



# THE EFFECT OF IMPLEMENTING THE PJBL LEARNING MODEL IN ECONOMIC MAPS IN INCREASING LEARNING CREATIVITY STUDENTS AT SMA NEGERI 1 GORONTALO

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<p><b>Received:</b> 11<sup>th</sup> November 2023 <b>Accepted:</b> 10<sup>th</sup> December 2023 <b>Published:</b> 14<sup>th</sup> January 2024</p>	<p>Study This aim For analyze Influence The Application of the PJBL Learning Model in Economic Subjects in Increasing Students' Learning Creativity is reviewed from independence , global diversity , thinking critical and mutual cooperation at SMA Negeri 1 Gorontalo. Approach in study This ie quantitative with correlational . Internal data sources study This is primary data through spread questionnaires and observations . Amount sample in study This as many as 120 students . Data analysis techniques used is <i>Multivariate Analysis of Variance</i> (MANOVA) with SPSS version 21 assistance . Research results This show that (1) The application of the Project Based Learning ( PjBL ) learning model has an effect positive and significant to creativity Study student reviewed from variable independence in class X School State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 16.40%. (2) The application of the Project Based Learning ( PjBL ) learning model has an effect positive and significant to creativity Study student reviewed from variable global diversity in class X schools State Senior High School (SMA) 1 Gorontalo with mark determinant of 10.70%. (3) The application of the Project Based Learning ( PjBL ) learning model has an effect positive and significant to creativity Study student reviewed from variable think critical in class X School State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 14.40%. (4) The application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from mutual cooperation variable in class X school State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 12.60%. (5) The application of the Project Based Learning ( PjBL ) learning model has an effect positive and significant to creativity Study student reviewed from sub variables independence , global diversity , thinking critical and mutual cooperation in class X School State High School (SMA) 1 Gorontalo. With thereby so hypothesis study tested the truth and can accepted .</p>

**Keywords:** Learning Creativity , PjBL , Economics Lessons

## INTRODUCTION

In the beginning, creativity was seen as an innate factor that only certain individuals possessed. In subsequent developments, it was discovered that creativity cannot develop automatically but requires stimulation from the environment. Frisilla, Izzati, et al. (2019 :4). A very complex life requires every individual to try to solve the problems they face, therefore every individual must have creativity and be able and brave to determine the right attitude, according to themselves and their situation. This is in accordance with the opinion of Davis and Bull (1978: 834) who state that creativity can be trained in groups or individually, which requires training from parents and teachers. Creativity does not have to create something new and has never existed before. Students can try to channel ideas by making something different from the others. Creativity is the potential creative power that an individual has as a form of thinking in finding relationships between existing elements or events that come from oneself in the form of a strong desire and creativity to create. Ni Wayan Rati, et al. (2017:67).

According to the Ministry of National Education, the technical guidelines for the implementation of character education (2012) state that there are nine pillars of character that originate from noble values. One of them is the character of Global Diversity, namely peace and unity. Where the character of global diversity is considered very important to develop considering that children grow and develop in the realm of diversity. The nature of diversity in question is an environment that presents various kinds of differences ranging from opinions, living habits, beliefs and customs. Children are accustomed to responding to differences well, such as learning to respect and not forcing their will. This will of course foster creativity in an educator in carrying out his duties and functions as a teacher to shape these different characters.

Pardede (2016) said that critical thinking skills require the ability to think creatively to find the best solution to the problems faced or propose alternative arguments or explanations to think outside the "box". Intellectual creation (creativity) and critical judgment (critical thinking) have a reciprocal logic. There is a close interconnection between the two, Paul emphasizes that all types of thinking are built by both models of creative thinking and critical thinking in an intimate way. Then, in the research results of Mery's Journal (2022:1147), mutual cooperation can be realized when students can fill each other's differences and complement each other's differences. In addition to realizing mutual cooperation between students, the ability to think creatively or creativity will also develop along with joint projects with their friends. However, based on survey results with Google form on March 7 2023, it shows that there are still many students who are not able to channel their creativity. However, for some students it seems very difficult to express ideas in their work. so there needs to be encouragement or challenge so that they are able to express their creativity. For this reason, it is necessary to encourage independence. It can be seen that in terms of independence, students in class Furthermore, based on the results of the Google Form survey , it is clear that there are still many students who have not been able to channel their creativity, where in the nature of global diversity, based on the results of a survey using Google Form, it appears that students have not had 100% of the effect on creativity because there are still students who answered doubtful at 25% and those who answered Yes were 75 % means that student creativity has not been maximized.

