# Active Learning with Cooperative Learning Model on Learning Outcomes through Student Learning Motivation

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#### **Abstract**

This study aims to find out and analyze the influence of active learning and cooperative learning models on learning outcomes through student learning motivation at Technical Implementation Unit (UPT) State Vocational High School (SMKN) 1 Bulukumba. This research is designed in the form of quantitative research with census methods. The population of this study is 3rd-grade students of UPT SMKN 1 Bulukumba, as many as 218 students. Sample determination is carried out by saturated sampling techniques so that the final sample is 250 students. The data analysis technique used is path analysis. Based on the study results with seven hypotheses submitted, they all proved to mean that the whole hypothesis is acceptable. The results showed that indirect influence and learning motivation contributed to improving student learning outcomes. However, learning motivation is an intervening variable in this study. Still, its contribution is very influential for UPT SMKN 1 Bulukumba students compared to active learning and cooperative learning models, while the effect is indirect. Student learning motivation variables have a good moderation influence even though partial mediation contributes.

## Keywords

Active learning, Cooperative learning, learning motivation, and Learning outcomes

#### 1. Introduction

Education is a conscious and planned effort to realize the conditions and teaching and learning process so that students actively develop their potential to gain spiritual power, self-control, intelligence, personality, ethics, and skills needed by society, nation, and state (Law No. 20 of 2003). Teachers have different methods of learning; various ways and methods used in learning are carried out so that there is no saturation for students with certain methods. Learning outcomes are very important because the success of learning carried out in teaching and learning activities can be seen from the student's learning results. According to Zacharias et al. (2021), many factors affect learning outcomes but can be classified in two ways, namely internal and external. Internal factors arise from the students, such as interest in learning, activities in learning, their attitude to the subject matter, motivation, and others. External factors include facilities in learning, situations, parental support, learning environment, and others.

Learning is a series of planned activities; there is good planning in learning success and active learning whose learning activities are generally focused on students. Active learning can also improve achievement, motivation, and tolerance. In addition, the cooperative learning model has a great contribution to learning and teaching activities. Cooperative learning provides great benefits in providing opportunities for learners to develop abilities. It is because, in cooperative learning activities, learners are actively required to learn through group cooperation. According to (Sugandi, 2000),

cooperative learning is not only learning in groups. In cooperative learning, a drive directs us to be together and allows for open interaction and effective interdependency relationships from each group member.

Student learning results illustrate how students understand the material delivered by the teacher; learning results are the output of grades in the form of numbers or letters obtained by students after receiving learning materials through a test or exam submitted by the teacher. Good student learning outcomes certainly reflect intelligence in learning and personality to optimize potential in teaching and learning. Nevertheless, it will have the opposite impact if poor learning outcomes reflect the inability to achieve what the school hopes. This research seeks to explore the influence of active learning and cooperative learning models on student learning outcomes directly and through indirect learning motivation at UPT SMKN 1 Bulukumba.

#### 2. Literature Review

Active learning is a learning process that increases student activity in accessing various information from various sources (Nurhayati, 2008). Active learning is very important to apply in learning activities by teaching active movement for students so that their learning involvement is more dominant. Active learning conditions will motivate students to engage further in learning. It is supported by previous research such as Rahawarin et al. (2020), which concluded that active learning has a significant positive influence on student learning motivation. Students who are motivated in learning will better change the way they receive lessons and their behavior in learning (Cahaya et al., 2022).

A cooperative learning model is a form of learning involving cooperation among students in the learning process. It becomes effective learning by creating small groups and encouraging active cooperation, interaction, and exchange of thoughts in learning. Through cooperative learning, learning has not been considered complete when one of the members has not gained mastery over the material provided (Sugiyanto, 2008) (. Psychologically, students will prefer to learn in groups to directly motivate them, move them, and turn on learning activities leading to the desired goal. According to (Sardiman, 2016), learning motivation is all the drivers and encouragements of learners that trigger the emergence of learning activities, ensure the continuity of learning activities and provide direction in learning activities so that the expected learning goals can be achieved. It is supported by previous research such significant positive influence of cooperative learning on improving learning motivation.

