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THE ENHANCEMENT OF TEACHER CREATIVITY THROUGH SCHOOL CLIMATE, SERVANT LEADERSHIP AND SCIENTIFIC LITERACY

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Abstract. The purpose of this study was to empirically determine the increase in teacher creativity by looking at the influence on school climate, servant leadership, and scientific literacy and to identify ways to increase teacher creativity in the Bogor District. The total sample of the study consisted of 111 teachers who were randomized using a proportional random sampling technique from 152 teachers. The method used is a quantitative method with path analysis. The results showed: 1) there is a direct effect of the school climate on teacher creativity, which is significant with the value of the path coefficient (βy1= 0.178); 2) there is a direct effect of servant leadership on teacher creativity, which is significant with the path coefficient value (βy2 = 0.233); 3) there is a direct effect of scientific literacy on teachers' creativity, which is significant with the path coefficient value (βy3 = 0.584); 4) there is a direct effect of school climate on science literacy that is significant with the path coefficient value (βx3x1 = 0.319); 5) there is a direct effect of servant leadership on teacher creativity, which is significant with the value of the path coefficient (βx3x2 = 0,446) .

Keywords: teacher creativity; school climate; servant leadership; scientific literacy

I. INTRODUCTION

The world of education is facing a new situation, namely learning loss. Based on research by the Ministry of Education, Culture, Research and Technology (Kemendikbudristek), the Covid-19 pandemic has led to learning loss. The results of study **[1]**, found that out of 610 students, 408 were students who were in the intermediate grade of learning loss, 111 students identified learning loss, and the remaining 91 students tended not to experience any learning difficulties. It is also possible that students who fall into the middle category become students at risk of experiencing learning loss, so the creativity of the teacher is needed to solve this problem **[2]**. To restore learning loss in education, it is the teacher's job to mobilize competence and creativity to encourage students to improve their learning outcomes **[3]**. In addition, short-term educational remediation is aimed at improving reading and math skills and at assessments to obtain information about what students can and cannot do **[4]**. Therefore, teachers' creativity is needed to perform class-based diagnostic assessments to identify learning achievement and learning need **[5]**. One of the government's support measures for the education world after the Covid 19 pandemic was the launch of the Merdeka Belajar. It is conducted so that students can optimize their talents and make the best contribution to working for the nation. Three indicators for the success of the Merdeka Belajar program initiated by the Ministry. Namely student participation in education, effective learning and no student is left behind. The intended effective learning must be supported by teachers with high creativity **[6]**.

Creative teachers can develop science, technology and art to help their students. It can also be interpreted as a teacher who is never satisfied with what he gives his students. they try to find a way to discover the unique potential of their students. Creativity allows teachers to deliver lessons which make students enjoy it **[7]**. Creative teachers will be able to find the intelligence of each student. They also became more productive because of what he found interesting material for study. Creative teachers will appeal students because there are different ways of teaching so that students do not get bored easily, and it is more challenging for students to follow the lessons through something diverse **[8]**.

According to the data obtained from the first research results, the creativity rate of secondary school teachers still needs to be improved. This is evident from the first survey data conducted on October 1 and 3, 2022 with 30 respondents of private secondary school teachers in Babakan Madang sub-district. Based on the results of the preliminary study, by assigning a "need for improvement" classification to the categories sometimes (KD), ever (PR) and never (TP), it can be concluded that 53% of teachers still need improvement to create something new and unique, 38% of teachers need improvement in making approaches based on students' skill levels, 36% of teachers need improvement in preparing lesson for being more interesting., 53% of teachers still confuse with the diversity in finding different ways, 23% of teachers need improvement in appreciating the abilities of their students. This fact shows that the level of creativity of private high school teachers in Babakan Madang District can still be improved. From this background, research is being conducted that has the potential to increase teachers' creativity in order to achieve better education.

