DESCRIBING LEARNING LOSS ON COVID-19 ERA: BIBLIOMETRICS ANALYSIS OF THE TERM "LEARNING LOSS ON COVID-19 PANDEMIC

Elihami Elihami[1]
[1] Muhammadiyah University of Enrekang

Abstract: The novel coronavirus (COVID-19) has significantly spread over the world and comes up with new challenges to the research community for describing learning loss. The study sample included all 1,332 survey responses. Thus, accurate short-term forecasting of the number of new contaminated and recovered cases is crucial for optimizing the available resources and arresting or slowing down the progression of such diseases. Recently, learning models demonstrated important improvements when handling time-series data in different applications. This paper presents describing learning loss on covid-19 era through bibliometrics analysis of the term learning loss on Covid-19 Pandemic from two provinces namely South Sulawesi and West Sulawesi. Results demonstrate the promising potential of the deep learning model in forecasting COVID-19 cases and highlight the superior performance of Learning Loss on Covid-19 Era.

Keywords: Covid-19; educators; learning loss; performance; models

Introduction

One of the most pressing societal consequences of the global response to COVID-19 has been the global increase in school closures, which has denied millions of children equitable learning opportunities and reduced their overall well-being. UNESCO estimated that by late March 2020, more than 190 countries had closed schools to slow the spread of COVID-19, disrupting the education of approximately 1.6 million students.

Although there is widespread agreement that school closures can have irreversible effects on children's educational outcomes, there is little specific evidence on the extent of this harm. Also concerning is the possibility that school closures will exacerbate existing inequalities that were already concerning prior to the pandemic. According to the World Bank's pre-COVID-19 learning poverty measures, only 10% of children in low-income countries could read and understand a simple story by the age of 10, compared to 90% of children in high-income countries (Hasan, N., & Bao, Y, 2020). Unequal access to continuing education during COVID-19 school closures and after schools reopen may exacerbate this gap. While the true consequences of COVID-19 school closures on learning may not be known for several years, forecasting strength training and statistical simulations indicate a dire situation

Method

The online survey had 23 questions, including 22 multiple-choice and multi-select items and two open-ended questions. Depending on their role within the school, respondents answered between 13 and 17 multiple choice questions. All respondents provided an answer to one open-ended question. The survey first asked for respondents' demographic information, such as their school position, educational background, teaching experience, and home availability of technology, particularly learning loss due to the Covid-19 pandemic. The survey also gathered information about both the respondents' schools, such as their location, industry, and current participation in online learning.

The remainder of the survey covered three broad domain names: instructional technology implementation, shifting to online learning, and necessary support and feedback. Students agree their own readiness as well as the preparation of their schools to transition to online teaching, learning, and support (Kaffenberger, M, 2021). They also assessed the current efficacy of online communication among educators, families, and students. The remainder of the survey covered three major domains: instructional technology application, shifting to online courses, and necessary support and feedback. Respondents rated themselves as well as their schools. The questionnaire's next section inquired about how teachers and schools were utilizing educational technologies to facilitate online learning (Engzell, P., Frey, A., & Verhagen, M. D, 2021). Respondents expressed some of their considerations about online learning and remotely helping teachers in the final section, including changes to planning and teaching time. Finally, the educators polled indicated which supports and feedback they thought would be most important in the future.

Respondents were presented with one of two open-ended reaction questions at the end of the interview. "Please let us know if there is any other feedback on the implications of distance teaching on this survey," stated its first open-ended question. The second issue posed was, "In 20

words or less, what else would you recommend as the best strategy for improving range learning by learning loss on the Covid-19 pandemic?"

