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by Tempe Zoki

Original Article

CHALLENGE AND BARRIERS: TEACHER REFLECTION ON TEACHING PHYSICAL EDUCATION AND SPORTS DURING COVID-19 PANDEMIC

DESAFIOS E BARREIRAS: REFLEXÕES DOCENTES SOBRE O ENSINO DA EDUCAÇÃO FÍSICA E ESPORTES DURANTE A PANDEMIA DE COVID-19

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RESUMO

A pandemia de covid-19 em alguns países foi declarada encerrada. As atividades de aprendizagem começaram a ser transferidas presencialmente, como antes. Porém, o aprendizado online que durou quase 2 anos certamente deixou lembranças inesquecíveis. Durante a pandemia, os professores de educação física (EF) tornaram-se um dos que mais sentiram o forte impacto do ensino online. O objetivo deste estudo é explorar a experiência de ensino online de professores de EF. A variável desta pesquisa são as dificuldades percebidas pelos professores de EF ao ministrarem das aulas durante a pandemia. Esta pesquisa é uma pesquisa qualitativa que utiliza um desenho de análise narrativa. Um total de 8 professores de educação física do ensino fundamental e médio estão envolvidos no estudo. Realizamos entrevistas semiestruturadas para explorar as experiências dos professores durante o ensino online na era da pandemia. A experiência contida neste artigo está relacionada com problemas que são comumente encontrados pelos professores na Indonésia ao implementarem a aprendizagem online. Argumenta-se que a maioria dos problemas origina-se do lado do aluno. No entanto, os professores também admitiram que criaram desvantagens na aprendizagem on-line através de limitações nas competências informáticas, no design de aprendizagem e limitada adaptação na migração do curso de off-line para on-line. Esta investigação pode então ser utilizada por professores e partes interessadas para maximizar a aprendizagem em antecipação à possível pandemia que se aproxima..

Palavras-chave: Aprendizado online. Educação física. Reflexão docente. Pandemia

ABSTRACT

The covid-19 pandemic in some countries has been declared over. Learning activities began to be transferred face-to-face as before. However, online learning that lasted for almost 2 years certainly left unforgettable memories. During the pandemic, physical education (PE) teachers have become one of those who feel the heavy impact of teaching online. The objective of this study is to explore the online teaching experience of PE teachers. The variable on this research is the difficulties perceived by PE teachers while delivering lesson during pandemic. This research is qualitative research that uses a narrative analysis design. A total of 8 PE teachers from junior and senior high school is being involved in the study. We delivered semi-structured interviews to explore the experiences of teachers during online teaching in the pandemic era. The experience contained in this article is related to problems that are commonly encountered by teachers in Indonesia when implementing online learning. It is argued that most problem are coming from student's side. However, they admitted that teacher also set drawbacks on online learning through limitations on computing skill, poor learning design, and low adaptation on migrating the course from offline to online. This research has the potential to help identify crucial strategies for utilizing ICT and digital technologies in blended teaching settings.

Keywords: Online Learning. Physical Education. Teacher Reflection. Pandemic

Introduction

The internet has caused disruption in the traditional education model. It has broken barriers and boundaries, made educational resources more accessible to people all over the world, and has enabled new, innovative approaches to teaching and learning. With the internet, it is possible to take online courses, access educational materials, and collaborate with other learners from anywhere in the world. The prevalence of information and communication technology in today's world has led to the emergence of online learning. Online learning allows students and educators to connect virtually, eliminating the need for physical meetings[1]. This form of education relies on computers, laptops, mobile phones, and internet connectivity to facilitate visual interactions and

exchange of information[2,3]. The concept of online learning originated in 1995 with the introduction of website-based technology, specifically the first learning management system (LMS) known as WebCT. Since then, online learning has steadily expanded alongside advancements in information and communication technology. However, the true significance of online learning came to the forefront during the Covid-19 pandemic in 2019. As the virus spread rapidly, online learning became the primary alternative to traditional education due to its potential to mitigate transmission risks. The World Health Organization (WHO) declared Covid-19 a pandemic as it rapidly infected millions of people across more than 200 countries worldwide [2,3,4]. As a response to the highly contagious nature of the virus, government authorities implemented regulations requiring students to engage in remote learning. This decision was driven by the understanding that students and teachers are among the susceptible groups at risk of contracting Covid-19. Consequently, face-to-face learning activities were suspended in schools, and online learning from home was adopted instead. The abrupt transition to the online learning system posed challenges for both teachers and students, as they had to adapt to this new mode of education[2,4,5].

