JEM &DS

Exploring the Multifaceted Impact of the COVID-19 Pandemic on Teachers' Teaching Practices

Irene E. Eguico[1 & 3*], Maria Nancy Quinco-Cadosales[2*], Daryl F. Quinco[3], Sharika F. Magcanta[1], Rosalia E. Celestiano[3], and Rachell-Ann B. Buljatin[1]

[1]Dipolog Medical Center College Foundation, Inc., Dipolog City, Philippines
[2]Cebu Normal University, Cebu City, Philippines
[3]La Salle University, Philippines

RESEARCH ARTICLE

Abstract

The devotion and commitment of the teachers allowed for the continuation of instruction during the COVID-19 pandemic. Switching from traditional classroom instruction to an online learning environment was challenging. Learning institutions implemented several teachers' upskilling and skill-building programs to prepare for emergencies. However, teachers were not exempted from the impact of the COVID–19 pandemic. Two hundred eighty-nine (289) teachers from 19 non-sectarian private schools around the Philippines were profiled in the study using quantitative and qualitative research techniques. Roman Catholics and women composed most of the teachers. They employ a range of online technologies and instructional methods. When transitioning to the virtual classroom, teachers faced several difficulties, with intermittent internet connection as the main problem. The teachers agreed that online teaching was advantageous at the onset of the pandemic using varied online tools. They asserted that training initiatives in student motivation and engagement, skill development, and mental health programs are significant to maintaining high-quality teaching and learning.

1 INTRODUCTION

With the emergence of the COVID-19 pandemic, traditional face-to-face education gave way to online education. This shift has had far-reaching consequences for teachers and students (Al Abiky, 2021). This includes getting used to the nature of remote teaching, the limitations on the mode and content of educational delivery, and the efficacy and reliability of online assessment. Studies confirmed the dynamic role of teachers during the pandemic (Abed, 2021; Turnbull et al., 2021) since it has shaken the students' learning stability.

Several steps were taken to ensure the students' learning was not hampered. The schools rethink their strategies to develop a contextualized learning continuity plan that addresses the urgent needs of the entire school. The COVID-19 crisis also impacted teachers because they are the frontliners in providing quality instruction. They entered the survival stage, trying to overcome

the feeling of being lost and anxious due to the disruption of what was and the introduction of what is now (Basilaia & Kvavadze (2020). Other teachers were able to get through those obstacles. Some quickly adjusted to remote learning but simply could not (Al Abiky, 2021).

Teachers migrated to technology-based teaching due to the transition from the pre-pandemic mode to the hybrid mode of delivery. Ordinary remote teaching differed from emergency remote teaching, as Hodges et al. (2020) emphasized. They claimed that ordinary remote teaching results from higher-quality online teaching when considering course planning, design, and delivery. On the other hand, emergency remote teaching is an immediate alternative in schooling, allowing teachers to continue teaching in an emergency. When the most difficult time, such as the COVID-19 pandemic, arrived, teachers faced challenges in remaining relevant and responsive to the needs of the time. As Chua and Bong (2022) concluded during the pandemic, remote learning became a mandatory teaching and learning alternative. During the pandemic, science teachers' readiness to provide an inclusive virtual learning environment was low, and their affective attitudes, behavior, cognition, competence, and awareness were barely adequate. Similarly, Portillo et al. (2020) found that teachers lack digital skills, leading to negative emotions. This scenario could be why teachers faced teaching-related challenges during the pandemic, which the current study hopes to investigate.

The shift from face-to-face classroom interactions to the virtual mode of instruction resulted in some teacher imbalance. This is why learning leaders design ongoing training to help teachers upskill and reskill. Also, Medina (2022) discovered that science teachers have excellent profiles and perceived levels of success in online teaching in his study on online distance learning modality. However, they encountered difficulties in online teaching, where teachers' upskilling and reskilling in digital learning and dealing with various learning modalities may continue. Similarly, Hoti et al. (2022) emphasized the importance of dedicated upskilling and reskilling programs for teachers in developing their digital skills and competencies. Teachers play a critical role in the classroom. Ghanbari and Nowroozi (2022) concluded that the professional development of teachers should be prioritized during the post-pandemic period. Their professional development may enable them to become independent and influential individuals capable of meeting the diverse needs of learners. Likewise, Ibda et al. (2023) supported a similar conclusion in their study on the significance of teachers' professional development for increasing competence.

