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Analysis of the online microteaching practice of undergraduate physical education students

Hermawan Pamot Raharjo[1*], Donny Wira Yudha Kusuma[1], Ani Mazlina Dewi Mohamed[2], Tandiyo Rahayu[1], Mohamad Annas[1], Ranu Baskora Aji Putra[1], Agus Widodo Suripto[1], Wahyu Ragil Kurniawan[1]
[1]Universitas Negeri Semarang, Indonesia,
[2]Universiti Teknologi Mara, Malaysia
*Corresponding Author: hermawan_pamot@mail.unnes.ac.id

ABSTRACT

Microteaching aims to ensure that students, as prospective educators, deserve to experience real teaching-learning situations. However, in light of recent advancements in educational technology and the increasing integration of online learning, it has been carried out online. This study aims to analyze students' competence in the online microteaching practice. This is classroom action research with three determined indicators as the basis for constructing a Likert scale questionnaire. 132/150 students are participating in this study. A descriptive statistical test was used to analyze the data, and students' opinions were also recorded to strengthen the results. Almost all students (98.4%) pretty much understand the microteaching practice, and quite well (97.7%) understand how to use the online application for online microteaching practice. Also, they are satisfied (99.9%) with the quality of online microteaching practices. In simple real-life learning practices, of the 132 respondents, only 68.1% mastered the characteristics of their students, 60.6% applied learning tools, and 60.6% implemented periodic assessments. We concluded that students' competence towards online microteaching practice is good, and they know the advantages and disadvantages of conducting an online class. However, the skills demonstrated by students in online situations were different and inconsistent with those exhibited in offline settings.

Keywords: online classes, affective domain, teaching-learning activities

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INTRODUCTION

One of the study programs established at the Faculty of Sports Science at Universitas Negeri Semarang is Physical Education (PE). This study aims to develop future physical education teachers qualified to teach at all levels of education in schools, and this study is identical to those goals. This study program aims to strengthen professional human resources in the field of physical education in addition to training future physical education teachers (Raharjo et al., 2022).

The adoption of online learning platforms has seen a substantial increase in recent years, driven by their simplicity of usage and the convenience of learning at any moment (Saha et al., 2022; Indrawati, 2020). However, despite these benefits, e-learning has certain drawbacks, including a lack of interpersonal connections and in-person contact between teachers and students. This trend continues to be observed in higher education settings (Khan et al., 2021).

One of the areas in physical education (PE) that has adapted significantly to these changes is microteaching. Microteaching, a crucial component of teacher education programs, involves the application of previously acquired theoretical knowledge through practical teaching

experiences (Istiningsih et al., 2020). It is a strategy designed for prospective educators to practice "micro" or condensed teaching performances, often called authentic teaching experiences (Arslan, 2021). It is a strategy designed for prospective educators to practice "micro" or condensed teaching performances, often called authentic teaching experiences (Arslan, 2021). Both teachers and students aiming to become educators engage in microteaching to refine their skills, with students learning through methods delivered by their lecturers (Hidayat, 2016). Typically, microteaching is one of the learning techniques provided to students toward the end of their coursework, preparing them for real-world teaching experiences during their internship programs (Siregar, 2021).

Undergraduate teacher education programs in several universities in Indonesia have implemented microteaching as a method in which students and lecturers learn about the teaching practices of pre-service teachers, as well as discuss the quality of their performance. Through microteaching in the classroom, lecturers examine the strengths and weaknesses of pre-service teachers' teaching abilities and other performance necessary to enhance the calibre of their instruction. This strategy is utilized to assist future instructors in becoming more conscious of their own teaching performance and, as a result, understanding approaches and strategies to enhance further the quality of their instruction (Beyer & Polanka, 2012).

University classes have increasingly incorporated online learning tools, with institutions facilitating teaching-learning activities through platforms like the Zoom cloud application (Roy et al., 2020). One prominent feature of Zoom is Zoom Meeting, a video-based learning tool that enables real-time interaction between teachers and students. Studies have shown that Zoom supports online face-to-face interaction and can be used for meetings, forum discussions, and other activities, accommodating thousands of participants in a single session (Kasman & Hamdani, 2021). The application is freely available for download, enhancing its accessibility. Given this shift, it is important to understand how students perceive using the Zoom application in their microteaching courses during and after the pandemic. This is crucial as they transition to teaching their students in offline settings in the future.

