risk of transmission in schools	Higher risk of transmission in schools	Highest risk of transmission in schools
CORE INDICATORS					
Number of new cases per 100,000 persons within the last 14 days*	<5	5 to <20	20 to <50	50 to ≤ 200	>200
Percentage of RT-PCR tests that are positive during the last 14 days**	<3%	3% to <5%	5% to <8%	8% to ≤ 10%	>10%
Ability of the school to implement 5 key mitigation strategies: • Consistent and correct use of masks • Social distancing to the largest extent possible • Hand hygiene and respiratory etiquette • Cleaning and disinfection • Contact tracing in collaboration with local health department Schools should adopt the additional mitigation measures outlined below to the extent possible, practical and feasible.	Implemented **all 5** strategies correctly and consistently	Implemented **all 5** strategies correctly but inconsistently	Implemented **3-4** strategies correctly and consistently	Implemented **1-2** strategies correctly and consistently	Implemented **no** strategies

Source: (CDC, 2020b)

Then, referring to the indicators, the calculation was carried out by the author on a national scale. Case data was collected from the COVID-19 Handling Task Force report via covid.go.id which is released daily, while the calculation of tested specimens was obtained from daily reports released by @kawalcovid19 on its social media accounts.

3.1.5.1. Number of new cases per 100,000 people in the last 14 days

The number of new cases in Indonesia until December 9, 2020 in the last 14 days was 77,900 cases, while the population of Indonesia according to data from BPS was 268,583,016 people. The calculation is done by adding the number of new cases in a country in the last 14 days divided by the population in a country and multiplying by 100,000. Here is the calculation;

$$\frac{79.900}{268.583.016} X\ 100.000 = 29{,}00407$$

The results of this simple calculation show that in general, Indonesia is in the orange category which is between 20 – 50, and indicates that the level of transmission in schools is moderate (moderate risk of transmission in schools).

3.1.5.2. Percentage of positive RT-PCR tests over the past 14 days

Then, related to the percentage of positive RT-PCR tests over the past 14 days, it is calculated by dividing the number of positive tests over the past 14 days by the total number of tests generated over the past 14 days. The calculation was carried out from November 26, 2020 to December 9, 2020. The number of positive cases over the past 14 days was 77,900 cases. Meanwhile, the number of people tested was 499,297 people. The following is the calculation of the percentage of positive RT-PCR tests over the past 14 days;

$$\frac{77.900}{499.297} X\ 100\% = 15{,}60194$$

The calculation result shows a figure of 15.6, which means it is in the red category with the highest risk of transmission in school because it is at more than 10 points from the indicator. This shows that on a national scale, the risk of disease transmission in schools is very high when viewed from the percentage of tests given by the government.

3.1.5.3. Schools' ability to implement five key mitigation strategies

Those five mitigation strategies are: (1) Consistent and correct mask use; (2) Social distancing to the greatest extent possible; (3) Hand hygiene and respiratory etiquette; (4) Cleaning and disinfection; (5) Contact tracing in collaboration with local health departments

Meanwhile, detailed monitoring cannot be carried out on this indicator in each school that has implemented face-to-face learning. However, this data can refer to KPAI data that has been presented at the output stage regarding the implementation of health protocols in schools. Where the data shows that the majority of schools, 83.68%, have not had good preparation in providing facilities according to health protocols (Meiliana, 2020c).

Judging from the calculation of each indicator, the threshold for the risk of COVID-19 transmission in schools nationally can be said to be still relatively high. Although the first indicator is included in the moderate category, it does not mean that transmission is zero. This condition is still relative because the testing rate is still quite low in Indonesia. However, the reality on the ground shows that the face-to-face school policy during this pandemic has had an impact on the emergence of school cluster cases in various regions in Indonesia. The COVID-19 report states that a number of schools are starting to show clusters of COVID-19 transmission. This coincides with the return of face-to-face teaching and learning activities in various regions. According to data collected by the COVID-19 report, there were five school clusters until August. First, in Tulungagung, a 9-year-old student tested positive for COVID-19 who participated in group face-to-face learning with a teacher. Second, 14 students and 8 teachers tested positive for COVID-19, the transmission was spread across six middle schools in West Kalimantan. Third, 28 people tested positive for COVID-19 in Balikpapan, most of whom were teachers and school employees. Fourth, a student at SDN 2 Bogares. Lastly, 11 teachers were found to have tested positive in Rembang Regency (Kata data, 2020d). The report of the emergence of this school cluster was initially denied by the Ministry of Education and Culture. The Director General of PAUD-Primary and Secondary Education (Dikdasmen) of the Ministry of Education and Culture, Jumeri, said that since the Minister of Education and Culture Nadiem Makarim together with related ministries released the opening of face-to-face schools for the yellow zone, his ministry received reports of clusters related to COVID-19 in education units (Chaterine, 2020).

