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## Space and Equipment Constraints during Online Practice-Based Learning Faced by future Physical Education for Elementary School Teacher

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### Abstract

The transition of face-to-face learning to online learning during Covid-19 pandemic brought challenges for Physical Education students, especially in practice-based courses. In online learning, the students were required to provide the space and equipment themselves. Therefore, this study was aimed at determining the constraints related to space and tools faced by Physical Education students in attending online practice-based lectures during the Covid-19 pandemic. This research is qualitative exploratory research using a questionnaire constructed based on Student Survey guidelines of Shape America 2020. The questionnaire was created in Google Form and distributed via WhatsApp. The participants were 93 Physical Education Teacher Education for Elementary School students of a University in Indonesia. The results showed that most students had a limited size of room. The solution taken was mostly looking for other places, usually a field. Most students also had limited tools. For unavailable equipment, the majority of students modified the simple tool available. It indicates that online learning brought challenges for PE students in practice-based courses related to the availability of tools and space. It is recommended that lecturers give directions for creating safe and efficient equipment.

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## INTRODUCTION

The spread of Covid-19 in 2020 has had a significant impact on aspects of human life. Various activities have stopped, and public facilities have been closed to reduce the spread of the Corona Virus. This is in line with the statement Herlina and Suherman (2020) that all aspects of human life are significantly affected by the Corona Virus. One aspect of life that is affected is formal education, where all teaching and learning activities that were previously face-to-face suddenly turn online. (Herlina and Suherman, 2020). With the development of technology, students' opportunities for distance learning are more significant. According to the statement Williams (2013), there is an increasing way of enabling students to choose and attend virtual courses in almost all content areas at the Secondary Education level. In line with Williams (2013), Goad et al. (2019) stated that today's innovative technology provides opportunities for classroom learning to be more efficient, interactive, and less stressful. So, during the pandemic, teaching and learning activities can still be carried out even though they are online.

However, the development and ease of accessing the internet increase the demands because the full adoption of technology is not a practical and optimal method to implement (Goad et al., 2019). Thus, the implementation of online learning provides challenges for both teachers and students from various levels of education. Based on research (Lu et al., 2020), The obstacles faced by online learning are the lack of content that can be delivered, difficulty interacting and direct contact, doing various things at once, taking up a lot of time due to a more open schedule, difficulty in motivating excessive stress, and technological

complexity. Besides Lu et al. (2020), Aris-tovnik et al. (2020) also found obstacles in online learning, namely high workloads and a lack of computer skills, that made it difficult for students to see improvements in their abilities in a new learning environment.

In addition to technical constraints, online learning poses its own challenges for physical activity-based learning, such as Physical Education, and practices such as Science (Herlina and Suherman, 2020). Due to the learning characteristics of Physical Education, Physical Education students are said to have faced more difficulties in the transition from offline learning to online learning. (Lu et al., 2020). Difficulties in transitioning to online learning are mainly faced by students who are less qualified in pedagogical knowledge and appropriate Physical Education content before attending lectures (Goad & Jones, 2017). Based on research Jeong & So (2020), the difficulties faced in administering Physical Education online for the first time were limited learning content and limited environmental conditions, lack of skills in implementing Physical Education classes due to trial and error methods, and lack of evaluation guides which caused difficulties in conducting systematic evaluations.

Although limited, several studies related to online physical education learning during the pandemic have been carried out within the scope of Indonesia. Sari & Sutapa (2020) stated that the most frequently encountered obstacles were internet network problems, and the most effortless application to use was Google Classroom. However, online learning of Physical Education, Sports, and Health (PJOK) is carried out effectively (Sari & Sutapa, 2020). Another research is research Setiyawan et al.

(2020) conducted on PJKR students. The results of the research by Setiyawan *et al.* (2020) found that online lectures utilize the Google Classroom, Zoom, SPADA, and SIP platforms, while practical lectures are carried out using assignments and videos. In line with Sri & Sutapa (2020), students are quite ready and follow online learning quite well (Setiyawan *et al.*, 2020).

Although research on the implementation of online learning for Physical Education students has been carried out and shows quite good results, research related to the limitations of space and equipment in practical learning for Physical Education students has not been found. Meanwhile, based on the characteristics of practical learning, the availability of adequate space and tools is required for practical learning. This is in line with the argument Lu, *et al.* (2020) that to obtain physical education teaching and learning activities, a good relationship between equipment, space, and student involvement in the exploration of movement and physical movement is needed. Thus, this study aims to examine the constraints of space and equipment for Physical Education students in taking practical courses online during the pandemic and the solutions taken. The results of this study are expected to provide information related to the obstacles faced by students as reference material to find the best solution. The purpose of this research includes two things,

## **METHOD**

### **Research methods**

The research method used in this study is a qualitative research method with an exploratory analysis approach. Exploratory research itself is research that aims to see new ideas, deepen knowledge, or explain how a social phenomenon occurs in

detail (Mudjiyanto, 2018). Explorative research is deemed appropriate to the research objective, namely to find out the obstacles in online practical learning faced by Physical Education students during the pandemic as a new phenomenon. In addition, this research is not intended to test hypotheses but to develop the hypothesis itself (see Mudjiyanto, 2018).