Then, based on the results of the Google Form survey , it is clear that there are still many students who have not been able to channel their creativity in terms of Critical Thinking. The results of the survey show that it has not had a 100% effect on students' creativity because there are still 34.1% of students who answered doubtfully, and 63 who answered Yes. The remaining .6% who answered No was 2.3%. Furthermore, finally, based on the survey results, there are still many students who have not been able to channel their creativity in the nature of mutual cooperation, there are still students who still answered doubtful at 9.1% and the rest answered yes at 90.9%. This means that students' creativity has not been maximized.

KemenRistekdikti, (2020) said that creativity is really needed by implementing project based learning (PJBL). The visible results are that students' creativity is channeled by creating various projects that they determine and arrange themselves, both basic materials and product forms. Furthermore, according to Rahmi, ( 2017:13) that Project Based Learning allows students to develop their creativity in designing and creating projects that can be used to overcome complex problems and require mastery of various concepts or subject matter in solving them.

The reality is that creativity has not been maximized so it needs to be increased. Thus, learning creativity at SMA Negeri 1 Gorontalo has not been maximized, so creativity needs to be increased. For this reason, there are several ways needed to increase students' learning creativity by implementing the PJBL learning model which can be trusted to foster students' creativity in designing and creating a project. For this reason, regarding the above problem, it is necessary to apply a learning model to foster and improve the spirit of creativity in the character of students, especially in creating a product or work. One learning model that can be trusted to foster students' creativity in designing and creating a project is project based learning (PJBL). Project based learning is a learning model that provides students with the opportunity to manage learning outside the classroom to work on a project which is useful for solving complex problems and requires mastery of various concepts or subject matter in an effort to solve them in society or the environment.

Dini, Irawati, et al. (2022:1236). Project Based Learning is learning using projects as a learning method. the students work in a real way, as if they were in the real world which can produce realistic products. Because everything will not be achieved optimally if individuals do not have the project-based learning model to increase creativity. So based on the background description, the author is interested in conducting research entitled "The Effect of Implementing the PJBL Learning Model in Economic Subjects in Increasing Students' Learning Creativity at SMA Negeri 1 Gorontalo."

## RESEARCH METHODS

The research was conducted by researchers located at SMA Negeri 1 Gorontalo Jl. MH Thamrin Number 8 Ipilo District, Gorontalo City, Gorontalo Province. Research time is the period of time the research will be carried out. The research will be carried out for 10 months starting from February 2023 - November 2023. The approach in this research is quantitative with correlational. The data source in this research is primary data through distributing questionnaires and observations. The number of samples in this research was 120 students. The data analysis technique used is Multivariate Analysis of Variance (MANOVA) with the help of SPSS version 21.

**RESEARCH RESULT**

**A. Statistical Results Descriptive**

**1. Variable Implementation of the Project Based Learning ( PjBL ) learning model**

Answer results respondents For know How perception respondents For variable Applying the Project Based Learning ( PjBL ) learning model can served in table following This :

**Table 4.9: Analysis of Respondent Answers variable Implementation of the Project Based Learning (PjBL) learning model**

Indicator	Learning model PjBL								
	STS	T.S	K.S	S	SS	Actual	Ideal	%	Criteria
Ind-1	0	2	27	260	41	1330	1650	80.61%	Pretty good
Ind-2	0	2	33	219	76	1359	1650	82.36%	Pretty good
Ind-3	2	4	36	220	68	1338	1650	81.09%	Pretty good
Ind-4	2	3	49	195	81	1340	1650	81.21%	Pretty good
Eng-5	0	2	29	221	78	1365	1650	82.73%	Pretty good
Ind-6	1	4	32	136	47	884	1100	80.36%	Pretty good
<b>Total</b>	<b>5</b>	<b>17</b>	<b>206</b>	<b>1,251</b>	<b>391</b>	<b>7,616</b>	<b>9,350</b>	<b>81.45%</b>	<b>Pretty good</b>

Source: Processed Data, 2022

Based on table above so can is known that variable the application of the Project Based Learning ( PjBL ) learning model is at sufficient criteria Good with score amounting to 81.45%.

