

The Pedagogy of Physical Education, Sports, and Health Teachers in Using Google Classroom

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ABSTRACT

In the learning process, educators play a crucial role in motivating, guiding, and facilitating students' achievement of intended learning outcomes. However, changing educational conditions and limitations on face-to-face instruction have required teachers to adapt to technology-based learning environments. In this context, Physical Education, Sports, and Health (PESH) teachers are expected to demonstrate strong pedagogical competencies, including the ability to design learning activities, implement effective instructional strategies, assess student learning outcomes, and integrate information and communication technology into their teaching. This study aimed to analyze the pedagogical practices of PESH teachers in utilizing Google Classroom as a learning platform. A descriptive research design was employed to provide an overview of teachers' pedagogical competence in online learning settings. Data were collected using a structured questionnaire comprising 14 items on pedagogical competence. The data analysis process involved data reduction, data presentation, and data verification to ensure the accuracy and consistency of the findings. The results revealed that most PESH teachers strongly agreed with statements reflecting pedagogical competence in using Google Classroom. The overall level of agreement reached 81.20%, indicating a high level of pedagogical competence among PESH teachers in managing online learning. These findings suggest that Google Classroom can serve as an effective platform for supporting pedagogical practices and enhancing the quality of learning in Physical Education, Sports, and Health subjects, particularly in situations where conventional face-to-face instruction is limited.

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1. INTRODUCTION

Physical education is an educational process for individuals as members of society, carried out consciously and systematically through various physical activities to achieve physical growth, health and fitness, abilities and skills, intelligence, and the development of character and personality in harmony to form high-quality Indonesian citizens based on Pancasila [1]. Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers, Article 10 paragraphs (1) and (2), further regulated by Government Regulation Number 74 of 2008, mandates that every teacher must be capable of planning instruction, evaluating learning outcomes, and utilizing information and communication technology within the domains of pedagogical, personal, social, and professional competencies. The quality of human resources is closely related to the development of teacher competencies, while education continuously evolves alongside technological and human development. In recent years, digital transformation in education has accelerated significantly, requiring teachers to possess adaptive pedagogical competencies that integrate technological, pedagogical, and content knowledge to support meaningful learning experiences [2], [3]. Studies also indicate that teachers' readiness to implement digital learning environments has become an essential determinant of educational quality and student engagement in the twenty-first century [4].

Such competencies are reflected in meaningful actions that possess social value and meet specific standards recognized by professional groups and the communities they serve [5], [6]. A competent physical education teacher possesses the necessary professional competencies [7]. Selecting a particular teaching method influences the type of instructional media used. Therefore, instructional media as teaching aids significantly affect the learning process and the teacher-created learning environment. According to [8], media are tools for conveying information from one party to another. Such media should support learning objectives and assist students' thinking processes so that information can be understood more easily. [9] stated that the learning process is intended to transmit messages in the form of knowledge, skills, and attitudes while stimulating students' choices, feelings, attention, and willingness to learn, thereby making learning purposeful and controlled. [10] explained that students' thinking develops from concrete to abstract concepts and from simple to more complex understandings. Recent investigations have emphasized that technology-enhanced learning environments can improve students' motivation, participation, and learning outcomes when teachers possess sufficient pedagogical competence in designing digital instruction [11], [12].

According to [13], education has experienced significant disruption. The role of teachers as the sole providers of knowledge has gradually shifted. In the future, the role and presence of teachers in classrooms will become increasingly challenging, requiring a high level of creativity. The technologies emerging from each phase of the Industrial Revolution have been applied in education, not only to ease teachers' workloads but also to help students access unlimited information online and engage in distance learning. Furthermore, students benefit from the emergence of information technology-based learning institutions and online courses that can reduce costs compared to conventional

