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**Impact of Standard Operating Procedure as a Health Crisis Management
Strategy towards Preschoolers' Learning Development**

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Abstract

The COVID-19 pandemic has impacted national education, including preschoolers' learning development. Using a case study design, this study explored the effects of Standard Operating Procedure (SOP) implementation as a health crisis management strategy. Positive impacts include the development of student discipline and hygiene ethics. However, negative impacts involve disrupted basic skill acquisition, psychosocial and psychomotor development, and limited opportunities to nurture talent. Findings suggest the pandemic has reshaped pre-school education, with potential hysteresis effects on learning. This study offers evidence for stakeholders to formulate future guidelines and policies to mitigate the long-term impacts of COVID-19 in pre-school settings.

Keywords: SOP, educational health crisis management; pandemics; learning development; basic literacy skills

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1.0 Introduction

The educational landscape in Malaysia underwent drastic changes with the arrival of the COVID-19 pandemic in 2020. The World Health Organisation (WHO) declared it a global pandemic with a highly contagious disease and a high mortality rate. The government implemented various non-pharmaceutical preventive and control measures to curb the spread of the virus. The enforcement of MCOs and SOPs significantly impacted our national education system, especially among vulnerable groups such as preschoolers. The impact of these SOPs on the pre-school education sector is of particular concern due to the unique developmental needs of children in early childhood. During this formative period, children require structured yet flexible learning environments that support social, emotional, cognitive, and psychomotor development. However, restrictions on physical movement, group activities, and face-to-face interactions

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have disrupted the typical learning experiences for preschoolers. The closure of schools and the transition to online learning further exacerbated the situation, raising concerns about the long-term effects of the pandemic on children's learning trajectories. Due to the highly contagious nature of the pandemic and its rapid spread, the education sector faced challenges in terms of emotional preparedness, pedagogy, and technology (Cucinotta & Vanelli, 2020; World Health Organisation, 2020; Mazlan et al., 2024). Although research related to the COVID-19 pandemic is actively conducted, there is a noticeable gap in the literature concerning its specific impact on pre-school learners, particularly concerning the implementation of SOPs. Studies specifically focusing on the impact of SOP implementation on pre-school students' learning development are limited and not well-documented. Additionally, relevant theories related to children's learning processes, especially at the early childhood education level, have not been extensively studied and adapted. This study aims to fill this gap by exploring the experiences and perceptions of pre-school teachers regarding the impact of SOP implementation on preschoolers' learning development in Malaysia. This research offers insights into how children's learning and development have been influenced by pandemic-related safety protocols. It contributes to the ongoing discourse on educational health crisis management and offers practical recommendations for policymakers and practitioners to support pre-school education in the post-pandemic era. Additionally, the objectives of this study are to determine the impact of SOP on pre-school learning and to assess the ability of pre-school teachers to manage a flexible learning environment.

2.0 Literature Review

2.1 COVID-19 Pandemic and Challenges towards Education

COVID-19 began in December 2019 in China, continuing to disrupt education in a distressing manner. They spread worldwide without any prevention (Kumar et. al. 2020). There have been some initiatives taken to overcome the issue, and at the same time, it is a new finding in the medical community. Everyone accepts the risk, and it is not just the private sectors, such as airlines, tourism, and manufacturers; the education system is also affected (Ashah, 2020). To prevent the disease, the government had decided to temporarily postpone teaching and learning. After the situation has been controlled, the school session re-opens with multiple SOPs for prevention. This matter is pending due to the adjournment of teachers and students for their safety (Al-Samarrai et al., 2020; Dawadi et al., 2020). The global spread of the outbreak occurred without any restrictions in place. Various initiatives have been undertaken to address this issue, as such challenges are novel in the medical world. All parties are exposed to the risks posed by the pandemic. It is not only the private sectors like airlines, tourism, hospitality, and manufacturing that have been affected; the education system has also been impacted. Temporary suspension of face-to-face schooling across the country demonstrated the government's commitment to containing the outbreak. As conditions improved, school sessions resumed with a reasonable SOP in place. This is crucial because ensuring the safety of both teachers and students is a top priority (UNICEF, 2020).

