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STATISTICAL ANALYSIS OF SOCIAL AND PROFESSIONAL COMPETENCE OF SCIENCE TEACHER

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ABSTRACT

Background: The aimed of study was to determine the competence of science teacher which illustrates the strong and weak aspects of the development, especially in social and professional competence of a teacher and further provides a formulation in the form of recommendation policy, implementable strategic concept for the development and improvement of professionalism of junior high school science teacher.
Method: The research method is quantitative research which kind of descriptive and inferential statistic. The participant has used online data processing 168 science teachers Manado City junior high school. Based on the analysis of different test, the conclusion that: gender, employee status, certification status, class, age, school status, year of graduation, as well as the background of the study program.
Result: The results revealed no difference, then different test analysis which states that there is only a difference of factors educational qualifications. Correlations between scores social competence and professional competence only of 0.35 means that the relationship between the two competencies are not strongly.
Conclusion: According the results, teacher need to be trained for their passing grade. Some of the things suggested that should be grating issued by the ministry match with those items tested in the UKG test, the implementation of KKG / MGMPs continued and developed with the assistance LPMP and colleges (in this case the State University of Manado), and training material should be adjusted to the results of the UKG study

INTRODUCTION

The Government of the Republic of Indonesia through a series of laws and government regulations have established positions of teachers as a profession. In addition, teachers who have met the criteria in accordance with Law and Government Regulation in accordance predetermined given recognition through certification of educators. In recognition of his professional title given to the teachers and the Government of the Republic of Indonesia rewards in the form of grants certification for once salary. The consequences of the implementation of government policy should be referred to the monitoring and evaluation of teacher performance. Evaluation refers to the Academic Standards and Competencies Qualifications Master, as listed in the National Education Minister Regulation No. 16 (2007). Teacher Qualification Standards on SMP / MTs or any other equivalent form, should be have a minimum education qualification of Diploma (D-IV) or bachelor (S1) in accordance with the program of study subjects taught / of teaching, and was obtained from an accredited institution.

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Additionally somebody teachers, such as school teachers teaching science (Natural Sciences) must meet the standards of competence which includes socialal, social competence, professional competence and personal competence. Facts PISA international tests in the fields of science literacy of students Indonesia had not moved from its ranking is very low and are far from approaching the average score of the 65 countries participating. In addition, the fact the UKG results in North Sulawesi junior high science teacher that showed unsatisfactory results means it is still below the standards expected. Specifically related to professional competence there is a tendency junior high school science teachers is not a background field of study IPA. Junior high school science teachers in general background field of study Biology, Science, or Chemistry, and no background in mathematics or any other subject area. Whereas science learning requires a holistic approach across the field. Besides, the science teachers tend membelajarkan science subjects not optimally utilize the facilities such as laboratories. Although learning resources can come from anywhere, but essential in teaching science is observation and experimentation that must be mastered by the teacher to then be used as material or learning materials. According to the understanding of cognitive psychology as

proposed, Steinberg (1991), examined that ability was to point to the expertise of the individual, as the so-called skill is the ability or achievement that reflects superior knowledge base developed and organized. So someone who has the ability to have the necessary expertise. Because it is someone who has more capabilities, meaning experts (proficient). Someone called experts cannot be distinguished by the expert / incompetent. Sternberg suggests the differences are as follows: Perkins and Smith (2013) argued capabilities they believe represent human intelligence are related to capabilities: (1) classify the patterns, (2) modifying the adaptive behavior, (3) deductive reasoning, (4) inductive thinking - generalize, (5) develop and use conceptual models, and (6) to comprehend and understand. Based on the references mentioned above, the word can mean the ability of skill or ability that is closely related to the potential of existing competencies so that someone with expertise.

The government of the Republic of Indonesia, the term competency is used as a measure of achievement in education such as graduate competency or the competency of teachers. According to the Minister of National Education Peraruran No.16 (2007), stated that the Teacher Competency Standards views of four aspects of socialcompetence, personal competence, and professional competence. seven reserach question were explored, 1) How does the test result science teacher social competence in Manado city of indonesia?; 2) How does the test result science teacher professional competence in Manado city of Indonesia?; 3) How is the test result social competence and professional science teacher in Manado city in indonesia?; 4) How is the diffrence social competence and professional of science teacher base on the gender?; 5) How is the diffrence social competence and professional of science teacher base on the employment status?; 6) How is the diffrence social competence and professional of science teacher base on the ager? 7) Is there a relationship between test results and professional socialal competence in terms of employment status and gender of science teacher in Manado city of Indonesia?.