educational institutions [14]. The Fourth Industrial Revolution (Industry 4.0) emerged around the 2010s through advances in artificial intelligence and the Internet of Things (IoT), which serve as the backbone of human-machine connectivity and interaction [15]. Students have also benefited from the growth of online learning platforms, which have reduced educational costs compared with traditional learning institutions [16]. Google Classroom has been widely used to support learning processes because it is easy to use and accessible to everyone. The developments and transformations occurring in every phase of the Industrial Revolution have encouraged changes across various sectors, including education [17]. Recent studies have demonstrated that learning management systems such as Google Classroom facilitate collaborative learning, increase learner autonomy, and support flexible instructional delivery in both blended and online learning contexts [18], [19]. In physical education settings, digital platforms have increasingly been adopted to maintain instructional continuity and enhance communication between teachers and students [20].

Research conducted by [21] found that personality competence was rated as fairly good (62.5%), pedagogical competence as good (50%), professional competence as fairly good (50%), and social competence, as rated by student respondents, as fairly good (47.5%). Similarly, [22] reported that the performance of physical education teachers improved after certification, with the empirical mean score increasing from 187.86 before certification to 203.27 after certification. These findings indicate an overall improvement in the performance of physical education teachers in Bantul Regency following certification. More recent evidence suggests that teachers who demonstrate higher levels of digital pedagogical competence tend to exhibit greater instructional effectiveness, adaptability, and confidence in utilizing online learning technologies [23], [24]. Consequently, strengthening pedagogical competence has become a strategic priority for improving educational quality in the digital era.

Based on the background described above, this study aims to examine the pedagogical competence of Physical Education, Sports, and Health (PESH) teachers within the Subject Teacher Consultation Group (MGMP) of Kupang City in the use and implementation of Google Classroom for classroom learning. Observations conducted in senior high schools throughout Kupang City revealed that schools have implemented and fully supported information and communication technology-based learning. This support has been realized through the integration of internet-based applications and internet-connected devices in the learning process, particularly through Google Classroom. The adoption of such technology is essential to modernize conventional learning systems, which are increasingly viewed as outdated and incompatible with the rapid, intensive developments driven by advances in science and technology. Based on previous research findings and observations of physical education teachers participating in the MGMP of Kupang City, the researcher seeks to examine the pedagogical competence of Physical Education, Sports, and Health teachers in using Google Classroom within the MGMP.

2. METHOD

This study employed a quantitative descriptive research design using a survey to describe the pedagogy of Physical Education, Sports, and Health (PESH) teachers in their use of Google Classroom. The research was conducted among members of the Physical Education, Sports, and Health Teachers' Subject Teacher Consultation Group (MGMP) in Kupang City over a period of one month. Data were collected through a questionnaire developed using Google Forms. The questionnaire link was distributed to the research participants and consisted of 14 statement items. A Likert scale was used to assess respondents' perceptions, with each statement accompanied by five response options. Each response was assigned a score of 1 to 5 based on the level of agreement or disagreement. The response categories provided to participants were: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD). The detailed scoring system is presented in the following table.

Table 1. Likert Scale Measurement Criteria

Response	Score
Strongly Agree	5
Agree	4
Neutral (Undecided)	3
Disagree	2
Strongly Disagree	1

Source: Sugiyono (2016)

Descriptive quantitative analysis was employed to interpret the data by calculating the percentage of respondents in each category for each assessed aspect. After the research results were converted into percentages, they were classified to determine the level of competence obtained, using the following formula [25].

$$P = \frac{f}{n} \times 100\%$$

with:

P : Percentage

f : Frequency

n : Total Sample Size

Table 2. Score and Criteria of Questionnaire

Score	Criteria
76 % -100%	: Very Good
51% -75 %	: Good
26 % - 50%	: Fair
0% -25%	: Poor

3. RESULTS AND DISCUSSION

3.1. Results

The results of the study need to be described based on each factor and the research subject investigated. The pedagogical competence of Physical Education, Sports, and Health (PESH) teachers includes mastery of concepts and subject matter, understanding of students' characteristics, mastery of learning management, mastery of instructional

strategies, and mastery of learning assessment. The findings are presented both overall and according to each underlying factor.