Active learning is a form of learning that involves many students' activities in understanding, studying, and providing active feedback in teaching and learning activities (Zaini, 2008). Student learning achievement encourages physical and mental abilities (Tamsan and Yusriadi, 2022). It is also in line with previous research conducted by Ilyas et al. (2022) concluded that there is a significant positive influence of active learning on improving learning outcomes. Students who feel happy and comfortable in learning will encourage the improvement of their achievements or learning outcomes; students will feel the benefits if they are heavily involved in learning activities and more easily understand and respond to obstacles that may be faced.

The role of teachers in creating a cooperative learning system is very important, where students need constructive direction that encourages them to be more active. According to Slavin and E. (2008), cooperative learning is a learning model where students work in small groups and complement each other in mastering learning materials. Supporting each other and involving themselves in groups is a positive choice to improve learning outcomes and is collective. The better the implementation of the cooperative learning model will encourage the improvement of student learning outcomes, student learning outcomes as a positive achievement of students in their learning activities (Partini, 2003). It is supported by previous research such as Sultan et al. (2021), which concluded that there is a positive and significant influence of cooperative learning models on improving student learning outcomes.

Learning motivation is needed in learning activities; without motivation, it will not be possible to achieve what is targeted in teaching and learning activities (Djamarah, 2005). Motivating students is equivalent to moving them both in learning, capturing, and the level of appreciation that can encourage their passion for learning and competition. It is supported by the opinion (Uno, 2010a), which suggests that motivation is the basic impulse that moves a person to behave. Students who get the best grades in school can be regarded as proof of their good learning motivation so that the grades obtained are high (Tirtonegoro, 2001). it is also supported by previous research (Indrianti et al., 2018; Lomu and Widodo, 2018; Novalinda et al., 2018; Peterria and Suryani, 2016; Purbiyanto and Rustiana, 2018; Saputra et al., 2018), which concluded the existence of a significant positive influence of learning motivation on learning outcomes.

## 3. Methods

The sample of this study was 250 students at UPT SMKN 1 Bulukumba. Respondents were 124 men (57%) and 94 women (43%).

This research is a type of quantitative research. The population is all students of SMKN 1 Bulukumba using the census method. Path analysis is used to answer this problem. The data collection and all the questionnaires distributed for two months were completed and returned to the researcher.

The variables of the cooperative learning model are measured by five indicators, namely positive interdependence, individual responsibility, face-to-face communication between members, and evaluation of group processes (Lie, 2008). Five indicators measure active learning variables: emphasizing the learning process, students not passive, emphasizing values and attitudes related to materials (Table 1), and students thinking critically and feedback (Suyadi, 2013. Student learning motivation variables measured five indicators: the desire to succeed, learning drives and needs, expectations and ideals, appreciation of learning, and interesting things in learning (Uno, 2010a). Finally, the variable of student learning outcomes is measured by five indicators, namely intelligence/intelligence, talents, interests, family circumstances, and school conditions (Hakim, 2008).