Physical education (PE) is a compulsory subject within the primary and secondary education curriculum, and it is also required to be conducted through online learning from home[6]. PE is a subject that primarily involves practical activities, requiring strong communication between teachers and students to ensure the development of necessary skills and competencies[7]. PE has the objective of promoting physical fitness, healthy habits, and an appreciation of physical activity. Students learn about the importance of exercise, nutrition, and overall wellness, and are provided with opportunities to engage in physical activity in a safe and supportive environment. Therefore, improve student's physical literacy that could guide them toward a lifelong active lifestyle[8]. PE classes in schools often cover a range of topics related to physical fitness and health. There are practicum material including ball games such as basketball, football, and volleyball, cardiovascular exercise, and strength exercise. Despite of having practicum session, students in PE class also being thought with some theoretical lesson, for example, importance of stretching, hydration, drug abuse and proper nutrition for maintaining a healthy lifestyle. Physical education is philosophically interpreted as an effort to harmonize the needs of mind and body through physical activity and sports[9]. Ultimately, the primary goal of physical education is to foster the development of physical fitness, motor skills, and a comprehensive understanding of hygiene and healthy lifestyle practices[2,10].

Online learning refers to the use of the internet to access educational resources and opportunities. It includes taking online courses, participating in webinars and virtual classrooms, and accessing educational materials and resources remotely. Online learning facilitates synchronous and asynchronous communication during class activity between students and teachers[11,12]. Online learning, also known as e-learning, has revolutionized the field of education. The progress in information and communication technology has introduced innovative trends in educational practices, utilizing computers, laptops, and smartphones along with reliable internet connectivity for educational purposes. The concept of e-learning originated in the mid-1990s, coinciding with the advent of the World Wide Web. Essentially, online learning provides flexibility for both educators and learners as it transcends the limitations of physical space and time. This adaptability is particularly pertinent to the demands of the globalization era[2].

The Covid-19 pandemic has compelled the adoption of online learning throughout Indonesia. Given the health emergency situation, teachers and students have been left with no alternative but to engage in online education[2]. The potential risks of virus transmission have necessitated that both teachers and students become proficient and familiar with online learning methods[13,14]. While online learning has been extensively implemented in certain nations, the influence of Covid-19 has expanded its reach to developing countries like Indonesia. Teachers in both public and private schools are required to transition from traditional face-to-face teaching

methods to remote learning utilizing online platforms. This situation applies to teachers of all subjects, including physical education (PE) instructors in primary and secondary schools[2].

The COVID-19 pandemic has presented a major challenge to physical education teachers. The challenges faced in physical education (PE) are distinct from those encountered in other subjects. Under normal circumstances, PE learning requires strong communication between teachers and students. Teachers play a vital role in delivering explanations, demonstrations, and providing feedback, while students enhance their motor skills through supervised physical movements demonstrated directly in front of the teacher[15]. However, due health emergency situation, face-to-face interaction is no longer possible. PE teachers had no option but to adapt to the current situation. Some teachers have turned to virtual physical education classes, which allow students to participate in exercise routines and other physical activities from home. Other teachers have provided students with exercise videos and other resources to use on their own. Despite these efforts, there is still concern over the impact that the pandemic may have on students' physical fitness and overall health. According to Syaukani et al.[2], they highlighted that the persistence of such a situation could lead to a decline in educational standards. To address this, teachers should enhance their skills in designing, executing, and assessing learning outcomes for online physical education classes, alongside the improvement of supportive resources. This is crucial to ensure the effectiveness of online PE instruction[2].

Year of 2022 is the beginning of the end of the pandemic. The increasing number of the global population who receive vaccines is one that contributes to reducing the rate of viral infections in late 2021 to early 2022[16]. Currently, many countries have changed the status of the pandemic to endemic, which means gradually restoring the order of people's lives as before, including returning students to school to participate in face-to-face learning. Although face-to-face learning has been carried out in several countries, readiness for the emergence of future pandemics must always be maintained[17].

