



Assessing the impact and society response to online learning policy during the COVID-19 pandemic in Indonesia

Rakadipta Septian Dwiputra¹, Ikacipta Mega Ayuputri²
Ministry of National Development Planning/Bappenas

rakadipta.dwiputra@bappenas.go.id, ikacipta.mega@bappenas.go.id

Article History:

Accepted: 1 March 2025

Revised: 30 July 2025

Published: 20 September 2025

Abstract

In response to the COVID-19 pandemic, the Indonesian Government implemented a policy mandating online learning activities to replace conventional education during the peak of the virus spread. This article employs descriptive analysis using secondary data and big data analytics from social media data to examine the pandemic's immediate effects and impacts on achieving Sustainable Development Goals (SDGs) number 4, focusing on quality education. While positive sentiments surround the implementation of online learning in Indonesia, the study reveals negative trends and a slowdown in achieving critical indicators related to SDG 4. The findings highlight the need for the Indonesian government to formulate and implement improved policies to reach the Quality of Education targets by 2030. This study provides valuable insights into the progress and challenges within the Indonesian education system, offering policymakers the necessary information to make informed decisions for advancing education in the country.

Keywords: COVID-19, online learning, Sustainable Development Goals (SDGs), social media data

INTRODUCTION

The COVID-19 pandemic has impacted nearly every part of the world, leading to adjustments in various essential activities. One area significantly affected is education, where the virus's rapid spread has brought about substantial changes. Instead of the usual classroom setting, learning shifted to a virtual format during the pandemic. This change was necessary to avoid health risks associated with in-person classes. The move to virtual learning highlighted the flexibility of educational practices and brought challenges related to remote learning to the forefront, fundamentally altering how we approach education globally. Analysis from the World Bank shows that the global level of schooling and learning quality will be decreased due to a school shutdown during the COVID-19 pandemic (Azevedo et al., 2021).

Previous studies also show the negative impact of this condition in Indonesia. In the mathematical subject, before the pandemic, students understood better compared to the pandemic situation (Firmanti & Yuberta, 2021). In Jakarta, 14%

of students feel stressed about following the distance learning process and express needing friends and family support during that period (Susanto, 2021). While in the United States, the COVID-19 pandemic is potentially causing academic gap problems between students who live in high-income regions compared to less advantaged areas (Bacher-Hicks et al., 2021). However, another finding also shows that online learning methods during the pandemic also had positive impacts. For example, students' academic achievement is better with the online learning method (Samara et al., 2023; Zheng et al., 2021) and accelerating digital educational transformation (Ausat, 2022). These results show no agreement yet on the impact of online learning methods during the COVID-19 pandemic, and it depends on other factors such as accessibility, teachers' communication skills, and student learning experience.

During the COVID-19 pandemic, the Indonesian government implemented various policies to address the challenges faced in education. Among these measures was the issuance of a Ministerial Education Decree to provide guidelines for the learning process during the pandemic. These policies were crucial in ensuring continuity in education while safeguarding public health. However, challenges arose during implementation, including difficulties adapting to online technology among teachers, limited internet accessibility, financial constraints for parents in purchasing internet data packages, and inadequate student facilities (Mar'ah et al., 2020). These issues underscored the importance of addressing not only the educational aspects but also the broader socio-economic factors that affect the ability of students to engage effectively in remote learning.

Despite the challenges posed by the COVID-19 pandemic, the Indonesian government remained steadfast in refining its strategies to mitigate its negative impact on education. Efforts were directed toward improving internet infrastructure and accessibility, providing essential support for teachers to utilize online platforms effectively, and alleviating financial burdens on families affected by the pandemic. Moreover, strategic partnerships with private sector entities and international organizations were forged to bolster resources and support for remote learning initiatives. Through comprehensive and collaborative approaches, the Indonesian government aimed to ensure that all students had equitable access to quality education, even amidst the disruptions caused by the pandemic.

These endeavors were responses to immediate challenges and part of a broader vision to achieve Sustainable Development Goals (SDGs) in Education by 2030. Statistics Indonesia (BPS) reported a slight improvement in specific education quality indicators, such as primary education completion rates, participation rates in organized learning before primary school age, and youth and adult participation in education and training (Statistics Indonesia, 2023). These results underscored the Indonesian government's serious commitment to the recovery of the education sector following the shutdown period necessitated by the COVID-19 pandemic. Through continued dedication and targeted interventions, Indonesia aimed to

ensure that its education system remained resilient and capable of meeting the evolving needs of its population.

