ODEN ACCESS

CONTEMPORARY EDUCATIONAL TECHNOLOGY

ISSN: 1309-517X (Online) 2022, 14(2), ep357, https://doi.org/10.30935/cedtech/11589

Review Article

Primary Teachers Difficulties Related to Compulsory Distance Education During COVID-19

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Received: 18 Oct 2021 Accepted: 23 Jan 2022

Abstract

Due to a lack of preparation, teachers were not emotionally or cognitively prepared to use new approaches. Teachers discovered that while teaching online, elementary school teachers face various challenges. Summarizing and categorizing the difficulties encountered by primary school teachers in compulsory distance education will add to the literature, ensuring the dissemination of online instruction technological tools at both the distance education and primary education levels. The study sought to categorize the difficulties encountered by primary teachers. In order to figure out the purpose of the study, the study data including primary teachers in the COVID-19 period was synthesized. The study was accepted as a meta-synthesis. The education database ERIC was searched using the keywords "Primary Teacher", "Distance Education", and "Online Education"; and 79 studies were located as a result of the search. After eliminating ineligible studies, 23 of the 79 collected studies remained. As a result, students, parents, infrastructure, and teachers are all affected by the challenges. Cutting-edge technologies and a strong internet infrastructure are required for online education. Teachers are unable to maintain the minimum level of compulsory distance education due to limited internet connection and a lack of technological resources in many places. As a result of the strain, teachers felt inadequate. In many classrooms in poor countries, there is a lack of access to professional expertise and help for the use and integration of ICTs. COVID-19 has made this an issue for almost all schools, not just those in underdeveloped countries. The importance of online learning for elementary children and teachers has gotten considerably less attention. Teachers can take pedagogical diversity professional development training online and experience it as if they were students. The practical advantage of identifying the difficulties that teachers have faced is to aid teachers in overcoming such obstacles and to give the appropriate assistance. Successful distance education can only be achieved when teachers are supported in all areas of difficulty.

Keywords: compulsory distance education, COVID-19, primary teachers' difficulties

INTRODUCTION

Authorities have taken substantial measures to prevent social connection due of the significant risk of COVID-19 transmission that exists through touch and social engagement. This included the closure of schools, which was one of the actions. By the end of April 2020, 180 countries will have closed their schools, and about 85 percent of students throughout the world would have ceased attending courses (The World Bank, 2020). Governments have made distant schooling mandatory in order to maintain educational standards. Teachers and students at the elementary level have had the least amount of hands-on contact with these cutting-edge methods. If you look at the majority of distant education research, you will find that it is done at the university level (Belinova et al., 2020; Heckel & Ringeisen, 2019; Tsay et al., 2020). When forced distant education was implemented in primary schools, primary school instructors experienced significant difficulties (Ben-Amram & Davidovitch, 2021; Taimur et al., 2021; van Wyk, 2021; Wang et al., 2021). Teachers are obliged to reinvent themselves in the absence of any previous training. Teachers were not emotionally or cognitively prepared to apply new techniques because they lacked preparation. On the other hand, the vast majority of their pupils had no prior experience with distance learning. In this context, the purpose of this study is to assess the challenges that primary school teachers have when delivering forced remote instruction.

Online learning and teaching during the pandemic, according to Huber and Helm (2020), differs in many ways from past periods. In order to make up for lost time in continuing education services when schools are closed, several countries have resorted to remote learning as a solution. A number of nations are merely adding resources to their websites and making more items available, but they are not necessarily offering online lessons. Infrastructure and familiarity with the tools appear to be the primary factors influencing the success (and challenges) of learning delivery (Ilaltdinova et al., 2021). While nations with strong connectivity are able to provide distance education efficiently, countries with weak connectivity are finding it challenging to reach all students on an equitable basis (The World Bank, 2020).

