Physical Education Teachers' Strategies and Challenges in Instructional Delivery in the Post Pandemic Era

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ABSTRACT

The study explores the physical education teachers' strategies and challenges in instructional delivery in the post-pandemic era. The study used qualitative research design using phenomenological approaches. Ten physical education teachers participated in the survey to share their experiences delivering instructions in the post-pandemic era. Codes and themes were transcribed in the study. Based on the study, the following themes have emerged: technology-based instructions, differentiated teaching strategies, socio-emotional preparedness, and engagement of students. Based on the findings, as part of the change, teachers are expected to develop their instructional practices further and keep up with the trend of delivering quality education services. As teachers improve and enhance their practices in providing instructions, they experience challenges that serve as an avenue of learning and upskilling their strategies as well as their mechanisms of teaching in the post-pandemic era. Thus, integrating technology and upskilling the knowledge and skills in instructional delivery must be prioritized in the ever-changing educational landscape.

*Keywords***:**

Challenges; Instructional Delivery; Mechanisms; Post pandemic; Strategies.

ABSTRAK

Studi ini bertujuan untuk mengeksplorasi tantangan, mekanisme, dan strategi guru dalam penyampaian pembelajaran di era pascapandemi. Penelitian ini menggunakan desain penelitian kualitatif dengan pendekatan fenomenologis. 10 guru sekolah menengah negeri dilibatkan dalam penelitian ini untuk berbagi pengalaman mereka dalam menyampaikan pengajaran di era pascapandemi. Kode dan tema ditranskripsikan dalam penelitian ini.

Berdasarkan penelitian, muncul tema-tema berikut: kesiapan sosio-emosional, keterlibatan siswa, instruksi berbasis teknologi dan strategi pengajaran yang berbeda. Berdasarkan temuan ini, sebagai bagian dari perubahan, guru diharapkan untuk lebih mengembangkan praktik pengajaran mereka dan mengikuti tren dalam memberikan layanan berkualitas di bidang pendidikan. seiring dengan peningkatan dan penyempurnaan praktik guru dalam menyampaikan pengajaran, guru mengalami tantangan yang berfungsi sebagai sarana pembelajaran dan peningkatan keterampilan strategi serta mekanisme pengajaran di era pascapandemi. Oleh karena itu, pengintegrasian teknologi dan peningkatan pengetahuan dan keterampilan dalam penyampaian pembelajaran harus diprioritaskan dalam lanskap pendidikan yang terus berubah.

Kata kunci:

Tantangan; Penyampaian Instruksional; Mekanisme; Pasca Pandemi; Strategi.

1. Introduction

Rethinking presumptions about education has been made possible by the COVID-19 pandemic (Rapanta *et al.* 2021). For most of the world's regions, the coronavirus disease 2019 has had an incalculable impact on teaching and learning (Wiederhold 2020). Due to the pandemic, teachers worldwide must become more adaptable, imaginative, and creative in their teaching strategies. In light of this, it also made it possible for teachers to provide lessons that are both curriculum-fit and sensitive to students' emotional learning styles. Moreover, Campbell (2020) reiterates that there is a new focus on efficient collaboration among professionals and incorporating lessons from the COVID-19 pandemic. However, there is also room to work toward education systems considering the complex global. Thus, Zheng *et al.* (2020) emphasized that it would be beneficial if teachers were more explicit about their function as student learning guides. Teachers, who hold the keys to knowledge and personal achievement, illuminate the route toward an individual's accomplishment (Hill *et al.* (2020). Its goal is to offer excellent educational services related to the delivery of instruction for more productive and successful approaches.

Additionally, emerging innovations could provide opportunities for greater interest and technological advancement (Jiang 2020). In the post-pandemic period, teachers are currently employing technology to offer lessons. This aided in their adaptation and modification as well as a shift of their teaching strategies and delivery of enhanced instructional methods in the new setting of the traditional classroom. Students' learning has benefited immensely from technology as conventional teaching methods are gradually being reintroduced. In the post-pandemic period, it is believed that each teacher's position as a knowledge-transmitter and skill-honed student requires adjustments and alterations to instructional delivery. So, one of the most important tasks for anyone pursuing a career in physical education teaching is helping students grow and refine their talents.