Teacher creativity is predicted to be influenced by several variables, including school climate, servant leadership,

Volume 07, Number 03, Page 353-356
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academic literacy, work motivation, commitment, work discipline, and many other factors **[9]**. Mauladani **[8]** assumes that teachers' creativity is related to the discovery of something, with regard to things producing something new by using something that already exists. Meanwhile, according to Ghifar **[10]**, teachers' creativity is characterized by the existence of activities to create something that did not exist before and was not performed by anyone or by the tendency to create something. Based on the above theories, it can be synthesized that teacher creativity is an act of realizing original, superior and novel ideas to solve problems as well as seeking alternative solutions through divergent thinking. School climate is related to interpersonal relationships within an organization and can influence one to work in it. Within which care and openness are formed among members of the organization, so that each individual feels valued, has good relationships and creates a comfortable working atmosphere. This condition can encourage the teacher's self-change to be involved in additional roles that can enhance the teacher's creativity.

The existence of servant leaders who engage subordinates throughout the organization can awaken or motivate teachers to develop and achieve high levels of performance, so it is expected to enhance teachers' creativity. By practicing scientific literacy, it is hoped that one will be able to solve problems using aspects of context, knowledge, competence and attitudes that are sensitive to oneself and the environment. By increasing knowledge, competence and self-esteem, it is expected that it can increase one's creativity.

II. RESEARCH METHODS

This study uses a quantitative path analysis method that will examine the influence of teachers' creativity on school climate, servant leadership and scientific literacy. In this study, school climate, servant leadership and literacy are described as independent variables (x) and teacher creativity as the dependent variable (y). The total population is 152 persons and the sample is chosen by proportional random sampling to obtain a sample of 111 persons. Data collection was done by distributing questionnaires that had previously been tested for validity and reliability among 30 respondents outside the selected research sample. To test the hypothesis, path analysis is used to find attempts to increase teacher creativity.

III. RESULTS AND DISCUSSION

To enhance the creativity of secondary school teachers in Babakan Madang District, Bogor Regency through school climate, servant leadership and science literacy, as well as identify research variable indicators to be improved and maintained.

Positive direct influence of the school climate on the creativity of teachers

Based on the results of the study, there is a significant positive direct effect of the school climate on teachers' creativity. This causal relationship can be described by the equation $\hat{Y} = 0.227X1 + 112.097$, which means that each one level increase in school climate will result in a 0.227 increase in teacher creativity at a constant of 112.097. Based on calculations, the direct influence of the school climate on teachers' creativity is obtained by the path coefficient $\beta y1 = 0.178$. The results of the F-test on linear regression analysis show a significant relationship between these two variables. This indicates that there is a positive direct influence of the school climate on the creativity of tenured teachers of private secondary school foundations in Babakan Madang sub-district, Bogor Regency. Referring to school climate indicators such as interpersonal relationships in interactions, understanding of students' characteristics, school habits that are always well maintained, caring for others and mutual support will increase the creativity of teachers to perform their duties to achieve the goals. goals set. sought.

This research supports previous research by **[11]** entitled "The Relationship of the Creativity of Public and Private Schools". The results showed that the school climate variable had a positive direct influence on teachers' creativity. Based on the above results, it can be concluded that there is a significant positive influence between the school climate and the creativity of teachers.

Positive direct influence of servant leadership on the creativity of teachers

Based on the research results, there is a significant positive direct effect of servant leadership on teacher creativity. This causal relationship can be described by the equation $\hat{Y} = 0.230X2 + 110.980$, meaning that each increase of one level of servant leadership will result in a 0.230 increase in teacher creativity at a constant of 110.980. Based on calculations, the direct influence of servant leadership on teacher creativity is obtained by the path coefficient $\beta y2 = 0.233$. The results of the F-test on linear regression analysis show a significant relationship between these two variables. This indicates that there is a positive direct influence of servant leadership on the teachers creativity of private secondary school in Babakan Madang sub-district, Bogor Regency. Referring to the indicators of servant leadership such as principal's humility, building teachers' strength, openness to build trust, date in communication, and treating all members of the organization well, these things will enhance the creativity of increase teachers to achieve organizational goals.

This research supports previous research by **[12]** in his study titled "A multi-level study of servant leadership on creativity: the roles of self-efficacy and power distance." The results of the study show that the servant leadership variable has a positive direct influence on teachers' creativity. Based on the above results, it can be concluded that there is a significant positive influence between servant leadership and teacher creativity.