However, teachers are not free from the potential challenges in their teaching practices, despite their best efforts to give high-quality instruction in support of UNESCO's fourth sustainable development goal on quality education and the Philippines' efforts on learning continuity on the onset of the COVID–19 pandemic. Hence, this study explored the impact of the COVID–19 pandemic on teachers' teaching practices. Specifically, it sought to answer the following questions: what is the demographic profile of the teacher-respondents in terms of gender, religion, type of Learning Management System (LMS) utilized for online classes, and online tools utilized for online classes?; what is the level of teachers' perception of teaching practices in terms of advantages of online learning, influence of the challenges that affect students' performance, and factors that affect the quality of the teaching–learning process?; what suggestions were given by the teachers to address the challenges encountered?; and what formation programs were suggested by the teachers?

2 METHODS

2.1 Research Design

This study employed a quantitative research design. The study collected data using a questionnaire to show a sample's findings to the entire population (Creswell & Creswell, 2018). The quantitative research design used in this study answered the research objectives to better understand teachers' challenges and teaching practices during the COVID-19 pandemic.

2.2 Respondents of the Study

Two hundred eighty-nine (289) teacher were the respondent of the study teaching in 19 non-sectarian private schools from basic to higher education levels in the country. The total population sampling was employed in the study. Moreover, this paper acknowledges its limitation in terms of the scope of the study, which excludes sectarian and public schools. Thus, any findings derived from the study described the 19 non-sectarian private schools, which may affect the generalizability of our findings to the broader education landscape.

2.3 Research Instrument

The survey questionnaire has four (4) sections. The respondents' demographic profile comprised the questionnaire's first section, the teacher's perception of their teaching practices in the second section, suggestions to address the challenges in the third section, and the teacher's suggestions for the formation programs in the fourth section. The supervisors of the schools validated the content of the questionnaire. Approval and consent were secured before distributing the questionnaire using Google Forms. The data were analyzed using percentages and weighted mean. Ethical considerations were observed by keeping the names of the teachers and the participating schools anonymous in all parts of the research report.

3 RESULTS AND DISCUSSION

Two hundred eighty-nine (289) teacher-respondents from 19 schools in a network of nonsectari an schools supervised by a prominent Catholic University participated in this survey. These 19 schools were situated across various regions in the country. The teachers' demographic profile includes gender, religion, learning modality, and online tools used for online classes are seen in Table 1.

Table 1. Distribution of Respondents According to their Demographic Profile (n=289)

Demographics	Frequency	Percent (%)
Gender		
Female	180	62.28
Male	109	27.72
Religion		
Roman Catholic	257	88.93
Non-Catholic	32	11.07
Learning Modality		
Blended	84	29.07
Online	103	35.64
Printed Modules	102	35.29
Online Tools Utilized		
Google Classroom /Meet	107	37.02
Zoom	72	24.91
Others	62	21.45
Social networks (FB Messenger)	37	12.8
Moodle	13	4.5
Microsoft Teams	4	1.38
Neo LMS	3	1.04

The data revealed that among the 289 respondents, 62.28% of them are females, and 88.93% are Catholic. Like Hoti's et al. (2022) study, most of their respondents 84% were female teachers,

indicating that women in Albania dominate the teaching profession. Moreover, Tasner et al. (2017) further revealed that based on the international data for EU countries, most teachers are still women. In addition, Quinco-Cadosales (2021) exposed that 74% of their teacher-respondents were females and Roman Catholics (85%), like this study's findings. Furthermore, female teachers outnumbered male teachers in most Western countries' primary and secondary schools. At the primary level, women outnumbered men in Europe (87%) and the majority of other upper-middle (72%) and high-income (82%) countries (UNESCO Statistics, 2020). According to a 2022 World Bank report, 87.42% of primary education teachers and 70.68% of secondary education teachers in the Philippines are females.

Various modalities were used when teachers migrated to remote teaching following the onset of the COVID-19 pandemic. In this study, teachers used blended, pure online, offline printed modules, and offline non-printed modules via a universal serial bus (USB). According to the data, teachers used blended learning (29.07%), pure online (35.64%), and offline printed modules (35.29%). The study of Bhadri and Patil (2022) on blended learning as an effective approach to online teaching and learning revealed that combining synchronous and asynchronous learning modes offers students opportunities to learn more flexibly and independently.

