HOW DO TEACHERS WORK? THE EFFECT OF TEACHERS' PROFESSIONALISM, PERFORMANCE AND WORK PRODUCTIVITY ON STUDENT ACHIEVEMENT IN INDONESIAN SENIOR HIGH SCHOOLS

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ABSTRACT

This study aims to identify and analyze teachers' professionalism, performance, and productivity in improving school student achievement. It can be concluded from this study, which was done at Islamic Senior High School, in Lamongan. The researcher used a quantitative approach with descriptive and inferential methods. The results of this study show that there is a relationship between teacher professionalism and student achievement in school (r=0.772), a relationship between teacher performance and student achievement at school (r=0.717), and between teacher productivity and student achievement in school (r=0.851 Therefore, it can be concluded that teachers' professionalism, performance, and work productivity have a strong and significant relationship to increase student achievement (R=0.846), where high. Teachers' professionalism, performance, and work productivity can cause low student achievement.

Keywords: Professionalism, Performance, Productivity, Teachers, Islamic Schools.

INTRODUCTION

Education in the 21st century will face more challenges than in the previous century. The existence of schools in the era of science and technology is required to answer various challenges and current demands for change (Hodson, 2003; Bentley, 2012). Technological advances in the era of the industrial revolution 4.0 have overgrown entering the classroom without going through socio-political control and moral control (Broo et al., 2022) (Darmaji et al., 2019). Therefore, schools must be able to adapt as competent schools and develop according to the needs of the times. Schools that cannot adapt to existing developments will become a heavy burden and get a nasty label from society (C. Vidal & Keating, 2004; Boström et al., 2018).

The results and processes of educational institutions serve as the standard for assessing their quality (Bojović et al., 2020). Quality education produces intellectual, strong, powerful, skilled individuals with noble characters. In terms of process, the ability of educational institutions to deal with challenges is associated with participation, efficiency, effectiveness, and relevance of education (Danchikov et al., 2021). As a result, a strategy that can improve the

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quality and efficiency of student performance in an educational setting is required (Shaturaev, 2021). However, multiple studies have found that only some have equal access to the opportunities and advantages of a good education (Gardiner, 2008). Globally, for example, there are disparities in education systems between rural and urban locations. Indonesia is a developing nation working to enhance its educational system (Komariah et al., 2022).

According to a World Economic Forum Sweden poll (Arifin et al., 2018); the low quality of education in Indonesia is driven, among other things, by challenges with effectiveness, efficiency, and standardization of teaching. Internal and external factors cause the low quality of education in Indonesia. Internal factors include work accountability, motivation, interest, and professionalism, whereas external factors include teachers, parents, infrastructure, and the surrounding environment. The inadequate quality of education in Indonesia has an impact on students' learning achievement. According to Anih et al. (2021), many schools in Indonesia do not provide a suitable educational environment in their curriculum and do not correspond to the educational system's advancement. Indonesia is one of the leading countries in terms of higher education institutes (Maryanti et al., 2021). It demonstrates that the quality of education services in Indonesia is critical to its development (Pramana et al., 2021).

The professional competency of teachers is required to develop students' competencies (Kaiser et al., 2017). Teacher competence is defined by three characteristics: cognitive, affective, and willingness to work in schools (Baumert & Kunter, 2013; Blomeke & Kaiser, 2017). An evaluation of a teacher's effectiveness in the classroom can be based on their students' level of interest in teach (Blömeke et al., 2022; Blömeke & Kaiser, 2017). Schools nowadays require teachers who can work creatively, create successful students, and experiment during education (Kravtsova et al., 2022). As a result, successful administrators must have academic degrees relevant to their knowledge. Furthermore, good teachers have high-quality educational, professional, and social abilities that can be applied in the classroom.

Education and student achievement in Indonesia are still relatively low (Shaturaev, 2021). According to law number 14 of 2005, teachers in Indonesia must meet teacher qualification standards. These qualifications include having at least four years of a bachelor's degree and professional training, and all teachers must be certified. The certification program was started in 2006 and aimed at improving the quality of teachers by providing training to teachers (Sirait, 2016). However, empirical studies show that certified teachers in Indonesia have no significant effect on increasing student achievement. Since it was first held in 2000, Indonesia has provided space for PISA to evaluate education in Indonesia. The results of the 2018 PISA release show that Indonesia's reading scores rank 72 out of 77 countries, then mathematics scores 72 out of 78 countries, and science scores 70 out of 78 countries (Wibowo et al., 2020). This problem is a systematic problem that has not been solved until now based on the advice of Huang et al. (2020), claiming that the lack of research on the influence of contextual factors related to teacher performance is rarely carried out, which is associated with declining achievement in Indonesia. Based on the description of the problem, the researcher is interested in taking a title related to the influence of teacher professionalism, teacher performance, and teacher work productivity on student learning achievement, especially in the Era of the Industrial Revolution 5.0.