DIFFICULTIES

In order to access and transmit information in cyberspace, students and teachers were had to relearn new methods of communicating and transferring knowledge. All voices and perspectives, including those most resistant to new technology, were obliged to adhere to the new networked work environments (Manco-Chavez et al., 2020; Toto & Limone, 2021). The fact that primary school teachers are required to utilize methods and techniques that they are unfamiliar with throughout the pandemic process gives a rich learning experience in terms of educational technologies, the spread of technology, and pedagogical variety for all involved. Teachers faced significant challenges in overcoming the issues they were confronted with. The comprehensive classification of the challenges that instructors encounter will serve as a reference for future research. Primary teachers in Indonesia found that primary school teachers encounter numerous problems while teaching online, including technological difficulties, duties and obligations, as well as online teaching experiences, which might contribute to decreased teaching motivation compared with face-to-face teaching (Rasmitadila et al., 2020).

In this context, summarizing and categorizing the difficulties encountered by primary school teachers in compulsory distance education will add to the literature, ensuring the dissemination of online instruction technological tools at both the distance education and primary education levels. As a result, the study sought to categorize the difficulties encountered by primary teachers.

METHOD

In order to figure out the purpose of the study, the study data including primary teachers in the COVID-19 period was synthesized. In the study, a qualitative approach was preferred. The study can be considered as a meta-synthesis study since it is based on the synthesis of the results and data of related studies (Finfgeld, 2003; Walsh & Downe, 2005).

Data Source

The education database ERIC was searched between September 10 and September 29, 2021, using the keywords "Primary Teacher", "Distance Education", and "Online Education", 79 studies were located as a result of the search. Conditions for inclusion of the study are as follows:

- 1. It should be related to primary school teachers.
- 2. It should include the difficulties encountered in distance education.
- 3. The data should cover the COVID-19 period.
- 4. It should be written in English.

After eliminating ineligible studies, 23 of the 79 collected studies remained. According to Finfgeld (2003), source and sample size are two critical considerations when sampling in meta-synthesis studies. The fact that the research data were searched in the ERIC database and that the number of studies eliminated was 23, demonstrates that the study meet these two critical criteria.

Analysis of Data

In the publications, firstly, the findings related to the difficulties faced by the teachers were determined. In meta-synthesis studies, it is stated that the data should be read by at least two independent researchers (Chiappe et al., 2016). In this study, the data was synthesized after the research team read it independently. Then the themes related to the challenges (Students, parents, infrastructure, and teachers) were created. The research team agreed on the naming of themes and categories. The study findings were synthesized by considering the themes and categories obtained.

FINDINGS

The findings of the study revealed three major difficulties for teachers. These were the ones: Teachers have difficulty motivating their pupils. It is common for teachers to feel burnout and a loss of their identities as educators. When it came to kids with special needs or those from under-resourced districts, inequalities were exacerbated (Kalogeropoulos et al., 2021). However, there are many difficulties that are outside of this classification and that teachers experience. More inclusive classification is shown in **Figure 1**. As shown in **Figure 1**, there are four sides related to the difficulties: Students, parents, infrastructure, and teachers.

Students

Teachers at primary schools taught more topics, especially those in grades 1-4 (or 1-5) since they sometimes teach all subjects in one class (Mikušková & Verešová, 2020). The interaction of students and teachers using technology-mediated platforms in primary school age groups creates challenges for both students and teachers (Blackburn & Miles, 2020). As a result of the fact that students are unfamiliar with online platforms, it creates additional challenges for teachers when students speak subjects that are irrelevant to the subject being studied among themselves (Rasmitadila et al., 2020). To teach topics in primary school, teachers have to put in more work than they would in a traditional face-to-face session (Mikušková & Verešová, 2020; Putri et al., 2020).

In order to improve the quality of teaching at all levels of school, teacher feedback is essential (Huber & Helm, 2020; Panhoon & Wongwanich, 2014). However, when considering the age of the students, teacher feedback is particularly crucial for primary school students. According to Putri et al. (2020), teachers expressed dissatisfaction with the amount of time it required to check and give feedback to students. Teachers required additional time (at least one hour) during the COVID-19 period to verify all assignments completed by pupils and to provide comments (Mikušková & Verešová, 2020).