**2. Variable Creativity Study aspect independence**

Answer results respondents For know How perception respondents For variable Creativity Study aspect independence can served in table following This :

**Table 4.9: Analysis of Respondents' Answers for the variable Creativity, learning aspects of independence**

No	Independence								
	STS	T.S	K.S	S	SS	Actual	Ideal	%	Criteria
Y1-1	0	2	6	59	53	523	600	87.17%	Good
Y1-2	0	2	15	73	30	491	600	81.83%	Pretty good
Y1-3	1	2	14	79	24	483	600	80.50%	Pretty good
Y1-4	0	2	10	83	25	491	600	81.83%	Pretty good
Y1-5	0	0	9	72	39	510	600	85.00%	Good
Y1-6	0	0	3	72	45	522	600	87.00%	Good
Y1-7	0	2	12	70	36	500	600	83.33%	Pretty good
Y1-8	0	5	18	74	23	475	600	79.17%	Pretty good
Y1-9	0	4	10	80	26	488	600	81.33%	Pretty good
Y1-10	1	0	5	74	40	512	600	85.33%	Good
Y1-11	1	1	7	63	48	516	600	86.00%	Good
<b>Total</b>	<b>3</b>	<b>20</b>	<b>109</b>	<b>799</b>	<b>389</b>	<b>5,511</b>	<b>6,600</b>	<b>83.50%</b>	<b>Pretty good</b>

Source: Processed Data, 2023

Based on table above so can is known that variable creativity Study aspect independence is in sufficient criteria Good with score amounting to 83.50%.

**3. Variable Creativity Study aspect global diversity**

Answer results respondents For know How perception respondents For variable creativity Study aspect global diversity can served in table following This :

**Table 4.9: Analysis of Respondents' Answers to the Creativity variable in learning aspects of global diversity**

No	Global Diversity								
	STS	T.S	K.S	S	SS	Actual	Ideal	%	Criteria
Y2-1	0	1	6	75	38	510	600	85.00%	Good
Y2-2	0	1	9	72	38	507	600	84.50%	Good
Y2-3	0	1	8	64	47	517	600	86.17%	Good
Y2-4	0	5	8	82	25	487	600	81.17%	Pretty good
<b>Total</b>	<b>0</b>	<b>8</b>	<b>31</b>	<b>293</b>	<b>148</b>	<b>2,021</b>	<b>2,400</b>	<b>84.21%</b>	<b>Good</b>

Source: Processed Data, 2023

Based on table above so can is known that variable creativity Study aspect Global diversity is at good criteria with score amounting to 84.21%.

**4. Variable Creativity Study aspect think critical**

Answer results respondents For know How perception respondents For variable Creativity Study aspect think critical can served in table following This :

**Table 4.9: Analysis of Respondents' Answers for the Creativity variable, learning aspects of critical thinking**

No	Think Critical								
	STS	T.S	K.S	S	SS	Actual	Ideal	%	Criteria
Y3-1	0	1	10	87	22	490	600	81.67%	Pretty good
Y3-2	1	1	5	89	24	494	600	82.33%	Pretty good
Y3-3	0	4	11	84	21	482	600	80.33%	Pretty good
Y3-4	0	1	7	89	23	494	600	82.33%	Pretty good
Y3-5	0	0	11	96	13	482	600	80.33%	Pretty good
Y3-6	0	1	19	85	15	474	600	79.00%	Pretty good
Y3-7	0	0	5	89	26	501	600	83.50%	Pretty good
Y3-8	0	0	11	87	22	491	600	81.83%	Pretty good
Y3-9	0	4	13	82	21	480	600	80.00%	Pretty good
<b>Total</b>	<b>1</b>	<b>12</b>	<b>92</b>	<b>788</b>	<b>187</b>	<b>4,388</b>	<b>5,400</b>	<b>81.26%</b>	<b>Pretty good</b>

Source: Processed Data, 2023

Based on table above so can be known that variable creativity Study aspect think critical is in sufficient criteria Good with score amounting to 81.26%.

