



## Student Learning Difficulties in Middle School Science Learning During the Covid-19 Pandemic: A Case Study in the Teminabuan District, South Sorong Regency

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ARTICLE INFO	ABSTRACT
<p>Article history: Received 15 May 2023 Received in revised form 30 May 2023 Accepted 14 June 2023 Available online 30 June 2023</p> <p>Keywords : Learning Difficulties, Junior High School, Science Learning Proces</p>	<p><i>The objective of this research is to investigate the challenges faced by junior high school students in comprehending Science educations (IPA) in Teminabuan District, South Sorong Regency amidst the Covid-19 pandemic. The present investigation employs a survey methodology utilizing a qualitative descriptive framework and case study analyses. The participants of this investigation were pupils enrolled in three junior high schools located in the Teminabuan District, specifically Teminabuan 1 Public Middle School, Teminabuan 2 Public Middle School, and Teminabuan Yapis Middle School. The methodology employed in this research involves the utilization of a questionnaire and documentation as the primary means of data collection. The process of data analysis involves the collection and examination of data obtained from questionnaires and documentation. The findings of the investigation into the proportion of participants' responses to a survey on the challenges encountered by students in comprehending science at the junior high school level, consisting of twenty queries responded to by ten student participants, indicated that the majority of the respondents experienced learning difficulties in the uppermost classification. This suggests that junior high school students encounter challenges in comprehending science subjects. The present study elucidates the challenges encountered by junior high school students in comprehending science education amidst the Covid-19 pandemic. The present study makes a valuable contribution to the advancement of pedagogical approaches that are better suited to addressing the challenges posed by the COVID-19 pandemic in the context of science education.</i></p>

## 1. INTRODUCTION

The global community is currently grappling with the Covid-19 pandemic, which has also affected Indonesia. The Covid-19 pandemic has emerged as a significant humanitarian crisis, necessitating the cessation of customary human activities and mandating individuals to remain in their residences. The global dissemination of the coronavirus has resulted in significant transformations in various domains, including the economic and technological sectors. Education has also been impacted by this phenomenon. The implementation of social distancing policies was necessitated by the Covid-19 pandemic. In order to mitigate the transmission of Covid-19, it is imperative to refrain from assembling in large groups and to adhere to physical distancing measures. The federal administration has implemented directives to the localities to enforce the closure of all academic establishments. The implementation of lockdown or quarantine measures aimed to limit contact with individuals who could potentially facilitate the transmission of the virus. Consequently, the policy of remote learning was adopted, requiring educational activities to be conducted through online platforms. Posits that this phenomenon exerts a significant influence on the realm of education (e.g. Ekantini, 2020; Handayani & Jumadi, 2021; Mu'minah, 2021).

As per the provisions of Constitution No. 20 of 2003 pertaining to the National Education System, education is a deliberate and systematic endeavor aimed at fostering an environment conducive to learning and facilitating a learning process that enables students to actively cultivate their potential in terms of spiritual fortitude, religious devotion, self-discipline, personality development, moral acumen, nobility, and skills. The inquiry pertains to the requisites that are necessary for an individual, society, country, and government. Ki Hajar Dewantara emphasized the significant role of education in the progress of a nation. This notion has been acknowledged by the pioneers and fighters of independence since the era of the struggle for independence. They recognized that education is a crucial element in elevating the quality of life of the nation and freeing it from the constraints of colonialism (e.g. Ginanjar, 2013; Yustiana et al., 2021).

Enforcing a lockdown protocol amidst the Covid-19 outbreak does not necessarily entail a complete cessation of community access. Individuals are permitted to depart from their residences solely for the purpose of procuring essential items and seeking medical attention. A settlement policy that was comparatively less stringent was reportedly put into effect in five countries or regions, impacting a total of 266 million individuals worldwide. A similar measure is being instituted in Indonesia whereby individuals are encouraged to engage in remote work and conduct their religious practices from their residences. Conversely, several nations have enforced regulations pertaining to curfews that restrict the duration of time during which individuals are permitted to engage in activities beyond the confines of their abodes (e. g. Khatatbeh, 2020; Sarla, 2020; Syafaadin & Wahyudi, 2021). Due to the ongoing Covid-19 pandemic, traditional forms of education that involve direct or face-to-face interactions have become untenable. Consequently, there is a pressing need for an online/remote learning model to facilitate continued learning. The implementation of this initiative may face hindrances due to the prevailing state of regions in Indonesia that are renowned for their internet accessibility.