Based on the questionnaire distributed to 20 respondents regarding teachers' understanding of students' characteristics in the use of Google Classroom during the COVID-19 pandemic, the following responses were obtained: 10 respondents (50%) Strongly Agreed, 3 respondents (15%) Agreed, 3 respondents (15%) were Undecided, 2 respondents (10%) Disagreed, and 2 respondents (10%) Strongly Disagreed.

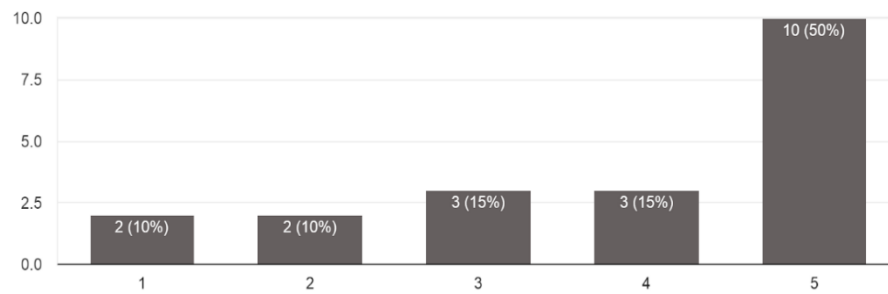


Figure 1. Graph of Physical Education, Sports, and Health (PESH) Teachers' Understanding of Students' Characteristics in Using Google Classroom

The statement that teachers understand the characteristics of all students and provide equal opportunities in using Google Classroom to participate in Physical Education, Sports, and Health (PESH) learning activities obtained the following responses: 10 respondents (50%) Strongly Agreed, 4 respondents (20%) Agreed, 4 respondents (20%) were Undecided, and 2 respondents (10%) Strongly Disagreed.

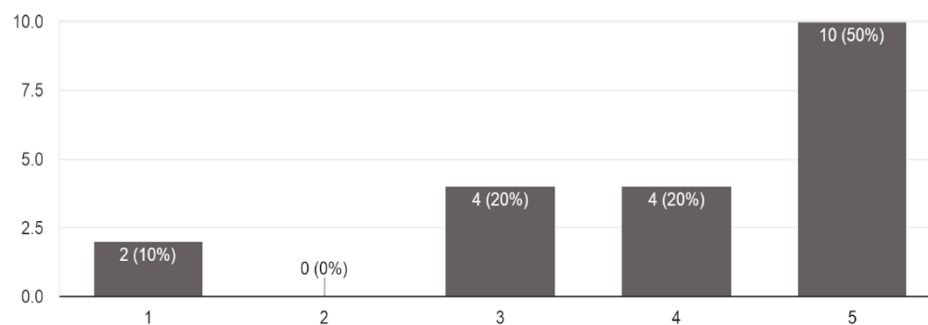


Figure 2. Graph of Teachers Providing Equal Opportunities for Students to Participate in Learning Using Google Classroom

The use of the Google Classroom application can help develop students' potential in learning. The responses obtained were as follows: 10 respondents (50%) Strongly Agreed, 6 respondents (30%) Agreed, 1 respondent (5%) was Undecided, 1 respondent (5%) Disagreed, and 2 respondents (10%) Strongly Disagreed.