Table 1. Measurement of variable

Variable	Indicators	Statement			
Active Learning (X1)	Emphasis on the learning	I feel proud of the learning style given because the teacher instills			
	process	high values in the teaching and learning process.			
	Students are not passive.	I am always actively involved in every learning by exploring every material taught.			
	Emphasis on values and attitudes related to the material	I understand the best things that go along with what I want.			
	Students think critically	I prefer to criticize any material taught more than just accepting the raw material taught.			
	Feedback	I prefer to interact through feedback in learning activities in class			
	Positive interdependence	I have always been responsible in the group by complementing each other and supporting each other positively.			
C	Individual responsibility	I have personal responsibilities in group learning activities			
Cooperative Learning Model (X2)	Face-to-face	I prefer to work in groups face-to-face.			
	Communication between	I believe that group communication is the best solution			
Wiodel (A2)	members	achieving common goals.			
	Evaluation of group processes	I always take the initiative to conduct a joint work evaluation to discover the advantages and disadvantages.			
	Desire and desire succeed	I have a strong desire to succeed in learning now and in the future.			
Student	Encouragement and the need to learning	I am sure what I do will positively impact my learning needs.			
Learning Motivation	Hopes and ideas for the future	I have since now prepared myself to be diligent and diligent in learning for better ideals.			
(Y1)	Learning rewards	I feel encouraged because the school rewards me for every achievement.			
	Interesting activities in learning	I feel comfortable learning in the conditions in the classroom.			
	Intelligence/intelligence	I have good reasoning skills to master every lesson taught			
Student	Talent	I felt I honed my talent during my education at this school			
Student Learning	Interest	I am interested in all the subject matter in school			
Outcomes (Y2)	Family circumstances	I consider that family support greatly affects my learning ability.			
outcomes (12)	State of school	School is the best place that provides a lot of knowledge and order of life values			

## 4. Results

## 4.1 Path 1 Analysis

Active Learning (X1) and Cooperative Learning Model (X2) on Student Learning Motivation (Y1) (Table 2)

Table 2. Effect of X1 and X2 on Y1

			ndardized ficients	Standardized Coefficients	t	Sig.
Туре		В	Std. Error	Beta		
1	(Constant)	7,035	1,264		5,565	,000
	Active Learning (X1)	,317	,059	,338	5,390	,000
	Cooperative Learning Model (X2)	,337	,057	,374	5,964	,000

Dependent Variables: Student Learning Motivation (Y1)

The coefficient of the path  $(\alpha 1) = 0.338$  with a significant level of 0.000 which means positive and significant (Sig < 0.05). The magnitude of X1's influence on Y1 can be seen from the standardized coefficients beta, which is 0.338, which means that each increase of one active learning point (X1) will increase student learning motivation (Y1) which is 0.338 points.

The path coefficient value ( $\alpha 2$ ) = 0.374 with a significant level of 0.000 which means it is positive and significant (Sig < 0.05). The magnitude of X2's influence on Y1 can be seen from the standardized beta coefficients of 0.374, which means that every one-point increase in the Cooperative Learning Model (X2) will increase Student Learning Motivation (Y1) by 0.374 points (Table 3).

Table 3. Determination test result (R2)

Model Summary						
Type	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	,621a	,385	,380	2,243		
a. Predictors: (Constant), Cooperative Learning Model (X2), Active Learning (X1)						
b. Dependent Variable: Student Learning Motivation (Y1)						

R-Square (R2) or determination of 0. 385 or 38. 5%, which means 38. The 5% variation in the ups and downs of the Student Learning Outcomes variable (Y1) can be explained by the Active Learning variable (X1) and the Cooperative Learning model (X2), and other variables outside the study influence the remaining 61.5%.

#### 4.2 Path analysis 2

Influence of Active Learning (X1), Cooperative Learning Model (X2), and Student Learning Motivation (Y1) on Student Learning Outcomes (Y2) (Table 4).

Table 4. Effect of X1, X2, and Y1 on Y2

			dardized ficients	Standardized Coefficients	t	Sig.
	Туре		Std. Error	Beta		
1	(Constant)	7,868	,920		8,550	,000
	Active Learning (X1)	,183	,043	,253	4,303	,000
	Cooperative Learning Model (X2)	,195	,042	,280	4,702	,000
	Student Learning Motivation (Y1)	,263	,046	,339	5,659	,000

Dependent Variables: Student Learning Outcomes (Y2)

Source. Processed data results, 2021

The coefficient value of the path ( $\beta$ 1) is 0.253 with a significant level of 0.000 which means positive and significant (Sig < 0.05). The magnitude of X1's influence over Y2 can be seen from the standardized beta coefficients, 0. 253, which means that each increase of one Active Learning point (X1) can increase Student Learning Outcomes (Y2), which is 0. 253 points.

