



# THE EFFECT OF TEACHERS PEDAGOGIC COMPETENCY ON THE LEARNING OUTCOMES OF STUDENTS

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*ABSTRACT - This study aims to determine the effect of pedagogic competence on student learning outcomes. The population in this study were 41 students of physics class at high school in Pati. Collecting data by observation, interviews and distributing questionnaires. The questionnaire method was used to collect data on the independent variables of Pedagogic Competence and the dependent variable on Learning Outcomes. Test the research instrument by testing the validity and reliability test. The data analysis technique used is multiple regression analysis, coefficient of determination, t test and F test with a significance level of 0.05. Before analyzing the data, the analysis prerequisite test was conducted, including the normality test, multicollinearity test and heteroscedasticity test. The results of this study indicate that there is a significant influence between pedagogical competence on student learning outcomes in the learning evaluation course.*

Keywords: Pedagogic competence, learning outcomes, students.

## 1. INTRODUCTION

In the 21st century, teacher work is a complex and difficult job in line with large and rapid changes in the school environment driven by advances in science and technology, changing demographics, globalization and the environment. 21st century teacher competence, professional teachers are no longer just teachers who are able to teach well but teachers who are able to become learners and agents of school change, and are also able to establish and develop relationships to improve the quality of learning in their schools. For that, teachers need effective professional development, namely guidance. Guidance is one of the effective strategies for increasing the professionalism of teachers in the 21st century. Through mentoring, professional relationships and professional learning communities in schools may be effective to improve the quality of teaching and learning in schools. The implementation of effective mentoring needs to consider things that affect the quality of the mentoring relationship, such as: the structure of the mentoring organization, the work contract, the quality of the mentor, the activities in the initial to the end of the mentoring sessions. To strengthen its functions and benefits, guidance needs to be programmed. This requires a change in structure, culture and also leadership support from schools and related institutions



Competence is a teacher's ability to carry out his teaching profession. From the description above, it appears that competence refers to the ability to do something that is obtained through education. Teacher competence refers to performance and rational actions to meet certain specifications in the implementation of educational tasks. It is said to be rational because it has a direction and purpose, while performance is real behavior in the sense that it is not only observable, but includes something that is not visible. One of the most important components that must be continuously considered in improving the quality of education is the teacher. Teachers in the context of education have a large and strategic role. This is because teachers become: the front guard "in the process of implementing education. The educational process is a system consisting of input, process and output. The input here is students who will carry out learning activities, the process is an activity during teaching and learning while the output is the result of the learning process carried out. From the learning process, it is hoped that it can produce quality and highly competitive human resources to face competition in the current era, especially now that students, especially those majoring in education, are required to be able to teach in class. Education is a conscious and systematic effort to achieve a better standard of living or progress. Education can be applied through a structured learning process and directed. The success of the educational process is very successful determined by the teacher which is an important component in achieving educational goals. According to Asbari (2020) teachers are professional educators of scientists with the main task transforming, developing, and disseminating science, technology and arts through education, research, and community service ". The teacher plays a major role in education development in particular formal education on campus. Teacher t greatly determines the success of students, especially in relation to the learning process teach. Lecturer is the most component influence the creation of processes and results quality education. Pedagogic competence is often not understood and understood by some teachers, not a few teachers who only teach without wanting to know what it is Pedagogic ability is the ability in learning or education which contains an understanding of things related to the nature of students, characteristics of students, their development. students, educational concepts that are useful to help students, teaching methodologies that are in accordance with the materials and development of students and others. Teachers are expected to understand the characteristics, character, level of thought, physical and psychological development of students. By understanding these things the teacher will easily understand the difficulties and the ease with which students learn and develop themselves so that the teacher will more easily help students develop. For that we need a good approach, know the science of child psychology and child development and know how the development of children's knowledge.