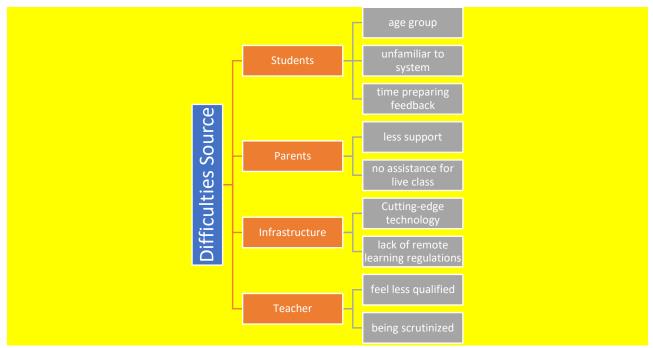


Figure 1. Factors of difficulties related to compulsory distance education

As a result of the student group, they teach throughout the COVID-19 process, primary school teachers have challenges because to the wide range of courses they must cover, the fact that kids are unfamiliar with the online platform, and the additional time required before and after the teaching process.

Parents

The support of one's parents makes a huge contribution (Lau & Lee, 2021). Parents believe that the use of online learning has improved the quality of their children's educational experiences. Parents were ecstatic when they learned that their children's school was implementing an online learning system at the outset of the program. Parental support began to wane after more than a month (Rasmitadila et al., 2020). Because younger children need parental assistance with live class tasks such as technology setup or typing, it was not viable to have all students online throughout the day while the majority of parents were at work (Wang et al., 2021). According to Mikušková and Verešová (2020) another issue is that parents lack the necessary abilities to utilize new technology or distant education systems.

Another difficulty is that primary school students require assistance to complete required distance education tasks (Lau & Lee, 2021; Nusser, 2021). For example, online music classes, such activities musicograms and dances, were carried out with siblings and parents (Calderón-Garrido & Gustems-Carnicer, 2021). However, it is difficult to say that every student may obtain such help they require during the COVID-19. Australian teachers were concerned that students lacked parental or guardian support for studying (Kalogeropoulos et al., 2021). Teachers provide for such assistance during face-to-face classes, but in distance education, students' parents should assist their children. Without parental assistance, the educational process becomes unsustainable, posing problems for primary school teachers.

As a result, teachers who are unable to obtain sufficient assistance from the families of their students have significant difficulties in handling the compulsory remote education procedure.

Infrastructure

Online education requires cutting-edge technologies and a robust internet infrastructure. According to Mikušková and Verešová (2020) the majority of teachers continued remote instruction using their own devices and all of them used their personal internet. The quality of Internet infrastructure varies significantly between countries, regions within countries, and city neighborhoods. Due to restricted internet access and

a lack of technical resources in many locations, teachers are unable to maintain the required level of obligatory distance education (Belay, 2020). To compensate for this infrastructural gap, teachers must develop asynchronous alternatives that do not require a high-speed internet connection.

At least 463 million children throughout the world are still unable to receive an education, either to a lack of remote learning regulations or the necessary technology for learning at home (UNICEF, 2020). In many studies (Cenedese & Spirovska, 2021; Nicolau et al., 2020; Putri et al., 2020), the lack of infrastructure in distance education is expressed as an important factor. The majority of teachers believe they have a responsibility to provide education to students who are unable to attend remote education and to find alternate methods. On rare occasions, teachers even use methods such as offline learning or visiting students at home, despite the risk of spreading COVID-19 (Rasmitadila et al., 2020).

Teachers

Over 5,000 educators responded to an online survey conducted by the Yale Center for Emotional Intelligence and the Collaborative for Academic, Social, and Emotional Learning (CASEL) about their feelings of anxiety, fear, worry, overwhelm, and sadness while participating in distance education in a pandemic situation (Burstein, 2020; Cipriano et al., 2020; Mikušková & Verešová, 2020). When the words they use to express themselves are scrutinized, it becomes clear that they are confronted with an issue that they are unable to resolve on their own.

