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Teacher Pedagogical Competence in the Application of Science and Technology in Society in Raudhatul Atfhal, Rappocini District, Makassar City

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Abstract

This dissertation aims to: (1) Describe teachers' pedagogical competence at Raudhatul Atfhal in designing and implementing educational activities using Science Technology Society (STS); (2) Analyze the use of technology and communication through STS; (3) Evaluate students' learning outcomes based on teachers' pedagogical competence. This qualitative research uncovers the pedagogical competence of RA teachers in applying STS, using observations, interviews, and documentation. Four teachers from RA Mardhati and Hasirah Home School participated. Data analysis followed steps of condensation, presentation, and conclusion. Findings show that RA Mardhati and Hasirah teachers demonstrate strong competence in planning, implementing, utilizing ICT, and evaluating learning outcomes. Teachers at RA Mardhati create supportive and dynamic learning environments, while Hasirah teachers plan structured lessons through daily and weekly plans. The use of ICT (e.g., Wi-Fi, laptops) enhances the learning process, making it more engaging and interactive. Teachers evaluate learning daily and report progress comprehensively, focusing on both process and outcomes. The implications emphasize the need for continued development of pedagogical competence. RA institutions should support teacher training to adapt teaching methods to students' needs. Teachers are encouraged to enhance professionalism through external training. Future research should explore deeper variations of methods to provide a more comprehensive understanding of pedagogical competence at RA.

Keywords: Pedagogical competence, Science Technology Society, Raudhatul Atfhal

Introduction

Education is basically an attempt to bring mankind to a more perfect level, while the phenomenon of education and teaching is quite a complex problem influenced by many factors, including teachers. Looking at the current conditions, it turns out that the role of

teachers is decisive in improving the quality of education and as a determinant of the success of the teaching learning process.

The Law of the Republic of Indonesia No. 14 of 2005 on Teachers and Lecturers, article 1, paragraph 1, states that teachers are professional educators whose primary responsibility is to educate, teach, guide, direct, train, evaluate and evaluate pupils in early childhood education, formal education, basic education, and secondary education. This means that the teacher in the learning process has a central position and plays an important role in helping to develop the knowledge, attitude, personality and skills of the student.

The National Education System Act No. 20 of 2003 states that educators in this respect, including teachers, are professionals responsible for planning, implementing and evaluating learning outcomes. In order to implement the law, the government began to pay more attention to the performance of teachers. Therefore, teachers are given the criteria they must have, one of which is the competence that matches the standard. It is clearly stated in the Law No. 14 of 2005 on teachers and lecturers that competence is a set of knowledge, skills, and behaviour that must be possessed, lived, and mastered by teachers in carrying out their professional duties. It means that the teacher in performing his duties should have a wide knowledge in teaching and skills in managing learning activities and good behavior that can be a guide for the child in their respective fields. Early Childhood Education (PAUD) is one of the areas of basic education for children aged 0-6 years.

PAUD educator competences are the various abilities that PAUD teachers have in performing work as educators, teachers, tutors, trainers, and evaluating early childhood on both formal and non-formal PAUD tracks.

Pedagogical competence is the ability in the management of pupils that covers the understanding of the insight or foundation of education, the understanding about pupils, the development of curricula / curriculum, learning planning, the implementation of educational and dialogue learning, the evaluation of learning outcomes, and developing the pupils to update the various potential that they have. The essence of the teacher must have the ability to manage learning, plan and implement learning as well as to evaluate the child's learning outcome to update different potential that the child has and also influence the increased development of the child from the cognitive, psychomotor, and affective aspects.

The results of the information obtained through the interview with the mother of the head of the school in the district of rappocini of the city of Makassar are as follows: (1) Statement of the Head of the School at RA House of School of Hasirah, said that the problems arose related to the academic qualifications of teachers and teachers' pedagogical competence. Thus, the problems that arise affect the pedagogical competence of teachers, i.e. teachers lack mastery of the characteristics of the child from the physical, moral, social, emotional, and intellectual aspects. Besides, there are teachers who lack an understanding of how to create a Semester Program (Promises), a Weekly Learning Implementation Plan (RPPM), even up to a Daily Learning Execution Plan. (RPPH). Where teachers are already equipped with existing learning devices without reconsidering the shortcomings and advantages of

such devices. (2) Next, the mother of the head of the school at RA Mardhati, said that the problem is almost the same as that of the House of the School Hasirah in relation to the academic qualifications of teachers and teachers' pedagogical competences. On the teachers' academic competence, of the two teachers who teach are not D4 or S1 graduates in the field of early childhood education or psychology. On the pedagogical competence of teachers among others: First, there are still teachers who have not understood the characteristics of the child. Second, the teacher's lack of understanding in drawing up and developing the Annual Programme, the Semester Program, the Weekly Learning Implementation Plan (RPPM), and the daily learning implementation plan. (RPPH). Third, there are still teachers who are not able to use media, information technology and communication in the learning process. Many teachers are still gaptek (gaptek) so less use the existing technology to obtain the various information needed. Fourthly, in conducting a learning evaluation, it is still apparent that some teachers do not conform to the procedures. Even though teachers evaluate learning but do not use or follow the guidelines that have been established except by calculation. According to the results of the supervision of the head of the school to the teachers the evaluation was carried out only on the basis of the demonstration of work, the outcome of the work, and the questioning of answers to the child on the learning process took place without making the instrument of evaluation.

