

## Teacher Professional Competence and Elementary School Student Creativity in Southwest Sumba District East Nusa Tenggara Indonesia

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**ABSTRACT:** The implementation of the 2013 Curriculum in the primary school education system in Indonesia aims to develop students' creativity as one of the 21st-century skills. This research describes the correlation between the teachers' professional competence and the primary school students' creativity. The problem in this research is whether the students' creativity is correlated with the teachers' professional competence in primary schools. Data were collected by distributing questionnaires to 1281 students in 26 primary schools. The teachers' professional competence questionnaire consists of 6 items while the students' creativity questionnaire consists of 14 items. The research samples were taken at simple random. The data analysis method used Spearman correlation description analysis. Based on the results of the Spearman correlation test, it was found that: (1) there was a significant correlation between the teachers' professional competence and the elementary school students' creativity; (2) category of correlation between the teachers' professional competence and the students' creativity was weak; (3) the direction of the correlation between the teachers' professional competence and the students' creativity was positive. The correlation between the teachers' pedagogic competence and the students' creativity shows the need for efforts to increase the teachers' professional competence to increase the primary school students' creativity.

**KEYWORDS** -competence, creativity, primary school, professional, teacher

### I. INTRODUCTION

A quality education process will help students explore and realize their various potentials. Students who are involved in a quality education process, especially the teaching and learning process at school will be able to improve their quality. To carry out a quality teaching and learning process, teachers need to have adequate competence in designing, implementing, and evaluating the teaching and learning process. Teachers are central figures in education because of their role in mobilizing and facilitating students to achieve optimal learning outcomes[1]. Although other factors that support teaching and learning activities are complete and modern, teachers have a very important position and role in determining the quality of the process and student learning outcomes. For example, if teachers lack competence in designing, implementing the teaching and learning process, and utilizing various educational support facilities, it will be quite difficult for students to experience a quality and enjoyable teaching and learning process. In addition, students will also have difficulty developing their qualities. Teachers who are not competent in carrying out their profession will face problems in implementing quality teaching and learning activities[2][3]. In terms of education in primary schools, teachers who have good competence are strongly needed by students to plan and implement the teaching and learning process.

A competency includes the dimensions of knowledge, skills, and attitudes needed to carry out a profession. Teacher competence is the practical skills and proficiency needed to facilitate students in developing their knowledge, skills, and attitudes[4]. Teacher teaching skills as "most specific instructional behaviors" must be mastered well by professional teachers, especially skills related to "what to teach" (mastery of content or teaching materials) and "how to teach" (mastery of teaching methods) [5][6]. The mastery of content and teaching methods is very important for teachers in teaching in the classroom. When teachers have professional knowledge about content, curriculum, approaches, and strategies as well as about students, they have a good knowledge base[7].

Regulations in Indonesia have established teacher competencies which include pedagogic, professional, personality, and social [8][9]. Professional teachers must always try to improve their competence to anticipate various changes and developments that occur in education and be able to design and carry out teaching and learning activities that refer to the standard of the educational process[10]. Teacher professional standards related to teaching skills are related to planning and preparation, classroom atmosphere, instructions, and professional responsibilities[11].

Several studies in Indonesia discuss the professional competence of primary school teachers in Indonesia. A study on the relationship between professional ability, work motivation, and performance of elementary school teachers shows that the teachers' professional competence had a positive effect of 39.9% on teacher performance, while the effect of work motivation on performance was 63.7%[11]. Another study also shows that the teachers' professional competence helped increase the students' learning motivation when the teachers applied appropriate teaching and learning strategies and media; the obstacles experienced by the teachers in carrying out their professional duties were their lack of ability to carry out professional competence and lack of supporting infrastructure; and an effort to overcome this competency deficit was through education and training such as involvement in teacher working groups[12]. The factors that influenced student learning outcomes were teacher professional competence in diagnosing student learning difficulties, using learning media, and managing classes both partially and simultaneously[13]. Thus, the teachers' professional competence had a positive and significant influence on student learning creativity, even though the influence was only 20.1%[14]. In relation to this, the development of elementary school students' creativity can be carried out specifically through learning Arts, Culture, and Crafts. Teachers who can carry out teaching and learning activities in Arts, Culture, and Crafts facilitate students to develop creative aspects such as great curiosity, imagination, confidence, and independence and produce unique products[15].