Following the deactivation of the Covid-19 pandemic in March 18, 2020, the learning process in South Sorong Regency has undergone significant changes. As the new school year

approaches, online learning has been widely adopted in all schools across Indonesia, including West Papua Province. In particular, the District of South Sorong has implemented a bold approach to ensure continuity of learning within schools. Numerous challenges were encountered during the implementation of this innovative learning approach, which affected both teachers and students. One issue that frequently arises pertains to the inability of certain students to participate in instructional sessions due to a lack of access to cellular devices and require internet data.

Conducting an evaluation of the acquisition of knowledge in the field of Science education amidst the Covid-19 pandemic is imperative, particularly in the Teminabuan District of South Sorong Regency. Document analysis research, also known as content analysis, is a systematic research method that involves the examination of records or documents as primary sources of data. Drawing from this definition, it can be inferred that analysis serves as a research methodology utilized to acquire requisite data, encompassing research data derived from notes, assessments, surveys, and documents as sources of data in research.

The fundamental objective of science education is to facilitate personal growth and development through the acquisition of scientific knowledge. As per Komalasari's assertion, the essence of learning pertains to the transformation of an individual's state from a state of ignorance to one of knowledge, which is a direct outcome of the learning process (e. g. Rinawati, 2015; Wahab & Rosnawati, 2021). Learning encompasses all the actions undertaken by an individual to attain predetermined educational objectives that ultimately result in a favorable outcome. Suryani posits that learning difficulties encompass a range of disorders that affect listening, speaking, reading, writing, and arithmetic (Yeni, 2015). These challenges are attributed to internal factors within the individual, specifically minimal brain dysfunction. Learning difficulties refer to challenges experienced by students, specifically the incapacity of students to acquire knowledge. Understanding the variables that impact science education amidst the Covid-19 pandemic has the potential to mitigate challenges in student learning.

The aforementioned exposition indicates that the researcher expressed a keen interest in conducting a study titled "Learning Difficulties for Junior High School Students in Science education Learning During the Covid-19 Pandemic: A Case Study in Teminabuan District, South Sorong Regency." The present study aims to investigate the utilization of learning acquired from the Teminabuan District as a means to facilitate the continuation of science education in school.

## **2. METHOD**

The aforementioned research objectives indicate that the research in question adopts a qualitative descriptive method approach within the domain of survey research. The research methodology employs a case study method or approach (Lexy, 2011). This study requires the acquisition of informative data from sources that can furnish comprehensive information pertaining to all aspects relevant to the research. The research subject serves as a valuable resource for obtaining pertinent information pertaining to the research topic under investigation. Specifically, this study examines the challenges encountered by students in comprehending scientific concepts during the Covid-19 pandemic, within the context of junior high schools located in Teminabuan District, South Sorong Regency.

The participants of this investigation comprised of junior high school students located in the Teminabuan District of the South Sorong Regency. The sample consisted of three schools, namely Teminabuan 1 Public Middle School Students, Teminabuan 2 Middle School

Students, and Teminabuan Yapis Middle School Students. The present study pertains to the challenges encountered by students in comprehending scientific concepts during their education at the junior high school level within the Teminabuan District of the South Sorong Regency, amidst the ongoing Covid-19 Pandemic. The present study's data source refers to the entity or phenomenon from which the data under investigation can be procured. Meleong (2011) asserts that in qualitative research, the primary sources of data are verbal and nonverbal expressions, while supplementary sources such as documents and other materials may also be utilized.

The collection of data is a crucial aspect of research as it is the primary objective of research to acquire data that adheres to predetermined criteria. The methodology employed in this research involved the utilization of questionnaires and documentation as the primary means of data collection. The present study employs triangulation as a means of validating the collected data. The present study employed technical triangulation, specifically to assess the veracity of the data obtained from a single source (i.e., students) by employing diverse methodologies. The process of analyzing qualitative data typically involves four distinct stages, which include data collection, data reduction, data presentation, and drawing conclusions.