Therefore, challenges with delivering instructions are common, and this will also help as a remedy and advance the teaching methods of all physical education instructors. The study aims to pinpoint the difficulties and instructional approaches facing physical education in the wake of the pandemic. The survey by Sari *et al.* (2020) proposes a connection between organizational creativity, as indicated by readiness, and individual creativity, as demonstrated by professional teaching. Teachers need to be prepared for various scenarios and difficult teaching and learning in the post-pandemic period as they gradually return to providing instruction in-person or on-site because individuals differ in how they approach issues and their capacity to overcome them. Moreover, according to Dwivedi *et al.* (2020) regarding digital instruction, teachers everywhere require ongoing professional development and training. Thus, Yan and Qi (2021) state that education for sustainable development aims to improve the process of helping students acknowledge, understand, behave, and follow the long-lasting trend of sustainable development in education. It is empirical in that students learn that we can assist them in adjusting to their emotional needs and be prepared to resume their regular activities based on their adjustment (Hordósy, R. & McLean 2022). In modern times, a combination of methods is implemented by setting goals in delivering instructions. This is done using technology to innovate in education (Rapanta et al. 2020). Thus, Shah *et al.* (2020) indicate that most students prefer to return to school and resume their regular studies. This desire is mainly brought on by problems with internet access and the perception of non-interactive learning.

This study provided an understanding of physical education teachers' experiences in the context of instructional delivery in the post-pandemic era, particularly regarding roles and responsibilities as facilitators of learning. Furthermore, the study adheres to the significance of the instruction given by the physical education teachers within the classroom context. Gaining a thorough grasp of the strategies and challenges faced by physical educators in the post-pandemic era will lead the way to developing a capability-building program. The study aims to uncover the following: (1) teaching strategies used by physical education teachers in delivering instruction in the post-pandemic, (2) challenges experienced by the physical education teachers in delivering instruction, and (3) developing a program that can help to enhance and improve physical education teachers' instructional delivery.
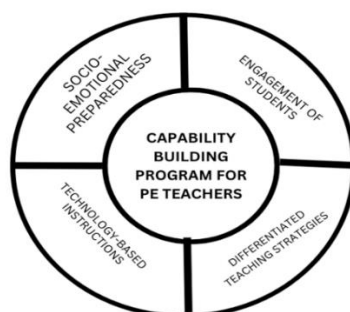
1.1 Conceptual Framework

Figure 1. Conceptual framework

Figure 1 provides information regarding the challenges and strategies of instruction teachers in physical education faced in the years following the pandemic. Physical education teachers have been presented with limitations in their ability to assign performance assignments to students due to adhering to the COVID-19 guidelines. Teachers had to relearn the material, which helped them become more proficient teachers. Finding their best practices and strategies for instruction in the post-pandemic is made possible through recognizing these strategies. For physical education teachers, developing a capability-building program could start with identifying the challenges while progressing toward overcoming their challenges. In instructional delivery in physical education, a holistic strategy needs to be established, and superior programs in the face of the pandemic, due to the study's emerging themes, need to be provided.

2. Methods

The study used a qualitative research design employing a phenomenological approach. Qualitative research methods, such as interviews, surveys, and focus groups, will be used to collect data and analyze the perspectives of experts in the field (Hennink *et al*. 2019). To gather responses from the participants, the research employed Focus Group Discussions (FGD) to explore and gain a thorough understanding of the phenomena. As reiterated by Nyumba *et al.* (2018), Focus Group Discussions (FGDs) are a valuable tool for examining participants' attitudes, beliefs, and perceptions about a specific idea, concept, or service, and it can learn more about the elements influencing participants' viewpoints. Interview guide questions were used to help the participants gain a more profound knowledge of the phenomenon.

2.1. *Participants and Sampling*

Ten teachers conducted the study in one of the secondary schools. Purposive sampling was used to choose the participants of the study. Purposive sampling is a method of selecting participants for an analysis based on specific characteristics relevant to the research (Campbell *et al*., 2020). The study used by PE teachers aims to explore the challenges, coping strategies, and approaches to delivering instructions. This would give the researcher a better understanding of the studied issues and provide more meaningful results.

2.2 *Instrumentation*

An interview guide is a tool used to interview participants studying food technology, and the interview questions will be approached in an organized manner. An interview guide was used to extract details about the experiences of PE teachers in terms of challenges and strategies employed in the post-pandemic era. The researcher utilized the interview guide to guarantee that the same questions were asked of each participant in the same order and that the replies were accurately recorded. The comments of the participants were recorded on audio, with their permission. Once the replies have been coded and themes created by the participants using an intercoder, the responses can be examined in further detail to learn more about the students' perspectives on the topic. Experts were used to validate the research questions.

