

The Relationship between Student Perceptions about Teacher Personality Competence and Learning Motivation with Science Learning Outcomes Class V at SDN Peusar, Panongan District, Tangerang Regency

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Abstract

This study aims to examine the relationship independently and jointly between students' perceptions of teacher personality competencies and learning motivation with science learning outcomes for fifth grade students at SDN Peusar. The method is a survey method with a correlational approach. The survey method was used to obtain data on students' perceptions of teacher personality competence, learning motivation, and science learning outcomes, to then look for the correlation coefficient partially and simultaneously between two independent variables with one dependent variable. The conclusions obtained from the results of this study are: (1) There is a very weak relationship between students' perceptions of teacher personality competencies and science learning outcomes as indicated by the correlation coefficient value of 0.561 and the percentage coefficient of determination of 31.4%; (2) there is a positive relationship between learning motivation and science learning outcomes as indicated by the correlation coefficient value of 0.776 and the percentage coefficient of determination of 60.3%; (3) there is a positive relationship between students' perceptions of teacher personality competence and learning motivation together with science learning outcomes as indicated by the correlation coefficient value of 0.785 and the percentage coefficient of determination of 61.6%.

Keywords: Student Perception, Teacher Personality Competence, Learning Motivation, Science Learning Outcomes.

1. Introduction

Every teacher is responsible for the quality of learning activities for each subject they are taught by: (a) referring to the development of the latest learning methods; (b) using varied, innovative and effective learning methods to achieve learning objectives; (c) use the available facilities, equipment and tools effectively and efficiently; (d) paying attention to the nature of the curriculum, the abilities of students, and the varied previous learning experiences as well as the special needs of students who are able to learn quickly to slow; (e) enriching learning activities through cross-curriculum, research results and their application; (f) leading to a competency approach in order to produce graduates who are adaptable, motivated, creative, independent, have a high work ethic, understand lifelong learning, and think logically in solving problems [1].

The Government Regulation and the Permendiknas require that each educational unit carry out an effective and efficient learning process to develop each student's potential optimally. In this case the teacher plays an important role in designing or managing the environment to provide a learning

experience that is in accordance with the potential of students to achieve learning objectives. Potential students need quality education services to determine the level of learning outcomes. In addition, student learning outcomes are related to how much students have a strong desire to be actively involved in the learning process. A strong desire and active involvement in the learning process indicate the level or condition of student motivation to learn.

Teachers are key actors who shape the learning environment and whose main tasks include motivating students to learn. Teachers can differ in the way in which they try to motivate students to learn and their motivational strategies can vary from autonomy-supportive to controlling [2]

Teacher competence plays an important role in improving students learning outcomes [3]. Teachers cannot take learners' motivation for granted, and they have a responsibility to ensure learners are motivated to learn. Teachers must persuade learners to want to do what they ought to do [4].

Highly motivated learners are likely to learn readily, and make any class fun to teach, while unmotivated learners may likely learn very little and generally make teaching painful and frustrating [5].

There has been a high correlation between the intrinsic goal orientation, self-efficacy, and control beliefs. The most important factors of the learning environment that are connected with the formation of intrinsic goal-orientation and the enjoyment of education are the perception of the usefulness of the studied topics, a feeling of autonomy, and teacher support. These findings are supported by the findings of those authors who recommend using those methods of teaching that are in compliance with the student-centred understanding of teaching and learning [6].

Motivation is considered an important, if not the most important, factor influencing student learning. Motivated students use learning strategies more frequently, have a stronger will to learn, and thus set more and higher goals for themselves, and they are more persistent in learning [7].

The first step to motivating students is encouraging their belief that they have the potential to succeed. One approach to showing students that they are capable is progressive education, involves transferring the power to learn to the students. Progressive education is based on the theory that a democratic classroom will lead to more engaged students [8].

Science as a subject in elementary school is a material that must be taught. In science, constructing explanations is an important part of scientific practice. So that in the practice of explaining and modeling science content, the most important thing is how teachers can support students to build explanations rather than the teacher's ability to explain content to students.

