

# Competency Analysis of Science / Biology Junior High School Teachers that Have Passed Certification in Aceh Tamiang Regency

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**Abstract-**Descriptive of this study aimed to analyze the competencies of science / biology junior high school teachers who have passed certification in Aceh Tamiang Regency. The population and sample in this study were 58 science / biology junior high school teachers who had passed certification from all junior high schools in Aceh Tamiang Regency. The research instruments used consisted of learning observation sheets, tests and questionnaires. The data analysis technique in this study was conducted in quantitative descriptive. The results showed that the pedagogic competencies of science / biology teachers in Aceh Tamiang had a good category with the highest percentage of communication aspects with students (84.70%), while the lowest percentage was in the aspects of mastering learning theory and educational learning principles (79.86%). The results for the professional competence of teachers in the ability to solve the problem, the highest percentage in the aspect of understanding the nature of Science / Biology as a science and describing the object of the problem of Biology through the scientific method (65.3%). While the lowest percentage is in the aspect of explaining the principles of biotechnology, the application of biotechnology, the use of biotechnology in the application of food biotechnology for human life (52%).

**Keywords-***Pedagogic Competence; Professional Competence; Science / Biology Teachers; Certification*

## I. INTRODUCTION

Education is a fundamental and key effort to be able to advance the nation. The biggest potential in the Republic of Indonesia will be developed if the people are developed and awakened. Human quality is the beginning of the progress, and education is one of the most important elements in improving human quality. According to Government Regulation No. 74 of 2008 concerning Teachers, explained that competence is a set of knowledge, skills, and behaviors that must be owned, mastered, and actualized by the teacher in carrying out the professional duties. The Government made Law No. 14 of 2005 concerning Teachers and Lecturers who stated that professional teachers in addition to having a minimum academic qualification of S1 (Undergraduate Study), must also have four competencies namely pedagogic competence, social competence, professional competence, and

personality competencies. In the National Education Standards, the explanation of Article 28 paragraph (1) point a is stated that pedagogic competence is the ability to manage student learning which includes: understanding of students, designing and implementing learning, evaluating learning outcomes and developing students to actualize their potential. Suryadi, 2014, states that a professional teacher has a set of competencies which are a requirement to support his duties and functions as a teacher. Professional teachers do not only master the fields of science, teaching materials and methods, but also must be able to motivate students, have high skills and are broad-minded.

According to Kunandar, (2011) one of the factors that determine quality in education is the teacher. The teacher is at the forefront of improving human resources because the teacher is dealing directly with students in the teaching and learning process. Because of his expertise as a teacher, students will be born who are of good quality academically, ability, emotional maturity, moral and spiritual so as to be able to produce human resources capable of facing the challenges of the times. The Regulation of the Minister of National Education No. 16 of 2007 concerning competencies which is the basis for the assessment of teacher performance is pedagogic, professional, social and personality competencies. These four competencies are translated into teacher competencies that can be demonstrated and observed in various activities, actions, and attitudes of teachers in learning and mentoring.

In line with the challenges of global life, the roles and responsibilities of teachers in the present and future will be increasingly complex, demanding that teachers always make various improvements and adjust their mastery of competence. Teachers need to think anticipatively and be proactive in facing these challenges. Therefore, teachers must be able to improve their educational work performance in a professional manner, which is to meet the standards of pedagogical, professional, personality and social competence. According to Hasanuddin (2010), pedagogic competence is the ability to manage learning, including the concept of teaching readiness which is demonstrated by the mastery of teaching knowledge and skills. This competency must be possessed by every

teacher in order to achieve success in the learning and teaching process.

The results of Majid's research (2014) state that the quality of education in Aceh is above the 25 rank of 34 provinces in Indonesia. The development of the education sector has not been evenly distributed between districts / cities in Aceh. The low quality of teachers certainly impacts on the education of a region. Teacher competency is an urgent matter in improving the quality of education. If the teacher has low competence, of course it will have an impact on the quality of education of students. And finally it will have an impact on regional human resources. Competent teachers are required to master the Graduate Competency Standards (*Standar Kompetensi Lulusan / SKL*) that have been set.