The blended mode of teaching and learning provides avenues for the teachers and students to continue their connection and interaction despite the physical distance. Among the teacher-respondents, the most commonly used online tools were Google Classroom, Google Meet, and Zoom App. Using these online tools, there is continuity in remote teaching, which does not hamper the provision of quality learning. In addition, Dau (2022) said that most teachers supported remote instruction despite the challenges. They acquired new ICT pedagogies and tools and wanted to stick with this strategy even beyond the pandemic. To enhance the efficiency of online instruction, ideas including creativity and adaptability in lesson planning, parental support, teacher preparation, and improved ICT infrastructure are recommended. The teachers recognized the importance of online tools to ensure learning can thrive amidst the pandemic, as shown in Table 2.

Table 2. Teachers' Perception of the Advantages of Online Learning

Advantages of Online Learning	Weighted Mean	Verbal Interpretation
1. More convenient and flexible than ordinary classes	3.47	Agree
2. Saves time and provides an opportunity for self-study	3.46	Agree
3. Students have more time to learn and do other activities	3.44	Agree
Average of Weighted Mean	3.46	Agree

Legend: 1.00 - 1.80 - Strongly Disagree; 1.81 - 2.60 - Disagree; 2.61 - 3.40 - Neutral; 3.41 - 4.20 - Agree; 4.21 - 5.00 - Highly Agree

The teachers perceived online learning as more convenient and flexible than ordinary classes. They also agreed that it saves time and provides an opportunity for self-study. In addition, students have more time to learn and do other activities. Similarly, Bhadri and Patil (2022) discovered that a blended learning approach is more flexible and provides independent learning opportunities for students, with 82% of students providing positive feedback on the technological transformation in teaching and learning. Similarly, the current study's teacher respondents claimed that online learning is more convenient than traditional face-to-face classroom interaction. Abed (2021) demonstrated that online teaching-learning methods used during the COVID-19 pandemic forced teachers to redesign teaching strategies to make online learning interactive, which improved students' communication, perspective, thinking, design, and modeling skills.

Moreover, the teachers claimed that online learning saved time and allowed students to self-study. Students managed their study time during asynchronous learning. They can also review the lessons posted in the learning management system and have the opportunity to navigate the internet if

they need more information. In this way, online learning allows students to self-study. This is supported by the study of Singaram et al. (2022), which investigated the perspective of South African students on self-directed learning during the pandemic. They claimed that self-directed learning enabled them to develop personal characteristics such as reflection, self-determination, motivation, resilience, and positive learning behaviors and skills. Collaborative learning networks and online learning platforms facilitate learning needs and goals. During COVID-19, Salifu and Abonyi (2022) investigated the experiences of university teachers in Ghana in managing large classes in virtual teaching. They discovered that teachers struggled to use virtual tools because they had no virtual teaching experience before the pandemic. Likewise, this study revealed the teachers' perception of the challenges that might affect the students' academic performance, as presented in Table 3.

Table 3. **The extent of influence of the challenges that affect students' performance as perceived by teachers**

Sources of Difficulties	Weighted Mean	Verbal Interpretation
1. Poor internet connection	4.29	Most Greatly Influenced
2. Adjusting to a new learning environment and modality	4.01	Greatly Influenced
3. Having a hard time understanding the whole module by themselves	4.01	Greatly Influenced
4. Speed and cost of internet	3.79	Greatly Influenced
5. Lack of finances to support the use of the gadget	3.76	Greatly Influenced
6. Dealing with distractions.	3.75	Greatly Influenced
7. Less discussion/interaction with classmates, teachers	3.73	Greatly Influenced
8. Financial problems	3.73	Greatly Influenced
9. Experiencing anxiety and frustrations	3.68	Greatly Influenced
10. Understanding the module content due to the nature of the subject	3.66	Greatly Influenced
11. Physical and mental health issues	3.64	Greatly Influenced
12. Self-paced learning	3.63	Greatly Influenced
13. Availability of learning devices (i.e., laptops, tablets, smartphones to access the internet and view the online materials.	3.63	Greatly Influenced
14. Unreasonable deadlines and many requirements	3.59	Greatly Influenced
15. Loss of motivation/interest	3.59	Greatly Influenced
16. Availability of functional gadgets	3.59	Greatly Influenced
17. Providing support to children	3.57	Greatly Influenced
18. Difficulty in understanding the lessons	3.56	Greatly Influenced
19. Inadequate module contents	3.54	Greatly Influenced
20. Unfavorable (home) learning environment	3.54	Greatly Influenced
21. Insufficient explanation in the module	3.49	Greatly Influenced
22. Attitude towards studying/schooling	3.49	Greatly Influenced
23. Accessibility of teachers for clarifications regarding the lessons	3.44	Greatly Influenced
24. Trustworthiness of remote assessment	3.42	Greatly Influenced
25. Inadequate class time	3.39	Moderately Influenced
26. Lack of teacher guidance on how to do the activities/tasks	3.34	Moderately Influenced
27. Travel-related problems	3.33	Moderately Influenced