Science education aims to increase people's understanding of science and the construction of knowledge as well as to promote scientific literacy and responsible citizenship. Children and youth receive science education at school, but in addition to this, there are, for instance, various workshops, camps and lectures available to them. Along with these, children and adolescents can learn, among other things, cognitive skills and problem-solving while better understanding the construction of knowledge and the scientific process [9].

Besides viewing knowledge about the nature of science (NOS) as important for its own value with respect to scientific literacy, an adequate understanding of NOS is expected to improve science content learning by fostering the ability to interrelate scientific concepts and, thus, coherently acquire scientific content knowledge [10]

So far, the low science learning outcomes in elementary schools is due to the curriculum being used whose description is only limited to measuring cognitive abilities, not measuring student competence as a whole. Science learning is carried out just to fulfill the curriculum load and is only limited to delivering abstract material, so that most students tend to think of science as one of the difficult and boring subjects. Under these conditions, students are less aware of the importance of mastering science competencies in everyday life and they are not interested in studying in depth. Based on observations that can be seen during the science learning process in class V, SDN Peusar teachers lack personality competence, and students are less motivated to learn science material well. In addition, students still think of the teacher as the only source of learning, it appears in every learning students only accept what is given by the teacher to be memorized.

This study aims to examine the relationship independently and jointly between students' perceptions of teacher personality competencies and learning motivation with science learning outcomes for fifth grade students at SDN Peusar.

2. Method

The method used to obtain data in this study is a survey method with a correlational approach. The survey method was used to obtain data on students' perceptions of teacher personality competence, learning motivation, and science learning outcomes, to then look for the correlation coefficient partially and simultaneously between two independent variables with one dependent variable.

The population in this study were students of Peusar State Elementary School in Panongan District, Tangerang Regency. The sampling technique in this research is using random sampling through lottery. This technique provides an opportunity for members of the population to be sampled. The sample selected in this study was the fifth grade students of SDN Peusar, totaling 50 students, consisting of 28 male students and 22 female students.

3. Result and Discussion

3.1. Result

3.1.1. Description of Research Results

The data was obtained from the research sample, namely the fifth grade students in the 2019/2020 academic year at SDN Peusar, Panongan District, Tangerang Regency, totaling 50 students. Characteristics of students based on gender and age consisted of 28 boys including 9 people aged 11 years, 11 people aged 12 years, and 8 people aged 13 years, and 22 girls including 6 people aged 11 years, 13 people aged 12 years, and 3 people aged 13 years.

3.1.1.1. Description of Science Learning Outcomes Data

Table 1. Frequency Distribution of Science Learning Outcomes

	Frequency	Percent	Valid Percent	Cumulative Percent
15	2	4.00	4.00	4.00
17	2	4.00	4.00	8.00
18	5	10.00	10.00	18.00
19	6	12.00	12.00	30.00
20	5	10.00	10.00	40.00
Valid 21	9	18.00	18.00	58.00
22	6	12.00	12.00	70.00
23	5	10.00	10.00	80.00
24	5	10.00	10.00	90.00
25	5	10.00	10.00	100.00
Total	50	100	100	

Furthermore, from the table above, the score range, average score (mean), standard deviation, median (median), and highest score (mode) is determined in the following statistical table of data:

Table 2. Statistics of Science Learning Outcomes

N	Valid	50
	Missing	0
Mean		20.98
Median		21
Mode		21
Std. Deviation		2,00
Variance		4,00
Range		10
Minimum		15
Maximum		25
Sum		1049

Based on the table above, a score range of 10 is obtained, where the lowest score obtained by students is 15 and the highest score is 25. The average student score is 20.98 with a variance of 4.00 and a standard deviation of 2.00. The middle score and the score that appears the most is 21, which is 9 people.