Currently, there have been many studies that review the difficulties of teachers in teaching online during the pandemic[2,13,18–20]. However, only few studies reported teaching issues specifically to PE teachers during the pandemics. One of a few studies reported that online PE classes are ineffective to create student engagement[21]. That because teacher ideally is giving direct instruction in the field to make students understand concept motion and play. In pandemic situation that almost impossible because teacher and student were instructed to stay at home. Finally, this research is intended to be a complement to the study of teaching in post-pandemic situations, especially in the domain of physical education and sports. The purpose of the study is to clearly illustrate the challenges and problems faced by PE teachers while conducting online PE classes. Furthermore, this research can be useful for teacher to improve their ability to conduct online teaching. Through this study, PE teacher can get practical relevance by mitigate problems that might occurred during fully online or blended teaching.

Methods

This research uses a narrative inquiry approach. Narrative inquiry highlights an interpretive thrust. Interpretive research aims to develop understanding of how meaning emerges and is used by people in particular situation. This involves the use of stories or life narratives, first person accounts of experiences[22]. The approach discovers how people create meanings through stories by interpreting their texts. In this study, the discursive repertoires on the barrier and challenges while teaching online as expressed in teacher stories are understood to be composed of the 'content' of teacher reflection during covid-19 pandemic.

Participants
Eight PE teacher participated in this study. They were recruited using convenience

sampling. Assuming that five year working experience should make teacher understand their working nature, in this study only teacher with at least five-year experience were recruited. Out of eight participants, five participants were senior high school PE teacher, and three participants were giving their service at junior high school. All participants were coming from different schools but still in the same region which located in Central Java province, Indonesia. There are two high school and four junior high school that provided its teacher for this study. Schools participated in this study were all public schools. Researchers explained that participation would not entail extra work nor benefit their income. We also guarantee that their participation will not affect their relationship with students and headmaster. Moreover, researchers explained that their anonymity would be protected. All of them accepted to participate and signed consent forms. The study was approved by the ethics committee of Universitas Muhammadiyah Surakarta (register number 111.2/A3-III/LPPM/VI/2021)

Sampling Procedures

Non-probability sampling in form of purposive sampling is used to determine the participants in this study. This technique was chosen to make sure that participants were selected under criteria set by the researcher. The criteria set include participants are PE teachers who have at least 5 years of teaching experience, participants have full experience in teaching online during the pandemic (2020-2022), participants are willing to provide true information through the signing of inform consent provided by researchers.

Research Instruments

Semi-structured interviews were used as the tool to collect data from the participants. The interview was conducted face-to-face on a one-on-one basis with every participant doing interview in separate places. Each interview approximately lasted for 45 minutes. The interview topics raised include several problems that are commonly faced by teachers when carrying out online learning. The topic was developed from the results of previous studies. The topics of question include working from home (WFH) during pandemics, ICT literacy skills, online teaching infrastructure, institution support, teaching plans, and student response. The topic is then compiled into a list of open-ended questions.

Table 1. List of research participants

Pseudonym	Gender	Age (y.o)	Teaching experience
Sumanto	M	52	≥10
Herman	M	48	≥10
Dewi	F	47	≥10
Indah	F	38	≥5
Wahyu	M	35	≥5
Bagus	M	33	≥5
Anas	M	29	≥5
Doni	M	29	≥5

Note: *M* = Male, F = Female; y.o=years old
Source: authors

Design and Data Analysis Procedures

Interviews and conversations were immediately analyzed after they were completed. The interviews were transcribed verbatim, printed into hardcopies, and a first reading was made to identify areas of interest. Codes were assigned to the interviews after first read. Regular meetings with the research group and peers with experience in qualitative research were organized to discuss

topics, questions and analyses, and areas of interest to increase trustworthiness during the data gathering and analysis process. Notably, the study's results were shared with participants in the following sessions, where they were expanded on, corrected for accuracy and intent, and sharpened for purpose.