2.3   Data Gathering and Analysis

The data gathering and analysis using interviews with the respondents involve the following steps:
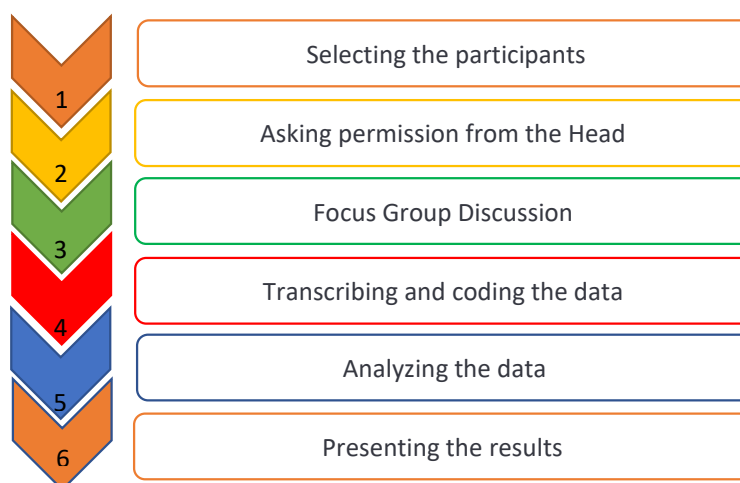

Figure 1. The Data Gathering and Analysis

The researcher followed a set of guidelines to ensure that the study was carried out orderly and systematically. Initially, the researcher required permission to conduct the study. Subsequently, the study aimed to inform the participants about the study's purpose and the focus group discussion (FGD) agenda, which was carried out through face-to-face collegial interactions. The participants also received a consent form, which ensured that strict confidentiality policies would be followed in the research and that all data and outcomes would be kept confidential. An audio interview was also conducted with their permission to record the participants' responses. After the responses were received, coding and transcription were done to find the themes that emerged from the study. After everything is finished, the data is examined. The findings will be presented to the participants to help create a program.

2.4   Ethical Consideration

The researcher takes ethics into account. No conflict of interest exists in the study, and all participant replies and information are kept confidential and anonymous. These investigators guarantee that specialists validate and supervise each phase of the investigation. The findings will be communicated to the participants following the collection of replies and interpretation of the data.

3.   Results and Discussion

3.1   Teaching Strategies in Instructional Delivery in a post-pandemic era

Based on the findings, two themes emerged in the study: *technology-based instructions, differentiated teaching strategies*

Table 1. Thematic Analysis of Teachng Strategies by PE Teachers in the Post-Pandemic Era

Themes	Statements
Technology-Based Instructions	P1: *Using technology to provide instructions is an excellent teaching method. This is where the best example of ICT integration in instruction delivery using readily available gadgets and presentations is found."* P2: *Using technology in the classroom is one of the most efficient ways to capture students' attention in the new educational norm, which is a return to the contemporary world of protocol-following instruction. Students will be more imaginative since they have become used to the visuals, audio recordings, and pictures they encounter while learning about the pandemic."* P3: *My use of technology to deliver learning and teaching methodologies has been beneficial by getting the students' attention through technology-based instructions.* P4: *Upon gradually returning to school, I realized that one of the things I needed to consider was how I might teach my class effectively. Specifically, I thought about teaching tactics. Planning and developing instructional resources that will support students' learning is more accessible for me when I consider their interests and level of participation*
Differentiated Teaching Strategies	P5: *Teachers can better accommodate these differences using various instructional strategies."* P6: *As teachers, we are responsible for assisting students in adjusting to the contemporary learning environment. Designing more inclusive, effective, and culture-based educational strategies that engage students when one knows how to adapt to their interests is easier.* P7: *Technology has aided me in delivering my teaching and learning methods. It simplified things and helped to gain the pupils' attention.* P8: *Differentiated instruction helps students discover their strengths and areas for improvement while unlocking their mistakes.* P9: *Apart from using technology, offering diversified activities through various teaching styles is essential to the most effective and efficient engagement in student learning.* P10: *Allowing students to collaborate to identify answers to real-world issues allows them to explore and engage with the learning process rather than just being passive listeners or learners.*

Every school has developed a strategy for using technology to interact with every student. It functions as a medium for online delivery of instruction as well as a tool for communication with

students in a technologically advanced setting. Estrellado (2021) affirms that curriculum managers should be forward-thinking in their strategies in delivering instructions as an essential curriculum from basic and higher education institutions should be recalibrated. According to the study of Ng and Lo (2022), the COVID-19 pandemic has forced teachers to switch from traditional classroom instruction to entirely online teaching and learning methods. This serves as an avenue for relearning, upskilling, and retooling teaching strategies. As shared by P1 and P2:

"Using technology to provide instructions is an excellent teaching method. This is where the best example of ICT integration in instruction delivery using readily available gadgets and presentations is found."

"Using technology in the classroom is one of the most efficient ways to capture students' attention in the new educational norm, which is a return to the contemporary world of protocol-following instruction. Students will be more imaginative since they have become used to the visuals, audio recordings, and pictures they encounter while learning about the pandemic."