METHODOLOGY

This descriptive qualitative study focuses on the relationship between teacher professionalism, teacher performance, teacher work productivity, and student achievement to

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present data about the facts and meanings of phenomena in the field in a systematic, factual, and appropriate way (Neitzel et al., 2022). By distributing questionnaires, the researcher aims to investigate the facts of how the relationship between teacher professionalism, teacher performance, and teacher work productivity with student achievement then described.

This research was conducted in august at Islamic senior high school Lamongan by distributing the questionnaire to 37 teachers to collect the data while the respondents were teachers and students. In this study, teachers were categorized into four groups based on age, gender, education level, and year of employment. As determined from their learning report, the twelfth student's score was used for learning achievement. For students, the number of samples was determined using a table developed by Isaac & Michael (1995) to show the number of representatives from 218 students with a 5% error rate, resulting in a sample size of 131 students for this study. The independent variables in this study were teacher professionalism, teacher performance, and teacher work productivity, while the dependent variable was student achievement. Data were collected by distributing questionnaires on teacher professionalism, performance, and work productivity in the form of written answers from teachers on some statements submitted in the questionnaire.

Professionalism Questionnaire

The teacher professionalism questionnaire in this study was measured based on indicators: pedagogic competence, professional competence, and social competence. The grid of professionalism questionnaires will be described in the following Table 1.

Table 1
ELABORATION OF TEACHER PROFESSIONALISM VARIABLES

Variable	Dimension	Indicator
Teacher Professionalism (X1)	The teacher who can develop his expertise and competence himself can create the potential of students to master various strategies or techniques in teaching and learning activities and has an educator certificate, master four teacher competency standards, and master information technology and has skills according to the chosen field of expertise (Wardoyo & Herdiani, 2017)	1. Pedagogic competence. 2. Professional competence. 3. Social competence.

Teacher's Performance Questionnaire

The teacher's performance questionnaire was measured based on the ability to work, quality of work, reliability at work, and independence. The teacher performance questionnaires will be described in the following Table 2.

Table 2
ELABORATION OF TEACHER PERFORMANCE VARIABLES

Variable	Dimension	Indicator
Teachers' performance (X2)	Teachers who can develop expertise and competence themselves can create the potential for students to master various strategies or techniques in teaching and learning activities and has a teaching certificate, master the four teacher competency standards, and master information technology and has skills according to the chosen field of expertise (Rasberry, 2022)	1. Pedagogic competence 2. Professional competence 3. Social competence.

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Productivity Questionnaire

The teacher's productivity questionnaire was measured based on indicators: constructive actions, positive contributions, adapting and realizing potential, and mastering technology. The productivity criterion will be described in the following Table 3.

Table 3
PRODUCTIVITY CRITERION

Variable	Dimension	Indicators
Productivities (X3)	Results of a teacher's efforts to accomplish the primary functions of their profession, both quantity, and quality, following established standards by utilizing available resources in schools to achieve educational goals (Utami & Vioreza, 2021)	1. Provide constructive action. 2. Make a positive contribution. 3. Able to adapt and realize potential. 4. Master technology

Cronbach's alpha was calculated in the column *"Correlated Item-Total Correlation"* to check the reliability of the data in this study. Since the two metrics (bivariate correlation and Cronbach's alpha in the Correlated Item-Total Correlation column) measure the same thing, the results of these analyses are identical (Ghozali, 2006). The SPSS for Windows version 22 computer program was used to conduct the validity test. See the table below for the complete results from the tests conducted to determine the instrument's validity.

Table 4
TEST RESULTS OF TEACHER PROFESSIONALISM INSTRUMENT VALIDITY

Variable	Item	r-result	r-table	Sig.	Category
Teachers' Professionalism	Item 1	0.758	0.3494	0.000	VALID
	Item 2	0.632	0.3494	0.001	VALID
	Item 3	0.618	0.3494	0.002	VALID
	Item 4	0.763	0.3494	0.003	VALID
	Item 5	0.738	0.3494	0.004	VALID
	Item 6	0.629	0.3494	0.005	VALID
	Item 7	-0.016	0.3494	0,934	INVALID
	Item 8	0.699	0.3494	0.000	VALID
	Item 9	0.488	0.3494	0,006	VALID
	Item 10	0.691	0.3494	0.000	VALID
	Item 11	0.492	0.3494	0.006	VALID
	Item 12	0.515	0.3494	0.004	VALID
	Item 13	-0.053	0.3494	0,780	INVALID

Table 4 shows that the correlation value (r-result) for the question items is greater than the r-table value of 0.3494 (significant level 5%; n=30); as many as 11 of 13 questions, then 11 questions that are declared valid are used to data collection. Furthermore, the results of the validity test on teacher performance instruments can be seen in Table 5.