The positive direct effect of scientific literacy on teachers' creativity

Based on the results of the study, there is a significant direct positive effect of scientific literacy on teachers' creativity. This causal relationship can be described by the equation $\hat{Y} = 0.255X2 + 109.169$, which means that any

Volume 07, Number 03, Page 353-356
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increase in the level of scientific literacy will result in an increase in teacher creativity of 0.255 at a constant of 109.169. Based on calculations, the direct influence of scientific literacy on teacher creativity is obtained by the path coefficient βy3 of 0.584. The results of the F-test on linear regression analysis show a significant relationship between these two variables. This indicates that there is a positive direct influence of scientific literacy on the creativity of tenured teachers of private secondary school foundations in Babakan Madang sub-district, Bogor Regency. Referring to indicators of scientific literacy, such as having knowledge about science, being able to apply it correctly, solving problems in the right way, understanding technology, being able to adapt to the environment, these things will increase the creativity of teachers to achieve the goals of the organization reaches

This research supports previous research conducted by **[13]** in his study titled "The Influence of Scientific Literacy on Teacher Creativity in Ecosystem Concepts." The results showed that the scientific literacy variable had a positive direct effect on teachers' creativity **[14]**. Based on the above results, it can be concluded that there is a significant positive influence between scientific literacy and teachers' creativity.

The positive direct effect of school climate on scientific literacy

Based on the research results, there is a significant positive direct effect of the school climate on scientific literacy. This causal relationship can be described by the equation $\hat{Y} = 0.762X2 + 31.051$, which means that each level of increase in school climate will result in an increase in science literacy of 0.762 at a constant of 31.051. Based on calculations, the strength of the direct influence of the school climate on scientific literacy is obtained by the path coefficient $\beta x1x3 = 0.319$. The results of the F-test on linear regression analysis show a significant relationship between these two variables. This indicates that there is a positive direct influence of the school climate on scientific literacy in private junior schools in Babakan Madang sub-district, Bogor Regency. Reerring to school climate indicators, such as interpersonal relationships in interactions, understanding of students' characteristics, school habits that are always well maintained, caring for others and mutual support will increase scientific literacy to perform their tasks in achieving the set goals wanted. The school climate is an atmosphere that influences the performance of each individual, feels valued and creates relationships between all organizations in it. Meanwhile, scientific literacy can be interpreted as scientific knowledge and skills to be able to identify questions, acquire new knowledge, explain scientific phenomena and draw conclusions based on facts, understand the features of science, awareness of how science and technology, intellectual and cultural environment, and the will to engage in and care for issues related to science **[15]**. Based on this explanation and based on the results of research that has been done, the atmosphere formed in an organization can increase scientific literacy, and it can also be concluded that there is a significant positive influence between scientific literacy and the creativity of teachers.

Positive direct influence of servant leadership on scientific literacy

Based on the results of the study, there is a significant positive direct effect of servant leadership on scientific literacy. This causal relationship can be described by the equation $\hat{Y} = 0.631X2 + 49.331$, which means that each increase of one level of servant leadership will result in an increase in scientific literacy of 0.631 at a constant of 49.331. Based on calculations, the strength of the direct influence of the school climate on scientific literacy is obtained by the path coefficient $\beta x2x3 = 0.446$. The results of the F-test on linear regression analysis show a significant relationship between these two variables. This indicates that there is a positive direct influence of the school climate on scientific literacy in private junior schools in Babakan Madang sub-district, Bogor Regency. Referring to the indicators of servant leadership such as principal's humility, building teachers' strength, openness to build trust, date in communication, and treating all members of the organization well, these things will enhance the creativity of increase teachers to achieve organizational goals. Meanwhile, scientific literacy can be interpreted as scientific knowledge and skills to be able to identify questions, acquire new knowledge, explain scientific phenomena and draw conclusions based on facts, understand the features of science, awareness of how science and technology , intellectual and cultural environment, and the will to engage in and care for issues related to science **[12]**. Based on this explanation and based on the results of research that has been done, servant leadership in an organization is able to increase scientific literacy and it can also be concluded that there is a significant positive influence between servant leadership and scientific literacy.

IV. CONCLUSION

Based on the results of the data analysis of the study, it can be concluded that there is a significant positive influence of the creativity of permanent teachers (GTY) of private secondary schools in Babakan Madang District on school climate, service leadership and scientific literacy. . In other words, increasing teacher creativity can be done by improving school climate, servant leadership, and science literacy.

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Volume 07, Number 03, Page 353-356
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