Based on the responses, physical education teachers can improve the assistance level they provide students by utilizing technology and ICT integration. As a result, adding it can offer an all-encompassing strategy for autonomous learning. As to the study of Cicco (2022), the pandemic provided a basis for an individual to be significant in instructional strategies and methods. In the present realm of instruction delivery, reflection is essential to innovation. Encouraging students to reach their full potential is made possible by adjusting to changing trends in educational services. Technology integration is a platform for delivering quality education services in the post-pandemic era. As mentioned by P4 and P6:

"Upon gradually returning to school, I realized that one of the things I needed to consider was how I might teach my class effectively. Specifically, I thought about teaching tactics. Planning and developing instructional resources that will support students' learning is easier for me when I consider their interests and level of participation."

"It is our responsibility as teachers to assist students in adjusting to the contemporary learning environment. It is easier to design more inclusive, effective, and culture-based educational strategies that engage students when one knows how to adjust to their interests."

Technology was being incorporated into education delivery even before the pandemic. As a result, the opinions of the physical education teachers demonstrated the complexity of the instruction in physical education. Reaching the curriculum's stated goals has been simpler thanks to technology-based instruction, and since physical education teachers are adaptable, they have all been creative in how they offer lessons. Before the pandemic, Tahir *et al*. (2022), the educational system used technology to deliver technology-based instruction that catered to students' individual learning preferences and learning processes. With the current study, this is an adequate response to the current educational environment that shapes each student's knowledge. Offering more diverse teaching tactics can be done more quickly and effectively with the help of technological integration.

Moreover, Peters *et al*. (2020) emphasize that teachers are the ones who determine how well an individual learns. Even if a pandemic strikes, education should continue. Instead, turn these difficulties into your strengths (Gaur *et al.* (2020) by understanding and adept use of technology. Students will get differentiated education to increase their engagement level in the classroom despite the changes made during the pandemic. As added by P5:

"Teachers can better accommodate these individual differences using various instructional strategies."

Technology was being integrated into how education was delivered even before the epidemic. Consequently, the teacher's responses quantified and demonstrated the complexity involved in instructing in physical education; as Singh *et al*. (2021) state, it is a comprehensive educational program that appeals to students' interests on several levels, regardless of what learning needs to continue. Teachers are responsible for developing teaching strategies to create a more dynamic and conducive learning environment (Megahed *et al*. 2022). This is because they are facilitators of learning who continue to guide the learners. Students will study with greater freedom and be able to reach their full potential if teachers use varied teaching strategies.

Furthermore, Zawacki-Richter (2022) emphasizes that technological integration is vital to facilitating these instructional strategies. Also, this was strengthened in the study by Wang et al., (2021) integration needs to be deliberate and well-thought-out. However, how will it serve its purpose for the teachers with challenging experiences in instructional delivery. As Culajara (2023) reiterates, professional development should be prioritized and given importance in improving instructional delivery. Likewise, Zancajo *et al*. (2022) state that acceptance and appropriate behavior are required on the learning platform. Teachers should, therefore, be the first to adopt acceptance and change to provide high-quality education services, particularly instructional delivery. Moreover, Zhu *et al*. (2022) state that new habits and adjustments to teaching methods and approaches have been brought about by change, especially in the post-pandemic recovery era.

In the post-pandemic period, this emphasizes technology-based instruction and differentiated teaching tactics through efficient and effective teaching strategies. This will help to solidify the 21st-century adaptation of the student's innate learning capacities and skills in physical education programs. It is also a productive approach to creating and adjusting instructional tactics based on the growth and aptitude of individual students. As a result, teachers will be more committed to offering personalized education using technology and will have access to additional learning channels.

3.2   Challenges experienced by teachers in instructional delivery in the post-pandemic era
Based on the findings, two themes emerged in the study: socio-emotional preparedness and engagement of students.

Table 2. Thematic Analysis of Challenges in Instructional Delivery in the Post-Pandemic Era

Themes	*Statements*
	P1: *Getting the students' attention was one of my difficulties. Their two years of home cxonfinement had made their engagement somewhat different.*