However, starting from the report, observations of the impact of the face-to-face learning policy were carried out which resulted in school clusters being compiled to find out the facts on the ground. The following data was collected by the author through data filtering with the Google News search engine, with the keywords "school cluster", "positive students", "covid education cluster", "Islamic boarding school cluster" and brought up around 250 reports from local and national media such as Detik, Kompas, BBC, CNN Indonesia. Then sorted into 27 sources of reports that were processed and produced the Table 2.

Table 2. Distribution of School Clusters in Indonesia in 2020

No.	Cluster Name	Number of Positive Cases	Cluster Location	Months	Zone conditions When opened
1	Cluster of Officer Formation Schools (Setukpa) of the National Police Lemdikpol	300	Sukabumi City, West Java	April	Green
2	School cluster for prospective TNI AD officers (Secapa)	1262	Bandung City, West Java	July	Red
3	Seminary School Cluster	30	Sintang, West Kalimantan	August	Green
4	Teacher and Employee Education Cluster	15	South Tangsel, West Java	August	Green
5	High School Cluster	22	Pontianak, West Kalimantan	August	Yellow
6	Islamic Boarding School Cluster	328	Banyumas, Central Java	September - October	Orange
7	Al-Quran Higher Education Student Cluster (PTIQ)	200	Cilandak, South Jakarta	October	Red
8	Husnul Khotimah Islamic Boarding School Cluster	412	Kuningan, West Java	October	Red
9	Cluster Guru SMAN 1 Polokarto	10	Sukoharjo, Central Java	November	Red
10	Jepara Private Junior High School Cluster	2	Jepara, Central Java	November	Oranye
11	SDN Patuk Cluster	2	Gunung Kidul, Yogyakarta	November	Oranye
12	SMK Cluster Jalan Brotojoyo	179	Semarang	December	Red
13	Bali Land Transportation Polytechnic Cluster (Poltrada Bali)	238	Tabanan, Bali	December	Oranye
14	Distribution in junior high schools	36	Surabaya	December	Red

Source: Authors Analyses, 2020

Table 2 shows the cluster names taken from the details of the location of the spread of COVID-19 in educational institutions, the number of positive cases in each cluster, the area of distribution, the month of the incident and the condition of the zone when face-to-face learning and case transmission were implemented. The data above is sorted periodically from April to December. Formally, referring to the ratification of the Joint Decree of the 4 ministers, the calculation of clusters began after the ratification of the policy regulation in June. However, what is interesting is that in the case in April, there was a Cluster of the Officer Formation School (Setukpa) Lemdikpol Polri. The findings of 300 student members at the institution were positive for COVID-19 while at the same time, distance learning was still in effect even though the area was a green zone. This means that there was a violation of regulations by the Institution.

Furthermore, referring to since the ratification of the face-to-face learning policy during the pandemic, data shows that there have been reports of 13 clusters occurring in schools. Two clusters are in the green zone, one cluster in the yellow zone, 4 clusters in the orange zone, and 6 school clusters have emerged in the red zone. This shows that there are still several areas that violate the policy that only allows face-to-face schools in the green and yellow zones. As a result, the transmission of cases is very high. As happened in the city of Bandung which reached more than a thousand positive cases. Another cluster not listed in the table is the Islamic boarding school cluster. Findings based on media reports, there are two large clusters from Islamic boarding schools. First, namely in Banyuwangi which is located at the Darussalam Blokagung Islamic Boarding School, with 622 positive cases in September. While at that time Banyuwangi was included in the red category. Meanwhile in Krapyak, Bantul, there were 195 positive cases in November, when the area was still in the red zone. However, although areas in the

orange and red zones can be "considered" to be violating the regulations. However, the impact of the face-to-face school policy also occurred in the green zone. The data in table 2 shows that in the green zone, 2 school clusters emerged that caused an increase in positive cases, namely the seminary school cluster which was suspected of being infected when students left the school area. Meanwhile, in the teacher and employee education cluster in South Tangerang, face-to-face learning has not been carried out. School clusters were also reported to have occurred in areas in the yellow zone in Pontianak. The high schools that became COVID-19 transmissions include; SMA 1 Ketapang, SMA 1 Ngabang, SMA 1 Pontianak, SMPN 1 Pontianak, and SMAN 2 and SMAN 3. These findings indicate that the risk of COVID-19 transmission is also quite dangerous even in the green and yellow zones. Various findings and identification of the feasibility of policies based on indicators used by various countries for the implementation of face-to-face learning policies during the pandemic indicate one important causality. The policy that has been formulated by the government has actually had a serious impact on the health and safety of students, and is contrary to the principles of safety and health formulated in the policy.