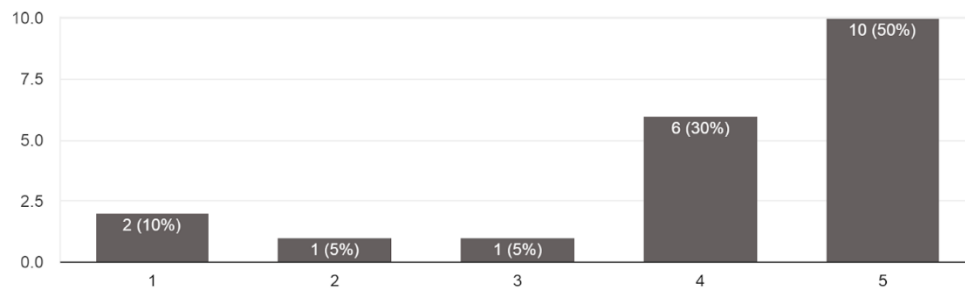


Figure 3. Graph of Students' Ability to Develop Their Potential Using Google Classroom in Learning Participation

The use of the Google Classroom application enables students to master learning materials based on their learning abilities through the regulation of learning processes and a range of learning activities. The responses obtained were as follows: 6 respondents (30%) Strongly Agreed, 10 respondents (50%) Agreed, 2 respondents (10%) were Undecided, and 2 respondents (10%) Disagreed.

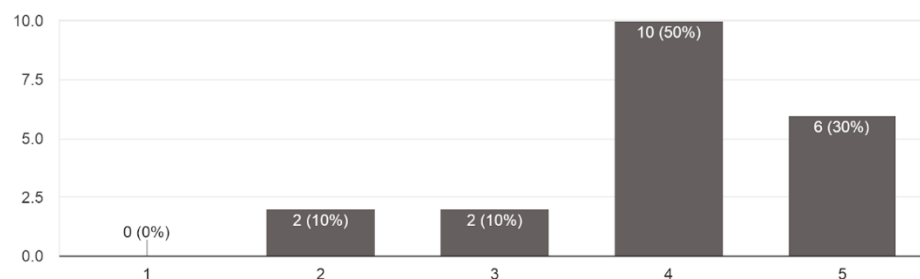


Figure 4. Graph of Teachers Providing Equal Opportunities for Students to Participate in Learning Using Google Classroom

The use of the Google Classroom application to motivate students' learning obtained the following responses: 9 respondents (45%) Strongly Agreed, 3 respondents (15%) Agreed, 3 respondents (15%) were Undecided, 2 respondents (10%) Disagreed, and 3 respondents (15%) Strongly Disagreed.

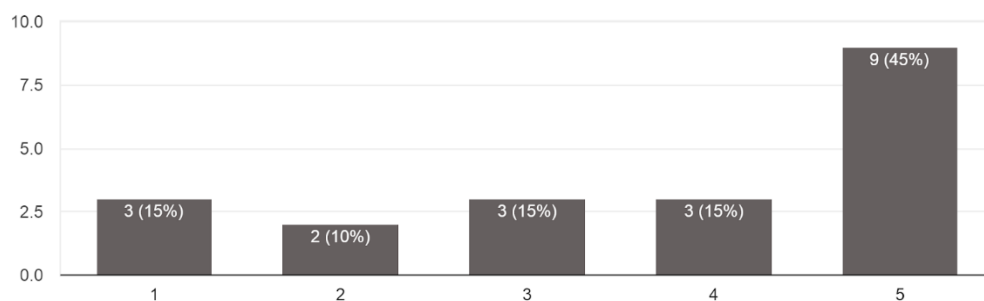


Figure 5. Graph of Students' Motivation to Participate in Learning Through Google Classroom

Teachers pay attention to students' responses from those who have not yet or have not fully understood the learning materials and use Google Classroom to improve the

design of subsequent learning activities. The responses obtained were as follows: 6 respondents (30%) Strongly Agreed, 11 respondents (55%) Agreed, 1 respondent (5%) was Undecided, 1 respondent (5%) Disagreed, and 1 respondent (5%) Strongly Disagreed.

