

Professional and Pedagogic Competence of Lecturers of the Faculty of Engineering Universitas Negeri Manado

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ABSTRACT

The four teacher competencies are very important and cannot be separated from one another. Professional competence, pedagogic competence, social competence and personality competence. One competency complements other competencies, so there is no more major competency. Assessing overall competence has often been done, especially with regard to professional competence. The author is interested in discussing specifically about pedagogic competence, with the assumption that professional competence will be meaningless if a teacher cannot carry out the learning process using methodical didactics. In other words, professional competence will not have any effect without understanding pedagogic competence. Pedagogic competence actually when applied correctly contains elements of other competencies, both professional, social and personality. Teacher competence, does not necessarily happen without a certain ability to be taught, then teaching competence must be followed by a strong basis as a form of social and personality abilities. The competence of lecturers, of course, has always focused on professional abilities in accordance with their fields of expertise, even as if ignoring other competencies. These conditions will be a problem when applying and the condition of students who are not ready. A good teaching ability must of course be supported by an expertise, which makes him a teacher. If as an instructor, this is not a problem, but when knowledge and skills must be shared with students, the problem arises how to do it, especially for students with vocational characteristics. Optimal learning quality produces good achievement for students. Many factors are the cause so that students are not satisfied in learning in class/school and of course become an obstacle to student achievement. In addition to psychological factors and internal factors, there are also other external factors. Therefore, researchers are interested in studying specifically pedagogic competence, so that the problem in this study is the Professional and Pedagogic Competence of Faculty of Technology Unima Lecturers.

How is the level of professional and pedagogic competence of Faculty of Technology Unima Lecturers?. Are there differences in the competence of female and male lecturers?

Keywords: *Lecturer's Professional and Pedagogic Competence*

INTRODUCTION

Learning problems in higher education often receive less attention, considering that all learning initiatives focus on students. It is undeniable that the role of lecturers in the learning process tends to be lacking in view or in plain view. The absolute authority of every lecturer seems to kill the initiatives and pedagogic principles that must be possessed. Sometimes professionalism is a rarity in college. For this reason, the researcher's desire to study this matter is getting stronger, even though he faces many challenges, when it seems as if he is assessing colleagues. High subjectivity affects the assessment, so that bias in the results is also inevitable. As an effort, data from students is also important to obtain even if only as a control. The development of technology today is increasingly rapid, unfortunately the quality of education in Indonesia has not been followed. Technology has also not been used optimally in the learning process. Educational technology is also developing rapidly, although it has not been followed by the ability of lecturers to use it. The same applies to lecturers when teaching students. Students' abilities are often not explored optimally, so that the resulting achievements are often less than optimal. There are a number of problems associated with it both from the side of students, teachers and the environment. On the teacher's side, it is realized that pedagogic competence must be optimized. Indeed, with lecturer certification, it is hoped that it will be more optimal in carrying out the learning process. The competence of lecturers does not necessarily happen without a certain ability to be taught, then teaching competence must be followed by a strong basis as a form of social and personality abilities. Vocational lecturers have always focused on professional abilities in accordance with their fields of expertise, even as if ignoring other competencies. This condition will be a problem when applying and the condition of students who are not ready. A good teaching ability must of course be supported by an expertise, which makes him an educator. If as an instructor, this is not a problem, but when knowledge and skills must be shared with students, the problem arises how to do it, especially for students with vocational characteristics. Optimal learning quality produces good achievement for students. Many factors are the cause so that students are not satisfied in learning in class/school and of course become an obstacle to student achievement. In addition to psychological factors and internal factors, there are also other external factors. Therefore, researchers are interested in specifically examining professional and pedagogic competencies, so that the problem in this study is the Professional and Pedagogic Competence of Lecturers of the Faculty of Engineering, Universitas Negeri Manado.

For the learning process in higher education, it cannot be equated with vocational/general high schools, so it is interesting to discuss at the level of professional and pedagogic competence. This thinking does not merely ignore other competencies such as social and personality, but these two competencies should be the absolutes of a Lecturer. Therefore, the formulation of the problem is: What is the level of professional competence of Faculty of Engineering Universitas Negeri Manado Lecturers? How is the level of pedagogic competence of the Universitas Negeri Manado Faculty of Engineering lecturers? Are there differences in the competence of female and male lecturers?

METHOD

This research was conducted in July-August 2017, at the Faculty of Engineering, Universitas Negeri Manado. The lecturers involved include the majors: PKS (Prosperous Family Education), Building, Electrical, Machinery and ICT (Information and Communication Technology). This study took the entire population of the active lecturers of the Faculty of Engineering, Unima. Active in giving lectures and not in and currently continuing his studies. Samples were taken proportionally for each major and study program. Totaling 20% or 30% Lecturers. The samples taken were 50 active lecturers. Consisting of 31 male lecturers and 19 female lecturers, and were taken randomly. Simple random sampling.