## II. MATERIALS AND METHODS

### A. Research Design

This research was conducted on junior high school science teachers / biology teachers who had passed the certification. The method used in this study is quantitative descriptive using numbers then explained using sentences.

### B. Samples

The samples used as the object of the research were all science teachers / biology teachers who had passed certification in Aceh Tamiang District, totaling 58 people from 48 junior high schools in Aceh Tamiang.

### C. Instruments

The instrument used in data collection is in the form of learning observations, questionnaires and tests. Data obtained from all instruments were analyzed by using the formula:

$$P = \frac{F}{N} \times 100\% \quad (1)$$

Notes:

P = Percentage

F = Frequency

N = Sum of questions

After calculating the percentage of answers, then the answer is given a value using the formula:

$$\text{Score} = \frac{\text{Score obtained}}{\text{Score maximum}} \times 100 \quad (2)$$

To determine the level of teacher competency, the researcher used the criteria in accordance with the Teacher Performance Assessment (*Penilaian Kinerja Guru / PKG*) standard as outlined in the Minister of Government Regulation and Bureaucratic Reform No. 16 of 2009. The rules for pedagogical and professional competencies are shown in the following table:

TABLE 1. DESCRIPTIVE CRITERIA ANALYSIS OF TEACHER PEDAGOGIC COMPETENCE

Score of Teacher Performance Assessment	Criteria
91 – 100	Very good
76 – 90	Good
61 – 75	Good enough
51 - 60	Not good
50	Bad

TABLE II. DESCRIPTIVE CRITERIA ANALYSIS FOR TEACHER PROFESSIONAL COMPETENCE

Score Range	Criteria
75 - 100	Very good
50 - 74	Good
25 – 49	Good enough
9 - 16	Not good
0-8	Bad

## III. RESULTS AND DISCUSSION

### A. Results

Based on the data obtained from the results of the study with the number of respondents as many as 58 teachers, overall the average percentage for the two competencies observed in science / biology junior high school teachers who have passed certification is in good criteria, for more details can be seen in Fig. 1.

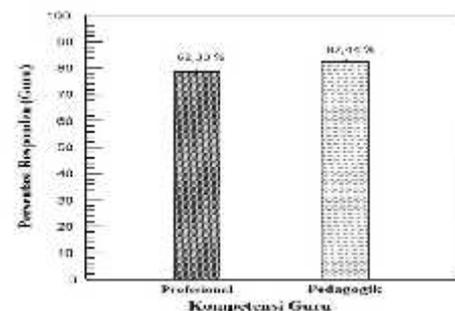


Fig. 1. Average Percentage for Two Competencies

In Figure 1 can be seen from 58 teachers as many as 82.44% of teachers have good pedagogical competence and 63% of teachers have good professional competence as well.

### B. Discussion

Pedagogical competencies of science / biology junior high school teachers in Aceh Tamiang Regency have a good category with the highest value for communication with students while the lowest value controls learning theory and educational learning principles. Overall, the results of the

pedagogical competencies of natural science / biology teachers in the district of Aceh Tamiang have good criteria. In addition, competency in pedagogic competence according to Yasin (2011) can also have an impact on improving the quality of learning in Madrasah Ibtidaiyah Negeri Malang.

Professional competency of science / biology junior high school teachers in Aceh Tamiang Regency in the ability to solve problems based on Graduate Competency Standards (*Standar Kompetensi Lulusan / SKL*), the highest percentage is in understanding the nature of Science / Biology as a science and describing biological problems through the scientific method (65.3%), while the lowest percentage is in explaining the principles of biotechnology, the application of biotechnology, the use of biotechnology and the application of food biotechnology to human life (52%).

#### IV. CONCLUSION

Based on the results of the research, data analysis and discussion, it can be concluded in general that the majority of science / biology junior high school teachers in Aceh Tamiang District have pedagogical and professional competencies which are in the good category.

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