The importance of a teacher having pedagogical competence is that teachers can develop their students' abilities maximally because teachers who master several theories about education by understanding various educational theories can choose which one is the best to help the development of students. In addition, the teacher is also expected to understand various learning models. By increasingly understanding the many learning models, it will be easier for him to teach children according to the situation of their students. Basically, increasing the pedagogic competence of teachers will prevent monotonous learning activities, dislike students and make students lose their interest and absorption and concentration of learning. Teachers are required to be able to present material optimally, in other words, a teacher must really have good competence in educating, especially the competence of teachers in learning. In the learning process, a lecturers need to design the program in advance learning, meaning a lecturer before teaching needs to design the material organization clear lessons, designing classroom management, designing learning strategies, designing media learning, designing learning evaluations students, then also a teacher must be able understand the character of students and are required to can actualize various potentials owned by students. Where is the lecturer ability in managing this learning



activity is a pedagogic competence. Besides that, teachers must also have such professional competence described by Mulyasa (2007) professional competence, namely "mastering the material learning extensively and deeply for guide students to meet the standards competencies specified in the National Standard Education that is reflected in competence professional . The role of a lecturer in the learning process teaching is very influential on learning outcomes college student. According to Uno (2012) "Learning outcomes is a relatively sedentary change in behavior in a person as a result of interaction someone with the environment . One of the related to low learning outcomes caused by several factors resulting in students getting grades low, but once done interviews with students found a method learning that is used by lecturers still conventional so that it discourages students to develop and have an impact on learning outcomes The low one. Lack of communication between students and lecturers. Then, lecturer problems in applying competence when teaching. This is visible when the teacher ignores the components in lecturer competence, especially competence which is directly related to the process learning to teach is like neglecting giving motivation to students related to the material to be delivered, the use of that teaching method less varied, and lack of feedback from students when the lecturer explains. So deep this opportunity based on that background the researcher took the title Competency Influence Pedagogy of student learning outcomes in physics lessons.

## 2. LITERATURE REVIEW

Pedagogic Competence is one type of competency that absolutely needs to be mastered by teachers. Pedagogic Competence is basically the ability of teachers to manage student learning. Pedagogic Competence is a distinctive competency, which will differentiate teachers from other professions and will determine the level of success of the process and learning outcomes of their students. This competence is not obtained suddenly but through continuous and systematic learning efforts, both in the pre-service period (education for prospective teachers) and during their tenure, supported by the talents, interests and other potential of each individual teacher. In connection with the Teacher Performance Appraisal activities, there are 7 (seven) aspects and 45 (forty five) indicators relating to the mastery of pedagogical competencies. The following shows the seven aspects of pedagogical competence and their indicators:

### A. Mastering the characteristics of students

The teacher is able to record and use information about the characteristics of students to help the learning process. These characteristics are related to the physical, intellectual, social, emotional, moral, and socio-cultural background aspects: The teacher can identify the learning characteristics of each student in his class, The teacher ensures that all students get the same opportunity to actively participate in learning activities, Teachers can organize classes to provide equal learning opportunities to all students with physical disabilities and different learning abilities, The teacher tries to find out the causes of deviant behavior of students to prevent this behavior from harming other students. The teacher helps develop the potential and overcome the shortcomings of students, The teacher pays attention to students with certain physical weaknesses in order to participate in learning activities, so that these students are not marginalized (marginalized, made fun of, insecure, etc.).

### B. Mastering learning theories and principles of educational learning



Teachers are able to determine various approaches, strategies, methods, and learning techniques that educate creatively in accordance with teacher competency standards. Teachers are able to adjust learning methods according to the characteristics of students and motivate them to learn:

The teacher provides the opportunity for students to master learning material according to their age and learning ability through the arrangement of various learning processes and activities. The teacher always ensures the level of students' understanding of certain learning materials and adjusts subsequent learning activities based on that level of understanding. The teacher can explain the reasons for the implementation of the activities / activities he does, both appropriate and different from the plan, related to the success of learning. Teachers use various techniques to motivate students' willingness to learn. The teacher plans learning activities that are interrelated with each other, taking into account the learning objectives and the learning process of students. The teacher pays attention to the responses of students who do not / do not understand the learning material being taught and use it to improve the next learning design.