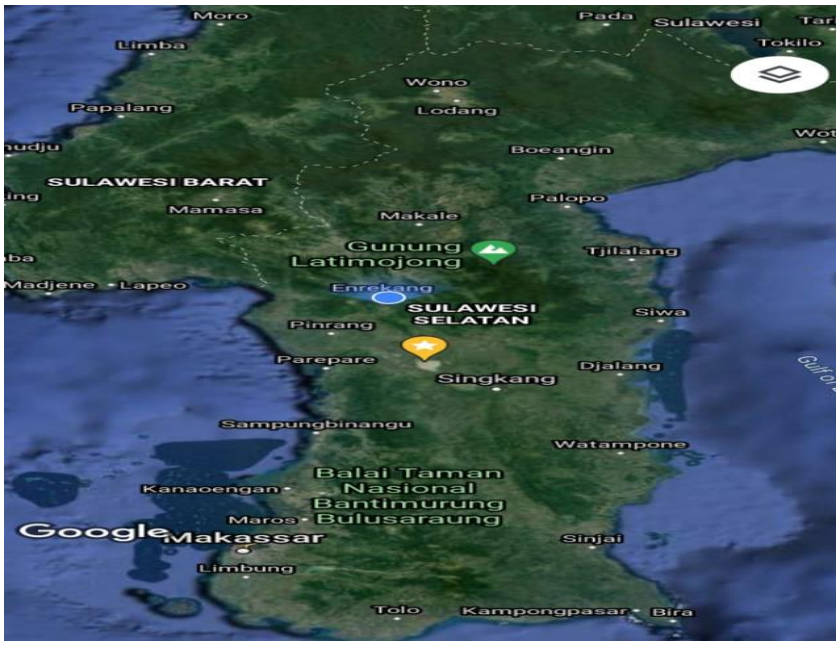
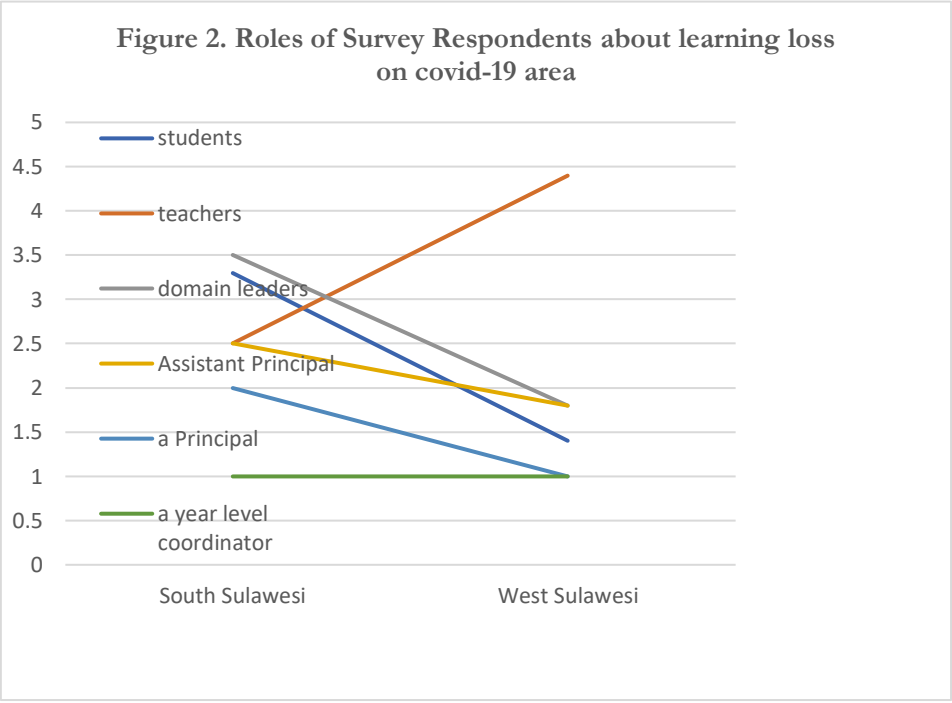


Figure 1. Research Area Mapping

Source: Google Maps

The study sample included all 1,332 survey responses, with roughly two-thirds coming from South Sulawesi and one-third coming from West Sulawesi. The research covered all of South Sulawesi's states as well as all of West Sulawesi's regions.