Teachers feel less qualified during compulsory distance education that starts suddenly. According to research conducted during the pandemic scenario (Burstein, 2020), the percentage of teachers who perceive themselves to be successful fell from 96 percent before to the transition to remote education to 73 percent during the transition period. Hamilton et al. (2020) found 83 percent teachers were having a tougher time performing their job remotely. Also, teachers' abilities to employ digital instructional forms were regarded as mediocre by school personnel on average (Huber & Helm, 2020). Teachers were under unusual strain adjusting to new technology and instructional techniques, while juggling increasing preparation requirements, particularly in early primary school (Flack et al., 2020). Teachers felt inadequate as a result of this pressure.

With everything being accessible online and young students requiring parental assistance to access work, parents now have opportunity to see teachers in action. As a result, teachers felt as though their work was being "scrutinized" by parents (Brown et al., 2021). This puts teachers under strain and makes them feel incompetent. Sum up, mandatory remote education imposed owing to COVID-19 has been a litmus test demonstrating how much pedagogical variety teachers have.

The onset of the worldwide pandemic COVID-19 has produced the highest usage or expansion of new technology (Hodder, 2020). Primary school teachers, as well as teachers at all levels, were taken aback by the unexpected closure of schools and the implementation of compulsory distance education. The group of elementary school teachers with the least familiarity with distance education is this one. Although they made a concerted effort to adapt rapidly to distant education, they struggled to overcome these obstacles and adjust to the new teaching paradigm.

The theme reality concerning lack of access to specialist expertise and assistance for the use and integration of ICTs is an issue that exists in many classrooms of developing countries (Manco-Chavez et al., 2020). With COVID-19, this problem has become a concern for nearly all schools, not just those in developing countries. While 88.1 percent of primary school teachers indicated a readiness to make some modifications to their teaching approach (Mikušková & Verešová, 2020), there is no consensus over whether these modifications are sufficient. Additionally, it has been noted that teachers are hesitant to employ innovative approaches in remote education settings. To give just one example, Russo et.al (2021) discovered that primary teachers who had participated in a professional learning program that focused on inquiry-based ways to learning mathematics were less likely to enable productive struggle in remote learning situations. According to a survey of 8,632 teachers from 100 elementary and secondary schools in 23 Chinese provinces, online teaching is "somewhat difficult" or "extremely difficult" for 60.5 percent of them; also, only 1.9 percent of

them reported teaching online "frequently" and 18.2 percent of them "occasionally" prior to the pandemic, indicating their limited teaching experience (Song et al., 2020).

The existence of technology alone is required but insufficient for a qualified application procedure throughout the technology integration process. In certain ways, it necessitates the use of technology into the COVID-19-mandated obligatory distance education process.

As a result, teachers must update their pedagogical approaches in order to comply with mandatory remote education. Primary school teachers have challenges in maintaining mandatory distance education as a result of this updating procedure. For example, according to La Velle et al. (2020), not all teachers actively participate in the remote education approach implemented during COVID-19 lockdowns because they lack basic computer skills or understanding of digital pedagogy.

DISCUSSION AND CONCLUSIONS

Although teachers, administrators, and parents have worked hard to keep learning alive; their efforts are not likely to produce the level of education that's delivered in the classroom (Dorn et al., 2020). The majority of online learning research, on the other hand, focused on higher education settings (Heckel & Ringeisen, 2019; Tsay et al., 2020), whereas the role and impact of online learning among primary students and teachers received far less attention (Wang et al., 2021). As such, this paper addresses the difficulties that primary school teachers should be overcome to best perform on compulsory remote education during COVID-19.

According to study (Wang et al., 2021) involving primary school teachers, several teachers stated their excitement for the start of school because they thought that "online teaching and preparation is too exhausting" and that it was difficult to "maintain such a high level of energy and devotion." The fact that teachers have voiced this plainly is an indicator that they have major challenges in this process.

In order to effectively employ remote education, professional development training that provide pedagogical diversity can be delivered to younger age groups. In fact, these professional development training can be organized online so that teachers can experience them like students. In the 5-day professional development course for primary teachers conducted by Skuratowicz et al. (2021), most of the participants agreed with the statement

"My experience with online technology at the Summer Institute will improve my teaching ability when using distance learning in the future."