Collecting data using a questionnaire instrument for professional and pedagogic level data. The data was collected based on the opinion of the lecturer from filling out the questionnaire, and the perceptions of several students were checked as a control for the validity of the data.

Analysis of the data using the kai square test. Where to find differences in competence based on gender. The method used in this research is descriptive method. The data collection technique used a questionnaire to measure the professional and pedagogic competence of lecturers. In addition, it is also obtained through observations in class. Other supporting data for lecturers is obtained through documentation, in the form of performance results of special teachers in the pedagogic field. The analysis technique in this research is using descriptive analysis to determine the level of professionalism of the lecturers. The technique is to test the hypothesis.

RESULTS AND DISCUSSION

The engineering faculty consists of several departments and study programs including:

1. Department of Electrical Engineering Education
2. Department of Building Engineering Education
3. Mechanical Engineering Education Department
4. Prosperous Family Education Department
5. Department of Information and Communication Technology Education

6. In addition, there are several study programs including: Civil Engineering, Architecture, Mechanical Engineering, Informatics Engineering, Tourism. Each department and study program is led by the department head and department secretary, as is the case for study programs. The number of lecturers for each department and study program are: according to 2015 data.

Table 1. Condition of Lecturer in Each Department

No	Department	Gender		Total
		Male	Female	
1	Electrical engineering education	6	21	27
2	Mechanical engineering education	2	10	12
3	Building Engineering Education	13	26	39

4	Family welfare education	23	1	24
5	Information and communication technology education	10	19	29
6	Total	54	77	131

The lecturer also teaches in other study programs. In some departments there are guest lecturers, the honorarium does not include permanent lecturers

Table.2. Faculty of Technology Lecturer data as a sample

No	Department	Gender	
		Male	Female
1	Electrical engineering education	6	3
2	Building Engineering Education	5	2
3	Mechanical engineering education	5	2
4	Family welfare education	-	8
5	Information and communication technology education	10	
6	Others	5	4

A total sample of 50 lecturers consisted of 31 men and 19 women.

The research data includes the number of teachers and the results of measuring the level of performance or professionalism in the pedagogic field obtained through a questionnaire. Male teachers who have a high level of professionalism are 26% (10 people), moderate 29% (15) and low 12.5% (6). There were 10% (5) female teachers, high category, 15% (10 people) medium and 7.5% (4 people) low. For details in Table 2. Will describe it.

Table 3. Teacher Professionalism Level by Category

Gender	Category			
	High	Medium	Low	Total
Male	10	15	6	31
Female	5	10	4	19
Total	15	25	10	50

To test the hypothesis H_a : there is a difference in the level of teacher professionalism between male and female teachers. H_o , there is no difference in the level of teacher professionalism between male and female teachers. Percentage table on teachers for level of professionalism. The sample was taken by 50 lecturers, consisting of 31 male lecturers and 19 female lecturers.

Table 4. Percentage of Lecturers for the level of professionalism at the Faculty of Engineering, Universitas Negeri Manado

Teacher professionalism	High %	Medium %	Low%	Total%
Male	10 (26)	15(29)	6(12,5)	62,5
Female	5(10)	10(15)	4(7,5)	37,5
Total	15	25	10	100

The percentage of professional teachers from the category obtained when depicted in a curve close to normal. High category 36%, medium 44% and low 20%. This picture shows that hypothesis analysis and testing can be carried out. To test the hypothesis, the kai squared formula for percentage is used.

From the calculation obtained kai square 0.3555 in percentage. Converted in the form of a frequency number by multiplying $\chi^2\%$ so we know $n = 200$ so:

$$\chi^2\% \times n/100 = 0,3555 \times 200/100 = 0,3555 \times 2 = 0,70.$$

$$\text{Free degrees} = (c-1) (r-1). \text{ Column } =3 \text{ while the lane is } 2 \text{ so degrees of freedom} = 2.$$

The critical value of kai squared in the table is 5% - 5,991 and 1 % 9,210. The kai squared obtained is 0.700 which is much smaller than the kai squared table. $0.70 < 5.991$ and $0.70 < 9.210$. It means accepting the null hypothesis which states that there is no significant difference between male and female lecturers in terms of professionalism.

The conclusion is that the existence of gender differences does not have an impact on the level of teacher professionalism. In the next analysis to determine the difference in the level of professionalism of teachers in the field of pedagogics who have been certified or have not obtained the same results. This situation gives an indication that all teachers have the ability, performance and can be called professional.