Table 5 shows that the correlation value (r-result) for the question items is greater than the r-table value of 0.3494 (significant level 5%; n=30); as many as 10 of the 12 questions, then 10 questions that are declared valid are used to data collection. The validity test of the teacher's productivity instrument can be seen in Table 6.

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Table 5
RESULTS OF THE VALIDITY TEST OF TEACHER PERFORMANCE INSTRUMENTS

Variable	Item	r-result	r-table	Sig.	Category
Teachers' performance	Item 1	0.565	0.3494	0.001	VALID
	Item 2	0.587	0.3494	0.001	VALID
	Item 3	0.763	0.3494	0.000	VALID
	Item 4	0.112	0.3494	0.556	INVALID
	Item 5	0.519	0.3494	0.003	VALID
	Item 6	0.631	0.3494	0.000	VALID
	Item 7	0.062	0.3494	0.747	INVALID
	Item 8	0.613	0.3494	0.000	VALID
	Item 9	0.692	0.3494	0.008	VALID
	Item 10	0.667	0.3494	0.000	VALID
	Item 11	0.718	0.3494	0.000	VALID
	Item 12	0.685	0.3494	0.000	VALID

Table 6
VALIDITY TEST RESULTS OF TEACHER PRODUCTIVITY INSTRUMENTS

Variable	Item	r-result	r-table	Sig.	Category
Teachers' productivity	Item 1	0.763	0.3494	0.000	VALID
	Item 2	0.738	0.3494	0.001	VALID
	Item 3	0.629	0.3494	0.000	VALID
	Item 4	0.515	0.3494	0.005	VALID
	Item 5	0.119	0.3494	0.53	INVALID
	Item 6	0.738	0.3494	0.000	VALID
	Item 7	0.718	0.3494	0.000	VALID
	Item 8	0.199	0.3494	0.292	INVALID
	Item 9	0.438	0.3494	0.016	VALID
	Item 10	0.631	0.3494	0.000	VALID
	Item 11	0.685	0.3494	0.000	VALID
	Item 12	0.376	0.3494	0.041	VALID
	Item 13	0.094	0.3494	0.622	INVALID
	Item 14	0.571	0.3494	0.001	VALID
	Item 15	0.699	0.3494	0.000	VALID

Table 6 shows that the correlation value (r-result) for the question items is greater than the r-table value of 0.3494 (significant level 5%; n=30) in as many as 12 of 15 questions categorized as valid in data collection. Furthermore, the reliability test is used to measure the stability and consistency of the instrument's concept or the instrument's size so that the measured value does not change within a particular matter so that reliable devices can be trusted. Cronbach's Coefficient Alpha was used in this study for the reliability test. If Cronbach's Alpha value is more significant than 0.70, the instrument is considered reliable (Ghozali, 2006). Table 7 displays the reliability testing results.

Table 7
RELIABILITY TEST RESULTS

Variable	Jumlah Item	Nilai Alpha	Nilai Standar	Keterangan
Profesionalisme Guru	11	0.903	0.7	Reliabel
Kinerja Guru	10	0.897	0.7	Reliabel
Produktivitas Kerja Guru	12	0.892	0.7	Reliabel

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Table 7 has an alpha value greater than 0.70, meaning that all statement items are reliable. The normality test determines whether or not the data distribution is expected; the linearity test determines whether or not the influence between variables is linear. The multicollinearity test determines whether or not the impact between variables is linear. The F-test was used to assess the significance of the effect of the independent variables X1, X2, and X3 together with the dependent variable Y according to the following hypothesis formulation:

H_o: *There is no positive and significant relationship between teacher professionalism, teacher performance, teacher work productivity, and student achievement.*

H_a: *There is a positive and significant relationship between teacher professionalism, teacher performance, teacher work productivity, and student achievement.*

The t-test was used to test the relationship between the independent and dependent variables partially based on the following hypothesis: a) Test the significance of the relationship between teacher professionalism and student achievement. b) Test the significance of the relationship between teacher performance and student achievement. c) Test the significance of the relationship between teacher work productivity and student achievement.

RESULTS

The characteristics of respondents in this study were divided into four groups based on age, gender, last education, and years of employment. From the questionnaire, several characteristics of the respondents sampled in this study were obtained, which can be seen in table 8 below.