Results

The data produced in this study revealed the experience of PE teachers during teaching in the pandemic era. The data is displayed by citing the results of interviews conducted with each participant. All names displayed in this section are pseudonyms to maintain the confidentiality of the identities of the participants. The results shown in this section explore several things, including teacher routines while teaching from home (WFH), ICT literacy skills, online teaching infrastructure, institutional support, teaching plans, and student response.

Teacher reflection on teaching from home during pandemic
Working from home (WFH) is an inseparable part of professional's domain in the pandemic era. Many institutions instruct their employees to do their jobs from home to prevent the spread of viral infections. Teachers are one of the professions that have experienced the teaching from home during the pandemic. For teachers, teaching from home is a big challenge. Moreover, for PE teachers, where the knowledge they teach is mostly practical material that must be accompanied by live demonstration and feedback. This cannot run optimally if teachers carry out learning from home because of several obstacles encountered including teaching infrastructure, working environment, and institutional support.

Teaching infrastructure
Infrastructure needed for online teaching are electricity, ICT hardware, software in form of Learning Management System (LMS), and internet. Regarding electricity, some teacher reported that they sometimes experience power outages during teaching from home. This is quite common in Indonesia where electricity is temporarily cut off due to maintenance and repair. For example, a PE teacher working in junior high school explained that he had electricity cut off during his time teaching:

> When I was teaching suddenly the electricity in my house went out. As a result, I couldn't continue teaching because the internet at my home would go down if there was no electricity. I was forced to finish learning prematurely. (Sumanto, Junior high school teacher)

The same thing will not happen if they teach from school because every school is always equipped with an emergency power station. Therefore, it could survive power outages at any time. There was also low speed internet connection they experienced while teaching from home. One teacher reported that due to his home location is on remote areas, he could not get better access on internet. He only relies on wireless broadband internet from his cell phones which is not reliable, especially during bad weather or power outages:

> During synchronous teaching sessions, the internet network in my house is often interrupted, so many students were complaining about the lag of videos and sound. (Herman, Junior high school teacher)

As for software, there were no bad experience reported by the participants. They think the software has been sufficient to meet their demand. Commonly used software includes WhatsApp, Google Classroom, and Google Meet. This software is well-developed and easy to operate.

Therefore, there is no significant problem for them in the software aspect.

Working environment

Working environment is closely related to working productivity. Working from home is perceived by teachers as unprofitable in terms of the working environment. The most burdensome thing is the phenomenon of role blurring where working from home makes them have a dual role. For male teachers, working from home makes them not only perform the role of a teacher, but also carry out the role of husband and father. For female teachers, working from home makes them also must carry out the roles of mother and wife. With this dual role, often the focus on work becomes reduced and even becomes unproductive. This is according to the testimony of one of the participants:

> I have a toddler child. They have not been able to understand the meaning of working from home. The only thing they know is that if dad is at home, then dad can be invited to play. (Sumanto, Junior high school teacher)

Teacher reflection on ICT literacy skills

ICT literacy refers to the ability to use technology, such as computers, the internet, and mobile devices, to access, analyze, and communicate information effectively. It involves understanding how to use technology tools and resources to solve problems, collaborate with others, and create new knowledge. ICT literacy is becoming increasingly important in today's digital world, as technology continues to play a larger role in many aspects of life and work, including school activity of learning. The factor that distinguishes online learning and offline learning is the presence of ICT technology. This technology enables teacher to conduct teaching remotely. However not all teachers have ICT literacy. Although in this study no one complained about the limitations in ICT literacy, they revealed that at least there were their peers, especially those who were older who found it difficult to operate computers and applications on mobile phones.

> I opened opportunities for my colleagues to learn to operate computers, smartphones, and video design. Most of the time, person who asks to be taught is a senior teacher who is unfamiliar with computers and the Internet. (Indah, Senior high school teacher)

Teacher reflection on online teaching infrastructure

Schools have provided teacher with necessary infrastructure to optimize online learning. However, many still think there are limitations on the Learning Management System (LMS). For example, participants in which the school subscribed or buy a license from the software company, they reported to have more meaningful teaching.