Discussion

The spread of covid-19

The spread of covid-19 has turned into a public health crisis, which first erupted in Wuhan, China, in December 2019. It spreads quickly to over 213 countries, infecting 2.402.350 people. The total number of deaths recorded is 163.097, accounting for 6.78 percent of all infected cases (Engzell, P., Frey, A., & Verhagen, M. D., 2020). Given the severity of the virus's effects, WHO declared the current crisis a global pandemic, making it far more dangerous than previous pandemics such as SARS, MERS, and H1N1 or swine flu. The United States has accused China of developing Covid-19 as a biological weapon. However, Hao has denied this accusation, claiming that no traces of the virus were found in the Wuhan laboratory (Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. , 2020).

The South Sulawesi education and West Sulawesi system was not designed to withstand prolonged closures such as those caused by the COVID-19 pandemic (Azorín, C, 2020). Teachers, administrators, and parents have worked hard to keep learning alive; however, these efforts are unlikely to provide the quality of education that is currently delivered in the classroom. The context is even more disconcerting: persistent achievement disparities across income levels. School closures may not only result in disproportionate learning losses for these students, compounding existing gaps, but may also lead to an increase in dropouts, (Kuhfield, M., & Tarasawa, B, 2020).

This study used qualitative research to explore learning loss on covid-19 area in learning specialized as system. Learning loss on covid-19 was created in response to the education system's inability to address the majority's learning demands (Djafar, S., Nadar, N., Arwan, A., & Elihami, E. , 2019). Learning loss on covid-19 area is frequently seen as a system that is compared and contrasted to the well-known system of "formal education." These estimates were made before schools closed and the sometimes-chaotic transition to remote learning began. In this article, we investigate the potential long-term impact of COVID-19-related school closures on low-income students.

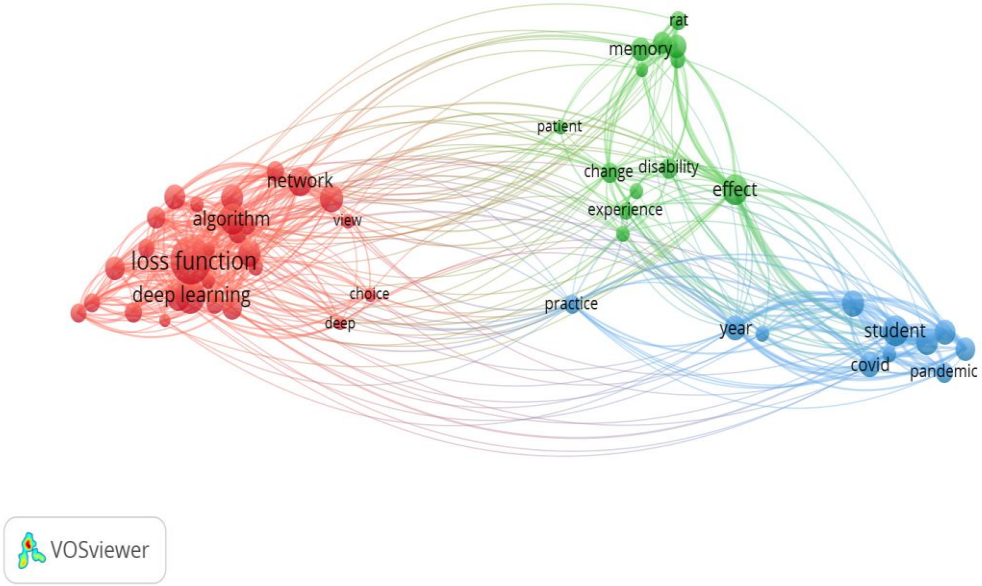
Considering the severity that the virus causes, WHO declared the current crisis as global pandemic which is way more dangerous than other previous crisis such as SARS, MERS and H1N1 or swine flu. The USA has accused China as the one who develops Covid-19 as a biological weapon. However, Hao has denied this accusation saying that there are no traces of the virus in Wuhan laboratory (Clark, A. E., Nong, H., Zhu, H., & Zhu, R, 2021).