### **3. RESULTS AND DISCUSSIONS**

The present investigation employed a research tool in the shape of a questionnaire to assess the learning impediments encountered by junior high school students in science education amid the Covid-19 pandemic. The questionnaire comprised a total of 20 items. Prior to administering the student questionnaires in a school setting, two expert Judgment Lecturers of Science Education at Unimuda Sorong were consulted for their opinions regarding the questionnaire instrument sheets. The experts, Ms. Mustika Irianti, M.Pd and Mr. Endra Putra Raharja, M.Pd, deemed the instrument to be appropriate for use. The questionnaire sheet, consisting of 20 questions, was evaluated and found to be valid and suitable for use.

The study was conducted utilizing a combination of direct and indirect interviews and questionnaires. The findings of the field observations analysis indicate that the online science learning process during the Covid-19 pandemic encountered several challenges (Hardiansyah et al., 2021; Ramadhan & Qosyim, 2022). Students faced numerous difficulties in comprehending science concepts taught by their instructors. Consequently, the instructors provided students with the opportunity to complete assignments, which were then reviewed by competent teachers, to compensate for the learning gaps. In order to facilitate student training and engagement amidst the Covid-19 pandemic, or for those students who may not possess a mobile device, a viable solution would be to physically attend school and complete assigned tasks. These tasks would subsequently be collected in the morning.

The outcomes of teacher interviews indicated that online science education during the Covid-19 pandemic was inadequate owing to various challenges encountered by students. One of the challenges was the unavailability of personal mobile devices for all students, which resulted in some students being absent from the online learning process. Consequently, the researcher devised a strategy of assigning students to address the issue of non-participation in online learning. Additionally, the Javanese teacher resorted to utilizing the mobile phones of the parents of the affected students to facilitate their participation in the ongoing online learning program. Educators encounter challenges in the context of remote instruction,

including students who engage in non-educational activities such as online gaming during virtual classes, and those who fail to meet assignment deadlines.

The present investigation employed a research instrument in the shape of a survey that was disseminated among junior high school pupils located in the Teminabuan District, situated in the South Sorong Regency. The data collected from respondent 1 yielded a numerical value of 65, while respondent 2's data resulted in a value of 66.25. A value of 61.25 was obtained by Respondent 3. The fourth respondent obtained a score of 58.75. Respondent 5 obtains a score of 51.25. The sixth participant obtained a score of 61.25. Respondent 7 obtained a score of 61.25. The score obtained by Respondent 8 was 63.75. Respondent 9 obtained a score of 63.75, while respondent 10 achieved a score of 66.25. The mean proportion of participants rating 1-10 is 66.25%, indicating a relatively elevated level.

The findings of the present investigation suggest that pupils enrolled at Teminabuan District Junior High School, located in South Sorong Regency, encountered challenges in comprehending Science educations (IPA) amidst the Covid-19 pandemic (e.g. L. Handayani, 2020; Kristiana Elma., Sidaurok Suandi., 2020; Suryadien et al., 2022). The examination of the proportion of participants' responses to the survey comprising 20 items revealed that a majority of pupils encountered challenges in the high range during the learning process. This suggests the presence of specific barriers that impede students in attaining their educational goals.

Several factors may contribute to the learning challenges encountered by junior high school students in science education during the Covid-19 pandemic. One notable change pertains to the shift in pedagogical approaches from traditional in-person instruction to remote learning modalities. The adoption of online learning necessitates that students adapt to the technology and learning platforms employed, while also contending with the limitations of unstable internet connectivity. This phenomenon may lead to challenges for students in comprehending educational content and engaging in communication with educators and peers.

Furthermore, the absence of direct oversight and guidance from the instructor is a significant element in the development of academic challenges for students. The implementation of distance learning necessitates a greater level of self-sufficiency from students in effectively managing their time, fostering their own motivation, and overseeing their learning responsibilities (e.g. Firdaus et al., 2021; Khasanah, 2021; Prammudya & Subiantoro, 2022). Students who exhibit poor study discipline or lack support from their immediate surroundings may encounter challenges in fulfilling academic requirements. Restricted opportunities for social interaction with peers and educators may have an impact on the academic performance of students. The significance of collaboration and discussion in the realm of education cannot be overstated, particularly in the context of science education, as it serves to enhance students' comprehension of scientific concepts (Malshe & Bapat, 2021). In the context of remote education, the degree of interaction is constrained, which may pose challenges for students seeking supplementary clarifications or assistance from instructors and peers.