3.2. Discussion

There arose many controversies regarding reopening schools during the COVID-19 pandemic, primarily dealing with the question of educational continuity versus public health safety. Advocates of in-person education assert that the prolonged closure of schools leads to greater learning loss, greater educational inequality, and increased psychosocial problems for students (Hidayah et al., 2023; Pudjiadi et al., 2022). School closures impact most on disadvantaged pupils, particularly those in rural areas, with limited access to digital learning infrastructure (Masitoh et al., 2022). Conversely, those opposing reopening schools argue that the chances of viral transmission within schools are heightened in countries that lack adequate public health infrastructure (Amri et al., 2021; Sandy, 2024). Surveys conducted among teachers also pointed out that 76% of the respondents expressed concerns regarding health risks of schools reopening, suggesting the need for better safety measures (Amri et al., 2021). On the other hand, public opinion became polarized concerning the reopening of schools, with many parents expressing hesitance for fear of putting their households and children's health susceptible (Hariati et al., 2023; Pudjiadi et al., 2022).

The decision on school reopening issued by the Indonesian government appeared to be driven partly by pressure from the public and partly by the need to address the shortcomings of distance learning. There was a survey saying that many parents favoured reopening given the hurdles related to homeschooling and limited access to digital learning resources (Gustine et al., 2024; Suyadi et al., 2023). However, the assessment of health risks was not elaborately done: for example, it was found that only a fraction of community health centres were ready to monitor the reopening of schools (Masitoh et al., 2022). The situation was made worse by such inadequate implementation of health protocols (Shrivastava & Shrivastava, 2020). The social media sentiment analysis found a polarized estimation by the public about reopening concerning safety versus educational continuity (Sakti et al., 2024). Furthermore, teachers expressed concerns about the reopening, stressing the need for mixed-mode delivery and stronger health protection measures (Amri et al., 2021; Hidayah et al., 2023). These findings point to a critical evidence-based policy in balancing educational needs against public health, with the notion that the evidence should provide sufficient preparedness and risk-mitigation strategies for application prior to major decisions (Sandy, 2024).

Global experience shows clearly that a school opening line will be matched with the risk of catching cold by public health measures. In the US, reopening caused a spike in cases, showing the effects of early decisions (Valentine et al., 2023). Also, hybrid learning and universal masking interventions were quite effective in schools here-in-the-US-in terms of reducing infections and providing safer educational settings (Baxter et al., 2022). For Indonesia, adopting these thresholds, especially that of community transmission and obligatory health protocols, could have been instrumental in curbing some of the negative consequences seen in the early postopening phase of schools. The Indonesian policy on school reopening exposes some critical gaps in evidence-based policymaking with respect to mitigation strategies. A major shortcoming was the non-existence of a comprehensive readiness assessment, 83.68%

of schools being unprepared to meet health protocol requirements. Additionally, only 37.7% of community health centers were adequately equipped to support school reopening, highlighting weak institutional preparedness (Masitoh et al., 2022). Public anxiety over safety became evident, with teachers advocating for a blended learning model because of lack of health protection (Hidayah et al., 2023; Sakti et al., 2024). Parents also had mixed feelings, with worries regarding risks to their children and other vulnerable members of the household (Pudjiadi et al., 2022). These shortcomings highlight the need for systematic risk assessments to be built into future policies to assure robust support mechanisms in health care and an evidence-based reopening approach (Sandy, 2024).

Additionally, the global pandemic revealed systemic weaknesses in educational and health infrastructures. The recent transition to distance learning in Indonesia due to the COVID-19 outbreak has opened up dissimilarities within the confines of internet access and the availability of digital learning tools, especially in remote and underdeveloped areas. Limited internet infrastructure is one of the critical barriers as many students cannot attend online learning because connectivity is poor (Bunga et al., 2022; Prahmana et al., 2021). Addressing these structural challenges requires long-term investment in digital infrastructure and capacity-building initiatives to ensure that education systems can adapt to crises without compromising quality or equity.