28. Difficulty in using the Learning Management System (e.g. Google meet, Fb messenger, etc.)	3.33	Moderately Influenced
29. Unclear or ambiguous instructions in modules	3.32	Moderately Influenced
30. Managing time properly	3.32	Moderately Influenced
31. Unclear copies of the modules	3.26	Moderately Influenced
32. Unstable and unpredictable class schedules and deadlines	3.03	Moderately Influenced
Average of Weighted Mean	**3.64**	**Moderately Influenced**

Legend: 1.00 - 1.80 - not influenced; 1.81 - 2.60 - fairly influenced; 2.61 - 3.40 - moderately influenced; 3.41 - 4.20 - greatly influenced; 4.21 - 5.00 - most greatly influenced

The online teaching-learning modality forced the learning institutions to adopt and use it during the health crisis. The entire community was unprepared for this sudden shift from face-to-face to online interaction. Many were struggling not only to secure gadgets but also to avail of steady internet connectivity. The struggles that most of the students experienced in getting a stable internet connection at the start of the pandemic greatly influenced their difficulties in performing well academically. Similar findings by Casingal (2022) investigated Filipino elementary students' challenges when completing online performance tasks. The students complained that a lack of resources and a poor internet connection prevented them from doing their homework. In addition, Hermano and Denamarca (2022) found that a lack of internet access at home primarily caused students' difficulties. In the same vein, Kamal and Illiyan (2021) discovered that teachers encountered several obstacles in online teaching, such as technical obstacles and difficulties in online exams and assessments

The other five factors that greatly influenced academic performance were adjusting to a new learning environment and modality, having difficulty understanding the whole module alone, speed and cost of the internet, lack of finances to support using gadgets and dealing with distractions. The factors affecting the teaching-learning process's quality are discussed in Table 4.

Table 4. Factors that affect the quality of the teaching-learning process

Factors	Weighted Mean	Verbal Interpretation Factors
1. Intermittent Internet connections	4.01	Considerably Affected
2. Number of teaching preparations	3.95	Considerably Affected
3. Collaborating with parents/students	3.92	Considerably Affected
4. Preparing for assessment	3.89	Considerably Affected
5. Managing the Virtual Classroom	3.88	Considerably Affected
6. Using educational materials	3.82	Considerably Affected
7. Teachers' struggles	3.8	Considerably Affected
8. Financial difficulties	3.77	Considerably Affected
9. Preparing online lessons	3.77	Considerably Affected
10. Choosing Online Pedagogy	3.75	Considerably Affected
11. Navigating the Learning Management	3.74	Considerably Affected
Average of Weighted Mean	**3.85**	**Considerably Affected**

Legend: 1.00 - 1.80 - not affected; 1.81 - 2.60 - fairly affected; 2.61 - 3.40 - moderately affected; 3.41 - 4.20 - considerably affected; 4.21 - 5.00 - greatly affected

As gleaned in the table, teachers believed the following as the top five factors that considerably affected the teaching–learning process: intermittent internet connections, number

of teaching preparations, collaborating with parents/students, and managing the virtual classroom. Respondents in the Shrestha et al. (2021) study described similar experiences, revealing that poor network access, a lack of digital literacy, and a lack of institutional technology assistance were the main obstacles they faced while switching to online education. Further, Capacio et al. (2021) revealed that power outages, inadequate internet access, computer technology malfunctions, the imposition of classroom management, a lack of preparation, and getting adjusted to a new personal work schedule were problems for the participants.