This study concentrates on a detailed analysis of policy implementation by the Indonesian Government. Specifically, it delves into various education indicators outlined in the Sustainable Development Goals (SDGs) framework to assess Indonesia's education development trajectory comprehensively. In addition, capturing society's response from social media analytics is also crucial to show the actual sentiment in the society. With the advancement of the internet and technology, social media can be the approach to public responses during a pandemic. Social media presents significant potential for qualitative researchers, as the abundance of unstructured textual data, known as big data, offers a valuable new source for analysis (McKenna et al., 2017). By examining the policy initiatives enacted by the government, exploring key SDG indicators, and considering sentiment analysis from social media as valuable data, the study aims to provide a nuanced understanding of the progress and challenges within the Indonesian education system. This holistic approach allows for a comprehensive evaluation of the effectiveness and impact of implemented policies on the broader educational landscape, shedding light on areas of success and areas that may require further attention for the advancement of education in the country.

METHODOLOGY

This study uses descriptive methods to analyze the impact of educational policy implementation by the Indonesian Ministry of Education during the COVID-19 pandemic. The illustrative method is used because it possibly gathers data from various sources to describe events and analyze data quantitative or qualitatively (Nassaji, 2015). Multiple types of data are also used to make comprehensive analyses. First, I use the Ministerial Decree about guidelines for education activities during the COVID-19 pandemic from the Indonesian Ministry of Education to show policy implementation during the shutdown period. Second, I use data from Statistics Indonesia, especially in the education sector, to describe the impact of the policy implementation and the COVID-19 pandemic. Furthermore, I leveraged social media data from Intelligence Socio Analytics (ISA) to glean insights into public reactions and sentiment analysis to the online school policy in Indonesia. Sentiment analysis and opinion mining study how people feel and express opinions through written language, driven by the rise of social media platforms like reviews, forums, blogs, and micro-blogs (Liu, 2012). The extensive data collection methodology involved a keyword search employing both 'online school' and its synonyms, such as 'school from home' and 'learn from home,' to ensure thorough data retrieval. The social media data collection period spanned from March 1, 2020, to December 31, 2021, encompassing the timeframe during which the home learning policy was the most widespread phase.

ANALYSIS AND DISCUSSION

The widespread adoption of social media has generally been regarded as a positive force, facilitating communication and information dissemination. However, the transition to online learning necessitated by the COVID-19 shutdown has revealed a darker side, casting a shadow over the prospects of achieving the Sustainable Development Goals (SDGs) by 2030. Despite the evident benefits of social media, the shift to virtual education has brought forth concerns regarding equitable access to digital tools. Issues such as unequal access to technology, discrepancies in educational quality experienced in an online setting, and the widening gap between individuals with and without internet access have emerged as significant challenges. These challenges are not merely obstacles to effective education; they also have the potential to impede progress toward broader social and economic development goals.

In the forthcoming discussion and analysis chapter, a more in-depth exploration of these concerns will be undertaken. This involves examining the potential consequences of these challenges on educational outcomes and, consequently, their impact on the overall advancement toward the SDGs. Furthermore, the chapter will propose actionable strategies and policy recommendations to address these challenges, ensuring that educational policies are better aligned with the overarching goals of sustainable development. Addressing these issues head-on can foster a more inclusive and equitable educational landscape that contributes positively to broader global development objectives.

Ministerial Decree about Guideline for Education Activities during Shut Down Period

Before the ministerial decree about guidelines for education activities during the COVID-19 pandemic was taken, there was a Minister of Education circular letter for a quick response to the pandemic situation. First, Minister of Education Circular Letter Number 4 of 2020 About the Implementation of Education Policies during the Emergency Period of the Spread of COVID-19 was issued on March 24th, 2020, and focuses on the six main issues:

1. National Examination implementation
2. Teaching and learning process from home
3. Guideline for school examination as National Examination substitution
4. Grade promotion
5. New student admission
6. School operational assistance fund

After that, a Joint Ministerial Decree from the Ministry of Education and Culture, Ministry of Religion, Ministry of Health, and Ministry of Home Affairs about the Guidelines for Learning Process Implementation in the 2020/2021 Academic Year during the COVID-19 Pandemic. This action was taken to make a more holistic policy to respond to the pandemic impact, especially in education activities.