Feedback is crucial in all learning environments, and it is especially important in digital learning environments. Teachers must provide feedback on assignments to students. Research might look into the distinctions in digital learning environments and how technology can help enhance digital learning (Huber & Helm, 2020).

The main focus of the study is to determine to stand on the difficulties related to compulsory distance education during COVID-19 among primary school teachers. Another shareholder of the teaching and learning process is students. Further researchers may concern topics such as reluctance to go to school (He & Li, 2021) and technology addiction (Widodo & Wartoyo, 2020) among primary school students.

The practical advantage of identifying the difficulties that teachers have faced is to aid teachers in overcoming such obstacles and to give the appropriate assistance. Successful distance education can only be achieved when teachers are supported in all areas of difficulty.

Author contributions: All authors were involved in concept, design, collection of data, interpretation, writing, and critically revising the article. All authors approve final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analysed during this study are available from the authors on request.

REFERENCES

- Belay, D. G. (2020). COVID-19, distance learning and educational inequality in rural Ethiopia. *Pedagogical Research*, 5(4), em0082. https://doi.org/10.29333/pr/9133
- Belinova, N. V., Bicheva, I. B., Krasilnikova, L. V., Khanova, T. G., & Hizhnaya, A. V. (2020). The role of managerial competence of an executive in improving the quality of pre-school educational organization. In E. G. Popkova, & B. S. Sergi (Eds.), *The 21st century from the positions of modern science: Intellectual, digital and innovative aspects* (pp. 91, 422-429). https://doi.org/10.1007/978-3-030-32015-7_47
- Ben-Amram, M., & Davidovitch, N. (2021). School and home as study spaces: Attitudes of teachers, parents, and students to e-learning during the COVID-19 period: The case of Israel. *International Journal of Educational Methodology*, 7(4), 715-731. https://doi.org/10.12973/ijem.7.4.715
- Blackburn, B. R., & Miles, M. (2020). *Rigor in the remote learning classroom. Instructional tips and strategies.* Routledge. https://doi.org/10.4324/9781003107484
- Brown, J., McLennan, C., Mercieca, D., Mercieca, D. P., Robertson, D. P., & Valentine, E. (2021). Technology as thirdspace: Teachers in Scottish schools engaging with and being challenged by digital technology in first COVID-19 lockdown. *Education Sciences*, 11(3), 136. https://doi.org/10.3390/educsci11030136
- Burstein, R. (2020). Research eclipsed: How educators are reinventing research-informed practice during the pandemic. https://www.edsurge.com/research/reports/education-in-the-face-of-unprecedented-challenges
- Calderón-Garrido, D., & Gustems-Carnicer, J. (2021). Adaptations of music education in primary and secondary school due to COVID-19: The experience in Spain. *Music Education Research*, 23(2), 139-150. https://doi.org/10.1080/14613808.2021.1902488
- Cenedese, M., & Spirovska, I. (2021). Online education of marginalized children in north Macedonia and Italy during the COVID-19 pandemic. *Dve Domovini*, *54*, 103-115. https://doi.org/10.3986/dd.2021.2.08
- Chiappe, A., Pinto, R., & Arias, V. (2016). Open assessment of learning: A meta-synthesis. *International Review of Research in Open and Distance Learning*, *17*(6), 44-61. https://doi.org/10.19173/irrodl.v17i6.2846
- Cipriano, C., Baumsteiger, R., Brackett, M., Mannweiler, M., Seibyl, J., Tan, V., Torv, L., & Zieher, A. (2020). Supporting Connecticut educators with SEL during times of uncertainty and stress: Findings from Fall 2020. Yale Center for Emotional Intelligence. https://static1.squarespace.com/static/5d8231090c0fae752c3993d7/t/6006f59e3431835a94c450e9/1611068832974/Supporting_CT_Educators_SEL_Times_Uncertainty_Stress_Report.pdf
- 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*. https://www.mckinsey.com/industries/education/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime
- Finfgeld, D. L. (2003). Metasynthesis: The state of the art-So far. *Qualitative Health Research*, *13*(7), 893-904. https://doi.org/10.1177/1049732303253462
- Flack, C. B., Walker, L., Bickerstaff, A., Earle, H., & Margetts, C. (2020). Educator perspectives on the impact of COVID-19 on teaching and learning in Australia and New Zealand. *Pivot Professional Learning*. https://pivotpl.com/wp-content/uploads/2020/04/Pivot_StateofEducation_2020_White-Paper.pdf
- Hamilton, L. S., Kaufman, J. H., & Diliberti, M. K. (2020). Teaching and leading through a pandemic: Key findings from the American educator panels Spring 2020 COVID-19 surveys. *Rand Corporations*. https://doi.org/10.7249/RRA168-2