### **Research Instruments and Procedures**

The research instrument used to obtain data was an open-ended questionnaire. The questionnaire was prepared by the researcher by following the Student Survey guidelines from SHAPE America (2020). Questionnaire questions that have been compiled are made into a Google Form. To obtain data, the Google Form link was distributed via WhatsApp in December 2020. After the data was obtained, the data was analyzed. Participants in the study were Physical Education students from a university in Indonesia, as many as 93 people.

### **Data Analysis**

The data obtained from the questionnaire were first categorized. After that, the data were analyzed using percentages. Finally, the percentage results are interpreted before drawing general conclusions.

## **RESULT & DISCUSSION**

This study aims to determine the space and tool constraints faced by Physical Education students in participating in online practical courses. The results of data processing show that most students (54.5%) have limited equipment. Regarding the room, quite a lot of students have adequate space (45.2%). However, if it is added up between students with inadequate space (29%) and inadequate (25.8%), it can be seen that most students have room constraints (54.8%).

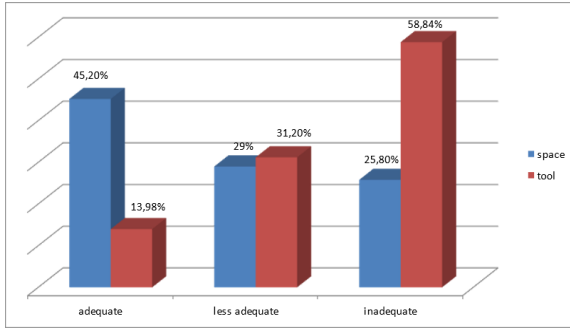


Figure 1. Availability of Space and Tools

Based on the data obtained, the subjects that are considered the most constrained by space and equipment are Aquatic, Athletics, and Gymnastics.

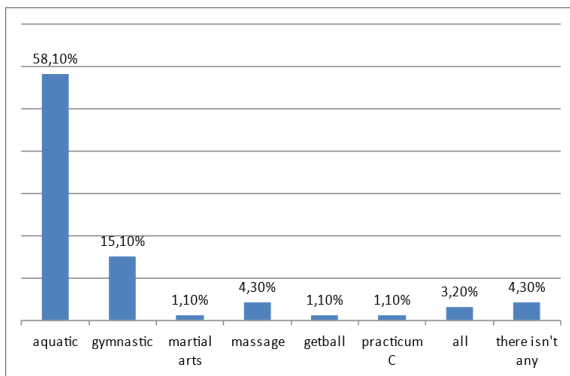


Figure 2. Courses with the Largest Space and Equipment Constraints

In addition to knowing the space constraints of Physical Education students in attending online practical lectures, the research is also aimed at knowing the factors that cause space and tool constraints as well as solutions taken by students in attending online practical lectures. The results of research related to the causes of space and equipment constraints and their solutions are presented in the following subsections.

**Space Constraints and Solutions**

There are various factors of space constraints faced by Physical Education students, including the size of the room that is less spacious, the condition of the house,

the people around, the weather, and the closing of the place. Based on the results of data processing, it can be seen that the biggest obstacle related to the room is the size of the room that is less spacious (58.1%).

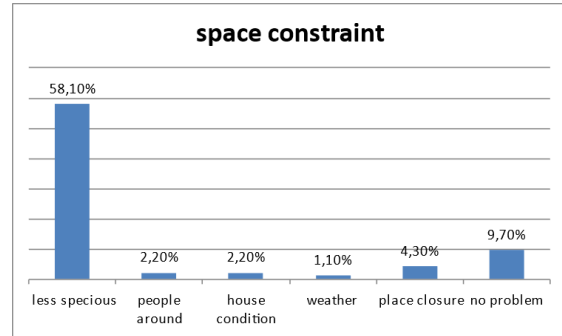


Figure 3. Space Constraints

During online learning during the pandemic, students have the flexibility to choose where to conduct practical lectures. Based on the results of data processing in Figure 4, it can be seen that most students attend lectures in the field (46%), at home (34.4%), and a combination of the two (16.1%). Based on the data obtained, some students take online practical lectures on the highway, although the percentage is very small (2.2%).