3.1.1.2. Description of Student Perception Data on Teacher Personality Competence

Table 3 Frequency Distribution of Students' Perceptions of Teacher Personality Competencies

	Frequency	Percent	Valid Percent	Cumulative Percent
10	4	8.00	8.00	8.00
11	8	16.00	16.00	24.00
12	9	18.00	18.00	42.00
Valid 13	12	24.00	24.00	66.00
14	7	14.00	14.00	80.00
15	10	20.00	20.00	100.00
Total	50	100	100	

Furthermore, from the table above, the score range, average score (mean), standard deviation, median (median), and highest score (mode) is determined in the following statistical table of data:

Table 4 Statistics of Student Perception Data on Teacher Personality Competence

N	Valid	50
	Missing	0
Mean		12.8
Median		13
Mode		13
Std. Deviation		2,732
Variance		7,466
Range		5
Minimum		10
Maximum		15
Sum		640

Based on the table above, a score range of 5 is obtained, where the lowest score obtained by students is 10 and the highest score is 15. The average student score is 12.8 with a variance of 7.466 and a standard deviation of 2.732. The middle score and the score that appeared the most were 13, namely 12 people.

3.1.1.3. Description of Learning Motivation Data

Table 5 Frequency Distribution of Learning Motivation

	Frequency	Percent	Valid Percent	Cumulative Percent
14	2	4.00	4.00	4.00
15	2	4.00	4.00	8.00
16	4	8.00	8.00	16.00
17	4	8.00	8.00	24.00
Valid 18	9	18.00	18.00	42.00
19	6	12.00	12.00	54.00
20	12	24.00	24.00	78.00
21	5	10.00	10.00	88.00
22	6	12.00	12.00	100.00
Total	50	100	100	

Furthermore, from the table above, the score range, average score (mean), standard deviation, median (median), and highest score (mode) is determined in the following statistical table of data:

Table 6 Statistics of Learning Motivation Data

N	Valid	50
	Missing	0
Mean		18.86
Median		19
Mode		20
Std. Deviation		3,244
Variance		10,527
Range		8
Minimum		14
Maximum		22
Sum		943

Based on the table above, a score range of 8 is obtained, where the lowest score obtained by students is 14 and the highest score is 22. The average student score is 18.86 with a variance of 10.527 and a standard deviation of 3.244. The middle score is 19 and the score that appears the most is 20, which is 12 people.

3.1.2. Test Data Analysis Requirements

3.1.2.1. Data Normality Test

Table 7 Recapitulation of Normality Test Results

Variable	Significance	L _{count}	L _{table}	Summary
Science Learning Outcomes	0,05	0,113	0,152	Normal
Student Perception of Teacher Personality Competence	0,05	0,141	0,152	Normal
Motivation to learn	0,05	0,144	0,152	Normal

From the table above, the normality test of the data on the science learning outcome variable obtained L_{count} of 0.113, while the value of L_{table} at a significant level of 0.05 with 34 respondents was

0.152. Thus, it can be concluded that the data on science learning outcomes variables are normally distributed ($0.113 < 0.152$).

3.1.2.2. Testing the Homogeneity of Data between Variables

Table 8 Recapitulation of Data Homogeneity Test Results between Variables

Variable	Significance	dk	X^2_{table}	X^2_{count}	Summary
Science Learning Outcomes on Student Perceptions of Teacher Personality Competencies	0,05	28	41,337	3,132	Homogeneous
Science Learning Outcomes on Learning Motivation	0,05	25	37,652	7,339	Homogeneous

From the table above, the homogeneity test on the science learning outcome variable on students' perceptions of the teacher's personality competence obtained X^2_{count} of 3.132 and the value of X^2_{table} at a significant level of 0.05 with $dk = 28$ of 41.337. Because $X^2_{count} 3.132 < X^2_{table} 41,337$, it can be concluded that the data population of the science learning outcomes variable on students' perceptions of teacher personality competence has the same/homogeneous variance.

Furthermore, for the homogeneity test on the science learning outcomes variable on learning motivation, it was obtained X^2_{count} of 7.339 and the value of X^2_{table} at a significant level of 0.05 with $dk = 25$ of 37.652. Because $X^2_{count} 7.339 < X^2_{table} 37.652$, it can be concluded that the data population of the science learning outcomes variable on learning motivation has the same/homogeneous variance.