- He, Y., & Li, Y. (2021). An investigation of anxiety and depression among Chinese primary school students after the resumption of school post-COVID-19. *Vulnerable Children and Youth Studies*, 1-16. https://doi.org/10.1080/17450128.2021.1985198
- Heckel, C., & Ringeisen, T. (2019). Pride and anxiety in online learning environments: Achievement emotions as mediators between learners' characteristics and learning outcomes. *Journal of Computer Assisted Learning*, 35(5), 667-677. https://doi.org/10.1111/jcal.12367
- Hodder, A. (2020). New technology, work and employment in the era of COVID-19: Reflecting on legacies of research. *New Technology, Work and Employment, 35*(3), 262-275. https://doi.org/10.1111/ntwe. 12173
- Huber, S. G., & Helm, C. (2020). COVID-19 and schooling: Evaluation, assessment and accountability in times of crises-reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability, 32*(2), 237-270. https://doi.org/10.1007/s11092-020-09322-y
- Ilaltdinova, E. Y., Frolova, S. V., & Sergeeva, T. N. (2021). Institutional identity of pedagogical education: Problems and development trends. *Perspektivy Nauki i Obrazovania* [*Perspectives of Science and Education*], *50*(2), 70-87. https://doi.org/10.32744/pse.2021.2.5
- Kalogeropoulos, P., Roche, A., Russo, J., Vats, S., & Russo, T. (2021). Learning mathematics from home during COVID-19: Insights from two inquiry-focused primary schools. *Eurasia Journal of Mathematics, Science and Technology Education*, *17*(5), em1957. https://doi.org/10.29333/ejmste/10830
- La Velle, L., Newman, S., Montgomery, C., & Hyatt, D. (2020). Initial teacher education in England and the COVID-19 pandemic: Challenges and opportunities. *Journal of Education for Teaching, 46*(4), 596-608. https://doi.org/10.1080/02607476.2020.1803051
- Lau, E. Y. H., & Lee, K. (2021). Parents' views on young children's distance learning and screen time during COVID-19 class suspension in Hong Kong. *Early Education and Development*, 32(6), 863-880. https://doi.org/10.1080/10409289.2020.1843925
- Manco-Chavez, J. A., Uribe-Hernandez, Y. C., Buendia-Aparcana, R., Vertiz-Osores, J. J., Alcoser, S. D. I., & Rengifo-Lozano, R. A. (2020). Integration of ICTS and digital skills in times of the pandemic COVID-19. *International Journal of Higher Education, 9*(9), 11-20. https://doi.org/10.5430/ijhe.v9n9p11
- Mikušková, E. B., & Verešová, M. (2020). Distance education during COVID-19: The perspective of Slovak teachers. *Problems of Education in the 21st Century, 78*(6), 884-906. https://doi.org/10.33225/pec/20.78.884
- Nicolau, C., Henter, R., Roman, N., Neculau, A., & Miclaus, R. (2020). Tele-education under the COVID-19 crisis: Asymmetries in Romanian education. *Symmetry*, *12*(9), 1-18. https://doi.org/10.3390/sym12091502
- Nusser, L. (2021). Learning at home during COVID-19 school closures-How do German students with and without special educational needs manage? *European Journal of Special Needs Education, 36*(1), 51-64. https://doi.org/10.1080/08856257.2021.1872845
- Panhoon, S., & Wongwanich, S. (2014). An analysis of teacher feedback for improving teaching quality in primary schools. *Procedia-Social and Behavioral Sciences, 116*, 4124-4130. https://doi.org/10.1016/j.sbspro.2014.01.902
- Putri, R. S., Purwanto, A., Pramono, R., Asbari, M., Wijayanti, L. M., & Hyun, C. C. (2020). Impact of the COVID-19 pandemic on online home learning: An explorative study of primary schools in Indonesia. *International Journal of Advanced Science and Technology*, 29(5), 4809-4818.