> My school provides LMS that are specifically purchased from service providers. We use a different LMS to most schools. There are 24/7 disruption services provided by service providers. This is very helpful, especially if we experience obstacles or difficulties in operating the LMS. (Wahyu, Senior high school teacher)

In addition to the LMS, they believe that the infrastructure contained in the school is sufficient to support online learning. There is a computer room in each school that can be used at any time by the teacher. Internet access used in schools is fiber optic cable-based internet so that the connection is relatively more reliable, and there is also a gasoline-based emergency power station in school in case for sudden power outage.

Teacher reflection on institutional support

To achieve success in online teaching, educators require support from their institutions. Institutes can provide assistance by providing technology that is supported by the institution, offering relevant training, supplying technical support, and providing clear guidelines for effective online teaching and evaluation. Participants admitted that their institution had given them enough support. For example, their institution regularly send their teacher as school delegation during government-held training for teaching online. It was explained that such training benefits them because it can improve their ability to utilize ICT for online teaching. However, there is still concern over additional budget for teacher to buy internet data. It is recognized that teachers do not always teach from school. Sometimes they conduct teaching from home, meaning that they cannot rely on school Wi-Fi and need to buy internet by themselves.

> When I teach from home, I have to spend money to buy internet data. If only there is attention from schools to provide additional costs for purchasing quotas every month, it will greatly ease the burden on teachers. (Dewi, High school teacher)

Teacher reflection on designing teaching plan during online teaching

The teaching plan is prepared by the teacher to make it easier for him to teach. The teaching plan contains the structure of the material and details in each class meeting. The details include the duration of the meeting, the way the material is presented, and the assessment. Since the pandemic began, dramatic changes have occurred in the physical education class at schools. Students are no longer allowed to attend school due to fear of viral outbreak. PE teachers are forced to adopt online learning system that many has complaining over the following reason: lack of control over students, unable to provide clear explanations during class, unable to provide demonstration of movement, unable to observe and directly assess students' physical skills, and limited communication between students and teachers.

In order to optimize learning amid uncertain situation, teacher is required to adapt with the situation. One of them is by making a teaching plan that is adjusted to the limitations in the pandemic era. Some participants make adjustments on learning content by adding theoretical material and reducing practical learning material.

> I used to teach ball games a lot before the pandemic. During the pandemic I reduce the teaching content for ball games and add teaching content for healthy lifestyle, alcohol and drug abuse, and sex education. (Bagus, Senior high school teacher)

> In my teaching plan, I am no longer giving my student swimming lesson since it is impossible for them to access public swimming pool during pandemic. (Dewi, Senior high school teacher)

Teacher reflection on student's response during online learning

Teachers share their related experiences about students' responses to online learning. All participants admitted that many of their students were not prepared to participate in online learning. There are many limitations in students that eventually make the student's attendance rate and comprehension level in the classroom reduced. Many students complained that the unavailability of access to the internet and smartphones made them unable to take lessons online.

> I found that many of my students did not have smartphones, and because of that it is harder for them to take part in online learning. Eventually, my colleagues and I raised money to buy him a smartphone because he was a smart student but came from low-income family. (Dewi, Senior high school teacher).

Limited access to gadgets made me decide to do a home visit to students to make sure they can still take lessons. (Anas, Senior high school teacher)

Although there are infrastructure limitations found in students, teachers also admit that the learning situation from home makes students lazy and tends to be disorganized. This is due to the lack of control from the family at home.

Discussion

This study gathered information from physical education (PE) teachers regarding the obstacles and difficulties they encountered during the COVID-19 pandemic. Many things raised in this topic have become problems that have not been resolved until now. In this section, researchers want to elaborate findings with relevant theories that could enlighten the problem of online teaching. The hope is that there will be a more comprehensive picture of barriers and challenges faced by PE teachers. Therefore, this study could serve as guidance on the strategy of teachers and stakeholders in the field of education to prepare for possible upcoming pandemics.

The routine of teaching from home is often a phenomenon that is widely encountered during the pandemic. Teacher has no option but to obey the rules to not attending schools. This is solely to keep everyone safe from the onslaught of this deadly virus. The teacher's experience when teaching from home is not as good as the experience of teaching from school. There are various limitations that make teachers unable to provide optimal teaching. Besides, a home working environment is not ideal to support teacher productivity. Especially for those who have young children who can interfere with their working hours at any time.