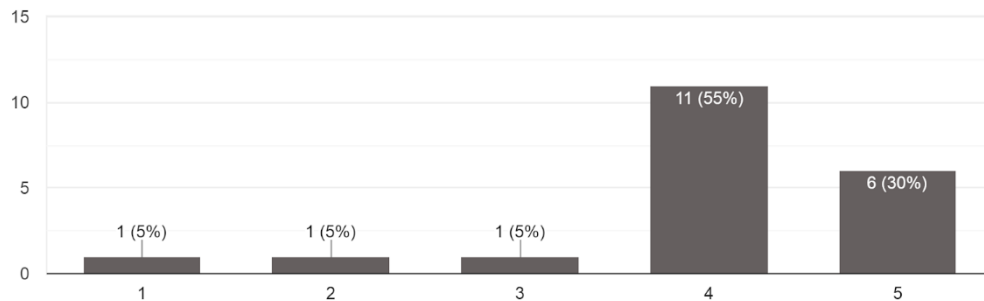


Figure 6. Graph of Students Who Do Not Fully Understand the Learning Materials and the Use of Google Classroom to Improve Learning Design

Teachers can develop a syllabus in accordance with the Physical Education, Sports, and Health (PESH) curriculum. The responses obtained were as follows: 12 respondents (60%) Strongly Agreed, 4 respondents (20%) Agreed, 2 respondents (10%) were Undecided, and 2 respondents (10%) Strongly Disagreed.

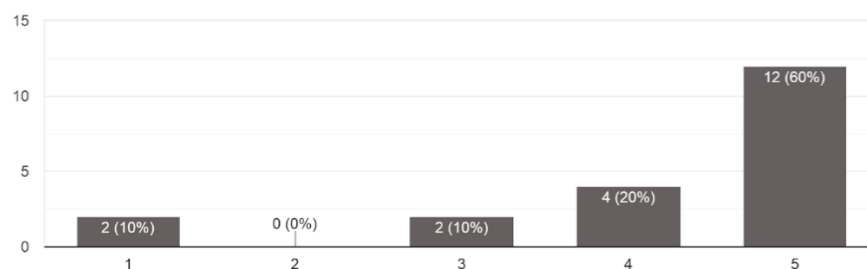


Figure 7. Graph of Teachers' Ability to Develop a Syllabus in Accordance with the Curriculum During the COVID-19 Pandemic

Teachers can design lesson plans aligned with the syllabus to address specific learning materials, helping students achieve the established basic competencies. The responses obtained were as follows: 13 respondents (65%) Strongly Agreed, 4 respondents (20%) Agreed, 1 respondent (5%) was Undecided, and 2 respondents (10%) Disagreed.

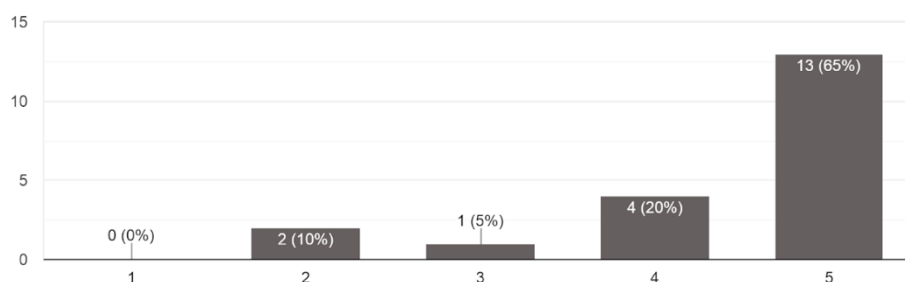


Figure 8. Graph of Teachers' Ability to Develop a Syllabus in Accordance with the Physical Education, Sports, and Health (PESH) Curriculum During the COVID-19 Pandemic

Teachers carry out learning activities in accordance with the curriculum content and relate them to students' everyday life contexts. The responses obtained were as follows: 12 respondents (60%) Strongly Agreed, 4 respondents (20%) Agreed, 1 respondent (5%) was Undecided, 1 respondent (5%) Disagreed, and 2 respondents (10%) Strongly Disagreed.