- Rasmitadila, R., Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. *Journal of Ethnic and Cultural Studies, 7*(2), 90. https://doi.org/10.29333/ejecs/388
- Russo, J., Bobis, J., Downton, A., Livy, S., & Sullivan, P. (2021). Primary teacher attitudes towards productive struggle in mathematics in remote learning versus classroom-based settings. *Education Sciences*, *11*(2), 1-13. https://doi.org/10.3390/educsci11020035
- Skuratowicz, E., Vanderberg, M., Hung, E. E., Krause, G., Bradley, D., & Wilson, J. P. (2021). I felt like we were actually going somewhere. *Proceedings of the 52nd ACM Technical Symposium on Computer Science Education*, 739-745. https://doi.org/10.1145/3408877.3432482
- Song, H., Wu, J., & Zhi, T. (2020). Online teaching for elementary and secondary schools during COVID-19. *ECNU Review of Education*, *3*(4), 745-754. https://doi.org/10.1177/2096531120930021
- Taimur, S., Sattar, H., & Dowd, E. (2021). Exploring teachers' perception on successes and challenges associated with digital teaching practice during COVID-19 pandemic school closures. *Pedagogical Research*, 6(4), em0105. https://doi.org/10.29333/pr/11253
- The World Bank. (2020). The COVID-19 pandemic: Shocks to education and policy responses. *The World Bank*. https://openknowledge.worldbank.org/bitstream/handle/10986/33696/148198.df?sequence=4
- Toto, G. A., & Limone, P. (2021). From resistance to digital technologies in the context of the reaction to distance learning in the school context during COVID-19. *Education Sciences*, *11*(4), 163. https://doi.org/10.3390/educsci11040163
- Tsay, C. H. H., Kofinas, A. K., Trivedi, S. K., & Yang, Y. (2020). Overcoming the novelty effect in online gamified learning systems: An empirical evaluation of student engagement and performance. *Journal of Computer Assisted Learning*, 36(2), 128-146. https://doi.org/10.1111/jcal.12385
- UNICEF. (2020). COVID-19: Are children able to continue learning during school closures. *UNICEF*. https://data.unicef.org/resources/remote-learning-reachability-factsheet/
- van Wyk, M. M., Kotze, C. J., Tshabalala, S. L., & Mukhati, F. (2021). The responsiveness of teacher education managers at an ODeL college to resilience and the well-being of staff working from home during COVID-19. *International Journal of Educational Methodology, 7*(4), 623-635. https://doi.org/10.12973/ijem.7.4.623
- Walsh, D., & Downe, S. (2005). Meta-synthesis method for qualitative research: A literature review. *Journal of Advanced Nursing*, 50(2), 204-211. https://doi.org/10.1111/j.1365-2648.2005.03380.x
- Wang, Z., Pang, H., Zhou, J., Ma, Y., & Wang, Z. (2021). "What if...it never ends?": Examining challenges in primary teachers' experience during the wholly online teaching. *Journal of Educational Research*, 114(1), 89-103. https://doi.org/10.1080/00220671.2021.1884823
- Widodo, A., & Wartoyo, F. X. (2020). Lockdown and gadget addicted phenomenon. *Proceedings of the 4th International Conference on Learning Innovation and Quality Education*, 1-8. https://doi.org/10.1145/3452144.3452163

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