Previous studies reported that online learning is more student-centred, which allows them to show responsibility and autonomy in anatomy courses (Jumareng et al., 2021). Yet, other research findings indicate that students' opinions of online learning are a lack of interactivity, a low level of social attendance, and a lack of pleasure among students. Therefore, it can be inferred that it is less effective than face-to-face learning. Findings of previous studies on how students perceive online learning have been conflicting. Thus, further research is needed to fully understand how students at the tertiary level see the many topics that fall under the umbrella of physical education (Bali & Liu, 2018). Based on this, this study aims to explore perceptions about online microteaching practices among undergraduate students of Physical Education, Faculty of Sport Science, Semarang State University, which are then compared with the results of practical tests of teaching skills in simple real situations.

METHOD

This is classroom action research, which aims to determine what works best in one's own classroom so that the instructor can enhance students' learning. There are six stages in this study, namely 1) Stage-01 (problem identification) by determining the perception indicators among students, b) Stage-02 (study plan) by choosing the Zoom Meeting application as a tool to conduct an online microteaching practice, c) Stage-03 (data collection) by distributing a questionnaire to explore the perception as well as student’s interest on using Zoom Meeting application as a tool to conduct online microteaching practices, d) Stage-04 (data analysis and interpretation), e) Stage-05 (reflection) generating a discussion based on the data interpretation and any related references, and f) Stage-06 (sharing and future action) by writing results of the study in the form of a scientific article. The stages are illustrated in Figure 1.

A total of 150 registered students who took the microteaching practice course from the 7th semester from the Department of Physical Education, Universitas Negeri Semarang, participated in this study. A purposive sampling technique was used in this study, and there were only 132

students whose responses were accepted for later data analysis. Incomplete responses become the crucial criteria for excluding participation in this study.

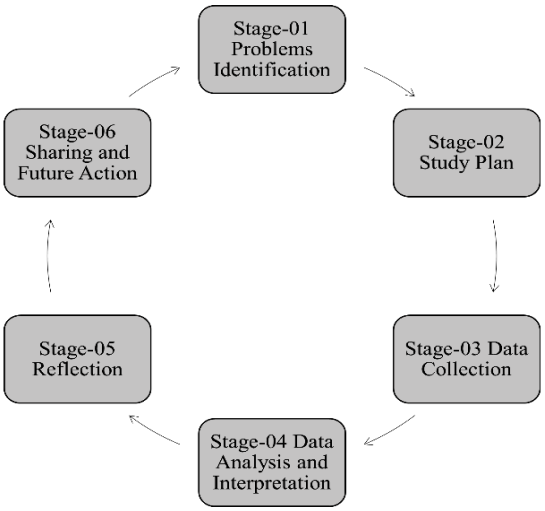

Figure 1. Study procedures

A questionnaire with a Likert scale was distributed to evaluate students' perceptions of the online microteaching practice using the Zoom Meeting application. There are three determined indicators. 1) Understanding the flow of microteaching practice, 2) understanding how to use online applications for online microteaching practice, and 3) satisfaction with the quality of online microteaching practice. Responses from the questionnaire were then strengthened by students' opinions, which were recorded in an interview. Data from the questionnaire were then analyzed using descriptive statistical tests (frequency measures) and presented in percentages. The results of the questionnaire and interview, combined with the results of practice in real situations with three indicators of mastery of the learning process used, including 1) class mastery, 2) application of learning tools, and 3) application of periodic assessments, the findings are presented in the following section.

FINDINGS AND DISCUSSION

Findings

From a total of 132 respondents, 87 male and 45 female respondents participated in this study (Table 1). All respondents are undergraduate students of the Department of Physical Education, Faculty of Sports Science, Universitas Negeri Semarang. Data were collected in the microteaching laboratory from April to July 2022**.**

Table 1. Participant demographic

No.	Sex	Semester	n
1.	Male	7	87
2.	Female	7	45

Data in Table 2 show that almost all students (98.4%) pretty much understand the microteaching practice steps, which falls into fair (22.7%), good (49.2%), and very good (26.5%); quite well (97.7%) to understand how to use online application for online microteaching practice which falls into fair (12.1%), good (50.8%), and very good (34.8%). Hence, they are satisfied (99.9%) with the quality of online microteaching practices, which falls into the fair (38.6%), good (32.6%), and very good (19.7%).

The data in Table 3 show that after giving test practice teaching in real situations, students received assessment results that did not align with their responses to online microteaching lectures.