Also, due to the lack of institutional learning management systems, Shah et al. (2020) found that faculty members in Pakistan employed less expensive and accessible alternatives like Facebook/Google groups in interacting with their students. Similar observations were revealed by Dau (2022) that additional difficulties were more workload, increased stress, technological difficulties, students' lack of learning tools, the necessity of parental involvement, more interactions, and hands-on activities. Also, Lavidas et al. (2022) reported that preschool teachers worked with parents by participating in online learning communities to support the preschooler's learning activities by offering advice and creative methods for learning math. Similarly, according to Purnomo et al. (2021), parental involvement considerably impacts students' motivation to learn mathematics online. The results of this study also showed that parental involvement in online mathematics learning is more desirable and impacts students' emotional, social, and cognitive engagement.

Also, Emiroglu (2021) discovered that challenges encountered in implementing distance learning modality include internet access and connectivity issues, as well as the unavailability of gadgets among underprivileged students. Moreover, the lack of technology and internet access for students and teachers in third-world countries and underprivileged communities led to learning inequalities (Alifia et al, 2020). According to Saha et al. (2022), the hardest parts of online instruction during COVID-19 were completing practical assignments, keeping track of students, and providing enough feedback. This study advocates using online instruction during the pandemic and mixed-mode instruction following it. For efficient and seamless e-education, it is also proposed that faculty members be trained in online teaching, that e-platforms appropriate for examinations be designed, and that stable internet connections be maintained. Table 5 displays the suggestions of the respondents to address the problems presented above.

Table 5. Suggestions to Address the Problems

Suggestions to Address the Problem	Weighted Mean	Verbal Interpretation
1. Provide tools for online classes	4.34	Strongly Agree
2. Address internet connection issues	4.34	Strongly Agree
3. Schedule activities properly	4.28	Strongly Agree
4. Conduct training on online modalities	4.26	Strongly Agree
5. Address concerns on lesson preparations	4.25	Strongly Agree
6. Collaborate with parents and guardians	4.25	Strongly Agree
7. Adopt a mechanism to monitor students' progress	4.21	Strongly Agree
8. Reduce the number of teaching preparations (if possible)	4.19	Agree
9. Conduct training on module writing	4.17	Agree
10. Collaborate with the Department of Education	4.13	Agree
11. Hire an IT expert to help teachers in online teaching	4.04	Agree
Average of Weighted Mean	**4.22**	**Strongly Agree**

Legend: 1.00 - 1.80 - strongly disagree; 1.81 - 2.60 - disagree; 2.61 - 3.40 – neutral; 3.41 - 4.20 - agree; 4.21 - 5.00 - strongly agree

The respondents strongly agreed that the following be done to address the problems presented

in Table 4. These suggestions include providing tools for online classes, addressing internet connection issues, scheduling activities properly, training online modalities, addressing concerns on lesson preparations, collaborating with parents and guardians, and adopting mechanisms to monitor students' progress. Similarly, Prospero et al. (2022) asserted that the student-participant's responses demonstrated positive attitudes toward using websites to learn in the modern world. Additionally, the study by Capacio et al. (2021) on teachers' experiences with online teaching and learning includes perception, strategies for giving instruction using online platforms, challenges, modifications, and suggestions for development. Also, Sidhu et al. (2022) highlighted the G Suite's potential as a useful teaching and learning tool even in the post-pandemic period, where developing technologies have been and will continue to be present. Continue to modernize classrooms for the twenty-first century. We as educators must accept this change as a recurring phenomenon as internet tools advance and prosper as remote learning becomes the new standard in today's society. As a result, Shrestha et al. (2021) found that professors communicate with students using phone conversations, WhatsApp, Viber, Facebook, Zoom, Google Meet, email, Messenger groups, and more. Moreover, Tafazoli and Meihami (2022) findings suggested that teacher preparation programs employing computer-assisted language learning during the COVID-19 pandemic should be prioritized to foster collaboration, digital literacy, and teacher autonomy.

With the numerous challenges teachers faced in online teaching delivery during the pandemic, they recommend formation activities, as shown in Table 6.