2.2 COVID-19 Pandemic and Pre-school Children in Malaysia

COVID-19 transmission remains at a high level within the Movement Control Order (MCO). The rate of death, economic growth, and the education system are affected worldwide due to the COVID-19 disease. In Malaysia, the MCO from March 2020 until June 2020 was one of the efforts to prevent the spread (Sukumaran, 2020). As a result, schools had to be closed temporarily, and learners were unable to learn as usual. In July 2020, the Malaysian government allowed the re-opening of schools, including pre-schools. Private pre-schools also resumed their sessions, but with new norms and adherence to the SOP set by the government. This procedure was a crucial SOP prioritised by the government to ensure that only healthy individuals without COVID-19 symptoms attended school. Additionally, all school community members were required to wear face masks, follow designated movement paths, maintain a one-meter social distance, practice frequent handwashing, and follow separate pathways (Abd Rahman & Ramli, 2021), as well as avoid sharing items such as food, equipment, and tools. (Jumrah & Karim, 2021).

3.0 Methodology

This study employs a qualitative approach by utilising a case study research design to explore teachers' reflections on the implementation of COVID-19 SOP towards preschoolers (Merriam & Tisdell, 2016). The chosen design is suitable and capable of providing an accurate picture of the issues. Additionally, an emic perspective, as suggested by Merriam and Tisdell (2016), further strengthens the empirical findings of this study. Data collection involves in-depth interviews with five (5) selected respondents who are pre-school teachers in the state of Selangor. The researchers chose this state because of the rising COVID-19 cases throughout the pandemic. (Malaysia Ministry of Health, 2020) These respondents have been teaching for a period ranging from five (5) to 30 years and agreed to participate in the study. Interview sessions were conducted at each participant's respective workplace. The researchers also provided an alternative for participants to choose between face-to-face interviews or online interviews using the WhatsApp application. Initially, six (6) respondents volunteered to participate. Table 1 below lists the demographics of the participants and the interview modes.

Table 1. Respondents' Demographics and Interview Session Mode

Respondents	Experience (Years)	Pre-school	Location	Interview Mode
R1	13	Ministry of Education	Urban	WhatsApp

R2	12	Private School	Urban	Physical
R3	30	Ministry of Women, Family, and Society Development	Rural	Physical
R4	5	Private	Rural	WhatsApp
R5	11	Ministry of Education	Rural	WhatsApp

3.1 Data Analysis

In this study, data collection and analysis were conducted concurrently (Patton, 2015), allowing the researchers to build themes and codes, subsequently completing the study report (McAlister et al., 2017). The researchers employed thematic analysis following Braun and Clarke's (2006) guidelines. All these analysis phases were carried out using common software tools such as Microsoft Word and Microsoft Excel, following La Pelle's (2004) approach. Researchers also applied the Memo and Macro functions in Microsoft Word to complete Phases One through Three. Then, the researchers use Sort and Filter in Microsoft Excel to complete the rest of the phases.

Lastly, research reporting is done using Microsoft Word. After the data had been collected and analyzed, researchers had produced a thematic map based on conceptual, literature reviews, discussion, and gathered information while in the field or with the respondents. Thematic research is based on the management of data procedures and triangulated to boost the reliability of the data. Therefore, choosing accurate research methodology and analysis methods can help to obtain the best data.

4.0 Findings

This section discusses the findings and structures based on themes and sub-themes for ease of understanding. Based on the data analysed, the researchers reached a consensus to form two (2) main themes and six (6) sub-themes.