Table 2. Students' perception towards the online microteaching practice

No.	Category	Indicator (s)		
		Understanding the flow of microteaching practice	Understand how to use online applications for online microteaching practice	Satisfaction with the quality of online microteaching practice
1.	Very Good	26.5%	34.8%	19.7%
2.	Good	49.2%	50.8%	32.6%
3.	Fair	22.7%	12.1%	38.6%
4.	Poor	0.8%	2.3%	6.8%
5.	Very Poor	0.8%	0.0%	2.3%
Total		100%	100%	100%
Interpretation		Good	Good	Fair

Based on three indicators of mastery of class management competencies, all of them received a high percentage in the fair category, which includes 68.1% on class mastery and student characteristics, 60.6% for their ability to apply learning tools, and 60.6% for how they can apply the periodic assessment system.

Table 3. Achievement of students after teaching practice test

No.	Category	Indicator (s)		
		Class mastery and student characteristics	Ability to apply learning tools	Implement a periodic assessment system
1.	Very Good	3.1%	6.4%	7.5%
2.	Good	7.6%	9.1%	13.6%
3.	Fair	68.1%	60.6%	60.6%
4.	Poor	15.1%	12.5%	11.5%
5.	Very Poor	6.1%	11.4%	6.8%
	Total	100%	100%	100%
	Interpretation	Fair	Fair	Fair

As enumerated in Table 3, only 3.1% of them were very good at the category of class and student mastery competency, 6.4% for the application of learning devices obtained and in terms of providing periodic assessments, only 7.5% of them were in the very good category. The majority of high percentage gains were in the fair category, namely in the indicator of class mastery ability, which obtained 68.1%; the indicator of application of learning devices, which obtained a percentage of 60.6%; and in the indicator of providing periodic assessments, obtained a percentage of 60.6%. The surprising thing is that a percentage of 15.1% appears in the poor category, namely in the class and student mastery indicator. The respondents' teaching competence does not align with the responses regarding online microteaching lectures.

Besides, students are more interested in offline microteaching practices (55.3%) rather than online microteaching practices (44.7%), as seen in Table 4. There are three major reasons why they prefer offline microteaching practices: (1) the understanding of the microteaching course material, (2) the advantages and disadvantages of using technology in the microteaching practices, and (3) the process of discussion and feedback between lecturers and students did not run interactively.e analysis of the data displayed in Table 2, 3, and 4 further reveals that the students' responses to online microteaching lectures fall into the good category for ease and interest. However, when the teaching test was administered in real-world scenarios, the student's abilities did not match their responses, as the percentage of their skills fell into the fair category, which is in the range of 63.1%.

Table 4. Students' interest in online teaching tools

No.	Indicator (s)	Respondents	
		Ratio	(%)
1.	Number of students who prefer online microteaching using Zoom Cloud meeting with the breakout room	59/132	44.7%
2.	Number of students who prefer to practice offline microteaching	73/132	55.3%
	Total	132/132	100%

.Note: n= 132

Discussion

This study examined how prospective physical education teachers responded to the online microteaching lecture system. Through several stages of research, it was finally concluded that students' responses to online microteaching lectures were not in line with the competencies they demonstrated in the teaching practice performed in simple real situations. Through microteaching, students are expected to be able to carry out their role as physical education teachers by applying their competencies in small-group situations. Still, this study uncovers that students must improve their teaching competencies through an online system. As a result, after being given a real teaching practice test that involves assessment components, including the ability to master the class, apply learning tools, and provide periodic assessments in the learning process, the results were contradictory to their responses to online microteaching lectures.

The analysis of the differences in results between their responses to online microteaching lectures and the results of respondents' teaching tests in real situations includes several points. (1) Class mastery and student characteristics: in online microteaching situations, students do not face students directly, so they only rely on lecture models, and there is no direct interaction with students. This makes the class monotonous, and there is no color in the learning provided. (2) Ability to apply learning tools: in online situations, respondents, when practising microteaching, only use one media, namely a laptop as a device for screen sharing purposes; this is also one of the causes of not delivering all the learning devices used. (3) Implementation of periodic assessment system: in real situations, physical education learning practices are always accompanied by assessments, especially those related to skill achievement; of course, assessment is a mandatory requirement for teachers. However, in online situations, respondents have difficulty in conducting assessments related to the skill achievements of their students.

The study results also show that 55.3% of respondents are more interested in microteaching lectures conducted offline. According to the results of a short interview with respondents, the offline system could make respondents' understanding of the material being taught much more comprehensive. In addition, if microteaching lectures use an online system, respondents will face advantages and disadvantages when using technological devices. Lastly, the reason that respondents' interest is greater in offline microteaching lectures is related to the feedback that can be done between respondents as students and lecturers as supervisors, so in Table 4, respondents' interest remains more inclined to the implementation of offline microteaching. However, in Table 2, their responses are in the good category related to understanding the online microteaching process.