Table 6. Formation Activities Recommended for Teachers

Formation Activities	Weighted Mean	Verbal Interpretation
1. Webinar on improving students' motivation/engagement	4.36	Very Greatly Needed
2. Skills development program	4.33	Very Greatly Needed
3. Mental health program	4.31	Very Greatly Needed
4. Stress/anxiety management webinar	4.29	Very Greatly Needed
5. Values Formation	4.28	Very Greatly Needed
6. Webinar on adapting to the new norm	4.26	Very Greatly Needed
7. Webinar on time management	4.25	Very Greatly Needed
8. Seminar on social responsibility	4.25	Very Greatly Needed
9. Spiritual and faith formation programs	4.24	Very Greatly Needed
10. Webinar on online pedagogy	4.21	Very Greatly Needed
11. Webinar on financial management	4.2	Greatly Needed
12. Webinar on managing students online	4.2	Greatly Needed
13. Webinar on collaboration with parents and students	4.17	Greatly Needed
14. Webinar on online assessment	4.15	Greatly Needed
15. Physical fitness program	4.15	Greatly Needed
16. Webinar on module writing	4.04	Greatly Needed
Average of Weighted Mean	**4.23**	**Very Greatly Needed**

Legend: 1.00 - 1.80 - not needed; e 1.81 - 2.60 - fairly needed; 2.61 - 3.40 – needed; 3.41 - 4.20 - greatly needed; 4.21 - 5.00 - very greatly needed

As presented in the table, ten formation activities are recommended by teachers as greatly needed. These formation activities are webinar on improving students' motivation/engagement, skills development program, mental health program, stress/anxiety management webinar, values formation, webinar on adapting to the new norm, webinar on time management, seminar on social responsibility, spiritual and faith formation programs, and webinar on online pedagogy. In line with the findings of Hermano and Denamarca (2022), teachers may attend seminars to enhance teaching-learning settings utilizing contemporary instructional tools. Moreover, Petrila (2022) concluded that when teachers gain experience with online teaching, the effectiveness of

online instruction will likely increase. Once this happens, online instruction may be sustained as an appropriate way of training through online-facilitated communication, which Quinco et al. (2022) concurred. Further, Le et al. (2022) discovered that teachers claimed they only received a small amount of online teacher training and had to figure out how to engage students remotely. Despite the university's best efforts, there were no set standards for online teaching. The report recommends that institutions of higher learning offer training opportunities and give instructors clear instructions for online instruction.

The current study showed the teachers' observed difficulties teaching during the COVID-19 pandemic. If they are considered in the upskilling and reskilling initiatives to scaffold the teachers' quest to provide high-quality instruction, these inevitable problems could become potential opportunities. More significantly, the teachers stressed the value of formation activities to improve future readiness for crises like influenza.

4 CONCLUSIONS

The COVID-19 pandemic has significantly disrupted the equilibrium of the teaching-learning process. Amid these challenges, teachers emerged as the front-liners, ensuring the continuity of quality education. While the transition to hybrid learning posed considerable challenges, the resilience and adaptability of educators enabled them to navigate this new educational landscape. To support teachers further, it is crucial to organize development sessions tailored to contemporary demands, ensuring they have the tools and knowledge to continue delivering effective education in these ever-evolving times.

REFERENCES

Abed, T. B. B. (2021, December). Investigating EFL students' preferences and beliefs about online vs. face-to-face learning at Birzeit University. *Ricerche di Pedagogia e Didattica. Journal of Theories and Research in Education*, 73–94 Pages. Retrieved 2023-09-29, from `https://rpd.unibo.it/article/view/13196` doi: doi: 10.6092/ISSN.1970-2221/13196

Al Abiky, W. B. (2021). Lessons learned for teacher education: Challenges of teaching online classes during covid-19, what can pre-service teachers tell us? *Revista Argentina de Clínica Psicológica*, *30*(2), 110.

Alifia, U., Barasa, A., Bima, L., Pramana, R., Revina, S., & Tresnatri, F. (2020). Learning from home: Portrait of teaching and learning inequalities in times of the covid-19 pandemic. *SMERU Research Institute*, *1*(1), 1–8.

Basilaia, G., & Kvavadze, D. (2020, April). Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia. *Pedagogical Research*, *5*(4). Retrieved 2023-09-29, from `https://www.pedagogicalresearch.com/article/transition-to-online-education-in-schools-during-a-sars-cov-2-coronavirus-covid-19-pandemic-in-7937` doi: doi: 10.29333/pr/7937

Bhadri, G. N., & Patil, L. R. (2022). Blended learning: An effective approach for online teaching and learning. *Journal of Engineering Education Transformations*, *35*(Special Issue 1).

Capacio, L. J. A., Celesio, G. A., & Naparan, G. B. (2021). Teachers' experiences in online teaching and learning modality. *EduLine: Journal of Education and Learning Innovation*, *1*(1), 59–75.