In response to the government's policy mandating online learning during the COVID-19 pandemic in Indonesia, schools made several efforts to adapt and continue educational activities through various online platforms (Septiana, 2020). Educators employed a range of websites and tools such as Google Meet, WhatsApp Groups, Google Classroom, YouTube, and Microsoft Teams for teaching purposes. Despite encountering challenges during the transition period, implementing this policy was deemed necessary to mitigate the spread of the coronavirus. These diverse online tools provided interactive and remote learning opportunities, allowing teachers to engage with students and maintain educational continuity. While the adjustment period presented difficulties, the commitment to reducing the risk of virus transmission through online education underscored the importance of prioritizing public health alongside educational goals.

Achievement of SDGs Goal 4 Indicators

The COVID-19 pandemic has significantly impacted various indicators of Goal 4, Quality of Education, as outlined in the Indonesian SDGs Metadata. Among the 15 indicators, several have experienced a negative outcome, and others have had positive results due to the pandemic. Table 1 provides a detailed evaluation of how the COVID-19 pandemic has affected Goal 4 indicators of Indonesia's education quality. It helps us understand the specific ways in which the pandemic has had both positive and negative consequences.

Table 1. Summarize the COVID-19 Pandemic Impact on the SDGs Goal 4 Indicators

Code	Indicators	Outcome
4.1.1	The percentage of children and youths reaching the basic proficiency standards in reading and mathematics.	Negative in the reading outcome
4.1.2	The percentage of students successfully finishing primary, lower secondary, and upper secondary education	Increase but below the national target
4.1.2 (a)	Out-of-school children for primary education, lower secondary education, and upper secondary education	The results show an increasing number during and after the pandemic.
4.2.2	Participation rate in organized learning (one year before the official primary entry age)	Negative, decreased during the pandemic
4.3.1	Rates of involvement by youth and adults in both formal and informal education and training within the past year.	Negative, decreased during the pandemic
4.3.1 (a)	Gross enrollment rates in tertiary education	Increase but below the national target

Code	Indicators	Outcome
4.4.1 (a)	The proportion of teenagers (aged 15-24 years) and adults (aged 15-59 years) with information communication technology (ICT) skills	Positive, continue to increase
4.5.1	Net Participation Rate Ratio (APM) at the primary education, lower secondary education, and upper secondary education	Negative during pandemic
4.6.1 (a)	Percentage of literacy rate of population aged ≥ 15 years.	Increase but below the national target
4.a.1	Proportion of schools with good access	N/a
4.7.1	Mainstreaming (i) global citizenship education, and (ii) sustainable development education including gender equality and human rights as stated in (a) education policy, (b) education curriculum, (c) teacher training, (d) student assessment, in primary and secondary education levels	N/a
4.a.1 (a)	The proportion of students who encountered bullying within the past year.	N/a
4.b.1	The level of official support the Indonesian government provides to international students benefiting from scholarships under the developing country partnership program.	Negative during pandemic
4.c.1	The percentage of educators who fulfill the qualifications outlined in national standards, categorized by their respective education levels	N/a

Source: SDGs Indonesia, 2023

Notes: N/a means the data still needs to be collected.

Based on Table 1, data from SDGs Indonesia show that it mainly negatively impacts the achievement of Quality of Education as Goal 4 in SDGs. The only positive trend is in the indicator of the proportion of teenagers and adults with ICT skills, which confirms the previous study from Ausat (2022) that the COVID-19 pandemic has positively impacted the digital transformation of the education process in Indonesia. In addition, there are three indicators, indicators 4.1.2, 4.3.1, and 4.6.1, maintaining a positive trend despite slowdown target achievement during the COVID-19 pandemic.