3.1.2.3. Regression Model Linearity Test

Table 9 Recapitulation of Linearity Test Results

Variable	df_1	df_2	F_{table}	F_{count}	Summary
Science Learning Outcomes on Student Perceptions of Teacher Personality Competencies	2	24	3,400	0,751	Linear

Science Learning Outcomes on Learning Motivation	5	18	2,770	0,806	Linear
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Based on the table above, testing the linearity of the science learning outcomes variables on students' perceptions of teacher personality competencies obtained F_{count} of 0.751 and the critical value of F_{table} at a significant level of 0.05 with $df_1 = 2$ and $df_2 = 24$ of 3.400. Because $F_{count} 0.751 < F_{table} 3.400$, it can be concluded that the regression line equation for the science learning outcomes variable on students' perceptions of the teacher's personality competence meets the linearity requirements.

For testing the linearity of the science learning outcomes variable on learning motivation, $F_{arithmetic}$ is 0.806 and the critical value of F_{table} is at a significant level of 0.05 with $df_1 = 5$ and $df_2 = 18$ is 2.770. Because $F_{count} 0.806 < F_{table} 2.770$, it can be concluded that the regression line equation for the science learning outcomes variable on learning motivation meets the linearity requirements.

3.1.3. Hypothesis Testing and Discussion of Research Results

3.1.3.1. First Hypothesis Testing

Table 10 Correlation between Student Perception Competence on Teacher Personality and Science Learning Outcomes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.651 ^a	.412	.394	2.023
a. Predictors: (Constant), Student's Perception of Personality Competence				

Based on the table above, the correlation coefficient R between students' perceptions of teacher personality competencies and science learning outcomes is 0.651, meaning that the correlation between students' perceptions of teacher personality competencies and science learning outcomes is weak. This is because the students' honesty in filling out the questionnaire is still low, which can be seen in that there are still many students who answer the statements in the questionnaire by looking at their friends' answers, so the resulting data does not describe the actual situation. In addition, the value of the coefficient of determination R Square obtained from the table above is $0.412 \times 100\% = 41.20\%$, meaning that the contribution of students' perceptions of the teacher's personality competence to students' science learning outcomes is 41.20%, while 58, 80% is influenced by other factors. The significance test for the first hypothesis can be seen in the following table:

Table 11 Testing the Significance of the First Hypothesis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.204	2.675		4.935	.007
	Student's Perception of Personality Competence	.715	.329	.765	5.765	.009
a. Dependent Variable: Science Learning Outcomes						

Based on the table above, the constant value of is 10.204 and the value of 0, is 0.765, so that the form of a simple regression equation for the first hypothesis is obtained, namely = 10.204 + 0.765 (X1). The regression equation shows that the relationship between students' perceptions of teacher personality competencies and science learning outcomes is positive, where every 1 increase in student perception scores about teacher personality competencies will be followed by an increase in science learning outcomes scores of 0.765. Thus, the higher the student's perception score about the teacher's personality competence, the higher the student's science learning outcome score.

Furthermore, from the table above, the t_{count} value is 4.935. The value of t_{table} at a significance level of 0.05 with degrees of freedom $df = 50 - 2 - 1 = 47$ is 2.00. Where the significance test criteria are if $-t_{\text{table}} < t_{\text{count}} < t_{\text{table}}$, then H_0 is accepted and H_1 is rejected, otherwise if $-t_{\text{count}} < -t_{\text{table}}$ or $t_{\text{count}} > t_{\text{table}}$, then H_0 is rejected and H_1 is accepted. So, from the results of the calculation of the value of $t_{\text{arithmetic}}$ $4.935 > t_{\text{table}}$ 2.00, which means H_0 is rejected and H_1 is accepted. Thus, it can be concluded that there is a positive relationship between students' perceptions of teacher personality competencies and science learning outcomes at a significance level of 0.05.