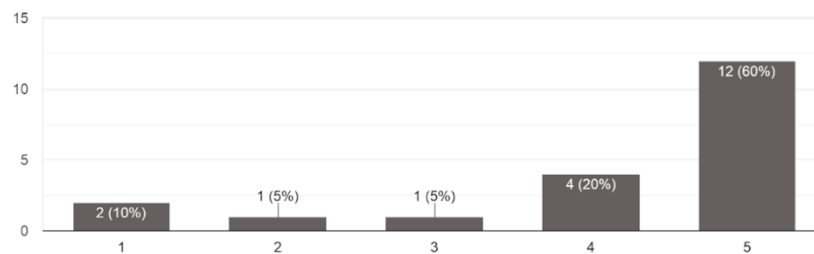


Figure 9. Graph of Teachers' Implementation of Learning Activities in Accordance with the Curriculum

Teachers manage the classroom effectively without dominating or being preoccupied with their own activities, ensuring that all students' time is used productively. The responses obtained were as follows: 9 respondents (45%) Strongly Agreed, 6 respondents (30%) Agreed, 4 respondents (20%) were Undecided, and 1 respondent (5%) Disagreed.

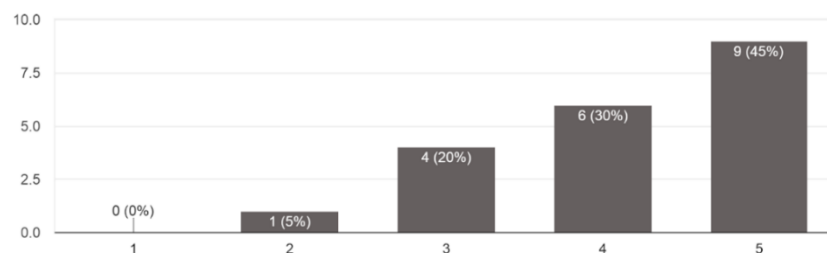


Figure 10. Graph of Teachers' Effective Classroom Management Without Dominating or Being Preoccupied with Their Own Activities to Ensure Students' Time Is Used Productively

Teachers use teaching aids and/or information and communication technology (ICT), such as audiovisual media, to enhance students' motivation in achieving learning objectives. The responses obtained were as follows: 10 respondents (50%) Strongly Agreed, 6 respondents (30%) Agreed, 2 respondents (10%) were Undecided, and 2 respondents (10%) Strongly Disagreed.

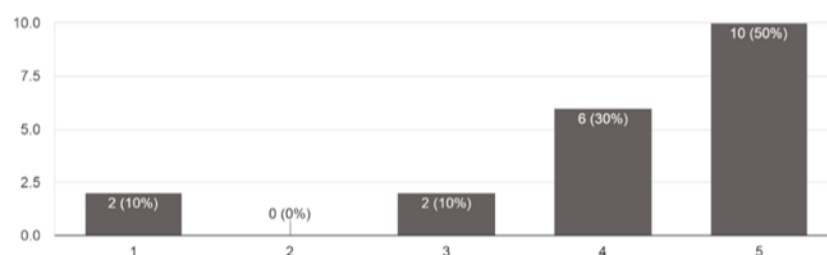


Figure 11. Graph of teachers managing the classroom effectively without dominating or being busy with their own activities, so that all participants' time can be used productively.

Teachers analyze learning outcomes across all forms of assessment to determine each student's individual level of progress. The responses obtained were as follows: 10 respondents (50%) Strongly Agreed, 6 respondents (30%) Agreed, 1 respondent (5%) was Undecided, 1 respondent (5%) Disagreed, and 2 respondents (10%) Strongly Disagreed.