In the website of the Ministry of Education and Culture[16], the score of the primary school teacher competency test in Southwest Sumba district is 43.42, while the teacher competency test score at the East Nusa Tenggara Province level is 48.68. The minimum score for the teacher competency test at the national level is 55. This means that the score for the elementary teacher competency test in Southwest Sumba are below the national minimum score, even below the scores of East Nusa Tenggara Province.

Based on these findings, the author noted that the teachers' professional competence is very important and has a correlation to the performance and work motivation of teachers, the implementation of teaching and learning activities in the classroom, and even correlates with student learning outcomes. This correlation prompted the researcher to examine the correlation between teacher professional competence and elementary school students' creativity in Southwest Sumba district, Indonesia. The results of this study will be very useful for the Southwest Sumba district government to design programs and activities to increase teachers' professional competence and develop elementary school students' creativity. The results of this study are also useful for teachers to further improve their own professional competence so that teachers are better able to facilitate students in increasing their creativity.

### 1.1. Teacher Professional Competence

The teacher is one of the components that determine the success of teaching and learning activities. Various curriculum development efforts carried out will always require the commitment and responsibility of teachers to implement them to students through the teaching and learning process. Teachers who have adequate competence in developing and implementing the curriculum will be able to develop various student abilities because teaching is a professional task. Teachers, in Indonesian culture, are often referred to as "diguganditiru"; every word, action, or behavior is used as a guide for students both at school and in the family and community[17].

In Indonesia, a teacher is a professional educator who is tasked with educating, teaching, guiding, directing, training, assessing, and evaluating students from early childhood to high school[8][18]. Teachers as professional educators are responsible for planning and implementing the learning process, assessing learning outcomes, conducting guidance and training as well as conducting research and community service[19]. As professional educators, teachers have attended professional education, have abilities according to applicable standards, and do work that is their source of income[20]. Teacher professionalism is very important in education because the subject of education is a human being who has a lot of potential; education is carried out consciously and purposefully; many educational problems require professional answers; and the essence of education occurs in a process of interaction between teachers and students[21].

Teacher competence is understood as ability in a specific context and requires cognitive performance to respond to various situations and demands in education and teaching in schools[22]. Teachers in primary schools in Indonesia have pedagogic, professional, personality, and social competencies[23]. Teachers who have professional competence have a comprehensive teaching knowledge base. This competence arises from scientific research which ultimately makes teachers able to carry out teaching and learning practice procedures and intellectually critical to work for the interests and development of students[24]. The status of teachers as professionals requires them to develop reliable characteristics in knowledge, autonomy in professional duties, and the motivation to serve students[25]. Teachers as professional educators must demonstrate strong

knowledge and understanding of the subject matter being taught and be able to respond fully and correctly to both questions and student misunderstandings in the subject matter[26].

The professional competence of teachers is the mastery of teaching materials broadly and deeply, which is more precisely called the mastery of teaching materials or often called the field of study of expertise[27]. Moreover, professional competence is the ability to master learning materials broadly and deeply so that students can meet national education standards and are able to utilize information and communication technology in self-development[3]. Teacher professional competence also means the mastery of a task (teaching-educating), skills, attitudes, and appreciation needed to support the success of the teaching-learning process[28]. The structure of the professional competence of elementary school teachers includes components of motivation, professional performance, special analytical skills, special professional diagnostic measures, and the basics of design instructional actions[29]. Indicators of professional competence of elementary school teachers in Indonesia are regulated in the Minister of National Education Regulation Number 16 of 2007[9] which include: (1) mastering the material, structure, and scientific concepts of subjects; (2) mastering competency standards and basic competencies of subjects; (3) developing learning materials creatively; (4) developing professional abilities on an ongoing basis by taking reflective actions; and (5) utilizing information and communication technology to communicate and develop themselves.