Table 8
CHARACTERISTICS OF RESPONDENTS BY AGE

Age	Frequency	Percentage (%)
Under 30 years old	6	16.2
30-40 years old	12	32.4
41-50 years old	10	27
Over 50 years old	9	24.4
Total	37	100

Table 8 shows that most of the respondents were between under 30 years by six people (16.2%), 30-40 years by 12 people (32.4%), 41-50 years by ten people (27%), and over 50 years by nine people (24.4%) of the total sample of the study.

Table 9
CHARACTERISTICS OF RESPONDENTS BY GENDER

Gender	Frequency	Percentage (%)
Man	13	35.2
Woman	24	64.8
Total	37	100

According to Table 9, most of the respondents in this study were 24 females (64.8%) and 13 men (35.2%) from the total research sample.

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Table 10 RESPONDENT CHARACTERISTICS BASED ON LAST EDUCATION		
Education	**Frequency**	**Percentage (%)**
S1 (undergraduate)	27	72.8
S2 (master)	10	27
S3 (doctoral program)	1	0.2
Total	37	100

According to Table 10, most of the respondents were from the undergraduate program, with 27 people or 72,8%, the master program was ten people (27%), and the doctoral program was one person (0.2%) from the total research samples.

Table 11 RESPONDENT CHARACTERISTICS BASED ON YEARS OF EMPLOYMENT		
Years of service	**Frequency**	**Percentage (%)**
Less than five years	5	13.5
6-10 years	10	27
11-15 years old	12	32.5
More than 15 years	10	27
Total	37	100

Based on Table 11 above shows that most of the respondents in this study have worked for 11-15, namely 12 people (32.5%), between 6-10 years for 10 people (27%), more than 15 years for 10 people (27%), and less than 5 years for five people (13.5%).

In this study, data on student achievement were derived from learning achievement scores obtained by class XI students from grade XI students at Islamic senior high school Lamongan. The student learning outcomes gained the highest score of 88 and the lowest score of 65. The percentages of students who scored above and below minimum mastery standards are shown below (72).

Table 12 STUDENT ACHIEVEMENT AS A PERCENTAGE			
Number of samples	**Result**	**Total**	**%**
131	Above minimum passing grade	124	94.7
	Under minimum passing grade	7	5.3

Based on Table 12 above, it can be seen that almost all eleventh graders at Islamic senior high school Lamongan in this study had achievement scores on the report above the minimum passing grade (72) or 124 people (94.7%) and those below the minimum passing grade were seven students (5.3%).

Normality Test

The data normality test is used to test whether, in the regression model, the residual variables have a normal distribution. The results of normality testing using the Kolmogorov-Smirnov (K-S) test are as follows:

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Table 13 NORMALITY TEST RESULTS FOR EACH VARIABLE		
Variable	**Sig**	**Category**
Teacher Professionalism	0.133	Normal
Teacher Performance	0.054	Normal
Teacher's Productivity	0.197	Normal

Based on Table 13 above shows that the asymp.sig value obtained for each variable is > 0.05, so it can be concluded that in the regression model, the confounding or residual variables meet the normality assumption.

Linearity Test

The linearity test is used to determine whether or not the model used is linear. The results of linearity testing can be seen in the following Table 14.

Table 14 LINEARITY TEST RESULTS			
Model	**F observed**	**Sig**	**category**
X1 against Y	0.520	0.908	Linier
X2 against Y	1.094	0.428	Linier
X3 against Y	0.574	0.831	Linier

Based on Table 14 above, the model in this study has a value of sig > 0.05, so it can be concluded that the independent and dependent variables have a linear relationship.

Multicollinearity Test

The multicollinearity test aims to test whether the regression model found a correlation between the independent variables. The results of the multicollinearity test are as follows.

Table 15 MULTICOLLINEARITY TEST RESULTS		
Variable	**Tolerance**	**VIF**
Teacher Professionalism	0.348	2.878
Teacher Performance	0.345	2.901
Teacher's Productivity	0.203	4.924

Table 15 above shows that in the regression model, there is no multicollinearity because all independent variables have a tolerance value > 0.1 and a VIF value < 10.

Hypothesis Test Results

First hypothesis test

A partial correlation is used to test the first hypothesis, which states that there is a positive and significant relationship between teacher professionalism and student achievement in class XI. The test results can be seen in the following table.

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Table 16 FIRST HYPOTHESIS TEST			
Independent Variable	**t**	**p**	**R**
Teacher Professionalism (X1)	7.193	0.000	0.772

Based on table 16 above shows that the teacher professionalism variable has a t-count value of 7.193 and a significance value of 0.000 <0.05. It means that H1 is accepted.

The second hypothesis

The second hypothesis states that there is a positive and significant relationship between teacher performance and student achievement in class XI of Islamic senior high school Lamongan, partial correlation is used. The test results can be seen in the following Table 17.