Furthermore, partial correlation testing is carried out which aims to test the correlation coefficient between two variables if one of the variables is made fixed. The partial correlation test in this study uses SPSS 24. The results of the partial correlation test between students' perceptions of teacher personality competencies and science learning outcomes are as follows:

Table 12 Partial Correlation Test between Student Perceptions of Teacher Personality Competence and Science Learning Outcomes

Control Variables			Science Learning Outcomes	Personal Competence
Motivation to learn	Science Learning Outcomes	Correlation	1.000	.184
		Significance (2-tailed)	.	.305
		df	0	47

	Student's Perception of Personality Competence	Correlation	.184	1.000
		Significance (2-tailed)	.305	.
		df	47	0

Based on the table above, the partial correlation value between students' perceptions of teacher personality competencies and science learning outcomes is 0.184. This value indicates that the partial correlation coefficient between students' perceptions of teacher personality competence and science learning outcomes is very weak. Thus, if the variable of learning motivation is fixed, then the relationship between students' perceptions of the teacher's personality competence and science learning outcomes is very weak.

3.1.3.2. Second Hypothesis Testing

Table 13 Correlation between Learning Motivation and Science Learning Outcomes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.776 ^a	.603	.590	1.540
a. Predictors: (Constant), Motivation to learn				

Based on the table above, the correlation coefficient R between learning motivation and science learning outcomes is 0.776, meaning that the correlation between learning motivation and science learning outcomes is quite strong. The coefficient of determination R Square obtained from the table above is $0.603 \times 100\% = 60.3\%$, meaning that the large contribution of the influence of learning motivation on students' science learning outcomes is 60.3%, while 39.7% is influenced by other factors. The significance test for the second hypothesis can be seen in the following table:

Table 14 Testing the Significance of the Second Hypothesis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.617	2.647		.989	.330
Motivation to learn	.967	.139	.776	6.968	.000
a. Dependent Variable: Science Learning Outcomes					

Based on the table above, the constant value of is 2.617 and the value of is 0.967, so that the form of a simple regression equation for the second hypothesis is obtained, namely = 2.617 + 0.967 (X₂). The regression equation shows that the relationship between learning motivation and science learning outcomes is positive, where every 1 increase in learning motivation scores will be followed by an increase in science learning outcomes scores of 0.967. Thus, the higher the score of learning motivation, the higher the score of students' science learning outcomes.

Furthermore, from the table above, the t-count value is 6.968. The value of t_{table} at a significance level of 0.05 with degrees of freedom df = 50-2-1 = 47 is 2.00. Where the significance test criteria are if -t_{table} < t_{count} < t_{table}, then H₀ is accepted and H₁ is rejected, otherwise if -t_{count} < -t_{table} or t_{count} > t_{table}, then H₀ is rejected and H₁ is accepted. So, from the results of the calculation of the value of t_{count} 6.968 > t_{table} 2.00, which means H₀ is rejected and H₁ is accepted. Thus, it can be concluded that there is a positive relationship between learning motivation and science learning outcomes at a significance level of 0.05.

Furthermore, partial correlation testing is carried out which aims to test the correlation coefficient between two variables if one of the variables is made fixed. The partial correlation test in this study uses SPSS 24. The results of the partial correlation test between learning motivation and science learning outcomes are as follows:

Table 15 Partial Correlation Test between Learning Motivation and Science Learning Outcomes

Control Variables		Science Learning Outcomes	Learning Motivation
Student's Perception of Personality Competence	Science Learning Outcomes	Correlation	1.000
		Significance (2-tailed)	.
		df	0
	Learning Motivation	Correlation	.663
		Significance (2-tailed)	.000
		df	47

Based on the table above, the partial correlation value between learning motivation and science learning outcomes is 0.663. This value indicates that the partial correlation coefficient between learning motivation and science learning outcomes is quite strong. Thus, although the variable of teacher personality competence is fixed, the relationship between learning motivation and science learning outcomes remains strong.