Indonesia is among the countries in South East Asia which is severely affected by this pandemic with a total case of 10.834. It also records 831 deaths as of May, 2nd 2020. It makes Indonesia the country with the highest fatality rate in the world. Other countries such as the USA, Italia and Australia only record relatively lower death rate at around 6.78%. As a country with Muslim majority, Indonesia is prone to become a new epicenter because of Muslim praying culture which al-ways involves close contact. (Patintingan, A., Elihami, E., Mustakim, M., & Lateh, N, 2020) Therefore, this article argues that it is important to reconstruct fiqh (Islamic jurisprudence) in the case of covid-19 public health crisis. It is also because the social distancing policy doesn't seem to be effective in stopping infection rate. Furthermore, an emergency provision issued by Indonesian council of Ulema has not given serious impact in preventing the spread, (Blaskó, Z., da Costa, P., & Schnepf, S. V, 2021).

The main cause of Indonesia's high fatality rate is the lack of health facilities, starting from the scarcity of masks, expensive hand sanitizers to the lack of Covid-19 Alert Hospitals. Besides, there are also social factors such as the anti-science attitude of religious leaders, especially micro-celebrities (Angrist, N., de Barros, A., Bhula, R., Chakera, S., Cummiskey, C., DeStefano, J., ... & Stern, J, 2021).

VOSviewer software about learning loss

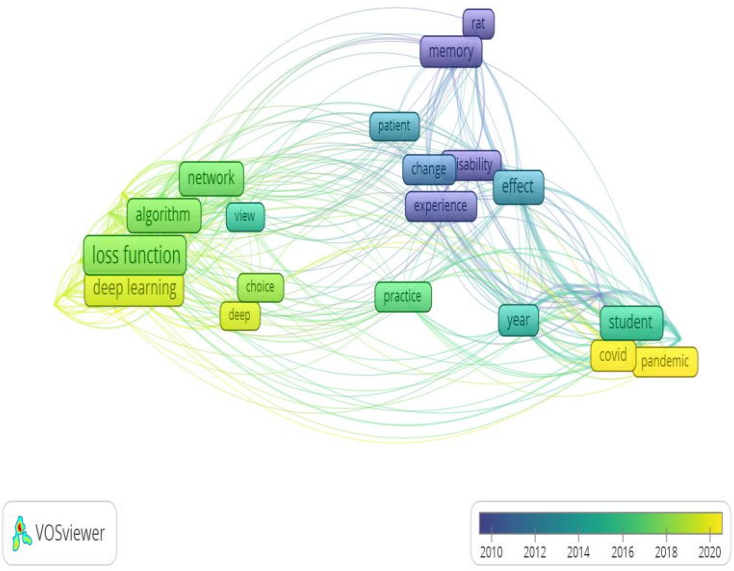
VOSviewer software was used to analyze the metadata articles obtained from the https://www.scopus.com database and website Google Scholar. The analysis sought to identify the most frequently occurring keywords. The frequency of the keywords could be arranged based on the researchers' preferences, and less relevant words could be removed. We limited the minimum correlation of the terms to ten when creating the visualization with VOSviewer. It obtained two excellent clusters after performing the analysis with VOSviewer. The authors chose the second cluster, which was related to learning loss. On three different visualizations, the software indicated bibliometric mapping: network visualization (Figure 3); overlay visualization (Figure 4); and density visualization (Figure 5).



The figure 3. network visualization

The figure 3 showed that the publication years 1980-2021, citation years 41 (1970-2021), papers 790, cites/paper (32.44), authors (3.46), h-index (41), g-index (85), hI annual (1.20), hA-index (38), hI norm (49), papers with ACC > = 1,5,10,20= 681, 610, 343,174,67.