Socio-emotional preparedness	P2: *Focus, attention, retention, and readiness on the shift of face-to-face learning and teaching.* P3: *You must anticipate from your students any obstacles or difficulties that might prevent them from receiving high-quality education before they return to class. The socio-emotional readiness of the kids was one of the difficulties I faced. Since they were confined to their homes, they must reevaluate their preparedness and adaptation to the new circumstances when receiving orders."* P4: *their preparedness to gradually adjust to the new learning style due to their return to in-person instruction. In terms of how I educate and provide learning to the kids, one of my problems is attending to their social and emotional needs.* P5: *Getting the attention of the students and their emotional ability since I am not aware of handling mental health issues or concers.*
Engagement of students	P6: *Challenges in instructional delivery were getting the attention of the students through collaboration since there is still a pandemic and safety protocols that can lead to limited physical activity.* P7: *One problem I encountered was student involvement. The fear of the virus causes students and teachers to think about safety measures to reduce harm more when they engage in a performance task since their actions and activities are restricted."* P8: *Because every student adjusts to their surroundings at a different pace, teachers must interact with students and explore their socioemotional development. In addition to safety concerns, students' limited learning and attention spans make it difficult for them to participate fully in various performance tasks."* P9: *Class schedule, protocols, students' interest and engagement, and adjusting to the new normal were some challenges I have experienced.* P10: *In my physical education class, I faced problems related to student engagement and social and emotional acceptability. Absence of student participation stemmed from their two years of involuntary confinement to use devices for learning, despite extensive interaction during the teaching and learning process."*

As to the study of Silvhiany (2022), Covid-19 has affected the instructional delivery. ICT-integrated education requires accessibility for students and the proper online learning environment. However, Tadesse and Muluye (2022) propose that COVID-19 has significantly changed in various areas and impacted the education sector. Challenges were evident in the delivery of instruction (Jandrić *et al.* (2020). Teachers were progressively adopting parts of the shift to online learning and employed these challenges as a guide to ascertain their next steps and to encourage lifelong learning. As shared by P3:

"You must anticipate from your students any obstacles or difficulties that might prevent them from receiving high-quality education before they return to class. The socio-emotional readiness of the kids was one of the difficulties I faced. Since they were confined to their homes, they must reevaluate their preparedness and adaptation to the new circumstances when receiving orders."

There will be adjustments and modifications to teaching tactics and engaging students' attention in a more dynamic learning environment because of the two years of seclusion at home. According to the physical education teachers' response, the difficulties were used as teaching opportunities to help them dive deeper into instruction and learning in the post-pandemic age. The study of Henadirage and Gunarathne (2023) emphasizes that schools must support teachers to become more experienced

and knowledgeable in the areas of online classroom instruction and assessment, as well as students to show that they are focused, responsible, and committed to the advantages of distance learning. Added by P7 and P9:

"One problem I encountered was student involvement. The fear of the virus causes students and teachers to think about safety measures to reduce harm more when they engage in a performance task since their actions and activities are restricted."

"Class schedule, protocols, students' interest and engagement, and adjusting to the new normal were some challenges I have experienced. "

Managing students' mental health and concerns appropriately, particularly about their socio-emotional readiness during instruction, is a worry shared by all teachers. A physical education teacher's ability to carry out duties and fulfill roles in providing high-quality services will be aided by adhering to procedures and criteria in instructional delivery. Furthermore, Nadlifah *et al.* (2022) add to our understanding of the subject and offer illustrations of how teachers may promote students in their social and emotional growth. As added by P8:

"Because every student adjusts to their surroundings at a different pace, teachers must interact with students and explore their socioemotional development. In addition to safety concerns, students' limited learning and attention spans make it difficult for them to participate fully in various performance tasks."

There were obstacles to teachers providing instructions (Corcuera & Alvarez 2021). As a result, teachers develop resilience and persevere in providing instruction with a goal. Teachers' use of technology integration is considered when teaching is elevated by online and blended learning, evaluating students' self-belief, positive mental attitudes, and emotional learning components. Benedetto and Ingrassia (2021) it is the duty of teachers to modify and advance their pedagogical approaches since they are the primary agents of learning. To create a dynamic and supportive learning environment, this adaptability is essential. As shared by P10:

"In my physical education class, I faced problems related to student engagement and social and emotional acceptability. Absence of student participation stemmed from their two years of involuntary confinement to use devices for learning, despite extensive interaction during the teaching and learning process."

As teachers, we are responsible for observing every emotion and feeling each of our students experiences to help them become more deeply involved in and proficient in their studies. The interaction between teaching and learning will be improved with appropriate behavior and attitude. Support groups and systems are essential for students' present learning when they return to their new standard of instruction (Pelletier et al. 2020). Teachers deal with instruction in a variety of social situations. Students' social-emotional development depends significantly on interpersonal relationships and interaction (Srivastava et al. 2022). Watts and Pattnik (2022) claim that even though students suffered a significant loss in academic achievement following the post-pandemic.