3.1.3.3. Third Hypothesis Testing

Table 16 Correlation between Student Perceptions of Teacher Personality Competence and Learning Motivation Together with Science Learning Outcomes

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785 ^a	.616	.591	1.538

a. Predictors: (Constant), Learning Motivation, Student Perception of Personality Competence

Based on the table above, the correlation coefficient R between students' perceptions of teacher personality competencies and learning motivation together with science learning outcomes is 0.785, meaning that the correlation between students' perceptions of teacher personality competencies and learning motivation together with learning outcomes IPA is quite strong. The value of the coefficient of determination R Square obtained from the table above is $0.616 \times 100\% = 61.6\%$, meaning that the contribution of students' perceptions of the teacher's personality competence and learning motivation together on students' science learning outcomes is 61.6% , while 38.4% was influenced by other factors.

The form of the multiple regression line equation between students' perceptions of teacher personality competencies and learning motivation together with science learning outcomes can be seen in the following table:

Table 17 Regression Line Equations between Student Perceptions of Teacher Personality Competence and Learning Motivation Together with Science Learning Outcomes

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.689	2.789		.606	.549
Student's Perception of Personality Competence	.237	.228	.146	1.043	.305
Learning Motivation	.858	.174	.689	4.937	.000

a. Dependent Variable: Science Learning Outcomes

Based on the table above, the constant value of is 1.689, the value of 1 is 0.237, and the value of 2 is 0.858, so that the form of the multiple regression equation for the third hypothesis is $Y = 1.689 + 0.237 (X_1) + 0.858 (X_2)$. The regression equation shows that the relationship between students' perceptions of teacher personality competencies and learning motivation together with science learning

outcomes is positive, where every 1 increase in student perception scores about teacher personality competencies and learning motivation together will be followed by an increase in the result score. Learning science is $0.237 + 0.858 = 1.095$. Thus, the higher the score of students' perceptions of the teacher's personality competence and motivation to learn together, the higher the score of students' science learning outcomes.

The significance test for the third hypothesis can be seen in the following table:

Table 18 Testing the Significance of the Third Hypothesis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117.675	2	58.837	24.885	.000 ^a
	Residual	73.296	47	2.364		
	Total	190.971	49			
a. Predictors: (Constant), Learning Motivation, Student Perception of Personality Competence						
b. Dependent Variable: Science Learning Outcomes						

Based on the table above, the calculated F_{value} is 24,885. The value of F_{table} at a significance level of 0.05 with degrees of freedom $df_1 = 3-1 = 2$ and $df_2 = 50-3 = 47$ is 4.50. Where the criteria for testing the hypothesis are if $-F_{\text{table}} \leq F_{\text{count}} \leq F_{\text{table}}$, then H_0 is accepted and H_1 is rejected, otherwise if $-F_{\text{count}} < -F_{\text{table}}$ or $F_{\text{count}} > F_{\text{table}}$, then H_0 is rejected and H_1 is accepted. Because from the results of the calculation of the calculated $F_{\text{value}} 24.885 > F_{\text{table}} 4.50$, then H_0 is rejected and H_1 is accepted. Thus, there is a relationship between students' perceptions of teacher personality competence and learning motivation together with science learning outcomes at a significance level of 0.05.

4. Summary

The correlation coefficient between students' perceptions of teacher personality competencies is weak, but there is a positive and significant relationship between students' perceptions of teacher personality competencies and student learning outcomes in science subjects. Thus, to improve student learning outcomes in science subjects, teachers must improve the quality of behavior as a person who is steady and stable, giving rise to positive perceptions from students about the teacher's personality competence.

There is a positive and significant relationship between learning motivation and student learning outcomes in science subjects. Thus, to improve student learning outcomes in science subjects, efforts are needed to increase student learning motivation. There is a positive and significant relationship between students' perceptions of the teacher's personality competence and learning motivation together with student learning outcomes in science subjects. Thus, to improve student learning

outcomes in science subjects, efforts are needed to foster positive perceptions from students about teacher personality competencies, as well as student learning motivation.