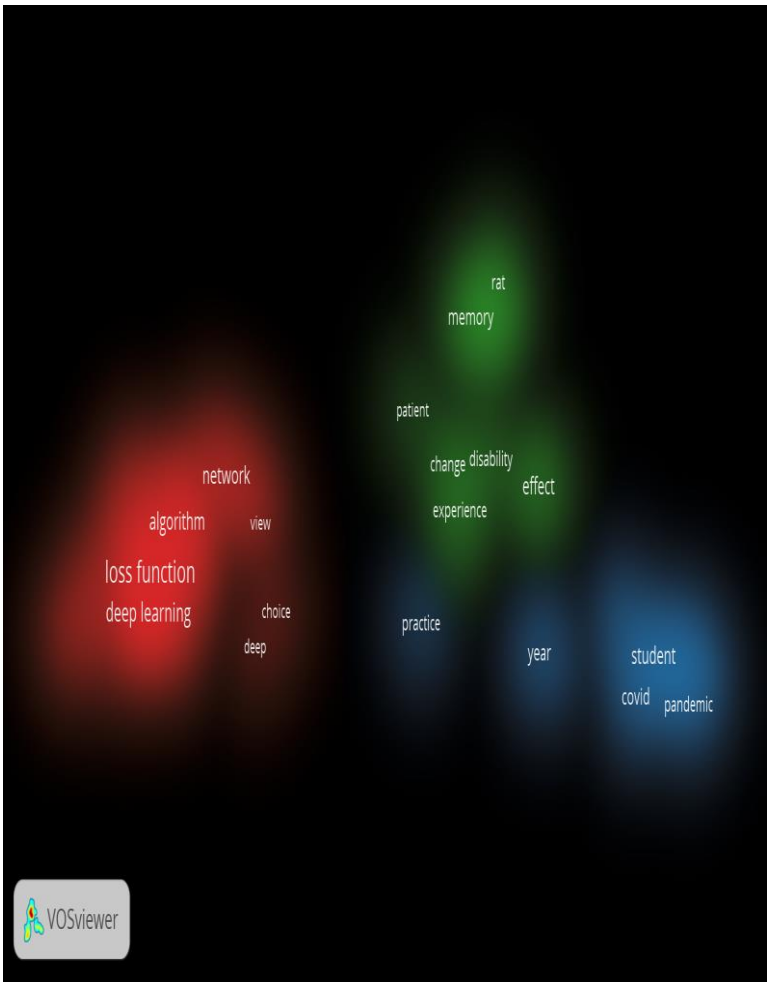
In order to do so, we developed statistical models to estimate the potential impact of school closures on learning. The models were developed based on academic research into the effectiveness of remote learning versus traditional classroom instruction for three different types of students. This data was then analyzed in the context of three different epidemiological scenarios.



The figure 4. overlay visualization

The figure 4 showed that the publication years 1980-2021, citation years 41 (1970-2021), papers 790, cites/paper (32.44), authors (3.46), h-index (41), g-index (85), hI annual (1.20), hA-index (38), hI norm (49), papers with ACC > = 1,5,10,20= 681, 610, 343,174,67.

The amount of learning lost by students during school closures varies significantly depending on their access to remote learning, the quality of remote instruction, home support, and level of engagement. For the sake of simplicity, we have divided high school students into three archetypes. First, there are students who receive average-quality remote learning; this group progresses, but at a slower rate.

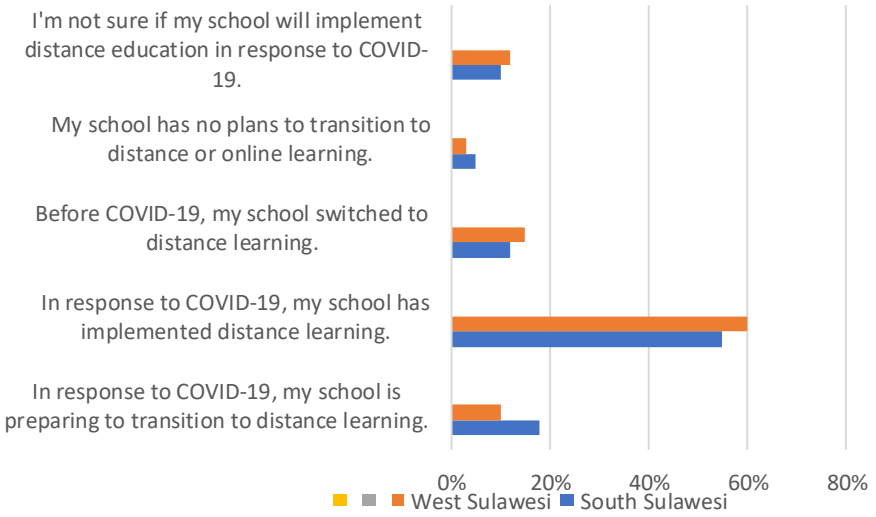


The figure 5. density visualization

The figure 6 showed that the publication years 1980-2021, citation years 41 (1970-2021), papers 790, cites/paper (32.44), authors (3.46), h-index (41), g-index (85), hI annual (1.20), hA-index (38), hI norm (49), papers with ACC > = 1,5,10,20= 681, 610, 343,174,67