**5. Variable Creativity Study mutual cooperation aspect**

Answer results respondents For know How perception respondents For variable Creativity Study aspects of mutual cooperation can be served in table following This :

**Table 4.9: Analysis of Respondents' Answers for the variable Creativity in learning aspects of mutual cooperation**

No	Mutual cooperation								
	STS	T.S	K.S	S	SS	Actual	Ideal	%	Criteria
Y4-1	0	3	5	86	26	495	600	82.50%	Pretty good
Y4-2	1	7	8	72	32	487	600	81.17%	Pretty good
Y4-3	0	1	5	75	39	512	600	85.33%	Good
Y4-4	2	0	17	68	33	490	600	81.67%	Pretty good
Y4-5	0	0	5	78	37	512	600	85.33%	Good
Y4-6	0	2	7	73	38	507	600	84.50%	Good
<b>Total</b>	<b>3</b>	<b>13</b>	<b>47</b>	<b>452</b>	<b>205</b>	<b>3,003</b>	<b>3,600</b>	<b>83.42%</b>	<b>Pretty good</b>

Source: Processed Data, 2023

Based on table on so can be known that variable creativity Study the mutual cooperation aspect is at sufficient criteria Good with score amounting to 83.42%.

**B. Testing Hypothesis**

Testing hypothesis statistics (Manova) uses SPSS 21 program assistance in table 4.10 below This :

**Table 4.10: Manova Test Results Overall Whole**

Effect	Value	F	Hypothesis df	df error	Sig.	
Intercept	Pillai's Trace	,986	1966,540 <sup>b</sup>	4,000	114,000	,000
	Wilks' Lambda	.014	1966,540 <sup>b</sup>	4,000	114,000	,000
	Hotelling's Trace	69,001	1966,540 <sup>b</sup>	4,000	114,000	,000
	Roy's Largest Root	69,001	1966,540 <sup>b</sup>	4,000	114,000	,000
PjBL	Pillai's Trace	,290	4,880	8,000	230,000	,000
	Wilks' Lambda	,722	5,037 <sup>b</sup>	8,000	228,000	,000
	Hotelling's Trace	,368	5,192	8,000	226,000	,000
	Roy's Largest Root	,313	8,992 <sup>c</sup>	4,000	115,000	,000

Source : SPSS Data Processing 21, 2023

Based on results analysis obtained mark  $F_{count}$  For testing influence application of the Project Based Learning ( PjBL ) learning model to creativity Study student with Pillai's Trace approach is 230,000 (P-Value 0.000), Wilks' Lambda approach is 228,000 (P-Value 0.000), Hotelling's Trace approach is 226,000 (P-Value 0.000) and Roy's Largest Root approach is 115,000 (P-Value 0.000). These results showing the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student in class X school State High School (SMA) 1 Gorontalo. These results were also corroborated with results testing regression simple to find that  $t_{count}$  amounting to 6,195 with probability value of 0.000 ( more small of alpha 0.05) so can said there is significant influence . As for results testing For application of the Project Based Learning ( PjBL ) learning model to creativity Study student reviewed from variable independence , global diversity , thinking critical and mutual cooperation are presented in the table following This :

**Table 4.11: Test Results PjBL towards Sub Variables Student Learning Creativity**

Model	F- Count	Sig	F Table	R Square
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<b>PjBL (X) -&gt; Independence (Y1)</b>	11,480	0,000	3,074	0.164
<b>PjBL (X) -&gt; Global Diversity (Y2)</b>	7,014	0.001	3,074	0.107
<b>PjBL (X) -&gt; Thinking Critical (Y3)</b>	9,864	0,000	3,074	0.144
<b>PjBL (X) -&gt; Mutual Cooperation (Y4)</b>	8,451	0,000	3,074	0.126
<sup>ns</sup> not significant *. Significant at the 0.1 level (2-tailed) **.Significant at the 0.05 level (2-tailed) ***. Significant at the 0.01 level (2-tailed)				

Source : SPSS Data Processing 21, 2023

Based on table above can interpreted results testing influence application of the Project Based Learning ( PjBL ) learning model to creativity Study student reviewed from sub variables independence , global diversity , thinking critical and mutual cooperation in the following This :

**1. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Viewed from Sub Variables Independence**

Based on results analysis obtained mark  $F_{count}$  For influence application of the Project Based Learning ( PjBL ) learning model to creativity Study student reviewed from sub variables independence is amounting to 11,480 with mark *sig (2-tailed)* of 0.000. Calculated F value Still more big compared to with mark  $F_{table}$  (3.074). Then mark significance This Still more small compared to with The alpha value used is (0.000 < 0.05) so the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from variable independence in class X School State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 16.40%.