Table 17 SECOND HYPOTHESIS TEST			
Independent Variable	**t**	**P**	**R**
Teacher Performance (X2)	6.090	0.000	0.717

Based on table 20 above shows that the teacher performance variable has a t-observed value of 6.090 and a significance value of 0.000 <0.05. It means that H2 is accepted.

Third hypothesis test

The third hypothesis states a positive and significant relationship between teachers' productivity and student achievement in class XI Islamic senior high school Lamongan; a partial correlation is used. The test results can be seen in the following table.

Table 18 THIRD HYPOTHESIS TEST			
Independent Variable	**t**	**P**	**R**
Teacher's productivity (X_3)	9.567	0.000	0.851

Table 21 above shows that the teacher's productivity variable has a t-observed of 9.567 and a significance value of 0.000 <0.05, meaning that H3 is accepted.

Fourth hypothesis test

The fourth hypothesis states that there is a positive and significant relationship between teacher professionalism, teacher performance, and teachers' productivity and student achievement in class XI Islamic senior high school Lamongan uses multiple linear regression analysis. The results of multiple linear regression can be seen in the following table.

Table 19 CORRELATION AND DETERMINATION COEFFICIENT	
Test	**Value**
Correlation coefficient (R)	0.846
Coefficient of determination (R2)	0.723

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Table 19 above shows that the R-value is 0.846, meaning that teacher professionalism, performance, and work productivity strongly correlates with student achievement in class XI Islamic senior high school Lamongan. The results of the F test can be seen in the table below.

Table 20
F. TEST RESULTS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	746.791	3	248.930	32.560	0.000[b]
	Residual	252.290	33	7.645		
	Total	999.081	36			

a. Dependent Variable: students' achievement

b. Predictors: (Constant), Work Productivity, Teacher Professionalism, Teacher Performance

According to Table 20, teacher professionalism, teacher performance, and teachers' productivity have a positive and significant relationship with student achievement in class XI Islamic senior high school Lamongan, as indicated by a sig value of 0.0000.05, meaning that H4 is accepted.

DISCUSSION

The results showed that statistically, there was a positive and significant relationship between teacher professionalism and student achievement in class XI Islamic senior high school, which was indicated by a significance value of 0.000<0.05. Teacher professionalism is a significant issue in developing education policies in Indonesia and various countries (Coombe & Stephenson, 2020; Jansem, 2018). A teacher is a professional with the duties and responsibilities of educating, teaching, and guiding students (Pambudi et al., 2022). Ball et al. (2011) and Evans (2008) claim that a teacher's professionalism is determined by the culture of professionalism that is developed both in oneself and institutional policies. Teachers who have professional abilities are needed to improve student achievement so that teachers positively have scientific responsibilities (Browes & Altinyelken, 2022). According to Pearson & Moomaw (2005), teachers will feel comfortable at work if the environment is conducive. A conducive organizational climate will encourage teachers to work diligently and earnestly to improve their performance (Nairz-Wirth & Feldmann, 2019). This finding is in line with several studies claiming that teacher professionalism affects learning outcomes and student achievement (Akiba & Liang, 2016; Golob, 2012; Harisman et al., 2019; Osmond-Johnson, 2015) and even guarantees the success of educational programs (Rusznyak, 2018; Wardoyo & Herdiani, 2017).

The results showed that statistically, there was a positive and significant relationship between teacher performance and student achievement in class XI Islamic senior high school, which was indicated by a significance value of 0,000. Version refers to performing or performing an activity (Pardosi & Utari, 2021). There are many performances that a teacher must have; including the teacher must have professional, pedagogic, personality, and social competencies. Teachers must keep up with the latest knowledge developments in the field of education according to the times (Smith & Tyler, 2011; Louis & Marks, 1998). According to Costa et al. (2022), a teacher's performance can be measured and assessed. If there is an increase, it indicates that the teacher has good performance; otherwise, if there is a decrease in achievement, it suggests that the teacher in question has poor performance during that period. Good teacher

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performance can foster public confidence in educational services at the school (Yücedağ & Şevik, 2021; Talbert & McLaughlin, 1994). The results of this study are under the research of Mayasari et al. (2021). His research showed that teacher performance had a positive and significant effect on student achievement, as indicated by the value of sig. t is (0.000) < (0.05), and the calculated F value (22.441) >F (0.05).