Table 2. The percentage of children and youths reaching the basic proficiency standards in reading and mathematics (SDGs Indicator 4.1.1)

No	Aspect	Academic Level	Year	
			2021	2022
1	Reading	5 th grade	53.47%	61.53%
2	Mathematics		30.66%	46.67%
3	Reading	8 th grade	50.78%	58.98%
4	Mathematics		35.11%	40.62%
5	Reading	11 th grade	52.11%	49.25%
6	Mathematics		32.34%	41.14%

Source: SDGs Indonesia, 2023

The COVID-19 pandemic has left a distinctive imprint on indicator 4.1.1, which gauges children and youths' basic proficiency standards in mathematics and reading. As illustrated in Figure 1, there was a discernible decline in reading outcomes during the pandemic, while, surprisingly, the mathematical abilities of children and youths continued to display a positive trend. This disparity in outcomes underscores the heterogeneous impact of the pandemic on education, potentially influenced by changes in learning environments, disruptions to academic schedules, and variations in the availability of resources for remote learning. It becomes evident that comprehending these nuanced impacts is crucial for policymakers and educators alike, enabling them to tailor interventions effectively and address the specific needs that arise from the pandemic's impact on educational attainment.

This observation contradicts the findings of the previous study by Wegasari (2021), which stated that the target of curriculum and study achievement by students did not materialize during the pandemic. However, it aligns with the findings from Samara et al. (2023), which suggest that students' academic achievement is better with the online learning method. Previous studies suggest that certain remote, frontline, and marginalized regions face the most significant risk of learning setbacks during the COVID-19 pandemic due to distance learning (Cerelia et al., 2021). Despite this, a clear imperative remains to enhance mathematical abilities in Indonesia, with just below 50% of children and youths across all academic levels achieving basic proficiency standards.

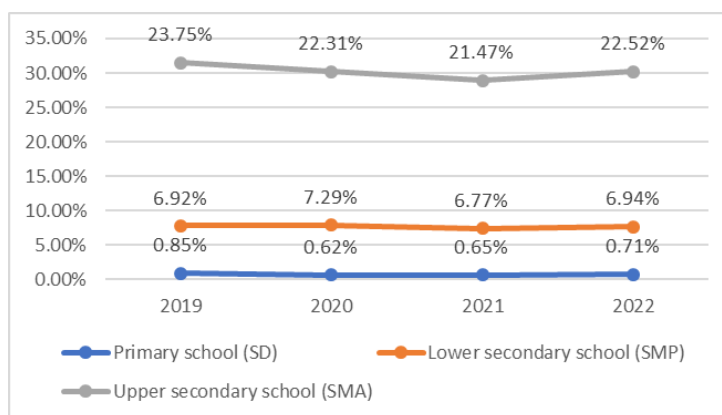


Figure 1. Percentage of out-of-school children (SDGs Indicator 4.1.2a)
Source: SDGs Indonesia, 2023

During the pandemic, the percentage of out-of-school children increased slightly at the primary, lower secondary, and upper school levels. This finding support previous study from Herawati et al., (2021) that examine COVID-19 pandemic significantly impact to increasing number of out-of-school children comparing to pre-pandemic period. Figure 1 shows that In 2019, the out-of-school percentage for primary school students (SD) was 0.85%, indicating a relatively low rate. However, in 2020, during the initial phases of the COVID-19 pandemic, there was a decrease to 0.62%, possibly reflecting disruptions in education due to lockdowns and other preventive measures. The subsequent years, 2021 and 2022, slightly increased, reaching 0.65% and 0.71%, respectively. The rise in 2022 might suggest ongoing challenges in maintaining consistent educational participation, possibly influenced by the lingering effects of the pandemic.

For lower secondary school students (SMP), the out-of-school percentage was 6.92% in 2019. During the pandemic in 2020, this percentage increased to 7.29%, possibly reflecting challenges in adapting to online learning or other disruptions. In the following years, 2021 and 2022, the rate decreased to 6.77% and 6.94%, indicating a recovery or stabilization in lower secondary school enrollment, albeit with some fluctuations.

Upper secondary school students (SMA) faced a higher out-of-school percentage in 2019 at 23.75%. The pandemic had a mixed impact, with a decrease to 22.31% in 2020, suggesting potential disruptions or shifts in enrollment patterns. In 2021, the out-of-school percentage decreased to 21.47%, followed by a slight increase to 22.52% in 2022. These fluctuations reflect ongoing challenges in upper secondary education during COVID-19.