**2. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Viewed from Sub Variables Global Diversity**

Based on results analysis obtained mark  $F_{count}$  For influence application of the Project Based Learning ( PjBL ) learning model to creativity Study student reviewed from sub variables global diversity is amounting to 7.014 with mark *sig (2-tailed)* of 0.001. Calculated F value Still more big compared to with mark  $F_{table}$  (3.074). Then mark significance This Still more small compared to with The alpha value used is (0.001 < 0.05) so the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from variable global diversity in class X schools State Senior High School (SMA) 1 Gorontalo with mark determinant of 10.70%.

**3. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Viewed from Sub Variables Think Critical**

Based on results analysis obtained mark  $F_{count}$  For influence application of the Project Based Learning ( PjBL ) learning model to creativity Study student reviewed from sub variables think critical is amounting to 9,864 with mark *sig (2-tailed)* of 0.000. Calculated F value Still more big compared to with mark  $F_{table}$  (3.074). Then mark significance This Still more small compared to with The alpha value used is (0.000 < 0.05) so the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from variable think critical in class X School State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 14.40%.

**4. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Judging from the Mutual Cooperation Sub Variable**

Based on results analysis obtained mark  $F_{count}$  For influence application of the Project Based Learning ( PjBL ) learning model to creativity Study student reviewed from the mutual cooperation sub variable is amounting to 8,451 with mark *sig (2-tailed)* of 0.000. Calculated F value Still more big compared to with mark  $F_{table}$  (3.074). Then mark significance This Still more small compared to with The alpha value used is (0.000 < 0.05) so the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from mutual cooperation variable in class X school State High School (SMA) 1 Gorontalo with mark determinant amounting to 12.60%.

**DISCUSSION**

**1. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Viewed from Sub Variables Independence**

Test result descriptive found that variable creativity Study aspect independence is in sufficient criteria Good with score amounting to 83.50%. This matter showing that students in class X school State High School (SMA) 1 Gorontalo show ability For generate new and original ideas in learn economy . They do not only depend on information provided by the teacher or book text , but also capable develop thinking creative and relatable concepts economy with real world situation . Students own high desire and willingness For Study economy in a way independent . They do not only depend on instructions direct from the teacher, but also looking for sources Study addition , do study yourself , or participate in projects relevant economics .

Test result hypothesis showing that the application of the Project Based Learning learning model has an effect significant to creativity Study student reviewed from variable independence in class X School State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 16.40%. This result showing that the more effective application Project Based Learning ( PjBL ) learning model then student will the more independent in understand concept and context eye lesson . Through application PjBL , independence students in class X SMA Negeri 1 Gorontalo can increase

. This model give space and support for student For take role active in the learning process , developing ability solution problem independent , and constructive independence in Study .

This result in line with statement from Thomas, JW (2010) that Project Based Learning ( PjBL ) learning model is capable increase independence . PjBL push student For reflect on the learning process they in a way independent . After finish project , students requested For evaluate performance they yourself , identify strengths and weaknesses , as well make plan future improvements . With do reflection here , students build independence in recognize and manage progress Study they Alone .

### **2. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Viewed from Sub Variables Global Diversity**

Test result descriptive found that variable creativity Study aspect Global diversity is at good criteria with score amounting to 84.21%. This matter showing that students in class X school Intermediate Creativity Study aspect Global Diversity (SMA) Negeri 1 Gorontalo show broad understanding about deep global diversity context economy . They have good knowledge about difference culture , system economy , and challenges economic conditions faced by countries around the world. Students capable hook draft economy with global context . They can see How principles economy operates in different countries and how factors diversity , like difference culture , policy economics , and systems trading international , influencing economy a country.

Test result hypothesis showing that the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from variable global diversity in class X schools State Senior High School (SMA) 1 Gorontalo with mark determinant of 10.70%. This result showing that the more effective application Project Based Learning ( PjBL ) learning model then shiva capable For implement values deep global diversity life . Through application PjBL , global diversity of students in class X SMA Negeri 1 Gorontalo can stimulated with Good . This model give experience open learning outlook student to diversity culture , improve understanding they about global economy , and strengthen Skills communication intercultural .