Casingal, C. P. (2022). The Difficulties Encountered by Filipino Elementary Pupils in Completing Online Performance Tasks: Cyrus Pontawe Casingal. *Journal of Science Innovation for Sustainable Development*, *4*(1), 1–8.

Chua, K. H., & Bong, W. K. (2022). Providing inclusive education through virtual classrooms: a study of the experiences of secondary science teachers in Malaysia during the pandemic. *International Journal of Inclusive Education*, 1–18.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Dau, T. T. L. (2022). Remote Teaching amid the Covid-19 Pandemic in Vietnam: Primary School EFL Teachers' Practices and Perceptions. *AsiaCALL Online Journal*, *13*(1), 1–21. Retrieved 2023-09-29, from https://asiacall.info/acoj/index.php/journal/article/view/101

Emiroglu, T., Ozkul, A. E., & Sozudogru, O. (2021). Investigation of Views of Students Majoring in History on Distance Education during the Period of Pandemic (COVID-19). *Revista Argentina de Clínica Psicológica*, *30*(1), 114–119.

Ghanbari, N., & Nowroozi, S. (2022). Iranian EFL teachers' challenges and coping strategies during COVID-19 pandemic: A case study. *The Qualitative Report*, *27*(3), 605–625.

Hermano, J. R., & Denamarca, S. (2022). Perceıved Learnıng Dıffıcultıes of Students in Flexıble Learnıng in a Phılıppıne State College. *International Journal of Educational Research Review*, *7*(4), 244–252.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (n.d.). *The Difference Between Emergency Remote Teaching and Online Learning.* Retrieved 2023-09-29, from https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning

Hoti, I., Dragusha, B., & Ndou, V. (2022). Online Teaching during the COVID-19 Pandemic: A Case Study of Albania. *Administrative Sciences*, *12*(3), 116.

Ibda, H., Syamsi, I., & Rukiyati, R. (2023, March). Professional elementary teachers in the digital era: A systematic literature review. *International Journal of Evaluation and Research in Education (IJERE)*, *12*(1), 459. Retrieved 2023-09-29, from https://ijere.iaescore.com/index.php/IJERE/article/view/23565 doi: doi: 10.11591/ijere.v12i1.23565

Kamal, T., & Illiyan, A. (2021). School teachers' perception and challenges towards online teaching during COVID-19 pandemic in India: an econometric analysis. *Asian Association of Open Universities Journal*, *16*(3), 311–325.

Lavidas, K., Apostolou, Z., & Papadakis, S. (2022). Challenges and opportunities of mathematics in digital times: Preschool teachers' views. *Education Sciences*, *12*(7), 459.

Le, V. T., Nguyen, N. H., Tran, T. L. N., Nguyen, L. T., Nguyen, T. A., & Nguyen, M. T. (2022, April). The interaction patterns of pandemic-initiated online teaching: How teachers adapted. *System*, *105*, 102755. Retrieved 2023-09-29, from https://linkinghub.elsevier.com/retrieve/pii/S0346251X22000367 doi: doi: 10.1016/j.system.2022.102755

Medina, A. B. (2022, August). *A Comparative Analysis of the Successes and Challenges in Online Teaching at Different Grade Levels during the New Normal Education* (Tech. Rep.). Retrieved 2023-09-29, from https://eric.ed.gov/?id=ED622004 (ERIC Number: ED622004)

Patil, Y. S., Shinde, R. M., & Mane, S. S. (2022). Active learning approach for online teaching of Engine Design course. *Journal of Engineering Education Transformations*, *35*(Special Issue 1).

Petrila, L., Goudenhooft, G., Gyarmati, B. F., Popescu, F.-A., Simuț, C., & Brihan, A.-C. (2022, June). Effective Teaching during the COVID-19 Pandemic? Distance Learning and Sustainable Communication in Romania. *Sustainability*, *14*(12), 7269. Retrieved 2023-09-29, from https://www.mdpi.com/2071-1050/14/12/7269 doi: doi: 10.3390/su14127269

Portillo, J., Garay, U., Tejada, E., & Bilbao, N. (2020, December). Self-Perception of the Digital Competence of Educators during the COVID-19 Pandemic: A Cross-Analysis of Different Educational Stages. *Sustainability*, *12*(23), 10128. Retrieved 2023-09-29, from https://www.mdpi.com/2071-1050/12/23/10128 doi: doi: 10.3390/su122310128

Prospero, J. M., Naparan, G. B., & Visande, J. C. (2022). Describing the significant learnings, challenges, and coping strategies of secondary students in" Edukasyon sa Pagpapakatao (EsP)" in the normal. *Journal of Research, Policy & Practice of Teachers & Teacher Education (JRPPTTE)*, *12*(1).