Researching peer lecturers has its own problems so that apart from the data from the person concerned, it is also compared with secondary data from students. The data is a student's perception of the lecturer. Of course obtained through interviews. Slameto (2010), suggests five basic principles of perception, namely: perception is not absolute; Perception is selective, perception has order, perception is influenced by expectations and readiness, and perception is different both individually and in groups. Hasil pembahasan menunjukkan tidak ada perbedaan yang nyata / signifikan tingkat profesionalisme Dosen bidang pedagogic, dilihat dari jenis kelamin. Demikian juga bila explored further for Lecturers who have been professional and those who have not. Uncertain lecturers have certain reasons to show professionalism in the pedagogic field so that in turn they obtain certification. Lecturers who have not been certified, on average, are 25-40 years old, so they are still very enthusiastic and have strong motivation in teaching. Lecturers who have been certified are more dominated by age > 50 years with more than 25 years of teaching experience, have the advantage of experience and long teaching hours. Female lecturers tend to have problems at childbearing or productive age, but when they enter the age of 40, they become more mature, and more time is given to teach. Lecturers of productive age in giving birth are often hampered in professional development because after giving birth it takes time to take care of children. On the other hand, Lecturers aged > 50 years began to experience a decrease in motivation and enthusiasm, even though they already have teaching certification.

Male lecturers do not have problems in terms of age even though when they enter a certain age > 50 have the same tendency as female lecturers. In conclusion, in general, there is no difference in the level of professionalism of teachers in teaching both male and female teachers. All Lecturers have the same ability and potential. Performance is very dependent on one's motivation to work and obtaining a certificate does not have a direct impact on performance as a lecturer even though he is called a professional. According to data, more than 80% of the lecturers at Fatek Unima have been certified, however, the performance that shows the professionalism of the lecturers is still not optimal.

The lack of positive impact, mostly due to delays in the distribution of allowances (external factors), so that there is a tendency for lecturer certification which is correlated with an increase in welfare, still has problems. The government needs to improve the distribution system and the purpose of providing certification so that it can have a positive impact on the welfare of lecturers. On the other hand, too much time is wasted just to take care of the requirements and fulfill the administration to obtain the Lecturer certification allowance.

The number of lecturers studied is divided into two parts, namely general lecturers who are dominated by female teachers and vice versa, vocational lecturers who are dominated by male lecturers. The results showed that there was no significant difference between male and female lecturers at the level of pedagogic competence. These results illustrate that the potential of male and female lecturers is the same in terms of pedagogic abilities or competencies. Lecturers - Both male and female lecturers have their respective advantages and disadvantages which do not affect directly.

Encouraging Educational Personnel Education Institutions to view the professionalism of lecturers and student participation in class as important factors to improve learning outcomes. Some of the outcomes are seen in this table.

Table 5. Professional and Pedagogic Competency Research Outcomes

No	Outer Type	Achievement Indicators
1	Scientific Publications in Journals/Proceedings/articles	√
2	Publication in mass media (Print/Electronic)	√
3	Intellectual property rights (patents, simple patents, copyrights, trademarks, trade secrets, industrial product designs, plant variety protection, topographic protection.	-
4	Collaboration with Vocational Education Partners/Vocational Education Partners	planned
5	Research Report	√

In the table intellectual property rights for this research have not been attempted, so that what will be taken is indexed scientific publications.

CONCLUSION

There is no difference in the professionalism of Lecturers between male and female, indicating that the professionalism of Lecturers specifically in the pedagogic field is not influenced by gender. students tend to prefer female lecturers, while female students prefer male lecturers. The population of students and students at the Faculty of Engineering is almost the same, as well as male and female lecturers, except that in the PKS department there are more women, on the other hand, there are more men in the mechanical department. Likewise, when reviewing professionalism or professional competence, the results are relatively the same. If observed more closely, there is a tendency for younger lecturers to use learning models compared to lecturers who are old or nearing retirement. However, the lecturer is more experienced in teaching, managing classes, building and developing student potential and assessing students. Some conclusions can be described as follows:

1. There is no difference in the professionalism of male and female lecturers show gender equality.
2. Lecturer professionalism is determined by many factors, including internal factors
3. Includes: motivation, lecturer talent, personality and social competence possessed. External factors include: adequate welfare/benefits, learning environment, university management and others.

The performance of lecturers is not only determined by the level of professionalism of the lecturers, but the motivation is both intrinsic and extrinsic. Although more than 80% have been certified, the level of professionalism is still dominated by moderate, in the sample of 100 teachers studied with a population of 118 teachers.

In this study, there should be no difference in treatment between male and female lecturers, when viewed from the aspect of professionalism. Some suggestions that can be used as input for lecturers, Heads of Departments and study programs are:

1. There should be no difference in the treatment of male and female lecturers, in terms of professional development.
2. To determine the lecturer as, or the leader must be objective regardless of gender (gender).
3. There must be equal opportunities for every lecturer to obtain opportunities and positions for career advancement as lecturers and educators from the department/prodi level to the faculty level.
4. Encouraging parties related to the supervision of professional lecturers' performance to carry out their functions properly. On the other hand, it is also necessary to optimize the distribution of Lecturer certification funds, so that it does not interfere with the time and performance of teachers.
5. School management needs to be addressed and carried out objectively by adhering to the principle of reward and punishment. Every success and achievement Lecturer must be rewarded otherwise when experiencing failure must be fostered even if repeated actions need to be taken in the form of punishment.

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