Hypothesis

* There is diffrence between social competence and professional of science teacher base on the gender?
* There is diffrence between social competence and professional of science teacher base on the employment status?
* There is diffrence between diffrence social competence and professional of science teacher base on the ager?
* There is relationship between professional and social competence

MATERIALS AND METHODS

Participant: The study was conducted by using statistical method. The participant is the science teachers Manado City of Junior High School who participated in the test UKG (Teacher Competency Test) there are 168 teachers.

Materials

This study were analyzed by descriptive and inferensial statistic, data anlysis consist of;

* The range of data, the smallest of the largest data, on average, variance and standard deviation of every aspect of competency tested
* Differencial of science teacher comptence in Manado City junior high schoolbase on the gender
* Differencial of science teacher comptence in Manado City junior high school base on the employment status
* Differencial of science teacher comptence in Manado City junior high school base on the age
* Social Competence and Professional Correlation

Procedure

Before the test had implementation to the science teacher, the ministry of education had been arrenge the instrumen according their empirical study. On december 2015 science teachers in manado city had taken test of competence. After the teachers taken the UKG (comptence test of teacher), the professional of science teacher had been action to analyze the impact factor according the data. The competence test of data had conducted to demography data such as gender, employment status and age. After taken the data result, researcher had conduted to correlate between social and professionalisme comptetence. In order that the correlate and difference impact factor of science competence teacher had been interpretaed and give the contribution to society.

RESULTS AND DISCUSSIONS

This study has data result from Teacher Competency Test (UKG) junior high school science teacher Manado City in 2015 is the basic data that became the focus of the study analysis.

1. Purpose at the beginning of the data indicated a state description relating among others, calculation of the mean (average), data is the smallest, largest data, standard deviation and to plot the histogram graph. Results of analysis using SPSS 22 software IBM acquired the essence of descriptive data such as shown in the following table. Table 1. Results Descriptive Data UKG 2015 junior high school science teacher, Manado

According to the summary Table 1, the average percentage of visible achievement score of 43.87% socialal competence, not significantly different from the average percentage score achievements of the professional competence of 43.94%. It turned out that the average value for the achievement of both competence results UKG 2015 junior high school science teacher Manado City was still below the passing grade. When viewed from the overall achievement score of each junior high science teacher test participants UKG In 2015, the average value of achievements reached only 43.91%. For the test materials UKG 2015 for the science teachers the number of items comprising 18 items socialal competence (30%) and 42 items of professional competence (70%). The total number of about 60 items. If the terms of the number of items answered correctly, then the science teachers of SMP as the city of Manado takers UKG 2015, only answered correctly about 8 questions from a total of 18 items for socialal, and only answered correctly about 18 questions of overall 42 grain a matter for professional competence, as well as on average only

about 26 correct answer of all 60 test items UKG junior high school science teacher in 2015.

Table 1. descriptive data of social-professional competence of science teacher

Statistics

		Social	Professional	SocProf
N	Valid	168	168	168
	Missing	0	0	0
Mean		43.8710	43.9339	43.9154
Std. Error of Mean		.99579	.88976	.78893
Median		43.2100	44.9700	42.5900
Mode		43.21	44.97	46.30
Std. Deviation		12.90687	11.53257	10.22566
Variance		166.587	133.000	104.564
Skewness		.091	.369	.463
Std. Error of Skewness		.187	.187	.187
Range		67.90	58.20	51.85
Minimum		12.35	18.52	22.22
Maximum		80.25	76.72	74.07
Sum		7370.33	7380.90	7377.78