The competence of a teacher, especially a teacher of early childhood education, has a strong influence on the learning outcome of the pupils. For that, if someone wants to be a professional teacher then the teacher should be committed to constantly improving insights, knowledge, attitudes, and skills.

Based on the above background, the researchers and the review discussed in depth about the pedagogical competence of teachers in the application of science and technology of society at Raudhatul Atfhal Kec. Rappocini, so that it could later be a reference for making a strategy plan in optimizing the pedagogic competency of the teacher towards improving the quality of learning in particular learning of technology of science of society. In order for the quality of education at Raudhatul Atfhal Kec. Rappocini to match what should and what is expected, then the development of pedagogical competence of teachers is very much expected in order to improve quality of human resources in general.

Method and Data

This research is qualitative research, i.e. research intended to understand phenomena of what is experienced by the subject of research producing descriptive data in the form of written or oral words of people and behavior experienced. The research was carried out at the Raudhatul Athfal district of Rappocini of Makassar, which is under the umbrella of the Ministry of Religion. The subjects involved are two head of school, four teachers. Data collection methods through observations, interviews, and documentation. Data analysis using the interactive analysis methods of Miles and Huberman. In qualitative research it is necessary to set the validity of data to avoid invalid data. The way that researchers do in this process is with triangulation, which is the technique of verifying the validity of data by

using something other than the existing data for the purposes of data validity verification or as a comparison material to the available data.

Results

RA Mardhati, teacher competence in learning planning shows high dedication, although daily learning planning (RPPH) and weekly (RPPM) have been prepared by the school. Class A teachers have implemented such planning as a guideline for implementing learning in accordance with the K13 Curriculum. This reflects their commitment to planning a structured and continuous learning process. While Class B teachers also highlighted the importance of structured learning planning in accordance with the PAUD curriculum, they ensured that the chosen teaching methods, such as lectures, experiments, and questions-answer, were tailored to the subject and age of the student. This approach helps teachers to understand and prepare themselves before starting the learning process and in the implementation of learning is well seen teachers are more active, creative, innovative, effective, and enjoyable in teaching because this becomes a benchmark for the development and understanding of learners to the material that has been delivered by teachers. In addition, the use of varied methods aims to determine the level of mastery of the material that has been acquired by the student during the learning process.

Ra House School Hasira in the planning of learning, teacher's pedagogical competence is in the good category. Where, teachers make daily learning implementation planning (RPPH) and weekly learning planning (RPPM). It demonstrates good ability in identifying the needs of learners, understanding their characteristics, giving motivation, and supporting them in overcoming learning barriers. The teachers in this school have been able to plan structured and relevant learning according to the needs and characteristics of the pupils and in implementing effective and appropriate learning. They use varied methods and adapt their approach to the characteristics of the student, create a learning environment that supports the child's development and ensure a dynamic and exciting learning process. Their approach reflects a deep understanding of educational theories such as constructivism and the theory of Social Science Technology (STM), showing good adaptation to technological developments and early childhood needs.

Using Technology, Information, and Communications, RA Mardhati and RA Hasirah Home School show good competence to support the learning process. They not only use technology to make learning more interesting and interactive, but also try to overcome the challenges that exist by finding creative solutions. It demonstrates their commitment to improving the quality of early childhood education through the use of effective and relevant technology, in accordance with the principles of constructivism and TPACK. Evaluation of the learning outcomes of the pupils, the teachers at RA Mardhati and RA House School Hasirah perform daily evaluations that pay attention to the holistic development of children, covering cognitive, physical, social, emotional, language, and art aspects. It is in line with Piaget's theory that emphasizes the importance of understanding the developmental stages of children to provide proper evaluation and support their growth. It

can be concluded that the pedagogical competence of teachers is in a good category. It shows a high pedagogic competence in monitoring and measuring the holistic development of pupils. This approach not only supports academic achievement, but also takes into account the moral, cognitive, social, and emotional aspects, language, motor physics and the arts of children in the context of PAUD education.

Discussion and Conclusions

Using Technology, Information, and Communications, RA Mardhati and RA Hasirah Home School show good competence to support the learning process. They not only use technology to make learning more interesting and interactive, but also try to overcome the challenges that exist by finding creative solutions. It demonstrates their commitment to improving the quality of early childhood education through the use of effective and relevant technology, in accordance with the principles of constructivism and TPACK. Evaluation of the learning outcomes of the pupils, the teachers at RA Mardhati and RA House School Hasirah perform daily evaluations that pay attention to the holistic development of children, covering cognitive, physical, social, emotional, language, and art aspects. It is in line with Piaget's theory that emphasizes the importance of understanding the developmental stages of children to provide proper evaluation and support their growth. It can be concluded that the pedagogical competence of teachers is in a good category. It shows a high pedagogic competence in monitoring and measuring the holistic development of pupils. This approach not only supports academic achievement, but also takes into account the moral, cognitive, social, and emotional aspects, language, motor physics and the arts of children in the context of PAUD education.

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