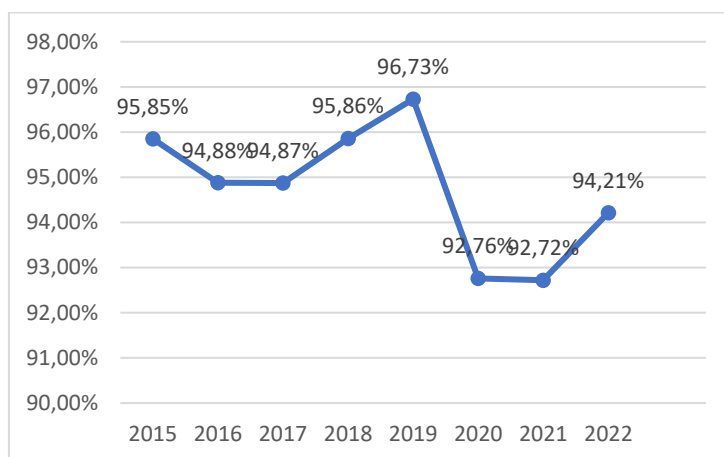


Figure 2. Participation rate in organized learning in one year before the official primary entry age (SDGs indicator 4.2.2)

Figure 2 shows that in 2015, the participation rate was relatively high at 95.85%, indicating that a significant majority of children were involved in organized learning before starting primary school. The rate fluctuated slightly in the subsequent years, gradually decreasing to 94.88% in 2016 and 94.87% in 2017. However, there was an uptick in 2018, with the rate rising to 95.86%. The highest participation rate in the provided data occurred in 2019, reaching 96.73%.

The impact of the COVID-19 pandemic on the participation rate is evident in the years 2020 and 2021. In 2020, the rate dropped to 92.76%, reflecting potential disruptions caused by lockdowns, school closures, and changes in learning formats during the pandemic. The decrease continued into 2021, with the rate at 92.72%. These declines suggest challenges in maintaining or accessing organized learning opportunities for children in the year before entering primary school during the height of the pandemic.

The participation rate in organized learning for children in Indonesia experienced a slight recovery to 94.21% in 2022, suggesting proactive efforts to adapt to the challenges posed by the prolonged COVID-19 pandemic. The declines in 2020 and 2021 were likely influenced by unprecedented circumstances, including restrictions on in-person learning, economic hardships, and health concerns. This positive shift in 2022 reflects ongoing initiatives aimed at reinstating or developing alternative forms of early childhood education, showcasing the adaptability of the education system in response to the evolving landscape shaped by the impact of the pandemic.

Indonesia Media Analysis Report

Against the backdrop of the global COVID-19 pandemic, the Indonesian government, like many others, faced the imperative to adapt and implement policies swiftly to facilitate online learning. The rapid shift to virtual education prompted significant changes in educational policies, necessitating a reevaluation of traditional teaching methods. As a dynamic public square, social media emerged as a powerful tool in shaping and reflecting societal responses to these online school policies. Platforms such as Twitter, Facebook, and Instagram became spaces

where individuals shared their experiences, expressed concerns, and contributed to ongoing conversations about the efficacy of the new educational measures. The discourse on social media reflected the diverse perspectives of students, parents, and educators. It influenced public sentiment, becoming essential in gauging the success and challenges of the Indonesian government's educational policies during the pandemic.

Analyzing social media data provides a unique lens through which policymakers can gain valuable insights into the multifaceted impact of online learning policies. By understanding the sentiments, challenges, and experiences expressed on these platforms, the Indonesian government can refine and tailor its educational strategies to better meet the needs of its diverse population. Moreover, social media serves as a valuable feedback mechanism, allowing policymakers to engage with the public in real-time and make informed adjustments to education policies, fostering a more responsive and adaptive approach to the evolving challenges presented by the pandemic.