To overcome space limitations, Physical Education students are required to take solutions in conducting online practical lectures, including finding another space to conduct lectures, moving things, arranging functional movements, and giving codes to people who accidentally disturb them. However, some do not provide a solution and hope that the lectures will be offline soon. Based on the data obtained, the solution taken mainly by students with limited space is finding a possible place (35.5%).

**Equipment Constraints and Solutions**

By doing online learning, students are required to provide equipment independently. With students' diverse back-

grounds, the equipment available for each student is also different. Based on the data in Figure 6, most students (83%) have limited tools.

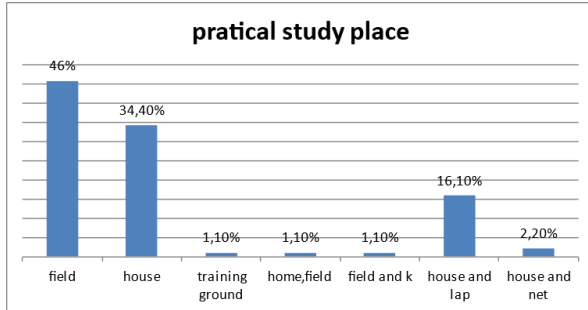


Figure 4. Places to Conduct Online Practical Lectures

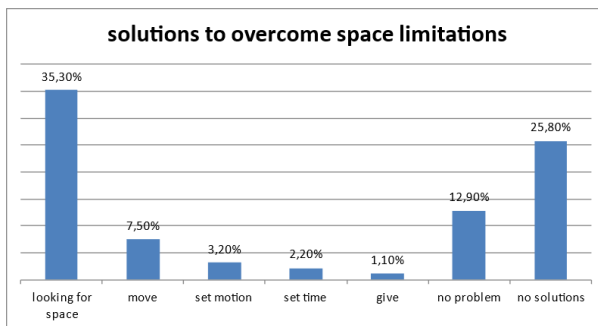


Figure 5. Solutions to Overcome Space Limitations

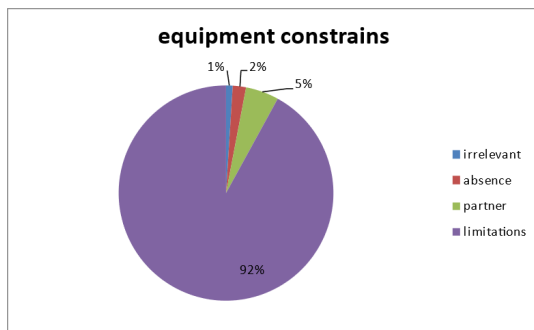


Figure 6. Equipment Constraints

Figure 7 shows the types of equipment students have to take practical lectures online. Based on Figure 7, the most common equipment owned by students is balls (49.5%), mats (45.2%), pull-ups (38.7%), skipping (37.6%), and cones ( 37.6%). Meanwhile, other equipment is only owned by a small number of students.

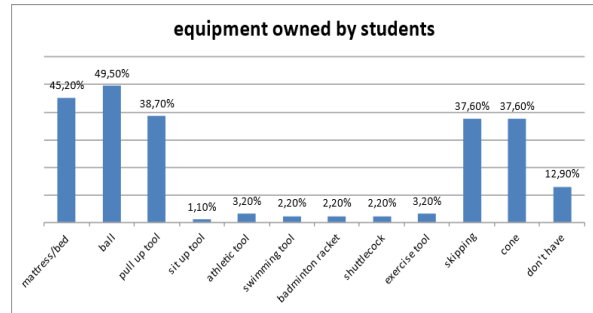


Figure 7. Equipment owned by students

To be able to attend lectures properly, Physical Education students need a solution to overcome the tool's limitations. Based on the data analysis results, most students modified the tool (58.1%). Meanwhile, a small proportion of students borrowed tools (4.3%), bought (1.1%), and took a combination of solutions.

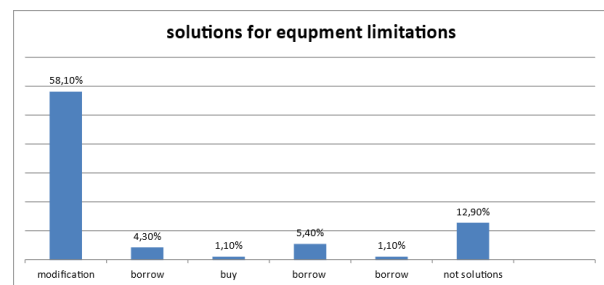


Figure 8. Solutions for Equipment Limitations

The sudden shift in the form of learning from face to face to online to prevent the spread of the Covid-19 virus brings challenges for Physical Education students. Based on the results of the study, it can be seen that the majority of students face obstacles in participating in learning practical courses online. This is in line with researchers Lina & Suherman (2020) that practice-based subjects and physical activity face difficulties in implementing online learning. Furthermore, in planning and implementing learning for Physical Education students, there is an interrelated relationship between

equipment, space availability, and student involvement in exploring physical movements and movements to create meaningful learning. (Lu et al., 2020). However, in online learning, students are required to provide space and equipment independently, according to their respective abilities. This is relevant to research Silva et al. (2019) in Distance Education, students are required to be more independent and share responsibility for the learning process.