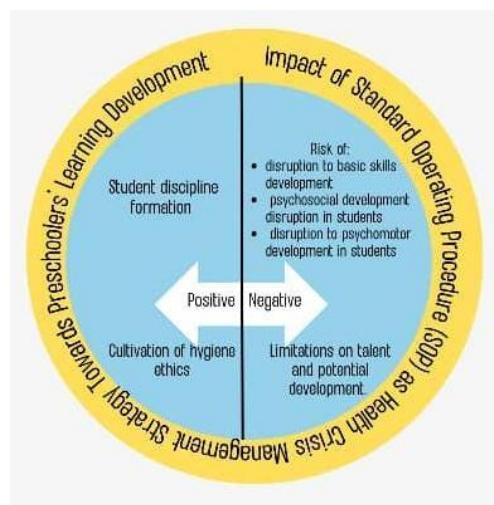


Figure 1: Concept mapping of the impacts

4.1 Positive Impact

Given that the primary focus of the study was on the impact of SOP implementation on preschoolers' learning, the researchers synthesised the findings into two sub-themes: (a) students' discipline and (b) cleanliness.

4.1.1 Students' Discipline

All respondents agreed that the implementation of SOPs in student learning had a positive impact on developing students' discipline. This can be seen as follows:

Teacher 1... They can sit at their respective places and use their own things... (TB1G108).

The formation of discipline resulting from the implementation of SOPs at the pre-school level indicates that students are aware of their environment. Indirectly, students learn to understand the concepts and impact of the pandemic based on real-life situations they encounter daily. The learning derived from this natural setting provides pre-school students with direct experiences on how to navigate life during the pandemic era. The seriousness of the pandemic and the likelihood of recurrence teach students the importance of discipline in safeguarding their safety, well-being, and health. This is supported by the statement from Teacher 3.

Teacher 3... The children are already alert and aware of why we need to take care of our health and well-being. (TB1G304).

4.1.2 Cleanliness awareness

Another positive impact of SOP execution is increased awareness of cleanliness. Students are more focused on cleanliness and apply it to their daily lives. They also learn about the importance of cleanliness from their parents, teachers, and the media. This issue is evidenced by the statement below:

Teacher 3...avoid sharing toys and taking care of their cleanliness. (TB1G301).

Overall, from these two sub-themes, students' discipline and cleanliness, the researchers can conclude that everyone should have their own self-awareness to take care of themselves, especially pre-school learners, and the parents and teachers themselves should also be aware of their surroundings and environment.

4.2 Negative Impact

This study discovered a second theme: negative impact. More specifically, four sub-themes emerged: (i) risk of disruption to basic skills development, (ii) risk of psychosocial development disruption in students, (iii) risk of disruption to psychomotor development in students, and (iv) limitations on talent and potential development in students.

4.2.1 Risk of Disruption to Basic Skills Development

The implementation of SOP involving quarantine for COVID-19 patients and close contacts, along with the closure of educational premises due to potential clusters, has impacted teachers' lesson planning related to the syllabus that students need to master. Consequently, disruptions have occurred in the learning and development of basic skills such as reading and writing. Students' absence due to infection or close contact with COVID-19 has further exacerbated these risks. The respondent acknowledged this viewpoint:

Teacher 2: The delay in literacy in terms of reading and writing is due to the three-month suspension... (TB1G305).

Furthermore, the transition from face-to-face classroom learning to online learning platforms has had a negative impact on the development of basic skills among students. Respondents expressed that this difficulty arises because students struggle to maintain focus during online learning sessions. According to Teacher 1, the implementation of online teaching on pre-school students' reading and writing skills has not been successfully adapted. The following statement supports this specific statement:

Teacher 1: Sometimes, we need to call them many times [online], and it is difficult when they are not in front of us. (TB1G105).

Teachers 2 believe that disruptions in school due to the pandemic have affected other basic skills beyond reading and writing.

Teacher guidance at the pre-school level cannot be overlooked, as students need their presence in creating an effective learning environment.

Teacher 2: Now, we need to repeat the earlier syllables lesson (TB1G202).

4.2.2 Risk of Psychosocial Development Disruption in Students

The risk of psychosocial disruption is the second sub-theme of the negative impact resulting from the enforcement of SOPs at the pre-school level. The findings indicate that students are at risk of experiencing psychosocial disturbances due to the implementation of social distancing measures required by SOPs in pre-schools. Because of these SOPs related to social distancing, student learning processes, such as group learning, have been less successful. The following quote from Teacher 1 confirms the challenges related to psychosocial development arising from SOP implementation:

Teacher 1: ... It is limited, though, not the same. Children at this age enjoy making friends and playing together. (TB1G111).