References

- Peraturan Menteri Pendidikan dan Kebudayaan Nomor 22 Tahun 2016 Tentang Standar Proses Pendidikan Dasar dan Menengah, available from: https://bsnp-indonesia.org/wp-content/uploads/2009/06/Permendikbud_Tahun2016_Nomor022_Lampiran.pdf
- Lisette Hornstra et al, Motivational teacher strategies: the role of beliefs and contextual factors, *Learning Environ Res* (2015) 18:363–392, DOI 10.1007/s10984-015-9189-y, available from: <https://link.springer.com/content/pdf/10.1007/s10984-015-9189-y.pdf>
- Asmirah et al, The Relationship Between Learners Perception On Competencies Of Science Teacher With Motivation And Learning Outcomes Of Students In Junior High School In Tual City, *Unnes Science Education Journal* 8 (3) 2019, available from: <https://journal.unnes.ac.id/sju/index.php/usej>
- J. Filgona et al, Motivation in Learning, *Asian Journal of Education and Social Studies*, 10(4): 16-37, 2020; Article no.AJESS.60760, DOI:10.9734/AJESS/2020/v10i430273, available from: <file:30273-ArticleText-56757-1-10-20200909.pdf>
- _____, Motivation in Learning, *Asian Journal of Education and Social Studies*, 10(4): 16-37, 2020; Article no.AJESS.60760, DOI:10.9734/AJESS/2020/v10i430273, available from: <file:30273-ArticleText-56757-1-10-20200909.pdf>
- F. Koca, Motivation to Learn and Teacher–Student Relationship, *Journal of International Education and Leadership*, Volume 6 Issue 2 Summer 2016, <http://www.jielusa.org>, available from: <https://files.eric.ed.gov/fulltext/EJ1135209.pdf>
- M. Radovan and D. Makovec, Relations between Students' Motivation, and Perceptions of the Learning Environment, *ceps Journal*, Vol.5 No 2, 2015; 115-138, available from: <https://files.eric.ed.gov/fulltext/EJ1128947.pdf>
- _____, Relations between Students' Motivation, and Perceptions of the Learning Environment, *ceps Journal*, Vol.5 No 2, 2015; 115-138, available from: <https://files.eric.ed.gov/fulltext/EJ1128947.pdf>
- Jonna Timonen, Why is science education important?, *JYunity Newsletter*, June, 2020, available from: <https://jyunity.fi/en/thinkers/why-is-science-education-important/>
- H. Michel and I. Neumann, Nature of Science and Science Content Learning, *Sci & Educ* (2016) 25:951–975, DOI 10.1007/s11191-016-9860-4, available from: <https://link.springer.com/content/pdf/10.1007/s11191-016-9860-4.pdf>
- Varghese, Reney, T. Selvin Norman, and Samuel Thavaraj. "Perceived stress and self efficacy among college students: A global review." *International Journal of Human Resource Management and Research* 5.3 (2015): 15-24.
- Benson, OZICHI O., et al. "Students' perception of teachers' pedagogical skills and its influence on their attitude towards science: implication for science, technology and engineering careers." *International Journal of Mechanical and Production Engineering Research and Development(IJMPERD)* 10.3 (2020): 14701-14714.

- Al-Omari, A., and S. Alganbousi. "The entrepreneurial intentions among undergraduate students of Sultan Qaboos University and its relationship with their proactive personality." *International Journal of Educational Science and Research* 10.3 (2020): 37-48.
- Almusaddar, Ayman AS, Sara Ravan Ramzan, and Valliappan Raju. "The influence of knowledge, satisfaction, and motivation on employee performance through competence." *International Journal of Business and General Management (IJBGM)* 7.5 (2018): 21-40.
- Uranga, Juan Jesús Algravez, et al. "Perception of The Industry About Study Plans And Teaching Methodologies of The Engineering Education Programs at Universidad Politécnica De Baja California, Mexico." *International Journal of Humanities and Social Sciences (IJHSS)* 7.4 (2018): 37 46.