It was essential to succeeding in the difficulties associated with instructional delivery, notwithstanding the difficulties. Students will be more engaged in adhering to the COVID-19 protocols with the help of the present support system. Another strategy for overcoming obstacles is to use a holistic approach to teaching that addresses each student's unique emotional, social, mental, and physical needs. Every school has created a way to engage with every student through technology. It is a communication tool and a conduit for educating students in a trim technological environment through online delivery. There were obstacles to teachers providing instructions. As a result, educators develop resilience and persevere in providing instruction with a goal.

3.3 *Capability Building Program for PE Teachers*

Based on the study's conclusions, there were four emerging themes: socio-emotional preparedness, engagement of students, technology-based instructions, and differentiated teaching strategies. The new educational standards have changed how PE teachers interact with their students. By providing them with professional development, opportunities for upgrading their skills, and academic improvement programs, the Capability Building Program seeks to support physical education teachers in their teaching and learning processes.

Social-Emotional Preparedness. Provide teachers training on their competence in handling diversity and individualized socio-emotional preparedness to adapt students' readiness to slowly return to the new normal of education from the confinement at home.

Engagement of students. Encourage teachers to use project-based learning to get to know each student personally. Enhance teachers' abilities to deliver instruction by having them participate in professional learning communities. Thus, challenges became an avenue for improving the way teachers deliver instructions in the post-pandemic era.

Technology Integration. Provide an Individualized Development Plan (IDP) and Mentorship Program in addition to upskilling technological skills and capabilities of teachers in adapting and delivering instruction using technology. The use of technology to offer education should be adopted and encouraged as we go toward progress and development. Teachers need to develop their abilities to use and adapt 21st-century skills to provide a more inclusive and accessible learning environment for all students as they adjust to the constantly changing landscape of education.

Differentiated teaching strategies. Teachers must integrate research into their instruction and receive technical support related to research to help them be more resolute and committed to providing differentiated instruction that addresses inequality and inclusivity. Through Professional Learning Community (PLC) and Focus Group Discussion (FGD), there is increased sharing of best practices in teaching processes, and teachers are better prepared to adapt to the constantly changing educational landscape through Research-Based Teaching pedagogies.

4. Conclusion

Individual conscious of strength and capacity to keep progressing in personal or professional growth and development may encounter opportunities and challenges in daily activities. This study aims to understand and discover more about the challenges and strategies for instruction faced by physical education teachers. The following conclusions were made in light of the findings: (1)

teachers of physical education have shared that differentiated teaching strategies and technology-based instruction work well to give students more dynamic learning experiences and more efficient learning; (2) teachers in physical education faced difficulties when it came to students' socio-emotional preparedness and engagement.

Teachers can adapt their methods and stay current with 21st-century teaching and learning developments by taking advantage of the challenges and instructional strategies. Thus, using technology would greatly benefit students' work, performance, and independent study. It would be preferable if there were a means to give the students individualized, customized instruction using the teaching strategies to equip them for more student-centered learning. There will be more significant opportunities for advancement in providing high-quality educational services once the post-pandemic teaching methodologies and obstacles are understood. Given that education is a constant in our world and will only continue to change, this is a helpful doorway of opportunity to improve and elevate the quality of teachers. In the post-pandemic age, it seeks to illustrate the complexities faced by physical education teachers. There will be more chances to progress in offering high-quality educational possibilities with an awareness of the difficulties in education and the strategies for instruction encountered in the post-pandemic age.

5. References

Benedetto, L., & Ingrassia, M. (2021). Digital Parenting: Raising and protecting children in media World. In *IntechOpen eBooks*. https://doi.org/10.5772/intechopen.92579.

Campbell, P. (2020). Rethinking professional collaboration and agency in a post-pandemic era. *Journal of Professional Capital and Community*, *5*(3/4), 337–341. https://doi.org/10.1108/jpcc-06-2020-0033.

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: complex or simple? Research case examples. *Journal of Research in Nursing*, *25*(8), 652–661. https://doi.org/10.1177/1744987120927206.

Cicco, G. (2022). Higher education in a "post" - pandemic era: lessons learned for faculty and administration. *I-Manager's Journal of Education Technology*, *19*(1), 1. https://doi.org/10.26634/jet.19.1.18891.

Corcuera, L., & Alvarez, A. V. (2021). Teacher's roadblocks in the time of quarantine teaching. *International Journal of Social Sciences and Education Research*, *7*(4), 427–434. https://doi.org/10.24289/ijsser.1003162.

Culajara, C. J. (2023). Improving teachers' professional development through School Learning Action Cell (SLAC). *ojs.upsi.edu.my*. https://doi.org/10.37134/jrpptte.vol13.1.6.2023.

Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I. D., Duan, Y., Edwards, J. S., Gupta, B., Lal, B., Misra, S. K., Prashant, P., Raman, R., Rana, N. P., Sharma, S. K., & Upadhyay, N. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. *International Journal of Information Management*, *55*, 102211. https://doi.org/10.1016/j.ijinfomgt.2020.102211.