3.2.1. Lesson learnt

The school reopening experiences during the pandemic communicate the first lessons for future crisis management in education: First, adaptive policies should be drawn up to incorporate public health considerations with educational outcomes. Hybrid models, combining part-time or modular education alone with online lessons, allow the education part of that (Foster et al., 2022). Second, successful policy implementation requires strong engagement with stakeholders. There was a disconnect between policymakers and other stakeholders during the reopening process in Indonesia, for instance, where teachers, parents, and even health officials seemed not to adhere to the protocols as required, indicating the importance of inclusion during decision-making as well as sharing responsibilities (Garcia, 2024; Masterson et al., 2023). Involvement of communities and utilization of local knowledge will surely improve policy coherence and public acceptance by (Hashim et al., 2024). Third, all policies should be made dependent on evidence. The up-to-date data of the infection rates, testing positivity rates, and health system load can be used to curb a targeted response: adjustments in the imminent status of improvement, phase-in strategy for reopening, or place-wide closings in high-risk areas (Jourdan et al., 2022). Incorporating these lessons in the design of future policies would ensure a more balanced approach to educational continuity and health imperatives and guarantee resilience in crisis response.

There is a realization owing to the COVID-19 pandemic that crisis mitigation should be a component of policies across sectors. Proactive crisis management entails comprehensive risk assessments, stakeholder engagement, and contingency planning to mitigate disruptions (Zaki, 2024). The healthcare, transportation, and energy sectors can leverage these lessons towards greater resilience. In healthcare, strengthening supplies for the chain and hospital infrastructure proved critical to the resolution of crisis preparedness (Beaulieu et al., 2022; Dagenais et al., 2023). The transportation sector should engage in adaptive planning to guarantee mobility during crisis situations (Chakwizira, 2022). The energy sector similarly gains from promoting grid stability using resiliency metrics and stakeholder cooperation (Aguilar et al., 2021). In addition to specific measures that can be taken in each sector, forwarded strategies in partnership across sectors, including public-private partnerships, do foster integrated response mechanisms to crises (Bouchon et al., 2012; Leung & Xie, 2024). Coupled with data-driven decision-making, such as predictive analytics and GIS-based tools, a crisis response mechanism is fortified (Narang et al., 2012). These strategies outline how governments must institutionalize crisis mitigation as an integral part of the policymaking process to enable long-term societal resilience (Weichselgartner et al., 2018).

Reflecting on the past, it is clear that pandemic-induced disruptions present both challenges and opportunities. The reopening of schools in Indonesia amid the COVID-19 pandemic underscores the meaning of resilience for educational policies. The health protocols, such as proper ventilation systems,

sanitation which can decrease the risk of infections in classrooms by more than 80% (Steul & Heudorf, 2021), would have to be strengthened. Outbreak management (testing, tracing, isolation) will also ensure the safety of schools (Marrero et al., 2023). Furthermore, enhancing mental health services would help students deal with psychosocial- pandemic related impacts, with digital intervention creating avenues for easier access (Galadima et al., 2024). A culture of continuous improvement through adaptive learning and use of technology would provide long-term resilience (Hidayah et al., 2023; Nursjanti et al., 2021). In this way, through developing an an inclusive and collaborative education system, Indonesia can build a school system that is better able to face future crises.

4. CONCLUSION

The reopening of schools in Indonesia during the pandemic was characterized by increased challenges in balancing the learning continuity in schools and community safety. The policy analysis indicates that the Joint Decree of the 4 Ministers was actually designed to accommodate public demands and fill the initial learning gaps; however, a number of hurdles were encountered in actualizing it, notably the low readiness of schools to implement health protocols and limited health and digital infrastructure. Evidence suggested that the decision to open schools has trigger COVID-19 cases in educational settings, particularly in less established areas of mitigation. An evaluation based on Logical Framework Approach (LFA) indicates that this policy is still reactive and lacks evidence especially regarding readiness of education institution and capacity of health systems. Absence of comprehensive risk assessments and poor coordination with stakeholders will compound the problem. Henceforth, education policies will be more adaptive through a datacentric model, better digital infrastructure, and a flexible hybrid learning model. Important lessons drawn from this experience are that policy planning should be more anticipatory and crisis-responsive; that education actors, health workers, and the community should be involved in the processes of decision making. Structurally, it could help make Indonesia's edifice much more resilient during such crises in future without harming the health and safety of students and teachers.

Ethical Approval

Not Applicable

Informed Consent Statement

Not Applicable

Authors' Contributions

AA conceptualized the study, conducted policy analysis, and drafted the manuscript. S contributed to data interpretation, framework development, and manuscript revision. Both authors have read and approved the final manuscript.

Disclosure Statement

The Authors declare that they have no conflict of interest

Data Availability Statement

The data presented in this study are available upon request from the corresponding author for privacy.

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