The results suggest a statistically significant relationship between teacher productivity and student achievement in class XI Islamic senior high school, which was indicated by a significance value of 0.000<0.05. Work productivity is an essential factor in the workplace because of its direct benefits on achieving organizational goals (Utami & Vioreza, 2021). In theory, productivity can measure an employee's added value when producing goods or services (Meija et al., 2012). A teacher with high work motivation will impact work productivity (Bakker et al., 2012). As a result, planning, structuring, and utilizing resources aim to effectively and efficiently realize education. Improving student achievement can be measured by increasing the target skills determined by a teacher's work productivity (Harbour et al., 2015; Craft et al., 1998). While education and training are efforts to improve teacher productivity, particularly intellectual and personality development, the main goal is teacher performance. In general, the school's contribution determines a teacher's productivity, whereas student achievement is determined by a teacher's professional orientation and the role of parents, which is also very important (Hitt & Tucker, 2016; Tschannen-Moran, 2009). This study's findings are consistent with Donohoo's (2018) research, which shows that teacher work productivity positively impacts student achievement.

The results of this study also prove a positive and significant relationship between teacher professionalism, teacher performance, and teacher productivity with student achievement in class XI Islamic senior high school Lamongan by a significance value of 0.000<0.05, or 72.3%. While other factors outside of this study influence the remaining 83.3%. Suppose a teacher's performance is good, supported by highly professional teachers who are certified educators and master information technology (IT), and at the same time have high work productivity in carrying out their duties. In that case, it will improve student learning achievement (Wubbels et al., 2016; Allen et al., 2013). This will be reflected in their compliance, commitment, and loyalty to developing students' potential and advancing the school: the more teacher professionalism, performance, and work productivity increase, the more student learning achievement. Conversely, the worse the professionalism of teachers, teacher performance, and work productivity, the less the student's learning achievement.

CONCLUSION

Teacher professionalism has a positive and significant relationship with student achievement by the r-value of 0.772 with p=0.000<0.05, meaning that teacher professionalism can determine student achievement. Teacher performance is positively and significantly related to student achievement by the r-value of 0.717 with p=0.000<0.05, meaning that teacher performance can determine student achievement. Teacher work productivity is positively and significantly related to student achievement by the r-value of 0.851 with p=0.000<0.05, meaning that student achievement can be determined by the productivity of the teacher's work. Furthermore, there is a positive and significant relationship between teacher professionalism, teacher performance, and teacher work productivity with student achievement. The study results can be input for teachers so that teachers have good abilities or skills in teaching each subject, for

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example, by using learning media that can improve student learning achievement so that students do not feel bored or bored when participating in learning. Thus student learning achievement can be increased.

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REFERENCES

Akiba, M., & Liang, G. (2016). Effects of teacher professional learning activities on student achievement growth. *The Journal of Educational Research*, *109*(1), 99-110.

Allen, J., Gregory, A., Mikami, A., Lun, J., Hamre, B., & Pianta, R. (2013). Observations of effective teacher–student interactions in secondary school classrooms: Predicting student achievement with the classroom assessment scoring system—secondary. *School Psychology Review*, *42*(1), 76-98.

Anih, E., Rachman, I., Rohmawatiningsih, W., & Yayoi, K. (2021). The implementation of environmental education-based curriculum towards adiwiyata predicate school. Case study: An elementary school in Subang City, West Java, Indonesia. In *IOP Conference Series: Earth and Environmental Science* (Vol. 802, No. 1, p. 012011). IOP Publishing.

Arifin, I., Juharyanto, Mustiningsih, & Taufiq, A. (2018). Islamic crash course as a leadership strategy of school principals in strengthening school organizational culture. *Sage Open*, *8*(3), 2158244018799849.

Bakker, A.B., Demerouti, E., & Lieke, L.T. (2012). Work engagement, performance, and active learning: The role of conscientiousness. *Journal of Vocational Behavior*, *80*(2), 555-564.

Ball, S.J., Maguire, M., Braun, A., & Hoskins, K. (2011). Policy actors: Doing policy work in schools. *Discourse: Studies in the cultural politics of education*, *32*(4), 625-639.

Baumert, J., & Kunter, M. (2013). Professional competence of teachers. *Keyword: Journal of Educational Science* , 277-337.

Blömeke, S., & Kaiser, G. (2017). Understanding the development of teachers' professional competencies as personally, situationally and socially determined. *International Handbook of Research on Teacher Education*, 783-802.

Blömeke, S., Jentsch, A., Ross, N., Kaiser, G., & König, J. (2022). Opening up the black box: Teacher competence, instructional quality, and students' learning progress. *Learning and Instruction*, *79*, 101600.

Bojović, Ž., Bojović, P.D., Vujošević, D., & Šuh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education*, *28*(6), 1467-1489.