Estrellado, C. J. (2021). Transition to Post-Pandemic Education in the Philippines: unfolding insights. *International Journal of Scientific and Research Publications*, *11*(12), 507–513. https://doi.org/10.29322/ijsrp.11.12.2021.p12074.

Gaur, U., Majumder, A. A., Sa, B., Sarkar, S., Williams, A., & Singh, K. (2020). Challenges and Opportunities of Preclinical Medical Education: COVID-19 crisis and beyond. *SN Comprehensive Clinical Medicine*, *2*(11), 1992–1997. https://doi.org/10.1007/s42399-020-00528-1.

Henadirage, A., & Gunarathne, N. (2023). Retaining remote teaching and assessment methods in accounting education: Drivers and challenges in the post-pandemic era. *The International Journal of Management Education*, *21*(2), 100810. https://doi.org/10.1016/j.ijme.2023.100810.

Hennink, M., Kaiser, B. N., & Weber, M. B. (2019). What influences saturation? Estimating sample sizes in focus group research. *Qualitative Health Research*, *29*(10), 1483–1496. https://doi.org/10.1177/1049732318821692.

Hill, C., Rosehart, P., St Helene, J., & Sadhra, S. (2020). What kind of educator does the world need today? Reimagining teacher education in post-pandemic Canada. *Journal of Education for Teaching*, *46*(4), 565–575. https://doi.org/10.1080/02607476.2020.1797439.

Hordósy, R., & McLean, M. (2022). The future of the research and teaching nexus in a post-pandemic world. *Educational Review*, *74*(3), 378–401. https://doi.org/10.1080/00131911.2021.2014786.

Jandrić, P., Hayes, D. L., Truelove, I., Levinson, P., Mayo, P., Ryberg, T., Monzó, L. D., Allen, Q., Stewart, P. A., Carr, P. R., Jackson, L., Bridges, S., Escaño, C., Grauslund, D., Mañero, J., Lukoko, H. O., Bryant, P., Martinez, A. F., Gibbons, A., . . . Hayes, S. (2020). Teaching in the age of Covid-19. *Postdigital Science and Education*, *2*(3), 1069–1230. https://doi.org/10.1007/s42438-020-00169-6.

Jiang, X. (2020). Digital economy in the post-pandemic era. *Journal of Chinese Economic and Business Studies*, *18*(4), 333–339. https://doi.org/10.1080/14765284.2020.1855066 Megahed, N. A., Abdelkader, M. F., & Soliman, H. Y. (2022). Post-pandemic Education Strategy: Framework for Artificial Intelligence-Empowered Education in Engineering (AIED-ENG) for Lifelong Learning. In *Lecture notes on data engineering and communications technologies* (pp. 544–556). https://doi.org/10.1007/978-3-031-03918-8_45.

Nadlifah, N., Kirana, E. R., & Puspawati, D. (2022). Early Childhood's Dynamics of Socio-Emotional Development: COVID-19 Pandemic vs Post COVID-19 Pandemic. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, *7*(2), 77–88. https://doi.org/10.14421/jga.2022.72-03.

Nyumba, T. O., Wilson, K. A., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution*, *9*(1), 20–32. https://doi.org/10.1111/2041-210x.12860.

Pelletier, J., Houle, J., Goulet, M., Juster, R., Giguère, C., Bordet, J., Hénault, I., Lesage, A., De Benedictis, L., Denis, F., & Ng, R. M. K. (2020). Online and Recovery-Oriented Support Groups facilitated by peer support Workers in Times of COVID-19: Protocol for a Feasibility Pre-Post Study. *JMIR Research Protocols*, *9*(12), e22500. https://doi.org/10.2196/22500.

Peters, M. A., Wang, H., Ogunniran, M. O., Huang, Y., Green, B., Chunga, J. O., Quainoo, E. A., Ren, Z., Hollings, S., Mou, C., Khomera, S. W., Zhang, M., Zhou, S., Amina, L., Zheng, W., Xu, R., Jackson, L., & Hayes, S. (2020). China's Internationalized Higher Education during COVID-19: Collective Student Autoethnography. *Postdigital Science and Education*, *2*(3), 968–988. https://doi.org/10.1007/s42438-020-00128-1.

Rapanta, C., Botturi, L., Goodyear, P., Ortiz, L. G., & Koole, M. (2020). Online university teaching during and after the COVID-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, *2*(3), 923–945. https://doi.org/10.1007/s42438-020-00155-y.