This is in line with the idea that microteaching is highly favoured as one of the effective practical learning and ways of being a good teacher because it brings a simulated teaching environment where teacher candidates can practice teaching actions in a limited time with their classmates in a simulated classroom (Tulgar, 2019). The concepts of microteaching courses as suggested by Istiningsih et al. (2020) include eight principles. (a) Learning is genuine (applied in the real world), but it has a tiny idea with a basic character; (b) training focuses on fundamental teaching abilities; (c) it uses information and knowledge about student learning levels as feedback on prospective instructors' competence; (d) learning is conducted for students from various backgrounds and based on the intellectual abilities of specific age groups; (e) strict control is exercised over the training environment held in the laboratory of microteaching; (f) the environment of minimal stress (low threat situation) is maintained so that prospective teachers can acquire teaching skills; (g) it considers a low-risk environment in which students may actively

participate in teaching; and (h) opportunity retraining and training distribution procedures are offered within a specific time frame to ensure that all participants receive an equitable portion (Istiningsih et al., 2020). Besides, this study found that many students understand the microteaching practice steps, understand how to use online applications for online microteaching practice, and are satisfied with the quality of online microteaching practices.

> *On the contrary, the interview data stated that most of the students did not understand much about the concepts and the competencies they had to fulfil, "I am happy with the Zoom apps we can still follow the practice, but I only follow it, because there is no strong control from the lecturer, even my opportunity to ask questions and discuss with friends is very limited because we are in different locations". (Student-01, female)*

This excerpt highlights several challenges associated with online learning. Firstly, the lack of strong control from lecturers and limited opportunities for interaction among students are significant issues. This aligns with findings from previous research, which indicate that online learning platforms often fail to provide the same level of engagement and interaction as traditional face-to-face settings (Dhawan, 2020; Martin, Sun, & Westine, 2020). The lack of direct contact and attention from lecturers can impede the learning process, as students may not receive immediate feedback and support, and they need to grasp complex concepts fully (Dhawan, 2020). Secondly, the flow of learning activities in an online system can be disrupted by various factors, such as technical issues and the absence of real-time communication. This can prevent students from receiving course material optimally, as they may miss out on critical explanations and discussions that would typically occur in a physical classroom (Martin, Sun, & Westine, 2020).

According to Riyanti (2022), these obstacles could potentially be addressed by utilizing different online platforms better suited to the needs of both teachers and students. The diversity of available online platforms offers various features and tools that can enhance interaction and engagement, depending on how effectively teachers select and use these platforms. Therefore, while the Zoom application has provided a viable solution for continuing educational activities during times when physical classes are not possible, it is essential to explore and integrate alternative online platforms that might offer better control, interaction, and support for students. This approach could help mitigate the drawbacks of the current online learning system and improve the overall educational experience in microteaching courses (Kasman & Hamdani, 2021).

In this study, online microteaching practice is carried out with each small group practice, supervised by a camera connected to the Zoom application; the Zoom screen shows several screens according to how many groups appear, with the lecturer present alternately entering the virtual room. In this way, online applications provide advantages and disadvantages for the learning and teaching processes (Yanti, 2020). Academics' conceptualizations of teaching and learning using technology have major and interconnected effects on their students' learning experiences (Kirkwood & Price, 2014). Using media technology in the educational process can increase motivation and stimulate perceptual abilities, resulting in improved learning results (Nicolaou et al., 2019). These previous studies are in line with the results of the current study. Based on the student's perception, there are advantages of using Zoom Applications to conduct an online microteaching practice, including 1) Students can take classes anywhere and anytime, 2) When the class opens, students can follow it, 3) It can be done together in a large number of groups, 4) Does not need to wait for a long turn in taking over the practice as a teacher when practicing microteaching, and 5) Learning time tends to be flexible.

On the other hand, the disadvantages of using online scheme are identified as follows: 1) requiring an internet quota, not all students are ready with quota all the time to join Zoom meetings, 2) the network is not perfect, and there will always be trouble in every implementation, 3) software setup procedures used in each session require clear flow and maintenance, 4) during lectures, many students are not serious because there is no direct supervision of the lecturer, 5) the material taught cannot be accepted by students optimally, 6) when following the microteaching practice with zoom, there is no direction from the lecturer, 7) the quality of learning is less than optimal because each group runs under surveillance from a distance so that

communication between students and lecturers cannot be mutually exclusive. One of the disadvantages is apparent in the following excerpt.