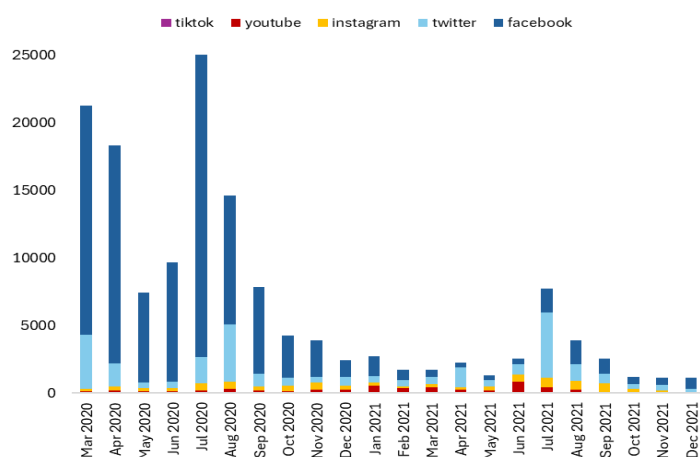


Figure 1. Exposure to Online School Policy in Social Media

Source: Intelligence Socio Analytics, 2024

As depicted in Figure 1, Facebook and Twitter emerged as primary platforms for public expression as the online school policy was instituted in early March 2020 to mitigate the spread of the COVID-19 pandemic. In the initial stages of the online school program, social media channels emerged as pivotal conduits for disseminating essential information concerning the practicalities of distance learning. Recognizing the indispensable role of parental support, the government actively encouraged close supervision of children engaged in home-based studies. In a concerted effort to enhance accessibility for the public, the Indonesian government implemented distance learning through the utilization of TVRI, a state-owned television channel. Given its broad reach, the government views TVRI as a practical choice for delivering educational content, especially in areas with limited internet access.

Four months into the online learning policy implementation, public responses on social media began to surface during the new academic year in July 2020. Concerns coalesced around two primary issues: financial burden and equitable

access. High internet costs and the need for adequate electronic devices emerged as significant barriers for many families, compounded by existing economic pressures due to the pandemic. Further disgruntlement arose from the inconsistency between advocating for home-based learning and allowing public spaces like malls to remain open. This initial wave of public sentiment highlights the need to address affordability, accessibility, and potential policy inconsistencies to ensure inclusive and equitable online learning during public health crises. This result confirms previous research from Suhada et al. (2022) highlighting the lack of internet accessibility for online learning in the Simalungun Regency, Indonesia, as the main problem during the COVID-19 pandemic. However, online learning methods for schools during the pandemic must be implemented during the COVID-19 pandemic and remain essential for students despite many problems (Zulfritria et al., 2020).

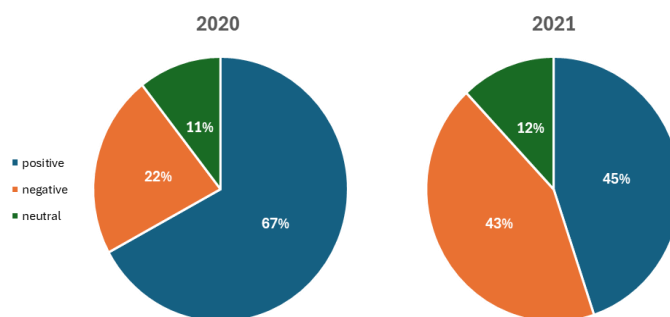


Figure 2. Sentiment Proportion of Online School Policy in Social Media

Source: Intelligence Socio Analytics, 2024

With face-to-face education activities suspended by the COVID-19 pandemic in 2020, learning from home emerged as the dominant mode of instruction. To explain public sentiment, table 2 will give detailed information about online learning and learning from home.

Table 2. Analysis of Public Sentiment to Online Learning Policy During COVID-19 Pandemic

No	Source	Quotation	Sentiment
1	https://www.instagram.com/p/B96pyALDy8x	“The President of Indonesia also expressed his thanks and appreciation to the medical personnel ...”	Positive
2	https://www.instagram.com/p/B-WS4gcn2H3	“...this condition	Positive

Assessing the impact and society response to online learning policy during the COVID-19 pandemic in Indonesia - Rakadipta Septian Dwiputra¹, Ikacipta Mega Ayuputri²

No.	Source	Quotation	Sentiment
		makes more bonding between parents and children ...”	
3	https://www.instagram.com/p/B90eLPEHCWW/	“... we have more quality time with family ...”	Positive
4	https://www.instagram.com/p/CFhrbtIjQKR/	“... Padang Government provides free internet at 11 mosques in 11 sub-districts which students can use for online learning ...”	Positive
5	https://www.instagram.com/p/CNcogqas_zg/	“... homework and assignments are done by the students' parents ...”	Negative
6	https://www.instagram.com/p/CQM_GjqD1ow/	“... Indonesian children who live in remote places are still unable and not ready to carry out their education digitally ...”	Negative

Source: Intelligence Socio Analytics, 2024

Public sentiment toward the home-learning policy during the COVID-19 pandemic was largely positive, driven by a primary focus on safety measures to curb the spread of the virus. Parents, in particular, found value in the increased quality of time spent with their children, as eliminating commutes and school hours allowed families to discover a newfound closeness. This sentiment aligns with previous findings indicating that many parents were willing to engage in home learning with their children despite facing individual challenges, often exceeding school expectations (Muir et al., 2024).