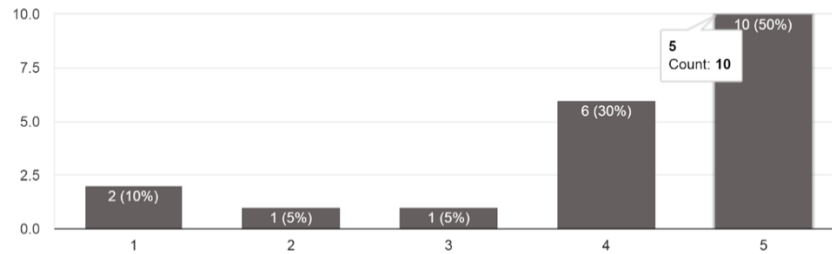


Figure 12. Teachers perform effectively in managing the classroom without dominating or being busy with their own activities, so that all participants' time can be used productively

Teachers design and implement learning activities that encourage students to learn in ways that align with their abilities and learning styles. The responses obtained were as follows: 9 respondents (45%) Strongly Agreed, 8 respondents (40%) Agreed, 1 respondent (5%) Disagreed, and 2 respondents (10%) Strongly Disagreed.

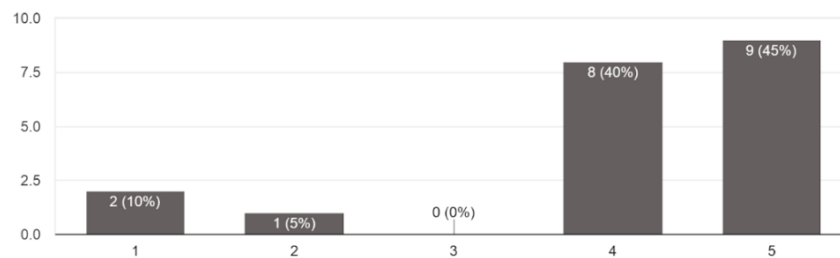


Figure 13. Teacher performance in designing and implementing learning activities that encourage students to learn according to their abilities

Teachers give attention and listen to all students' questions and responses without interrupting, except when necessary to assist or clarify. The responses obtained were as follows: 8 respondents (40%) Strongly Agreed, 9 respondents (45%) Agreed, 1 respondent (5%) Disagreed, and 2 respondents (10%) Strongly Disagreed.

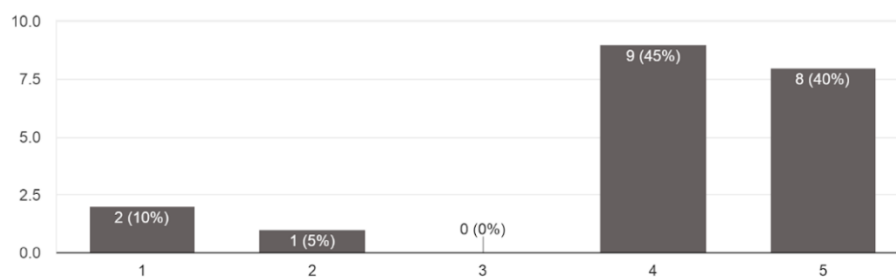


Figure 14. Teacher performance in giving attention and listening to all students' questions and responses without interrupting

Teachers respond to students' questions appropriately, correctly, and in a timely manner, in accordance with learning objectives and curriculum content, without embarrassing the students. The responses obtained were as follows: 11 respondents (55%) Strongly Agreed, 6 respondents (30%) Agreed, 1 respondent (5%) was Undecided, 1 respondent (5%) Disagreed, and 1 respondent (5%) Strongly Disagreed.

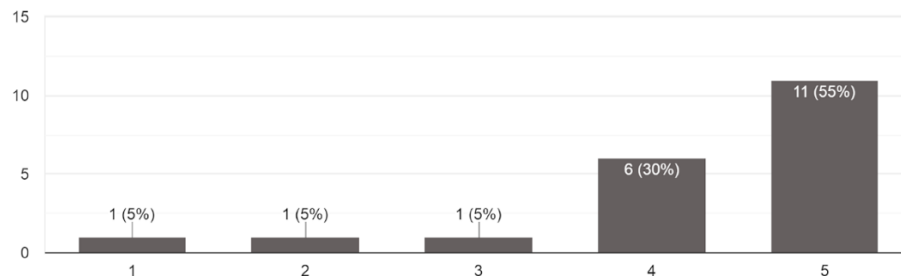


Figure 15. Teacher performance in giving attention and listening to all students' questions and responses without interrupting