#### **4. CONCLUSION AND SUGGESTION**

The findings of this study indicate that the acquisition of knowledge in science education by junior high school students in Teminabuan District, South Sorong Regency was impeded during the Covid-19 pandemic. As such, it can be inferred that the students encountered

challenges in their learning process. The examination of the proportion of participants' responses reveals that a majority of students encounter challenges in their learning endeavors falling under the high classification. Learning difficulties have the potential to impede the attainment of educational goals and compromise students' comprehension of scientific concepts and materials.

The aforementioned results suggest a necessity for the creation of enhanced educational methodologies that can surmount the obstacles faced by students in comprehending science educations amidst the Covid-19 pandemic. Several recommendations can be derived from the results of this investigation. Educators must employ pedagogical strategies that are suitable for remote learning circumstances, including leveraging information and communication technology to deliver course content in an interactive manner and facilitate active student engagement. The development of pedagogical resources that are engaging and comprehensible, available in both digital and print formats, is a crucial component of effective instruction. These materials should align with the prescribed curriculum and cater to the cognitive abilities of the learners. It is imperative for educational institutions and instructors to offer comprehensive assistance and direction to pupils who encounter challenges in their academic pursuits, encompassing both scholastic guidance and psychological aid. The establishment of a conducive learning environment at home is contingent upon the collaboration between schools, parents, and students. Active parental involvement is crucial in supporting students' learning processes and establishing effective study routines. Additional investigation is required to delve more precisely into the determinants that contribute to students' learning challenges in science education amidst the Covid-19 pandemic, alongside their influence on students' scholastic performance. The implementation of suitable learning strategies and sufficient support is anticipated to facilitate students in surmounting learning challenges in science education amidst the Covid-19 pandemic, thereby enabling them to attain optimal learning results.

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## REFERENCES

- Ekantini, A. (2020). Efektivitas Pembelajaran Daring pada Mata Pelajaran IPA di Masa Pandemi Covid-19: Studi Komparasi Pembelajaran Luring dan Daring pada Mata Pelajaran IPA SMP. *Jurnal Pendidikan Madrasah*, 5(2), 187–194. <https://doi.org/10.14421/jpm.2020.52-04>
- Firdaus, F. M., Pratiwi, N. A., Riyani, S., & Utomo, J. (2021). Meningkatkan kemandirian belajar peserta didik sekolah dasar menggunakan Model SOLE saat pandemi Covid-19. *Foundasia*, 12(1), 1–8. <https://doi.org/10.21831/foundasia.v12i1.37786>
- Ginangjar, M. H. (2013). Urgensi Lingkungan Pendidikan Sebagai Mediasi Pembentukan Karakter Peserta Didik. *Edukasi Islami Jurnal Pendidikan Islam*, 02, 376–396. <https://jurnal.staialhidayahbogor.ac.id/index.php/ei/article/view/37>
- Handayani, L. (2020). Peningkatan Motivasi Belajar IPA Melalui Model Pembelajaran Project Based Learning pada Masa Pandemi Covid-19 bagi Siswa SMP Negeri 4 Gunungsari. *Jurnal Paedagogy*, 7(3), 168. <https://doi.org/10.33394/jp.v7i3.2726>
- Handayani, N. A., & Jumadi, J. (2021). Analisis Pembelajaran IPA Secara Daring pada Masa Pandemi Covid-19. *Jurnal Pendidikan Sains Indonesia*, 9(2), 217–233.