Moreover, governments further bolstered positive sentiment by allocating funds to provide internet access and resources for students and teachers, recognizing the importance of ensuring equitable access to education during remote learning periods. Funding for this initiative was sourced from allocations within the School Operational Assistance (BOS) program, highlighting a proactive approach by authorities to address the practical needs of families and educators during challenging times. This combined effort aimed to maintain educational continuity and foster a supportive environment conducive to household academic and personal development.

In 2021, there was a noticeable shift in public perception of online schools in Indonesia, marked by a 21% increase in negative sentiment associated with concerns over potential drawbacks. Criticisms primarily centered on the augmented workload experienced by online students, leading to discomfort among many parents regarding the shift in teacher responsibilities. This perceived burden not only undermined the intended effectiveness of online education but also caused inconvenience for families, mainly as the pandemic persisted longer than anticipated, exacerbating mental health concerns.

Given the evolving challenges and the prolonged duration of the pandemic, continued efforts are imperative to monitor and address the well-being needs of students, parents, and school staff during recovery. This necessitates implementing formal and informal methods to enhance mental health support, recognizing its critical role in ensuring the education system's overall success and resilience (Keengwe & Onchwari, 2022).

CONCLUSION

During the COVID-19 pandemic, the Indonesian Government implemented a policy mandating online learning to ensure the continuity of education. This decision garnered mixed reactions on social media platforms. On the positive side, many appreciated the government's effort to prioritize safety and education amid the challenging circumstances. Supporters highlighted the potential for increased accessibility to education, flexibility in learning schedules, and the utilization of technology for innovative teaching methods. However, adverse reactions surfaced, with concerns about the digital divide, unequal access to online resources, and the challenges students and educators face in adapting to the new format.

The decision to switch to online learning in Indonesia during the COVID-19 pandemic has some downsides for achieving Sustainable Development Goal 4, which focuses on Quality Education. While there is a positive outcome in the increased acquisition of ICT skills among teenagers and adults, the overall impact on quality education appears concerning. The digital divide has widened, exacerbating disparities in access to educational resources and opportunities. The shift to online learning has created challenges for students and educators, hindering the effective delivery of quality education. To ensure that Indonesia stays on track to achieve SDG 2030, comprehensive strategies are urgently needed to address the digital divide, provide equitable access to online education, and enhance the overall quality of learning experiences. Serious attention and concerted efforts are required to mitigate the negative repercussions and safeguard the progress toward achieving SDG 4.

REFERENCES

- Ausat, A. M. A. (2022). Positive Impact of The Covid-19 Pandemic on The World of Education. *Jurnal Pendidikan*, 23(2), 107–117. <https://doi.org/10.33830/jp.v23i2.3048.2022>
- Azevedo, J. P., Hasan, A., Goldemberg, D., Geven, K., & Iqbal, S. A. (2021). Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes: A Set of Global Estimates. *World Bank Research Observer*, 36(1). <https://doi.org/10.1093/wbro/lkab003>
- Bacher-Hicks, A., Goodman, J., & Mulhern, C. (2021). Inequality in household adaptation to schooling shocks: Covid-induced online learning engagement in real time. *Journal of Public Economics*, 193, 104345. <https://doi.org/10.1016/j.jpubeco.2020.104345>
- Cerelia, J. J., Sitepu, A. A., N, F. A. L., Pratiwi, I. R., Almadevi, M., Farras, M. N., Azzahra, T. S., & Toharudin, T. (2021). Learning loss akibat pembelajaran jarak jauh selama pandemi covid-19 di Indonesia. *Seminar NASIONAL Statistik X*, 1(1), 1–14. http://semnas.statistics.unpad.ac.id/wp-content/uploads/erf_uploads/2021/11/Learning-Loss-Akibat-Pembelajaran-Jarak-Jauh-Selama-Pandemi-Covid-19-di-Indonesia.pdf
- Firmanti, P., & Yuberta, F. (2021). Changes in the Mathematics Learning Process During the COVID-19 Pandemic at Junior High School in Bukittinggi. *Jurnal Educative: Journal of Educational Studies*, 6(1).
- Herawati, T. N., Namira, A. F., Hananti, A., Rahim, H. A., Yumnadhiya, R., Bari, A., Al Kautsar, R. D., Febria Utami, Y., & Toharudin, T. (2021). Analisis Dampak Pandemi Covid-19 Terhadap Angka Putus Sekolah di Indonesia. *Seminar Nasional Statistik Online*, February. <http://prosiding.statistics.unpad.ac.id>
- Keengwe, G., & Onchwari, A. (2022). Assessment of Parent–Teacher Relationships in Early Childhood Education Programs During the COVID-19 Pandemic. *Early Childhood Education Journal*, 52(2), 305–317. <https://doi.org/10.1007/s10643-022-01431-1>
- Liu, B. (2012). Sentiment Analysis and Opinion Mining. *Synthesis Lectures on Human Language Technologies*, 5(1), 1–167. <https://doi.org/10.2200/S00416ED1V01Y201204HLT016>