3.2. Discussion

Competence is generally defined as an individual's capability to perform a series of tasks, responsibilities, and activities effectively to achieve predetermined objectives and meet specific needs. In the educational context, teacher competence comprises knowledge, skills, attitudes, and professional behaviors demonstrated in the implementation of teaching and learning activities. According to Article 8 of Law No. 14 of 2005 of the Republic of Indonesia, teachers are required to possess four core competencies: pedagogical competence, personality competence, professional competence, and social competence, which are developed through formal teacher education and continuous professional development programs.

Pedagogical competence is particularly important because it reflects a teacher's ability to understand students' characteristics, design learning activities, implement effective instructional strategies, assess learning outcomes, and utilize educational technology appropriately. In the teaching and learning process, two fundamental components that strongly influence instructional effectiveness are teaching methods and learning media. The selection of an appropriate instructional method determines the type of media used to support learning activities. Consequently, instructional media function not merely as tools for delivering information but also as instruments for creating engaging, interactive, and student-centered learning environments.

This study specifically examined the utilization of Google Classroom as an online learning platform by Physical Education, Sports, and Health (PESH) teachers. Although physical education traditionally emphasizes direct physical interaction and practical activities, the integration of digital learning platforms has become increasingly important for supporting communication, distributing learning materials, organizing assignments, monitoring student progress, and conducting assessments. Google Classroom provides various features that facilitate these activities, enabling teachers to manage learning more systematically and efficiently.

The findings of this study indicate that the pedagogical competence of PESH teachers in using Google Classroom is high. Based on responses to 14 questionnaire items measuring pedagogical competence, the majority of teachers strongly agreed with the statements, resulting in an overall agreement rate of 81.20%. This result suggests that PESH teachers have demonstrated adequate capabilities in planning instruction, implementing learning activities, managing classroom interactions, evaluating student learning outcomes, and integrating digital technology into instructional practices.

Furthermore, these findings imply that adopting Google Classroom has supported teachers in adapting to technology-based learning environments and in enhancing the quality of instructional management. The high percentage of agreement also indicates that teachers perceive Google Classroom as an effective medium for facilitating learning activities, maintaining communication with students, and ensuring continuity of education, particularly in situations where conventional face-to-face instruction is limited. Therefore, it can be concluded that PESH teachers participating in the MGMP of Kupang City possess good pedagogical competence in managing learning through Google Classroom, which contributes positively to the implementation of innovative and technology-supported educational practices.

4. CONCLUSION

Based on the findings and discussion of this study, it can be concluded that the pedagogical competence of Physical Education, Sports, and Health (PESH) teachers who are members of the Subject Teacher Consultation Group (MGMP) in Kupang City is categorized as very good in the implementation of learning through Google Classroom. The overall average percentage score obtained was 82.07%, indicating that most teachers possess strong pedagogical capabilities in planning, organizing, implementing, and evaluating technology-based learning activities.

These findings suggest that PESH teachers have effectively adapted to the demands of digital learning environments by using Google Classroom as an instructional platform. Their pedagogical competence is reflected in their ability to design learning activities, provide learning materials, facilitate student participation, monitor learning progress, and conduct assessments through online media. Furthermore, the high level of pedagogical competence demonstrated by the teachers indicates that Google Classroom can serve as an effective tool for supporting instructional management, improving communication between teachers and students, and ensuring the continuity of learning in various educational contexts.

Therefore, it can be concluded that PESH teachers within the MGMP of Kupang City possess adequate pedagogical competence to integrate information and communication technology into the learning process, particularly through Google Classroom. This competence contributes to the development of innovative, flexible, and student-centered learning practices aligned with the demands of contemporary education in the digital era.

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