The coefficient of the path ( $\beta$ 2) is 0.280 with a significant level of 0.000 which means positive and significant (Sig < 0.05). The magnitude of X2's influence on Y2 can be seen from the standardized coefficients beta, 0.280. Every one-point increase in the Cooperative Learning Model (X2) will increase Student Learning Outcomes (Y2) 0. 280 points.

The coefficient value of the path ( $\beta$ 3) is 0.339 with a significant level of 0.000 which means significant positive (Sig < 0.05). The magnitude of Y1's influence on Y2 is seen from the standardized coefficients beta, 0.339. Each increase of one point of Student Learning Motivation (Y1) will increase Student Learning Outcomes (Y2) by 0.306 points (Table 5).

Table 5. Determination Test Result (R2)

Model Summary						
Type	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	,726a	,527	,520	1,526		
a. Predictors: (Constant), Student Learning Motivation (Y1), Active Learning (X1), Cooperative Pattern (X2)						
b. Dependent Variable: Student Learning Outcomes (Y2)						

Source. Processed data results, 2021

The value of R-square (R2) or determination is 0. 527 or 52.7%, meaning that 52.7% variation in the up and down variables of Student Learning Outcomes (Y2) can be explained by variations in active learning variables (X1), Cooperative Learning Models (X2) and Teacher-Student Learning Motivation (Y1). The remaining 47.3% was explained by other variables outside the model studied. For large indirect influences, it can be calculated by multiplying independent variables by intervening variables, namely: X1 Y1 Y2 =  $(\alpha 1 \times \beta 3) = (\rightarrow \rightarrow 0.338 \times 0.339) = 0.114$ ; X2 Y1 Y2 =  $(\alpha 2 \times \beta 3) = (\rightarrow \rightarrow 0.374 \times 0.339) = 0.126$ 

Based on the results of path analysis of all independent, intervening, and dependent variables, a full path analysis model can be created as follows in Figure 1:

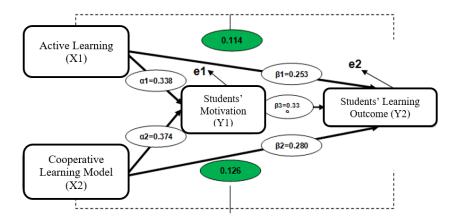


Figure 1. Full model path analysis

## 5. Discussion

The influence of active learning variables on students' learning motivation is positive and significant. This finding is supported by previous research (Artha, 2014; Azkiya, 2017; Syaparuddin et al., 2020; Umayah, 2013) that concluded

that active learning has a significant positive influence on learning motivation. Active learning is a learning process in which students' activities are propagated in terms of access to information from various sources. Active learning dominates the emphasis on the learning process to stimulate or motivate students to have the desire to succeed. As a form of active learning applied by UPT SMKN 1 Bulukumba, the role of students is high by encouraging the improvement of students' creative ideas (Zaini, 2008). UPT SMKN 1 Bulukumba, students, show motivational behaviors with pleasure in facing tasks through active learning. They are not easily discouraged over every problem given, show high interest in various problems, enjoy self-study, and are even bored with routine tasks.

The variables of cooperative learning models towards student learning motivation are positive and significant. These findings are supported by previous research (Ernawita and Safitri, 2018; Sihotang et al., 2015; Triannisa et al., 2019; Widowati et al., 2013), which concluded the positive and significant influence of cooperative learning on improving student learning motivation. The findings in this study indicate that positive interdependence indicators have the greatest influence on motivating student learning. In applying the cooperative learning model, the teacher directs students and facilitates judging in learning activities Umar et al. (2019) which shows that students are highly motivated by the live suitcase learning model compared to direct or traditional learning (Yusriadi et al., 2019).