> *Students found it difficult to interact with the other groups, "When we practice microteaching as teachers, we have to make sure our voices are loud enough to be heard by the lecturers and our friends in Zoom, using a set of supporting technology equipment such as cellphones, earphones, mini microphones, it breaks my concentration when carrying out assignments as a teacher in a microteaching class in my group, not to mention if the connection is lost, I'm tired of showing my performance, but it turns out that the lecturer can't see it because the network to zoom is disconnected, this is very complicated". (Student-02, male)*

While previous studies mention its obstacles (Dhawan, 2020; Martin, Sun, & Westine, 2020), the Zoom Meeting application received a positive perception because it was effective and convenient. Zoom is recommended and still suitable for online classes by adjusting to field conditions such as devices and internet connections (Fatoni, 2021). Student's perception of using Zoom applications during online microteaching practice is evident in these scripts.

> *While I was taking online microteaching lectures, I felt the wasteful quota and the unstable internet network. On the positive side, I felt helped because, with the Zoom application, practice can still be carried out even though it is not in a direct location". (Student-03, female)*

> "*In my opinion, the practice of microteaching using Zoom is not optimal because I was bothered by how to make sure the camera and network were good, so I didn't focus on participating in microteaching activities". (Student-04, male)*

Besides, Zoom can act as a learning tool because of the benefits and efficiency of the Zoom application itself, which can help students learn more efficiently and effectively (Kasman & Hamdani, 2021). However, it can be optimized only with some adjustments and may not be suitable for practical courses.

In this study, the emergence of comments from students regarding feedback that is felt to be less effective and is maximally accepted by students. Feedback has long been the main topic of learning activities, but teachers still face many problems at various levels of education (Jiang & Yu, 2021). The feedback process in higher education is generally misunderstood; meeting the criteria for effectiveness is difficult, and the feedback results do not affect student learning outcomes (Corbin, 2021). Students participating in this study argue that the opportunity to ask questions and discuss with friends and lecturers is limited.

> *I feel that there is something strange in the practice of microteaching, which is carried out online, I feel that the opportunity to ask the lecturer often does not get a response from the lecturer, considering that the lecturer cannot see directly who wants to ask because it is not in the same place". (Student-05, female)*

> *"I feel that when practising microteaching online, my group and I have tried to give maximum performance, but when there is feedback from the lecturer, we are not fully able to listen clearly and are constrained by not being able to see real examples from the lecturer. Besides, we don't know what to fix because of the many online glitches". (Student-06, male)*

Feedback is vital in helping students master the material with the desired understanding by correcting errors and trying to correct them with direction from the teacher or their peers (Gan et al., 2021). Feedback can occur in several situations: a) the teacher provides tips and tricks for student improvement, b) peers provide information for clarification, and c) students can bring up their self-reflection. When given appropriately, feedback is a powerful tool for enhancing learning (Selvaraj et al., 2021). The main purpose of feedback is to improve students' knowledge, skills, and understanding of some learning materials or general skills (Cui et al., 2021).

CONCLUSION

The study underscores the complexities and potential of microteaching, particularly in an online setting. Microteaching offers a structured, low-risk environment for teacher candidates to hone their skills through simulated teaching exercises. The core principles of microteaching emphasize authentic learning, fundamental teaching abilities, and constructive feedback, all conducted in a controlled, stress-minimized setting. However, the shift to online microteaching, predominantly using platforms like Zoom, introduces significant challenges. While students generally understand the procedural aspects of microteaching and appreciate the flexibility of online platforms, they also report substantial drawbacks. Key issues include the lack of direct control and engagement from lecturers, limited opportunities for interaction, and technical disruptions. Students' express frustration with technical issues such as unstable internet connections and the necessity of additional equipment, which can disrupt their focus and hinder learning. Additionally, the feedback mechanism in an online environment is perceived as less effective, with students finding it difficult to receive timely and clear responses from lecturers

Despite these challenges, the study recognizes the inherent advantages of online microteaching, such as accessibility, flexibility, and the capacity to accommodate large groups. To optimize online microteaching, the study suggests exploring a variety of online platforms that might better meet the needs of both teachers and students, thereby enhancing interaction and engagement. The synthesis of student feedback highlights a critical need for improvements in the online microteaching framework. Enhancing the feedback process, ensuring stable technological infrastructure, and possibly integrating different online tools could mitigate some of the identified drawbacks. Ultimately, while online microteaching is a viable solution, future investigations must fully examine its careful adjustments and innovations to replicate the benefits of traditional, face-to-face microteaching environments.

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