### 1.2. Student Creativity

Creativity is the ability to find and create new things, in new ways, or new models that are useful for oneself and the general public[30]. Creativity can also be interpreted in 3 senses: (1) creativity as the ability to make new combinations based on existing data, information, or elements; (2) creativity as the ability to find many possible answers to a problem; and (3) creativity as an ability that shows fluency, flexibility, and originality in thinking and the ability to elaborate an idea[31]. Creativity requires intellectual abilities, thinking styles, personality, motivation, and a student learning environment[32]. Meanwhile, the possibility or opportunity for the emergence of student creativity in the classroom includes the level of imitation, variation, combination, transformation, and creating something new or unique[33][34].

A number of creativity tests have been developed and used, such as the Torrance Test (Torrance Test of Creative Thinking) to measure creative thinking skills in verbal and figural forms. The Torrance figural test was adapted by UtamiMunandar in 1977. In 1988, the Faculty of Psychology, University of Indonesia standardized the circle test which was then called the figural creativity test for children aged 10-18 years. In the same year, the Faculty of Psychology, University of Indonesia conducted a standardization study of the circle test, and this test was later called the figural creativity test. The standard values were determined for ages 10 to 18. UtamiMunandarintroduced the first creativity test specifically designed for Indonesia, namely the creativity test which was constructed based on the Intellectual Structure Model test from Guilford[31].However, teachers can measure students' creativity using indicators from the theory of creativity after testing the instrument, according to the teacher's observations, and the results of interviews with parents and peers that can be used for the next educational process.

The standard measurement of student creativity requires psychological expertise[35], especially in the interpretation of test results. The measurement of the creativity of elementary school students in this study refers to the creativity rating scale of gifted children which consists of 10 indicators: having a broad and deep curiosity, often asking good questions, giving many ideas or suggestions on a problem, being free to express opinions, having a deep sense of beauty, standing out in one of the fields of art, seeing a problem from various perspectives or points of view, having a broad sense of humor, having the power of imagination, and is original in the expression of ideas and problem solving[36].

## II. RESEARCH METHOD

This research was a correlational study to determine the correlation between the professional competence of teachers and the creativity of elementary school students. The study population was elementary school students in 257 elementary schools in Southwest Sumba district, East Nusa Tenggara Province, Indonesia. The sample taken was 10% of elementary schools[37][38][39]. Thus, the samples taken were from 26 elementary schools. The samples were grade 6 students at 26 elementary schools, totaling 1281 students. Simple random sampling was used in taking research samples[40].The instrument used was a valid and reliable Likert scale questionnaire consisting of 6 questionnaire items about teacher competence and 14 questionnaire items about student creativity. The normality test of the data used the Kolmogorov-Smirnov test with the following criteria: if the significance is  $> 0.05$  then the data is normally distributed, and if the significance is  $0.05$  then the data is not normally distributed. The results of the normality test showed that the test scores for the normality of teacher competence and student creativity were  $0.000 < 0.05$ . So it can be concluded that the data were not normally distributed.

The data analysis technique used Spearman correlation analysis to determine the correlation between the teachers' professional competence and the primary school student' creativity skill [41]. In the correlation

analysis, 3 aspects were tested, namely determining the strength of the correlation, the significance of the correlation, and the direction of the correlation[42]. The strength of the variable relationship was seen from the magnitude of the correlation coefficient value, i.e. if the correlation coefficient is getting closer to the value 1 or -1, then the relationship is a strong one. However, if the value is closer to 0 (zero), then the relationship is weak. To find out the direction of the relationship, it could be seen on the sign of the coefficient value, which could be positive or negative. If the correlation is positive, it means that the teacher's professional competence is high, and then the students' creativity will also be high. If the correlation is negative, it means that the professional competence of teachers is high, the creativity of students will be low, or if the professional competence of teachers is low, the creativity of students will be high[41]. The guideline for testing the hypothesis is that if the significance value is  $>0.05$ , then  $H_0$  is accepted and  $H_a$  is rejected. If the significance value is 0.05, then  $H_0$  is rejected and  $H_a$  is accepted[42].