Assessing the impact and society response to online learning policy during the COVID-19 pandemic in Indonesia - Rakadipta Septian Dwiputra¹, Ikacipta Mega Ayuputri²

- Mar'ah, N. K., Rusilowati, A., & Sumarni, W. (2020). Perubahan Proses Pembelajaran Daring Pada Siswa Sekolah Dasar di Tengah Pandemi Covid-19. *Seminar Nasional Pascasarjana*. <https://proceeding.unnes.ac.id/index.php/snpsasca/article/view/660>
- McKenna, B., Myers, M. D., & Newman, M. (2017). Social media in qualitative research: Challenges and recommendations. *Information and Organization*, 27(2), 87–99. <https://doi.org/10.1016/j.infoandorg.2017.03.001>
- Muir, T., Muir, B., Hicks, D., Beasy, K., & Murphy, C. (2024). Learning from home during COVID-19: primary school parents' perceptions of their school's management of the home-learning situation. *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2308414>
- Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research*, 19(2), 129–132. <https://doi.org/10.1177/1362168815572747>
- Samara, M., Algdah, A., Nassar, Y., Zahra, S. A., Halim, M., & Barsom, R. M. M. (2023). How Did Online Learning Impact the Academic Performance of Graduate Students Amid the Covid-19 Pandemic? a Case Study of the United Arab Emirates. *Journal of Technology and Science Education*, 13(3), 869–885. <https://doi.org/10.3926/JOTSE.2057>
- SDGs Indonesia. (2023). *Dashboard SDGs Indonesia*. <https://sdgs.bappenas.go.id/dashboard/>
- Septiana, H. E. (2020). Kebijakan Tentang Pembelajaran Online Pada Masa Pandemi di SMA N 1 Purworejo. Prosiding Seminar Nasional Pascasarjana UNNES. *Seminar Nasional Pascasarjana*. <https://proceeding.unnes.ac.id/snpsasca/article/view/634>
- Statistics Indonesia. (2023). *Indikator Tujuan Pembangunan Berkelanjutan Indonesia 2023* (Vol. 7). Badan Pusat Statistik. <https://www.bps.go.id/en/publication/2023/12/29/b949e9778a781b4727d05701/indikator-tujuan-pembangunan-berkelanjutan-indonesia-2023.html>
- Susanto, S. (2021). The Impact of the Covid-19 Pandemic on Mental Condition and the Need for Psychological Support of Students in Jakarta. *Jurnal Educative: Journal of Educational Studies*, 6(1), 60. <https://doi.org/10.30983/educative.v6i1.4467>
- Wegasari, K. (2021). Dampak Pandemi Covid-19 Terhadap Proses Pembelajaran Online di SDN Cabean 3 Demak. *Jurnal Penelitian*, 15(1), 27. <https://doi.org/10.21043/jp.v15i1.9109>
- Zheng, M., Bender, D., & Lyon, C. (2021). Online learning during COVID-19 produced equivalent or better student course performance as compared with pre-pandemic: empirical evidence from a school-wide comparative study. *BMC Medical Education*, 21(1), 1–11. <https://doi.org/10.1186/s12909-021-02909-z>
- Zulfritria, Ansharullah, & Fadhillah, R. (2020). Penggunaan Teknologi dan Internet sebagai Media Pembelajaran di Masa Pandemi Covid-19. *Seminar Nasional Penelitian LPPM UMJ*.