### **C. Curriculum development**

The teacher is able to compile a syllabus according to the most important objectives of the curriculum and use lesson plans according to the goals and learning environment. Teachers are able to choose, arrange, and organize learning materials according to the needs of students. Teachers can compile a syllabus according to the curriculum. The teacher designs a learning plan that is in accordance with the syllabus to discuss certain teaching materials so that students can achieve the established basic competencies. The teacher follows the sequence of learning materials by paying attention to the learning objectives. The teacher chooses learning materials that: (1) are in accordance with the learning objectives, (2) are appropriate and up to date, (3) are according to the age and level of learning abilities of students, (4) can be implemented in class and (5) are in accordance with the context of daily life Students' days.

### **D. Educational learning activities**

The teacher is able to compile and implement a complete educational design. Teachers are able to carry out learning activities according to the needs of students. Teachers are able to compile and use various learning materials and learning resources according to the characteristics of students. If relevant, teachers make use of information communication technology (ICT) for the benefit of learning. The teacher carries out learning activities in accordance with the design that has been compiled completely and the implementation of these activities indicates that the teacher understands the purpose. The teacher carries out learning activities that aim to help the learning process of students, not to test so that it makes students feel depressed.

## **3. METHOD**

This research uses survey research with a quantitative approach. The quantitative research conducted in this study is of an explanatory type. In this study, there are two variables, namely the independent variable and the dependent variable. The independent variable in this study is pedagogic competence (X1) and the dependent variable is learning outcomes (Y). The population in this study was the 41 students of physics subject. The samples were determined by using the saturated sample technique, namely by taking the whole sample members of the population. This research uses the technique or data collection by



interview, observation and questionnaire. The questionnaire in this study was used to obtain data on competency variables pedagogic (X1), and its effect on learning outcomes (Y). Pedagogic competence variables and learning outcomes that appear in the form of scores are then analyzed. The questionnaire was given to respondents, namely students. Interview and observation methods in this study were conducted to obtain data in the form of information about the object and subject of the study.

#### 4. RESULT AND DISCUSSION

Effect of Pedagogic Competence on Student Learning Outcomes Based on the partial calculation of the effect of teacher pedagogical competence on learning outcomes, the regression coefficient value is 0.455 at the 5% significance level. tcount of 4.691 with a significance value of 0.025 because the regression coefficient has a positive value and a significance value  $<0.05$ , it can be concluded that there is an influence of competence pedagogic towards learning outcomes means that the higher the pedagogic competence of the lecturers, the higher the level of student learning outcomes. The results of this study agree with Hadi (2016) stated that pedagogic competence affects learning outcomes. Pedagogic competence is the ability to manage student learning. A teacher is expected to be able managing good and interesting learning, for example using active and fun learning strategies so that students will feel interested and not feel bored, so students will be motivated to learn active so that the learning outcomes achieved are even more good. Learning outcomes are a reflection of student understanding of the subject delivered by the teacher. The success of the teacher in teaching can be measured from the learning outcomes achieved by students. From this research it is proven that the role of the teacher, in this case competence pedagogy also exerts considerable influence big on student learning outcomes. This means the better the competence of a teacher will be the better the learning outcomes obtained teacher.

##### **Benefits of Pedagogic Competence for Teachers**

The benefits of pedagogic competence for teachers are teachers are able to understand the development of their students both physically and psychologically, such as the level of thinking and character. With this understanding, teachers will always develop their potential to always be ready to provide support for their students. Learning objectives will be more easily directed by the pedagogical competence of the teacher. Pedagogic competence can be a reference in determining attitudes towards learning development that are in line with the current conditions of students. Pedagogic competence helps teachers to avoid misdiagnosis of student development. With this competency, the teacher will understand the actions that must be applied to students and which ones are not in accordance with their character and psychological development. For a teacher, pedagogic competence is a measure of success in carrying out its duties as an educator and teacher. The success of students in achieving learning competencies cannot be separated from the direction and guidance of the teacher. Thus, the teacher will measure his success through the level of student success presentation and this can only be achieved if poor pedagogical competence is adequate.