### III. Findings

#### 3.1. Data description

The guidelines for assessing teacher competence are as follows: a score of 91 – 100 is classified as very good; a score of 81 – 90 is good, a score of 71 – 80 is moderate or good enough, a score of 60 – 70 is not good, and a score of  $<60$  is very poor[43]. Meanwhile, the criteria for assessing students' 21st-century skills are as follows: a score of 86 – 100 is very high, a score of 71 – 85 is high, a score of 56 – 70 is moderate or high enough; scores of 41 – 55 are low, and a score  $< 40$  is very low[44]. The results of data collection on teacher professional competence and student creativity are shown in table 1 below.

**Table 1:** Data Description of Teacher Competence and Student Creativity

Variable	Maximum Score	Minimum Score	Ideal Score	Earning Score	Percentage (%)	Category
Professional competence	24	6	30744	22457	73.05	Moderate
Creativity	56	17	71736	49427	68.90	Moderate

Table 1 shows that the percentage of teachers' professional competence is 73.05, while the percentage of school students' creativity is 68.90. In accordance with the guidelines for assessing that have been set, the pedagogic competence of teachers and students' creativity in the Southwest Sumba district is moderate.

#### 3.2. Correlation test

The hypothesis in this research is  $H_0$  means there is no correlation between teachers' professional competence and student creativity,  $H_a$  means there is a correlation between teachers' professional competence and student creativity. Hypothesis testing was conducted to determine the significance of the correlation between teacher professional competence and student creativity. The results of the correlation test can be seen in table 2 below.

**Table 2:** Spearman Correlation Test Results Teacher Competence and Student Creativity

Correlations			Professional	Creativity
Spearman's rho	Professional	Correlation Coefficient	1.000	.329**
		Sig. (2-tailed)	.	.000
		N	1281	1281
	Creativity	Correlation Coefficient	.329**	1.000
		Sig. (2-tailed)	.000	.
		N	1281	1281

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

Based on table 2, it can be seen that the value of Spearman's rho correlation coefficient on the teacher's professional competence variable and the student's creativity variable is 0.329. The value of this correlation coefficient is closer to 0 (zero), which means there is a weak correlation. So it can be concluded that the correlation between teacher professional competence and student creativity is weak. The direction of the correlation between the professional competence of teachers and students' creativity is positive because the correlation coefficient value of 0.329 is positive. That is, if the professional competence of teachers is high, the creativity of students will also be high and if the professional competence of teachers is low, the creativity of

students will also be low. The significance (Sig. 2-tailed) of the correlation is  $0.000 < 0.05$ , meaning  $H_0$  is rejected and  $H_a$  is accepted. So, it can be concluded that there is a significant correlation between the teachers' professional competence and the elementary school students' creativity in Sumba Barat Daya District, East Nusa Tenggara, Indonesia.

#### IV. DISCUSSION

This research found that the correlation between teacher professional competence and student creativity was weak but positive and significantly correlated. This means that there is a significant correlation between the teachers' professional competence and students' creativity where the correlation is weak. The weak correlation was positive, which means that if the teacher's competence is high, the student's creativity is also high. Meanwhile, if the teacher's competence is low, the teacher's creativity is also low. This is reinforced by the moderate category of teacher competence and student creativity as shown in table 1 above.

Based on these findings, what needs to be done is to increase the professional competence of teachers to increase students' creativity. Teachers have a big influence on the process and student learning outcomes in elementary schools, including student creativity. Therefore, teachers must be able to improve their professional competence so that student learning creativity can also be optimal. Teachers must have adequate knowledge of the functions in the teaching profession and develop them properly. The professional competencies of elementary school teachers include mastery of the concepts and structures of learning materials, mastery of core competencies and basic competencies, development of learning materials, professional development of teachers through reflection and research, and good use of information and communication technology[9].