2. Reaching The Participants Test Scores UKG 65% and 55% data score of UKG from 2015 year that was the object of study, it is for the science teachers Manado City Junior High School who participated in the UKG 2015 test, obtained a score of teachers who reached 65% and 55%.
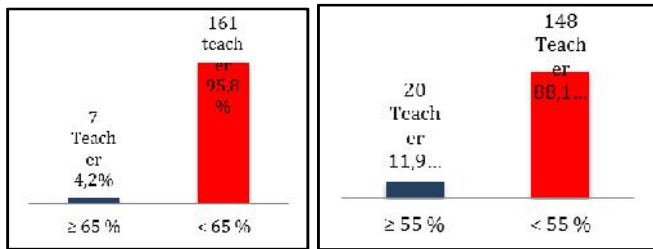

Figure 1. Comparison of the science teachers comptence score as the city of Manado which reached a score 65% and 55%

3. Differencial Test of Science Teacher Comptence Base on The Gender

The of participants in 2015 UKG Manado City junior high science teacher base on the gender, shown in the picture bar chart as follows:
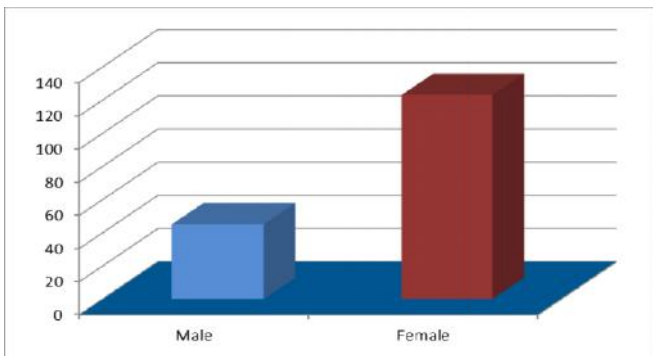

Figure 2. Participants of UKG 2015 science teacher of Manado City junior high base on the gender

Differential test in the achievements of the average value of UKG 2015 results for the science teachers Manado City junior

high school by gender that conducted an independent sample test. The results shown in the following table.2 and 3

Tabel 2. Mean of teacher competence base on the gender

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
SocProf	Male	45	44.9382	10.61173	1.58190
	Female	123	43.5411	10.09915	.91061

In table 2 above average percentage of achievement of results UKG 2015 junior high school science teacher Manado namely: men achieved an average score of 44.94% and for women achieved an average score of 43.54%. Descriptive Data calculation shows that male teacher's higher average achievement scores UKG results compared with women but has no significant difference. This is explained in the following points. In the column t-test for Equality of Means, and by considering the homogeneous distribution of data, then the value is taken on line assumed equal variance, with a p-value of 0, 435 (for 2-tailed)> 0.05. Means based on the criteria set forth above reference, Ho accepted. This statement means that there is no difference in the average value of the results UKG junior high school science teacher Manado between teacher gender male and female.

4. Differential Test of Science Teacher Comptence Base on Employment Status

The participants in 2015 UKG Manado City junior high science teacher, based on the employment status is shown in the picture bar chart as follows:
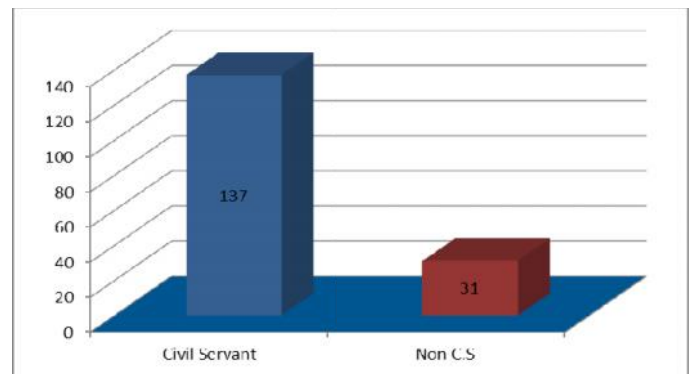

Figure 3. Participants of UKG 2015 science teacher of Manado City junior high base on the Employment Status

Differential test in the achievements of the average value of UKG 2015 results for the science teachers Manado City junior high school base on the employment status that conducted an independent sample test. The results shown in the following table 4 and 5. In Table 4and 5, above average percentage of achievement of results UKG 2015 junior high school science teacher Manado namely: PNS teachers reached an average score of 44.07%, while for Non-civil servant teachers reached an average score of 43.25%. This calculation data descriptively indicate that teachers PNS higher average achievement scores UKG results compared to non-civil servants, but it does not have significant differences. This is explained in the following points. In the column t-test for Equality of Means in line assumed equal variance, p-value 0, 690 (for 2-tailed)> 0.05. Means based on the criteria set forth above reference, Ho accepted.