##### **Benefits of Teacher Pedagogical Competencies for Students**



Apart from the benefits of pedagogic competence for teachers, teacher pedagogical competence also provides significant benefits for students. Here are some of the benefits of teacher pedagogical competence for students, namely: Students' curiosity is fulfilled because in the learning process, the teacher stimulates students' way of thinking through contextual studies that trigger student curiosity as outlined in the form of questions. With pedagogic competence, in addition to explaining the learning material, teachers also provide opportunities for students to express their opinions. Build students' self-confidence. Teachers who have adequate pedagogical competence will be able to formulate learning activities that involve students directly and actively. Learning activities that involve students will be able to build student confidence based on their respective characteristics. Students will feel happy following the lesson. The teacher's pedagogical competence will be able to create a pleasant learning atmosphere far from being boring. Students will feel valued with their respective capabilities because the teacher understands the characteristics of each student. Likewise in designing learning methods, the teacher's pedagogical competence will touch all students who have auditory, visual, and kinesthetic learning modalities so that everything looks active and fun.

## 5. CONCLUSION

Pedagogical competence is an absolute competency if someone wants to become a professional teacher. Pedagogic competence has a very broad aspect related to technical education management. The aspects of pedagogical competence that teachers must have to carry out their duties as a teacher, namely educating and teaching, they must be able to understand the characteristics of each student personally even though they are in a separate community such as classrooms and school organizations. The subject matter delivered by the teacher will be acceptable to students if the teacher understands their situation. Thus, the first pedagogical competency aspect that every teacher must have is pedagogical competence. In addition to the ability to understand student character, a teacher must also master learning theories. By understanding existing learning theories, a teacher will easily decide what actions to take in the learning process both in terms of methods and learning approaches that are in accordance with the learning material. A teacher must be able to compile learning tools such as a syllabus and a lesson plan. The ability of the teacher to arrange learning devices can be seen from the suitability of teaching materials with the needs of students. A teacher with good pedagogical competence will be able to create educational learning activities. It should be understood that sometimes in the implementation of the learning process there is an action that is not educational for students. For example, giving punishment to students who violate by indirectly dropping students' mental. Good teachers with pedagogical competence will understand the types of actions that will harm their students both physically and mentally. In principle, each student has a different potential which makes him unique from other students. The teacher must be able to detect this potential and then develop an approach that is in accordance with their character. The development of student competencies can only be done if the teacher masters the learning theories as outlined in the learning tools. Building communication with students is a very important aspect to do. Good communication will create a harmonious learning atmosphere so that teachers and students will be open to each other about the learning they carry out. The communication aspect of teacher pedagogic competence is the basis for creating a conducive learning atmosphere. Every teacher must understand how to assess or evaluate students. Evaluation is carried out to measure the level of student ability as well as a barometer of the success of the learning carried out. The results of the evaluation will show the





completeness of learning, detect students with problems, and as a reference for determining solutions to be taken in overcoming these problems. This is an explanation of the pedagogical competences that teachers must have as an educator and teacher. By understanding the importance of pedagogic competence as the main requirement to become a teacher, it is hoped that all teachers will always develop their capabilities, especially in relation to these pedagogical competencies.