Various studies have proven that there is a correlation between the professional competence of teachers and the creativity of elementary school students. For example, teacher professional competence affects the creativity of elementary school students in science learning[45]. Teacher professionalism in designing and implementing integrated thematic learning affects the creativity development of elementary school students. Student creativity can be stimulated and developed in creative and innovative integrated thematic learning[46]. Another study also shows that the professional competence of teachers increases students' creativity in learning social studies subjects[47]. Teacher participation in programs that focus on educational creativity in teaching and learning activities allows students to get a higher creative thinking score when compared to a similar control group[48]. The higher the professional competence of the teacher is, the higher the student learning outcomes will be[49].

The existence of a weak correlation between the professional competence of teachers and student creativity can be sourced from the problems faced by teachers. The crisis of teacher professional competence has become a problem in the world of education to create quality education. The crisis of teacher professional competence arises from the lack of teacher awareness of their duties and responsibilities. The teaching profession is not carried out as a "calling profession" but an activity to earn a living income alone[50]. The low professionalism of teachers in Indonesia is influenced by several factors (1) many teachers are less engaged in their profession as teachers; (2) there are teacher education institutions that produce less qualified graduates; and (3) teachers lack strong motivation to develop their professionalism[1]. The concerning findings concerning teachers who have attended teacher professional education and obtained educator certificates in carrying out their professional duties are (1) teacher certification does not contribute to the professional competence of teachers; and (2) teacher certification has no contribution to the quality of teaching[51]. There are elementary school teachers who have been carrying out their duties as teachers for a long time so that they view teaching work as a routine; teachers use monotonous teaching methods and poor variations so that the situation in the classroom is boring for students[52]. The phenomenon of the lack of teacher competence is an obstacle to developing student creativity in teaching and learning activities.

Efforts to improve the professional competence of primary school teachers can be carried out by the teachers themselves or facilitated by the principal. Based on the results of previous research, the efforts made by teachers include workshops on preparing lesson plans[53], implementation of integrated thematic learning[54], training in compiling and developing quality high-level thinking questions[55], training in various strategies and learning models of contextual teaching and learning, such as constructivism, question discovery, learning community, modeling, reflection, and authentic assessment[56].

Efforts to improve the professional competence of teachers are carried out by elementary school principals by increasing and making their role effective in providing direction, motivating, facilitating teachers to improve professional competence, carrying out regular academic supervision, and encouraging the use of information technology in both planning and the implementation and assessment of learning[57], applying a collaborative and academic supervision approach and creating a school culture[58][59][52], implementing school-based management[60], and holding training in writing scientific papers[61]. Various efforts or activities can be carried out by both teachers and by institutions to improve the professional competence of elementary school teachers. These efforts and activities are adapted to the problems and needs of teachers, the

local wisdom of an area that is the characteristic of the community, as well as the problems and needs of students regarding the professional competence of teachers.

## V. CONCLUSION

This research found that teacher professional competence and student creativity in the Southwest Sumba district had a significant, positive, and weak correlation. The correlation between teacher professional competence and student creativity is positive and significant but the correlation is weak. This research also found that the category of teacher professional competence and creativity of primary school students in the Southwest Sumba district was moderate. The findings of this research are very important both for the local government of the Southwest Sumba district and for the teachers themselves and become an initial input that will be very useful for improving teacher professional competencies and student creativity in primary schools. However, this study has limitations because it does not show the factors causing the weak correlation. Therefore, the authors encourage further research related to teacher competence and student creativity in primary schools, especially regarding the causes of the weak correlation between teacher professional competence and student creativity. The author also encourages the Southwest Sumba district government to plan education and training activities, and academic supervision to improve teacher professional competence and implement it, motivating primary school teachers to participate in teacher education and training activities on a regular basis. The author believes that if the teacher has good professional competence, the teacher can help students increase their creativity.

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