Boström, M., Andersson, E., Berg, M., Gustafsson, K., Gustavsson, E., Hysing, E., Lidskog R, Löfmarck, E., Ojala, M., Olsson, J., & Öhman, J. (2018). Conditions for transformative learning for sustainable development: A theoretical review and approach. *Sustainability*, *10*(12), 4479.

Broo, D.G., Kaynak, O., & Sait, S.M. (2022). Rethinking engineering education at the age of industry 5.0. *Journal of Industrial Information Integration*, *25*, 100311.

Browes, N., & Altinyelken, H.K. (2022). Professionalism in the era of accountability: Role discrepancy and responses among teachers in the Netherlands. *The British Journal of Sociology*, *73*(1), 188-205.

C. Vidal, A., & Keating, W.D. (2004). Community development: Current issues and emerging challenges. *Journal of Urban Affairs*, *26*(2), 125-137.

Coombe, C., & Stephenson, L. (2020). *Professionalizing your English language teaching*. Springer Nature.

Costa, S., Pirchio, S., & Glock, S. (2022). Teachers' and preservice teachers' implicit attitudes toward ethnic minority students and implicit expectations of their academic performance. *International Journal of Intercultural Relations*, *89*, 56-62.

Craft, M.A., Alber, S.R., & Heward, W L. (1998). Teaching elementary students with developmental disabilities to recruit teacher attention in a general education classroom: Effects on teacher praise and academic productivity. *Journal of Applied Behavior Analysis*, *31*(3), 399-415.

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Danchikov, E.A., Prodanova, N.A., Kovalenko, Y.N., & Bondarenko, T.G. (2021). The potential of online learning in modern conditions and its use at different levels of education. *Linguistics and Culture Review*, *5*(S1), 578-586.

Darmaji, D., Mustiningsih, M., & Arifin, I. (2019). Quality management education in the industrial revolution era 4.0 and society 5.0. In *5th International Conference on Education and Technology (ICET 2019)* (pp. 565-570). Atlantis Press.

Donohoo, J. (2018). Collective teacher efficacy research: Productive patterns of behaviour and other positive consequences. *Journal of Educational Change*, *19*(3), 323-345.

Evans, L. (2008). Professionalism, professionality and the development of education professionals. *British journal of educational studies*, *56*(1), 20-38.

Gardiner, M. (2008). Education in rural areas. *Issues Educ. Policy*, 4, 1-34.

Ghozali, I. (2006). *Multivariate analysis application with SPSS program*. Diponegoro University Publishing Agency.

Golob, H.M. (2012). The impact of teacher's professional development on the results of pupils at national assessment of knowledge. *Procedia-Social and Behavioral Sciences*, *47*, 1648-1654.

Harbour, K.E., Evanovich, L.L., Sweigart, C.A., & Hughes, L.E. (2015). A brief review of effective teaching practices that maximize student engagement. *Preventing School Failure: Alternative Education for Children and Youth*, *59*(1), 5-13.

Harisman, Y., Kusumah, Y. S., & Kusnandi, K. (2019). How teacher professionalism influences student behaviour in mathematical problem-solving process. In *Journal of Physics: Conference Series* (Vol. 1188, No. 1, p. 012080). IOP Publishing.

Hitt, D.H., & Tucker, P.D. (2016). Systematic review of key leader practices found to influence student achievement: A unified framework. *Review of Educational Research*, *86*(2), 531-569.

Hodson, D. (2003). Time for action: Science education for an alternative future. *International Journal of Science Education*, *25*(6), 645-670.

Huang, T., Hochbein, C., & Simons, J. (2020). The relationship among school contexts, principal time use, school climate, and student achievement. *Educational Management Administration & Leadership*, *48*(2), 305-323.

Isaac, S., & Michael, W.B. (1995). *Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences*. Edits publishers.

Jansem, A. (2018). Professionalism" in second and foreign language teaching: A qualitative research synthesis. *International Education Studies*, 11(1), 141–147.

Kaiser, G., Blömeke, S., König, J., Busse, A., Döhrmann, M., & Hoth, J. (2017). Professional competencies of (prospective) mathematics teachers—Cognitive versus situated approaches. *Educational Studies in Mathematics*, *94*, 161-182.

Komariah, A., Rykova, I., Shestakov, D., Hasan, M., Kurniady, D.A., Grebennikova, V., Shcherbatykh, L., Kosov, M., & Dudnik, O. (2022). Assessing the quality and efficiency of education in rural schools through the models of integration and the cooperation of educational institutions: A case study of Russia and Indonesia. *Sustainability*, *14*(14), 8442.

Kravtsova, I.A., Kravtsova, A.O., Hamaniuk, V.A., Bilozir, O.S., & Voznyak, A.V. (2022). Development of professional competence of primary school teachers of the New Ukrainian School in the aspect of foreign language teaching. *AET 2020*, 167.