## 6. REFERENCES

1. Asbari, M., Tukiran, M., PURWANTO, A., Santoso, P. B., Wijayanti, L. M., & Hyun, C. C. (2020). MASIH RELEVANKAH PENGUKURAN GAYA BELAJAR PADA PEMBELAJARAN ONLINE? (SEBUAH KAJIAN LITERATUR SISTEMATIS). *Journal of Industrial Engineering & Management Research*, 1(3), 267-275. <https://doi.org/10.7777/jiemar.v1i3.90>
2. Handayani, L. (2020). Keuntungan, Kendala dan Solusi Pembelajaran Online Selama Pandemi Covid-19 : Studi Eksploratif di SMPN 3 Bae Kudus. *Journal of Industrial Engineering & Management Research*, 1(2), 15-23. <https://doi.org/10.7777/jiemar.v1i2.36>
3. Hyun, C. C., Tukiran, M., Wijayanti, L. M., Asbari, M., PURWANTO, A., & Santoso, P. B. (2020). PIAGET VERSUS VYGOTSKY: IMPLIKASI PENDIDIKAN ANTARA PERSAMAAN DAN PERBEDAAN. *Journal of Industrial Engineering & Management Research*, 1(3), 286-293. <https://doi.org/10.7777/jiemar.v1i3.92>
4. Lestari, B., Novitasari, D., Silitonga, N., & Asbari, M. (2020). The Effect of Recruitment and Career Development on The Spirit of Teachers' Work Performance in MTs Nurul Huda. *Journal of Industrial Engineering & Management Research*, 1(3), 108-121. <https://doi.org/10.7777/jiemar.v1i3.72>
5. PURWANTO, A., Tukiran, M., Asbari, M., Hyun, C. C., Santoso, P. B., & Wijayanti, L. M. (2020). MODEL KEPEMIMPINAN DI LEMBAGA PENDIDIKAN: A SCHEMATIC LITERATURE REVIEW. *Journal of Industrial Engineering & Management Research*, 1(3), 255-266. <https://doi.org/10.7777/jiemar.v1i3.89>
6. Rokhani, C. T. S. (2020). MEWUJUDKAN PESERTA DIDIK BERKARAKTER INDONESIA MELALUI PENINGKATAN PENANAMAN CINTA TANAH AIR : BEST PRACTICE DI SD NEGERI DENGKEK 01 PATI. *Journal of Industrial Engineering & Management Research*, 1(2), 57-75. <https://doi.org/10.7777/jiemar.v1i2.41>
7. Santoso, P. B., Tukiran, M., Hyun, C. C., Wijayanti, L. M., Asbari, M., & PURWANTO, A. (2020). REVIEW LITERATUR: PENGEMBANGAN SUMBER DAYA MANUSIA DAN



PENDIDIKAN DALAM RANGKA MENINGKATKAN PERTUMBUHAN EKONOMI.  
Journal of Industrial Engineering & Management Research, 1(3), 276-285.  
<https://doi.org/10.7777/jiemar.v1i3.91>

8. Sartika, . N. S., Subroto, . D. E., Mauladaniyati, . R., Rosdianwinata, . E., Rifai, . R., Sujana, . A., Abidin, . Z., Priadi, . M. D., Setiawati, . E., Yanti, . D. & Purwanto, . A. (2020) Effect of Pedagogic, Professional Competency, and Work Motivation Toward Indonesian Primary School Teachers Performance. *Systematic Reviews in Pharmacy*, 11 (9), 617-626. doi:10.31838/srp.2020.9.91
9. Setyorini, I. (2020). Pandemi COVID-19 dan Online Learning: Apakah Berpengaruh Terhadap Proses Pembelajaran Pada Kurikulum 13?. *Journal of Industrial Engineering & Management Research*, 1(1), 95-102. <https://doi.org/10.7777/jiemar.v1i1.31>
10. Sudargini, Y., & Purwanto, A. (2020). Pendidikan Pendekatan Multikultural Untuk Membentuk Karakter dan Identitas Nasional di Era Revolusi Industri 4.0 : A Literature Review. *Journal of Industrial Engineering & Management Research*, 1(3), 299-305. <https://doi.org/10.7777/jiemar.v1i3.94>
11. Tri Suci Rokhani, C. (2020). Pengaruh Gaya Kepemimpinan Kepala Sekolah Terhadap Kinerja Sekolah di SDN Dengkek 01 Pati. *Journal of Industrial Engineering & Management Research*, 1(2), 1-8. <https://doi.org/10.7777/jiemar.v1i2.35>