Table 3. Result of independent sample test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
							Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)			Lower	Upper
SocProf	Equal variances assumed	.238	.626	.783	166	.435	1.39708	1.78357	-2.12432	4.91849
	Equal variances not assumed			.765	75.020	.446	1.39708	1.82528	-2.23903	5.03320

Table 4. Mean of employment status

Group Statistics

	Employstatus	N	Mean	Std. Deviation	Std. Error Mean
SocialProf	Civil servant	137	44.0658	10.65460	.91028
	Non Civil servant	31	43.2506	8.17846	1.46890

Table 5. Result of independent sample test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
							Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)			Lower	Upper
SocialProf	Equal variances assumed	1.175	.280	.400	166	.690	.81512	2.03892	-3.21044	4.84068
	Equal variances not assumed			.472	55.656	.639	.81512	1.72808	-2.64712	4.27736

This statement means that there is no difference in the average value of the results UKG junior high school science teacher Manado between teachers and civil servants Non-civil servant teachers.

5. Differencial Test of Science Teacher Comptence Base on the Age

The participants in 2015 UKG Manado City junior high science teacher, based on the age is shown in the picture bar chart as follows:
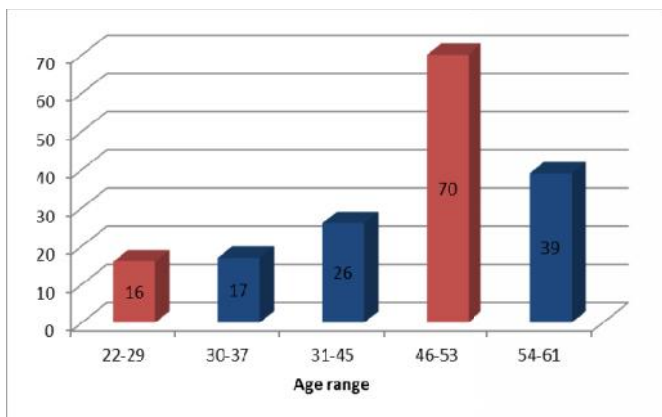

Figure 4. Participants of UKG 2015 science teacher of Manado City junior high base on the age

6. Social Competence and Professional Correlation

Correlation analysis using Spearman's rho test (because the distribution is not normal). The results of the analysis are shown in the following table:

Table. 5 Social Competence and Professional Correlation

Correlations

			Social	Professional
Spearman's rho	Social	Correlation Coefficient	1.000	.349[**]
		Sig. (2-tailed)	.	.000
		N	168	168
	Professional	Correlation Coefficient	.349[**]	1.000
		Sig. (2-tailed)	.000	.
		N	168	168

**. Correlation is significant at the 0.01 level (2-tailed).

Accoding to table index or a correlation coefficient of 0.349 < 0.35, meaning that the relationship between the scores of pedagogical and professional are not strongly correlated.

DISCUSSIONS

According result research junior high school science teachers as the city of Manado, the acquisition performance score 55% only 20 teachers (11.9%) and 65% just seven teachers (4.2%) of 168 teachers participating in the test UKG, 2015.Under a different test analysis, we concluded that gender and employee status, the results revealed no difference. Analysis of different test stating that there is only a difference of factors educational qualifications. This statement has meaning that the level of educational qualification effect on the level of achievement UKG 2015 test scores for junior high school science teachers as the city of Manado. Special correlation between scores social competence and professional competence obtained by the analysis results that the correlation coefficient of 0.35 means that only a relationship between the two competencies are not strong enough. According the data, science teacher competence should be have ability in education suitable their educational background in order that the teaching competence could be applied to students.

This result related with social competence in teaching that teacher could be created a convinient climate in the classroom and attachment between teacher and students. For the further study, it would be conduct with another scopes such as psychology and sociology, in order that reseacher would be seen the impact teacher science comptence and demography toward psyches and social aspects.

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