Furthermore, students' psychosocial well-being was also affected due to limitations on physically active learning, resulting in students feeling bored. The following quote further explains the situation:

Teacher 2: ... with the occurrence of COVID, these children are static, confined to their seats. (TB1G201).

The researchers also found that the implementation of SOPs that prohibit group activities hindered the pre-school students' learning experiences. Social group activities, including birthday celebrations, are training preschoolers to develop social and communication skills.

However, due to SOP restrictions, these social activities cannot be carried out. Social events provide opportunities for students to celebrate their classmates' joy, share food and gifts, and spend time together with peers from less privileged families. The following quote further illustrates the situation:

Teacher 2: Some students asked for a birthday celebration. (TB1G302.7).

Furthermore, the emphasis on SOP compliance at the school level also impacts the psychological development of pre-school students. Teacher 3 asserts that SOP implementation has led to emotional disturbances due to pandemic-related constraints preventing students from attending school.

Teacher 3... they were absent from school for more than three months... (TB1G302).

4.2.3 Risk of Psychomotor Development Disruption to Students

Based on the findings, there are disruptions to the psychomotor development of pre-school students due to the SOPs implemented during teaching and facilitation (*PdPc*). The researchers found that these disruptions were caused by limited physical movement. Specifically, activities related to sports and recreation could not be carried out, as highlighted by Teacher 1:

Teacher 1... for gross motor skills, physical activities outside are currently not allowed due to the challenge of maintaining physical distancing. (TB1G109).

This situation is concerning as it may have long-term implications for students' kinesthetic intelligence, as explained by Teacher 2 in the following quote:

Teacher 2: The student won't be able to run with the correct form and posture. It is unfortunate if they miss out on developing these skills even during pre-school. (TB1G10).

4.2.4 Limitations on Talent and Potential Development in Students

Besides, SOP implementation is constraining learners' talents and potential due to restrictions on organising activities that are supposed to discover and polish their potential. SOPs also prohibit physical activities such as sports and cultural events, which hinders students from fully expressing themselves and showcasing their potential in public. The following evidence supports this impact:

Teacher 4: Actually, all of these allow us to uncover and nurture their talents and potential. (TB1G402).

The findings from interviews with respondents also revealed that the implementation of standard operating procedures (SOPs) towards pre-school students affects their social potential. Unfortunately, the students' potential cannot be fully nurtured, especially during the implementation of distance learning. Participants in the study expressed this concern as follows:

Teacher 3: For graduation, we can gather, but not too crowded, and follow the new norms. (TB1G307).

Therefore, the four sub-themes of the negative impact play important roles as well, even though the environment has positive impacts. Those limitations during the learning time are quite difficult for each teacher in the school since there are learners who would not be there for the classes, and also they have restrictions to follow and adapt to the situation for a few months.

5.0 Discussion and Recommendations

The study indicates that SOP implementation at the pre-school level has had various impacts on student learning, both positive and negative. This warrants further in-depth investigation, considering that the pandemic disrupted the educational environment, while pre-school students require fundamental exposure to literacy and numeracy through age-appropriate and developmentally suitable methods. The educational process faced disruptions, particularly for learning that necessitates face-to-face interactions, such as literacy, numeracy, and psychomotor skills. Pedagogical approaches for enhancing students' reading skills through online mediums became more challenging due to the lack of direct interaction between teachers and students. It is also stated that online learning requires technological pedagogical content knowledge, especially for numeracy skills, and a lack of this component would deter effective online learning sessions (Hidayat et al., 2024).

Jean Piaget's Cognitive Theory identifies four interconnected factors that influence individual thinking processes: biological maturation, interaction with the environment, social experiences, and adaptation to new situations. In addition to social interaction, optimal cognitive development is influenced by stimulating and enriching environments and quality nutrition (Arshad & Koh, 2022). However, due to the COVID-19 pandemic's safety protocols, access to various efficient learning opportunities has become limited, affecting students' overall development (UNICEF, 2020).