Rapanta, C., Botturi, L., Goodyear, P., Ortiz, L. G., & Koole, M. (2021). Balancing technology, Pedagogy and the new normal: Post-pandemic Challenges for Higher Education. *Postdigital Science and Education*, *3*(3), 715–742. https://doi.org/10.1007/s42438-021-00249-1.

Sari, R. R., Syarofah, A., & Mubarok, H. (2021). Creative Teaching model for second language learning in the Post-Pandemic Era. *Izdihar*, *4*(3), 353–362. https://doi.org/10.22219/jiz.v4i3.18354.

Shah, S., Diwan, S., Kohan, L., Rosenblum, D. S., Gharibo, C., Soin, A., Sulindro, A., Nguyen, Q., & Provenzano, D. (2020). The technological impact of COVID-19 on the future of education and health care delivery. *Pain Physician*, *4S;23*(8;4S), S367–S380. https://doi.org/10.36076/ppj.2020/23/s367.

Silvhiany, S. (2022). Indonesian Teachers' professional development Practices and needs in post Pandemic education. *VELES (Voices of English Language Education Society)*, *6*(1), 215–232. https://doi.org/10.29408/veles.v6i1.5265.

Singh, J., Evans, E., Reed, A., Karch, L., Qualey, K., Singh, L., & Wiersma, H. (2021). Online, hybrid, and Face-to-Face Learning through the eyes of faculty, students, administrators, and instructional designers: Lessons Learned and Directions for the Post-Vaccine and Post-Pandemic/COVID-19 World. *Journal of Educational Technology Systems*, *50*(3), 301–326. https://doi.org/10.1177/00472395211063754.

Srivastava, A., Maheshwari, D., & Dwivedi, A. (2022). Psychological and Socio-Emotional impacts of the COVID-19 pandemic on school children. In *Advances in educational technologies and instructional design book series* (pp. 117–131). https://doi.org/10.4018/978-1-7998-8298-5.ch007.

Tadesse, S., & Muluye, W. (2020). The Impact of COVID-19 Pandemic on education system in Developing Countries: A review. *Open Journal of Social Sciences*, *08*(10), 159–170. https://doi.org/10.4236/jss.2020.810011.

Tahir, I., Van Mierlo, V., Radauskas, V. J., Yeung, W., Tracey, A., & Da Silva, R. (2022). Blended learning in a biology classroom: Pre-pandemic insights for post-pandemic instructional strategies. *FEBS Open Bio*, *12*(7), 1286–1305. https://doi.org/10.1002/2211-5463.13421.

Wang, Q., Su, M., Zhang, M., & Li, R. (2021). Integrating digital technologies and public health to Fight COVID-19 Pandemic: Key technologies, applications, challenges and outlook of digital healthcare. *International Journal of Environmental Research and Public Health*, *18*(11), 6053. https://doi.org/10.3390/ijerph18116053.

Watts, R., & Pattnaik, J. (2022). Perspectives of parents and teachers on the impact of the COVID 19 pandemic on children's Socio-Emotional Well-Being. *Early Childhood Education Journal*. https://doi.org/10.1007/s10643-022-01405-3.

Wiederhold, B. K. (2020). Connecting through technology during the coronavirus disease 2019 pandemic: Avoiding "Zoom Fatigue." *Cyberpsychology, Behavior, and Social Networking*, *23*(7), 437–438. https://doi.org/10.1089/cyber.2020.29188.bkw.

Yan, L., & Qi, W. (2021). Construction of language Teachers' professional competence in Education for sustainable development in higher education for post-pandemic era. *Journal of Language Teaching and Research*. https://doi.org/10.17507/jltr.1202.12.

Zancajo, A., Verger, A., & Bolea, P. (2022). Digitalization and beyond: the effects of Covid-19 on post-pandemic educational policy and delivery in Europe. *Policy and Society*, *41*(1), 111–128. https://doi.org/10.1093/polsoc/puab016.

Zawacki-Richter, O. (2020). The current state and impact of Covid-19 on digital higher education in Germany. *Human Behavior and Emerging Technologies*, *3*(1), 218–226. https://doi.org/10.1002/hbe2.238.

Zheng, H., Xie, Z., & Wang, J. (2020). Investigation and research on college teachers' attitudes towards online teaching in post-pandemic era. *Journal of East China Normal University (Educational Sciences)*, *38*(7), 54–64. https://doi.org/10.16382/j.cnki.1000-5560.2020.07.004.

Zhu, Y., Geng, G., Disney, L., & Pan, Z. (2022). Changes in university students' behavioral intention to learn online throughout the COVID-19: Insights for online teaching in the post-pandemic era. *Education and Information Technologies*, *28*(4), 3859–3892. https://doi.org/10.1007/s10639-022-11320-0.