This result in line with statement from Hung, W. (2008) that The Project Based Learning learning model can stimulating global understanding of student. In the project PjBL, student faced with problems involving economics global aspect . They were invited For understand impact global economy towards public local , identify opportunity business in global markets, or overcome challenge global economy. Solving process problem This push student For think globally, integrating perspective international in their solution discover, and improve understanding they about connection global economy .

### **3. Influence Application of the Project Based Learning Learning Model to Student Learning Creativity Viewed from Sub Variables Think Critical**

Test result descriptive found that variable creativity Study aspect think critical is in sufficient criteria Good with score amounting to 81.26%. This matter showing that participant educate in class X school State Senior High School (SMA) 1 Gorontalo has ability For analyze and evaluate information economy in a way objective . They are capable identify strong and weak arguments , recognizing bias, and seeing implications from information the in context economy . Students can produce ideas and solutions creative in face problem economy. They are capable think outside box , combine concepts that are not usual , and offer solution innovative For problem complex economy.

Test result hypothesis showing that the application of the Project Based Learning learning model has an effect significant to creativity Study student reviewed from variable think critical in class X School State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 14.40%. This result showing that the more effective application Project Based Learning ( PjBL ) learning model then student will the more capable For think critical in solution the problem becomes material in A activity learning. Through application PjBL , thinking critical students in class X SMA Negeri 1 Gorontalo can stimulated with Good . This model give environment encouraging learning \_ student For think in a way critical , analyzing problem in a way deep , and create decision based on evidence and thinking logical .

This result in line with statement from Blumenfeld, et al. (2011) that The Project Based Learning ( PjBL ) learning model creates participant educate Can understand problem in a way contextual . In PjBL , students Work in collaborating teams For finish project . Collaboration process This push student For each other exchange ideas, debate and discuss about solution best . In discussion here , students invited For question argument , put forward critical questions , and provide thinking constructive criticism to member team other . This matter practice student in think critical through interaction constructive social .

### **4. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Judging from the Mutual Cooperation Sub Variable**

Test result descriptive found that variable creativity Study the mutual cooperation aspect is at sufficient criteria Good with score amounting to 83.42%. This matter showing that students in class X school State Senior High School (SMA) 1 Gorontalo has ability For Work together and collaborate with Good in context economy . They are active participate in discussion groups , projects team , or activity class others involved cooperation with Friend class . Students own attitude each other help and share knowledge with colleagues class . They are willing help Friend experienced class difficulty in understand draft economy , giving support , and share ideas for advance understanding together .

Test result hypothesis showing that the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from mutual cooperation variable in class X school State Senior High School (SMA) 1 Gorontalo with mark determinant amounting to 12.60%. This result showing that the more effective application Project Based Learning PjBL ) learning model then student will the more capable student in increase attitude

nice work in work project learning that becomes not quite enough answer student the . Through application PjBL , mutual cooperation for students in class X SMA Negeri 1 Gorontalo can stimulated with Good . This model give chance for student For Work in a way collaborative , mutual helpful , and appreciative contribution of each member team.

This result in line with statement from Lim, KM, et al. (2018) that in PjBL , student faced with problems or complex challenges that require thinking creative and solutions innovative . Through collaboration in team , students Study For think in a way together , identify problems , and develop solution strategies problem . This process teach student For Work together in overcome obstacles and achieve more results Good through cooperation .

### **5. Influence Application of the Project Based Learning ( PjBL ) Learning Model to Student Learning Creativity Viewed from Sub Variables Independence , Global Diversity , Thinking Critical and Mutual Cooperation**

Test result descriptive found that variable the application of the Project Based Learning ( PjBL ) learning model is at sufficient criteria Good with score amounting to 81.45%. This matter showing that adequate implementation of the PjBL model fulfil criteria This will give experience holistic , empowering learning \_ student students in class X of the school State High School (SMA) 1 Gorontalo in apply draft economics , and preparing they For face related real world challenges with field economy . The Project Based Learning ( PjBL ) learning model encourages student For analyze situation complex and searching economy the right solution . Student must Study use tool analysis economics , like graphs, statistical data , or mathematical models , for analyze and understand phenomenon facing economy in project .