Louis, K.S., & Marks, H.M. (1998). Does professional community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education*, *106*(4), 532-575.

Maryanti, R., Nandiyanto, A.B.D., Hufad, A., & Sunardi, S. (2021). Science education for students with special needs in Indonesia: From definition, systematic review, education system, to curriculum. *Indonesian Journal of Community and Special Needs Education*, *1*(1), 1-8.

Mayasari, I., Arafat, Y., & Setiawan, A.A. (2021). The effect of principal leadership and teacher performance toward student achievement. *Journal of Social Work and Science Education*, *2*(2), 188-197.

Meija, L.R. Gomez, Balkin, David B., & Cardy, R.L. (2012). *Managing Human Resource*s. New Jersey: Pearson Education, Inc.

Nairz-Wirth, E., & Feldmann, K. (2019). Teacher professionalism in a double field structure. *British Journal of Sociology of Education*, *40*(6), 795-808.

Neitzel, A.J., Lake, C., Pellegrini, M., & Slavin, R.E. (2022). A synthesis of quantitative research on programs for struggling readers in elementary schools. *Reading Research Quarterly*, *57*(1), 149-179.

Citation Information: Muharlisiani, L.T., Istiq'faroh, N., Bariroh, S., Mulawarman, W.G., Karjati, P.D. (2023). How do teachers work? The effect of teachers' professionalism, performance and work productivity on student achievement in Indonesian senior high schools. *Academy of Educational Leadership Journal, 27*(1), 1-14.

Osmond-Johnson, P. (2015). Supporting democratic discourses of teacher professionalism: The case of the Alberta teachers' association. *Canadian Journal of Educational Administration and Policy*, (171).

Pambudi, D.I., Hamami, T., Rachmawati, Y., & Nofiaturrahmah, F. (2022). The influence of meaning in life and teacher leadership on teacher professionalism through structural equation model. *International Journal of Instruction*, *15*(3), 561-580.

Pardosi, J., & Utari, T.I. (2021). Effective principal leadership behaviors to improve the teacher performance and the student achievement. *F1000Research*, *10*.

Pearson, L.C., & Moomaw, W. (2005). The relationship between teacher autonomy and stress, work satisfaction, empowerment, and professionalism. *Educational research quarterly*, *29*(1), 38-54.

Pramana, C., Chamidah, D., Suyatno, S., Renadi, F., & Syaharuddin, S. (2021). Strategies to improved education quality in Indonesia: A review. *Turkish Online Journal of Qualitative Inquiry*, *12*(3).

Rasberry, M. (2022). *The dynamics that exist among teacher preparation programs, student achievement, and teacher performance*.

Rusznyak, L. (2018). What messages about teacher professionalism are transmitted through South African pre-service teacher education programmes?. *South African Journal of Education*, *38*(3).

Shaturaev, J. (2021). Indigent condition in education and low academic outcomes in public education system of Indonesia and Uzbekistan. *Scientific Research Archive*, *1* (1).

Sirait, S. (2016). Does teacher quality affect student achievement? An empirical study in Indonesia. *Journal of Education and Practice*, *7*(27).

Smith, D.D., & Tyler, N.C. (2011). Effective inclusive education: Equipping education professionals with necessary skills and knowledge. *Prospects*, *41*(3), 323.

Talbert, J.E., & McLaughlin, M.W. (1994). Teacher professionalism in local school contexts. *American Journal of Education*, *102*(2), 123-153.

Tschannen-Moran, M. (2009). Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly*, *45*(2), 217-247.

Utami, P.P., & Vioreza, N. (2021). Teacher work productivity in senior high school. *International Journal of Instruction*, *14*(1), 599-614.

Wardoyo, C., & Herdiani, A. (2017). Teacher professionalism: Analysis of professionalism phases. *International Education Studies*, *10*(4), 90-100.

Wibowo, Y.S., Setiawati, F.A., Qodriah, S.R., Nizeyumukiza, E., & Ayriza, Y. (2020). Do school climate and subjective well-being affect student achievement in Indonesia?: A linear regression analysis. *Jurnal Pendidikan Progresif*, *10*(2), 183-191.

Wubbels, T., Brekelmans, M., Mainhard, T., den Brok, P., & van Tartwijk, J. (2016). Teacher-student relationships and student achievement. In *Handbook of social influences in school contexts* (pp. 127-142). Routledge.

Yücedağ, Z., & Şevik, M. (2021). Perceptions of EFL teachers from Turkey, Germany and Spain on professional development and their professional development activities: Perceptions of EFL teachers from Turkey, Germany and Spain. *International Journal of Curriculum and Instruction*, *13*(2), 1389-1426.

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