- <https://doi.org/10.24815/jpsi.v9i2.19033>  
Hardiansyah, M. A., Ramadhan, I., Suriyanisa, S., Pratiwi, B., Kusumayanti, N., & Yeni, Y. (2021). Analisis Perubahan Sistem Pelaksanaan Pembelajaran Daring ke Luring pada Masa Pandemi Covid-19 di SMP. *Jurnal Basicedu*, 5(6), 5840–5852.  
<https://doi.org/10.31004/basicedu.v5i6.1784>
- Khasanah, U. (2021). Pengaruh Tingkat Kemandirian Belajar Terhadap Hasil Pembelajaran Jarak Jauh Mata Pelajaran Ipa. *E-Jurnal Skripsi Program Studi Teknologi ....*  
<https://journal.student.uny.ac.id/index.php/fiptp/article/view/17607%0Ahttps://journal.student.uny.ac.id/index.php/fiptp/article/viewFile/17607/16973>
- Khatatbeh, M. (2020). Efficacy of Nationwide Curfew to Encounter Spread of COVID-19: A Case From Jordan. *Frontiers in Public Health*, 8(August), 19–21.  
<https://doi.org/10.3389/fpubh.2020.00394>
- Kristiana Elma., Sidauruk Suandi., M. R. (2020). This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License. Copyright © FKIP Universitas Palangka Raya. *Jurnal Ilmiah Kanderang Tingang*, 11(2), 353–361.
- Lexy, J. M. (2011). *Qualitative research methods*. Teenager Rosda Karya.
- Malshe, A. P., & Bapat, S. T. (2021). Learning Social Innovations and Social Entrepreneurship During COVID-19 Pandemic: Lessons Learned. *2021 ASEE Virtual Annual Conference, ASEE 2021*.
- Mu'minah, I. H. (2021). Pemanfaatan Media Pembelajaran Berbasis Video Sebagai Alternatif Dalam Pembelajaran Daring IPA Pada Masa Pandemi Covid-19. *Prosiding Seminar Nasional Penelitian Dan Pengabdian 2021*, 1211.  
<http://prosiding.rcipublisher.org/index.php/prosiding/article/view/172>
- Prammudya, R. D., & Subiantoro, A. W. (2022). Jurnal edukasi biologi. *JURNAL EDUKASI BIOLOGI*, 8(1), 46–56.
- Ramadhan, A. N., & Qosyim, A. (2022). ANALISIS INDIKATOR KEMERDEKAAN BELAJAR SISWA DALAM PEMBELAJARAN IPA SMP DI MASA PANDEMI COVID-19. *PENSA E-JURNAL : PENDIDIKAN SAINS*, 10(3), 389–394.
- Rinawati, A. (2015). Transformasi Pendidikan untuk Menghadapi Globalisasi. *Ekuitas: Jurnal Pendidikan Ekonomi*, 1(1). <https://doi.org/10.23887/ekuitas.v3i1.12783>
- Sarla, G. S. (2020). COVID 19: Myths and Facts. *Research & Review: Management of Emergency and Trauma Nursing*, 2(2), 5–8. <https://doi.org/10.5281/zenodo.3742655>
- Suryadien, D., Rusmiati, D., & Dewi, A. A. (2022). Rencana Implementasi Kurikulum Prototipe Pada Masa Pandemi Covid-19 di Indonesia. *Jurnal PGMI Universitas Garut*, 01(01), 27–34. [www.journal.uniga.ac.id](http://www.journal.uniga.ac.id)
- Syafaadin, M. R., & Wahyudi, E. (2021). Efektivitas Hukum Pembatasan Jam Malam Dalam Rangka Pencegahan Dan Memutus Mata Rantai Penyebaran Covid-19 Di Kota Surabaya. *Jurnal Yuridis*, 8(1), 120. <https://doi.org/10.35586/jjur.v8i1.2725>
- Wahab, G., & Rosnawati. (2021). Teori-Teori Belajar Dan Pembelajaran. In *Paper Knowledge . Toward a Media History of Documents* (Vol. 3, Issue April).  
<http://repository.uindatokarama.ac.id/id/eprint/1405/1/TEORI-TEORI BELAJAR DAN PEMBELAJARAN.pdf>
- Yeni, E. M. (2015). Kesulitan Belajar Matematika Di Sekolah Dasar. *Jupendas: Jurnal Pendidikan Dasar*, 2(2), 1–10. [jkip.umuslim.ac.id](http://jkip.umuslim.ac.id)
- Yustiana, Y. R., Suhendar, Hodijah, S. R. N., Amelia, T., Prasetyaningsih, Supriyadi, & Hidayat, F. A. (2021). ANALISIS POSISI PENDIDIK DAN TENAGA KEPENDIDIKAN DALAM RUU

SISTEM PENDIDIKAN NASIONAL DALAM PERSPEKTIF KEPENDIDIKAN DAN PENDIDIKAN  
IPA. *Jurnal Ilmiah Pendidikan Citra Bakti*, 9(2), 426–441.  
<https://doi.org/https://doi.org/10.38048/jipcb.v9i2.697>