A strategy that teachers can probably take to overcome this is to organize asynchronous learning. Asynchronous learning is a more flexible learning because it does not require teachers to meet face to face with their students. Teachers can present learning materials that are loaded into the LMS that are used to be accessible to students at any time. The effectiveness of this teaching model only comparable to synchronous teaching if only teachers can ensure the occurrence of three essential aspects in the virtual classroom—teaching presence, social presence, and cognitive presence[23–25]. Instructional design and organization, facilitating dialogue, and direct instruction are the three categories that comprised teaching presence. Meanwhile, social presence requires teacher to engage with students through affective communication (i.e., use of humor), open communication (i.e expressing agreement), and cohesive responses (i.e., salutations)[3]. The teacher can also demonstrate cognitive presence, which refers to the degree to which learners can construct and validate meaning through continuous reflection and discussion.

Another issue is on ICT literacy among teachers. Despite none of the participants admitted problem in ICT literacy, they still witness the problem happening with their older colleague. Scherer & Siddiq[26] simply defined ICT literacy as knowledge, skills, and attitude toward information and technology. It is important skillset in education settings. In term of teaching, a teacher with ICT literacy can utilize digital technology and communication tools to compile and deliver information to student. In physical education, normally class will be delivered in an offline basis with face-to-face meetings. Therefore, teacher have full access on their student. Teacher can determine whether learning outcomes have been achieved by doing observation, mostly toward student's physical capability. However, during the pandemic, teaching online is not an easy feat for PE teacher. Live demonstration and direct observation are no longer available option. In this situation, teacher who can make use of digital technology to their advantage will likely be success in their teaching. Despite of pandemic condition, ICT literacy remains an essential component of 21st-century digital skills within educational institutions. Therefore, teachers must enhance their proficiency in various fundamental areas, including information and data literacy, communication

and collaboration, digital content creation, safety and security, problem-solving, and analysis and reflection[27,28].

The pandemic has taught teachers to be more flexible and adaptive in dealing with the situations and challenges of the times. Amidst the pandemic and its constraints on infrastructure, teachers are expected to persist in delivering high-quality education to their students. In the future, it is highly likely that new challenges will arise, necessitating teachers to adapt and overcome them. In this era of disruption, life is more dynamic, including work routines in the education sector. Whatever challenges are faced by teachers, if the orientation is student-based learning, then teachers will have no difficulty in achieving educational goals. A modified teaching plan toward engaging more students into learning is important for every teacher. In order to deliver the lesson effectively during online class session, selection of digital technology should be based on student interest. For instance, research on physical education suggested that video on YouTube is perceived more engaging by students rather than demonstration video on learning management system (LMS)[29]. This is also a solution to the discovery of many students who are not motivated to learn just because learning is carried out online. Reseachers[30,31] concluded that online learning means that students should adopt self-directed learning. Therefore, teacher should take role of a learning facilitator and give their student personalized metacognitive feedback to ensure their student are on the right track.

Study limitation

This study has potential limitations. This study only exposed teacher's experience from Central Java Province where it's had relatively stable internet connection. Therefore, this study cannot be a generalization of whole PE class situation in the country or even overseas. However, this study can benefit future studies with potential difficulties and help to set the course for further investigation.

Conclusion

The COVID-19 pandemic presented barriers and challenges that require resilience from teachers to keep facilitating education through online learning. Teachers have shared their difficulties conducting online PE classes ranging from teaching infrastructure, working environment, institutional support, ICT literacy skill and student' response. These challenges were novel as the abrupt shift in educational environments caught both teachers and students off guard, leaving them unprepared. Despite the pandemic status is lifted in several country, this progress should not stop teacher to learn from the past and preparing for the future. The purpose of this study is to highlight barriers and challenges faced by PE teacher during online teaching. Teachers require to see their reflection on teaching during pandemic as means to progressing forward. In the long run, the lesson taken from the past could be useful to increase teacher capacity and capability to embrace 21st-century which related to self-directed learning through adoption of information and communication technology. Future research could conduct implementation of digital technologies on post-pandemic situation. Such research could contribute to identify important strategies on using ICT and digital technologies to conduct online teaching on blended teaching settings.

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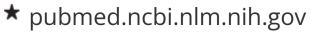
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