Purnomo, Y. W., Safitri, E., Rohmah, N., Rahmawati, R. D., & Abbas, N. (2021). Parental involvement in online mathematics learning: Examining student report and links with engagement. *The New Educational Review*, *66*, 120–130.

Quinco, D. F., Cabanilla Jr, A. B., & Cadosales, M. N. Q. (2022). Meta-Synthesis On Faculty Development During The Covid-19 Pandemic. *Journal of Positive School Psychology*, *6*(8), 981–991.

Quinco-Cadosales, M. N. (2021, August). SCHOOLS IN THE NEW REALITY: ASSESSING THE NOW, LEADING BEYOND. *Psychology and Education Journal*, *58*(5), 5718–5730. Retrieved 2023-09-29, from `http://psychologyandeducation.net/pae/index.php/pae/article/view/6481`

Saha, S. M., Pranty, S. A., Rana, M. J., Islam, M. J., & Hossain, M. E. (2022). Teaching during a pandemic: do university teachers prefer online teaching? *Heliyon*, *8*(1).

Salifu, I., & Abonyi, U. K. (2023). Managing large classes in virtual teaching: Experiences of university teachers in Ghana during COVID-19. *Educational technology research and development*, *71*(2), 737–752.

Shah, U., Khan, S. H., & Reynolds, M. (2020, October). Insights into variation in teachers' pedagogical relationship with ICT: a phenomenographic exploration in the Pakistani higher education context. *Technology, Pedagogy and Education*, *29*(5), 541–555. Retrieved 2023-09-29, from `https://www.tandfonline.com/doi/full/10.1080/1475939X.2020.1810751` doi: doi: 10.1080/1475939X.2020.1810751

Shrestha, S., Haque, S., Dawadi, S., & Giri, R. A. (2022, January). Preparations for and practices of online education during the Covid-19 pandemic: A study of Bangladesh and Nepal. *Education and Information Technologies*, *27*(1), 243–265. Retrieved 2023-09-29, from `https://link.springer.com/10.1007/s10639-021-10659-0` doi: doi: 10.1007/s10639-021-10659-0

Sidhu, G. K., Chen, M. K. W., Shamida, A., & Wen, C. S. (2022). Embracing the New Norm in Teaching and Learning via G Suite for Education: A Multidimensional Perspective. *Asian Journal of University Education*, *18*(4), 1062–1075.

Singaram, V. S., Naidoo, K. L., & Singh, S. (2022, January). Self-Directed Learning During the COVID-19 Pandemic: Perspectives of South African Final-Year Health Professions Students. *Advances in Medical Education and Practice, Volume 13*, 1–10. Retrieved 2023-09-29, from `https://www.dovepress.com/self-directed-learning-during-the-covid-19-pandemic-perspectives-of-so-peer-reviewed-fulltext-article-AMEP` doi: doi: 10.2147/AMEP.S339840

Tafazoli, D., & Meihami, H. (2023). Narrative inquiry for CALL teacher preparation programs amidst the COVID-19 pandemic: Language teachers' technological needs and suggestions. *Journal of Computers in Education*, *10*(1), 163–187.

Tašner, V., Žveglič, M., & Čeplak, M. M. (2017). Gender in the teaching profession: university students' views of teaching as a career. *Center for Educational Policy Studies Journal*, *7*(2), 47–69.

Turnbull, D., Chugh, R., & Luck, J. (2021, September). Transitioning to E-Learning during the COVID-19 pandemic: How have Higher Education Institutions responded to the challenge? *Education and Information Technologies*, *26*(5), 6401–6419. Retrieved 2023-09-29, from `https://link.springer.com/10.1007/s10639-021-10633-w` doi: doi: 10.1007/s10639-021-10633-w

UNESCO. (2020). *UNESCO Statistics: Other policy relevant indicators : Percentage of female teachers by teaching level of education.* Retrieved 2023-09-29, from `http://data.uis.unesco.org/index.aspx?queryid=3801`