Test result hypothesis showing that the application of the Project Based Learning ( PjBL ) learning model has an effect significant to creativity Study student reviewed from sub variables independence , global diversity , thinking critical and mutual cooperation in class X School State High School (SMA) 1 Gorontalo. This matter showing that The Project Based Learning ( PjBL ) learning model presents context relevant learning with life real students at School State Senior High School (SMA) 1 Gorontalo, especially in context eye lesson economy . Problem based projects real or studies case local possible student For connect draft economy with experience they Alone . This matter trigger interest and motivation students , so increase creativity they in look for innovative solutions .

This result in line with statement from Hmelo -Silver, CE (2004) that in PjBL , student given freedom and responsibility answer in plan and implement project they . They have control on the learning process they himself , incl election topics , methods , and strategies that will be used . Freedom This give student room For explore new ideas , take risk , and develop creativity Study they .

## **CONCLUSION**

Based on the results of the research and discussion can be concluded that:

1. The application of the Project Based Learning (PjBL) learning model has a significant effect on student learning creativity in terms of the independence variable in class X State High School 1 Gorontalo with a determinant value of 16.40%. These results show that the more effective the implementation of the Project Based Learning (PjBL) learning model, the more independent students will be in understanding the concepts and context of the subject.
2. The application of the Project Based Learning (PjBL) learning model has a significant effect on student learning creativity in terms of the global diversity variable in class X State High School 1 Gorontalo with a determinant value of 10.70%. These results show that the more effective the implementation of the Project Based Learning (PjBL) learning model, the more students are able to implement global diversity values in life.
3. The application of the Project Based Learning (PjBL) learning model has a significant effect on student learning creativity in terms of the critical thinking variable in class X State High School 1 Gorontalo with a determinant value of 14.40%. These results show that the more effective the application of the Project Based Learning (PjBL) learning model, the more students will be able to think critically in solving problems that become material in a learning activity.
4. The application of the Project Based Learning (PjBL) learning model has a significant effect on student learning creativity in terms of the mutual cooperation variable in class X State High School 1 Gorontalo with a determinant value of 12.60%. These results show that the more effective the implementation of the Project Based Learning (PjBL) learning model, the more capable students will be in improving good work attitudes in working on learning projects that are the student's responsibility.
5. The application of the Project Based Learning (PjBL) learning model has a significant effect on student learning creativity in terms of the sub-variables of independence, global diversity, critical thinking and mutual cooperation in class X of Gorontalo 1 State High School (SMA).

## **SUGGESTION**

Based on the research conclusions, the suggestions put forward by the researcher are as follows:

1. Principal of Gorontalo 1 State High School (SMA):
  - a. Encourage and support the implementation of the Project Based Learning (PjBL) Learning Model in schools by providing the necessary resources and support.
  - b. Organizing training and workshops for teachers in implementing PjBL effectively.
  - c. Encourage development and research related to PjBL in increasing student learning creativity, independence, global diversity, critical thinking, and mutual cooperation in schools.

2. State High School (SMA) Teacher 1 Gorontalo:
  - a. Implementing the Project Based Learning (PjBL) Learning Model effectively in daily learning.
  - b. Implement learning strategies that encourage student learning creativity, such as providing open challenges, facilitating collaboration, and giving students opportunities to explore new ideas.
  - c. Encourage students to develop independence, global diversity, critical thinking, and mutual cooperation through projects relevant to the economic context.
3. Gorontalo State 1 High School (SMA) Students:
  - a. Take an active role in project-based learning (PjBL) by generating creative ideas, collaborating with classmates, and actively participating in group activities.
  - b. Develop independence by managing time and resources, and overcoming obstacles to learning.
  - c. Explore and understand various perspectives of global diversity in an economic context, and apply critical thinking to analyze problems and produce innovative solutions.
  - d. Develop an attitude of mutual cooperation by helping each other and sharing knowledge with classmates in the learning process.
4. Gorontalo City Education Department:
  - a. Organizing training and professional development for teachers regarding the Project Based Learning (PjBL) Learning Model and how to increase student learning creativity, independence, global diversity, critical thinking, and mutual cooperation in the context of economics subjects.
  - b. Encourage collaboration between schools and related parties to develop and promote innovative learning approaches that include PjBL.
  - c. Support research and development in terms of PjBL and its impact on student learning creativity, independence, global diversity, critical thinking, and mutual cooperation.

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