The difficulty of engaging students who require one-on-one attention, particularly the young, was a recurring theme. “I believe that online learning is a good tool for self-motivated students and students who want to work at their own pace, but it is far more difficult for those that need more encouragement and someone who is present in reality,” wrote one teacher.

The figure 6. The current state of the shift to distance learning for learning loss



Conclusion

The conclusion is a summary of the research and discuss. Highly recommended to avoid the repeated statements of the previous section. Teachers were split on the efficacy of online learning, with nearly equal numbers saying they were ‘confident' and ‘not confident.' However, approximately 80% of students believed they would require additional instructional support when they returned to school. When asked to name their top three concerns about location learning on students, the most important considerations were: social isolation, a decrease in student well-being, and potential learning loss. Educators, in particular, prioritized students' social needs over learning loss. Respondents expressed concern about losing social connections with their students as well as the effectiveness of their teaching practice. “Distance teaching is a useful tool for supplementing and differentiating in-class teaching, but it cannot compensate for the loss of subtleties of social human interaction in the classroom,” one writer wrote.

References

1. Angrist, N., de Barros, A., Bhula, R., Chakera, S., Cummiskey, C., DeStefano, J., ... & Stern, J. (2021). Building back better to avert a learning catastrophe: Estimating learning loss from COVID-19 school shutdowns in Africa and facilitating short-term and long-term learning recovery. International Journal of Educational Development, 84, 102397.
2. Azorín, C. (2020). Beyond COVID-19 supernova. Is another education coming?. Journal of Professional Capital and Community.
3. Blaskó, Z., da Costa, P., & Schnepf, S. V. (2021). Learning loss and educational inequalities in europe: Mapping the potential consequences of the COVID-19 crisis.
4. Clark, A. E., Nong, H., Zhu, H., & Zhu, R. (2021). Compensating for academic loss: Online learning and student performance during the COVID-19 pandemic. China Economic Review, 68, 101629.
5. Djafar, S., Nadar, N., Arwan, A., & Elihami, E. (2019). Increasing the Mathematics Learning through the Development of Vocational Mathematics Modules of STKIP Muhammadiyah Enrekang. Edumaspul: Jurnal Pendidikan, 3(1), 69-79.
6. Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). COVID-19 and learning loss—disparities grow and students need help. McKinsey & Company, December, 8.
7. Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). COVID-19 and student learning in the United States: The hurt could last a lifetime. McKinsey & Company, 1.

8. Engzell, P., Frey, A., & Verhagen, M. D. (2021). From the Cover: Learning loss due to school closures during the COVID-19 pandemic. Proceedings of the National Academy of Sciences of the United States of America, 118(17).
9. Hasan, N., & Bao, Y. (2020). Impact of "e-Learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss". Children and Youth Services Review, 118, 105355.
10. Kaffenberger, M. (2021). Modelling the long-run learning impact of the Covid-19 learning shock: Actions to (more than) mitigate loss. International Journal of Educational Development, 81, 102326.
11. Kuhfield, M., & Tarasawa, B. (2020). The COVID-19 Slide: What Summer Learning Loss Can Tell Us about the Potential Impact of School Closures on Student Academic Achievement. Brief. NWEA.
12. Patintingan, A., Elihami, E., Mustakim, M., & Lateh, N. (2020). INFORMAL LEARNING AND NONFORMAL EDUCATION IN RANTE LIMBONG COMMUNITY. JURNAL EDUKASI NONFORMAL, 1(1), 166-172.
13. Sabates, R., Carter, E., & Stern, J. M. (2021). Using educational transitions to estimate learning loss due to COVID-19 school closures: The case of Complementary Basic Education in Ghana. International Journal of Educational Development, 82, 102377.