It is undeniable that the COVID-19 pandemic has affected children's daily lives and educational opportunities (Nor et al., 2022; Reimers, 2021). Additionally, students must spend an extended period at home, relying entirely on their families, guardians, or caregivers. This situation has impacted the socialisation process necessary for children to meet their learning development needs (Mazlan et al., 2024; UNICEF, 2020). If psychosocial development disruptions are not addressed, they can lead to more significant problems. These research findings align with the views of many other researchers who have found that the global pandemic has drastically changed the education system for students compared to what they experienced before (Abdul Aziz et al., 2020; Awang et al., 2021; Islam et al., 2023; Mana & Koh, 2022).

According to Piaget's Theory, an individual's thinking process occurs comprehensively from birth until maturity. Each person continually tries to understand and adapt to their environment. Referring to this study, the COVID-19 situation requires pre-school students to face changes in their learning environment and adapt accordingly. In terms of teaching professionalism, teachers themselves must be open and willing to accept any changes in the educational world to meet current demands. Teachers need to prepare themselves by adjusting their attitudes and motivations for lifelong learning through student-focused remote learning (self-directed), utilising various resources and technological advancements to remain relevant (Bahrom, 2020; Halili et al., 2019).

Teachers should be creative, proactive, and resourceful in seeking engaging and relevant pedagogical methods to achieve effective teaching objectives. Students should be given maximum opportunities for balanced and holistic development. As we navigate the endemic phase of COVID-19, the management of remote learning should gradually return to normal, with careful monitoring to address student absenteeism.

Based on previous studies and this study, the researchers can conclude that once COVID-19 hit the nation, every individual was affected, and they are struggling to survive the new rules and regulations by the Ministry of Health. Not only adults but also children have to adhere to the rules. Yet, everyone managed to handle the new norms approximately for two years.

6.0 Conclusion

The COVID-19 pandemic has not only affected the learning development of elementary, middle, and higher education students but also pre-school children. The changes resulting from the pandemic represent a direct process of assimilation and accommodation in student learning. The implementation of SOPs has had both positive and negative impacts on pre-school student learning. This matter deserves careful attention, especially since preschoolers are transitioning before entering a more challenging educational environment. All stakeholders, including parents, teachers, school leaders, District Education Offices, State Education Departments, and the Ministry of Education, need to be aware of the issues and handle them wisely.

In addition, it is recommended that the study continue to have the new perspectives of the teachers after the endemic of the COVID-19 pandemic in the school environment. Meanwhile, the pre-school learners might be in primary schools, and the researchers can compare the differences between pre-COVID-19, the pandemic, and the endemic of COVID-19.

7.0 Limitations

There are a few constraints where the researchers cannot sit down together for writing purposes, since each of the researchers is in a different area. The researchers are contacting each other by using WhatsApp or social media only. Also, the team has its own limitations in time management, work schedule, and personal life as well. However, the researchers managed to complete this study before the deadlines.

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Paper Contribution to the Related Field of Study

This paper makes important contributions to the areas of early childhood education and education crisis response by presenting real-world evidence on how COVID-19-related SOPs have influenced the learning development of pre-school children in Malaysia. This study addresses the existing research gap on the specific impact of SOPs on preschoolers, particularly within the Malaysian education landscape, by providing targeted qualitative findings. It provides a detailed analysis highlighting both the beneficial outcomes, such as enhanced student discipline and hygiene practices, and the adverse effects, including setbacks in foundational, psychosocial, psychomotor, and talent development. This balanced perspective supports more informed decision-making by stakeholders. The study aligns its findings with Jean Piaget's Cognitive Development Theory, emphasising how changes in the environment and social context can significantly shape children's cognitive growth during early education. The insights offered are relevant to educators, policymakers, and education authorities, helping to guide the creation of future SOPs and interventions that better support the developmental needs of young learners during crises. Through a qualitative case study design, the research draws on in-depth interviews with seasoned pre-school educators, yielding valuable, experience-based perspectives on the pandemic's classroom impact.

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