In learning, the environment provides many opportunities to acquire skills (Renshaw and Chow, 2019). However, with different student backgrounds, students have different facilities and access to a learning environment. Based on the study results, most students face space constraints, including the size of the narrow space, the condition of the house, the closure of the place, and the interruption of people around. This is in line with research by Jeong & So (2020) related to the limitations of environmental conditions and educational content that cannot optimally convey the values of Physical Education. In addition, the presence of other individuals can hinder because, based on Renshaw & Chow (2019), other individuals in an environment are the most complex objects of an individual's perception.

With these obstacles, Physical Education students are looking for a suitable place to conduct online practical lectures. The most widely used place is based on research results in the field. This may be because the field is a large size and can be accessed as open public space. This is relevant to Physiopedia (2020) which states that public open spaces can support physical activity for the population in their spare time. Meanwhile, during a pandemic, public open spaces can be an alternative for

practicing online learning. However, it is undoubtedly risky. In addition, public places allow interaction between individuals, which allows exposure to Covid-19 if health protocols are not followed.

In addition to space limitations, online learning for practical courses is also constrained by equipment. Based on the results of data analysis, most students have limited availability of tools. To overcome this, students modify the simple items available, borrow, buy, or a combination of the three. Tool modification is the most preferred thing. This may be because Physical Education learning is closely related to tool modification, both to provide equipment that is not available or to help improve skills. This can be seen from the number of studies related to tool modification in various sports learning materials, such as tool modification to improve volleyball passing skills (Taufik & Kosasih, 2020), athletic modification equipment (Usman et al., 2019), modification of tools to improve badminton skills (Mohamad N et al., 2016), etc. In addition to the limited tools, another obstacle is the lack of partners, so students find it challenging to carry out practices that require partners. This is in line with the statement Kooiman & Sheehan (2013) that distance learning makes it difficult for teachers to monitor student progress and creates a lack of social contact. To overcome this, students usually ask for help from people, such as parents, which cannot replace the role of peers optimally.

Based on the data obtained, the most difficult subjects to do when learning online for Physical Education students are aquatic, athletics, and gymnastics. Aquatic courses are the most challenging courses in online learning. This may be due to the closure of the swimming pool due to the pan-

demic. This is in accordance with the acquisition of data related to space limitations, where one of the obstacles faced is the closure of the place. Meanwhile, athletics and gymnastics are two of the most challenging subjects because they require ample space to move and adequate equipment. To overcome this obstacle, students look for a broader place, and some even adjust their movement to suit the available space. Regarding the limitations of the tool, modification is the most chosen option.

Online learning for practical courses brings obstacles related to space and equipment, but Physical Education students make various efforts to participate in learning optimally. However, in line with (Brien et al., 2020), offline learning is an essential experience. This can be seen from the results of the study, where some respondents hoped to be able to return to using campus facilities to carry out learning.

Learning practical courses requires adequate space, reasoning, and social interaction to be carried out optimally. In online learning, solutions are needed for these three key aspects. This can be achieved with institutional support and appropriate new methodologies (Brien et al., 2020). The support that can be done is to provide assistance related to the modification of appropriate tools, the design of practical movements that are adapted to room conditions, and the preparation of practices that can be carried out independently.

## CONCLUSION

Learning online practical courses has its own challenges for Physical Education students. When learning online, students do not have access to use campus facilities, so they need to provide space and

equipment independently. The results showed that most students had limited space and equipment for practice. The main thing related to space constraints is the size of the less spacious space. Students overcame this obstacle by conducting online practical learning in other places, such as the field. Regarding equipment constraints, most students do not have complete equipment for online practical learning. Therefore, most of the students modified the tools from simple materials.

Limited space and tools are necessary for practical online learning, followed by Physical Education students. Each student's background is different, so the opportunity for students to obtain space and equipment independently may not be equal. Thus, it is necessary to have the wisdom of the supporting lecturer to seek lecture practices that allow students to carry it out in their own space so that they do not learn in public places, which can increase the risk of exposure. In addition, guidance from supporting lecturers is needed to create safe and affordable modified tools to be used in learning practical courses. Thus, online practical learning can be carried out optimally.

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