The implementation of active learning in UPT SMKN 1 Bulukumba has increased student learning outcomes with maximum achievements, where learning results or concentrations result from maximum achievement according to the ability of children (Cahaya et al., 2022). The number of active learning variables against student learning outcomes is positive and significant. This finding is supported by previous research conducted by Ahdan et al. (2019), which concludes that positive and significant influence of active learning on improving student learning outcomes. The findings in this study show that UPT SMKN 1 Bulukumba through active learning is dominated by an emphasis on the learning process, namely pride in the learning style given because teachers instill high values in learning and teaching activities (Sahid et al., 2020). In addition, active training is learning that invites students to be active in participating in learning activities (Rahawarin et al., 2020).

The variables of the cooperative learning model to student learning outcomes are positive and significant. This finding is supported by previous research (Ayuwanti, 2017; Erlinda, 2017; Ifa, 2013; Siswanto et al., 2018; Sudarsana, 2018), which concluded that there is a positive and significant influence of cooperative learning models on improving student learning outcomes. The findings of this study show that where the role of teachers is more effective in improving good learning in schools, students are invited to cooperate and support each other (Slavin and E., 2008). Supporting each other and involving themselves in groups becomes a positive choice in improving student learning outcomes and is collective.

The variables of student learning motivation towards student learning outcomes are positive and significant. These findings are supported by previous research (Indrianti et al., 2018; Lomu and Widodo, 2018; Novalinda et al., 2018; Peterria and Suryani, 2016; Purbiyanto and Rustiana, 2018; Saputra et al., 2018), which concludes the positive and significant influence of learning motivation on student learning outcomes. The findings in this study show that students' learning motivation drives students' high interest in learning; the students have a high interest in all school lessons. It is certainly because of the learning motivation that encourages, moves, and directs students to learn (Astuti, 2010). Motivated students make reactions that lead them to the effort to achieve goals (Sardiman, 2016).

The active learning variables towards student learning outcomes through learning motivation are positive and significant. On indirect influences, the role of intervening variables, namely student learning motivation, is a good variable in moderating active learning towards student learning outcomes. UPT SMKN 1 Bulukumba students prefer to learn with the involvement of many roles from fellow students and become one of the effective ways to encourage them to increase their learning passion. As activated has an important function in learning because motivation will determine the identity of the learning business carried out by students. The real results found from the role of active learning that motivates students' learning to the achievement of good learning outcomes at UPT SMKN 1 Bulukumba is the higher interest of students in learning. Generally, learning achievement can be influenced by various factors, and one of them is interest in learning. Interest is a form of a consistent tendency toward something to feel interested in a particular field and feel pleasure to exist in that field. Interest is an awareness of a person's self, a condition that supports him. It is supported (Suryabrata, 2011), which suggests that if a person is not interested in something, it does not produce good learning.

The variables of cooperative learning models towards student learning outcomes through learning motivation are positive and significant. On indirect influences, learning motivation was also a good moderation variable of the cooperative learning model towards student learning outcomes. UPT SMKN 1 Bulukumba with heterogeneity students have different learning motivations, although the motivation to learn jointly becomes something that encourages, moves, and directs students in learning (Astuti, 2010). The cooperative learning model in this study shows good positive support among fellow students; students are more happy and active in learning if formed in small groups (Sugiyanto, 2008). In addition to developing cooperative learning models to achieve learning outcomes, this model is also effective in developing social skills for learners.

#### 6. Conclusion

Based on this study, it can be concluded that active learning and cooperative learning models can affect student learning outcomes directly and indirectly through learning motivation. Student learning motivation is a variable that has a dominant influence in improving student learning outcomes at UPT SMKN 1 Bulukumba. Students' strong desire and enthusiasm to achieve their goals do not reduce their enthusiasm to continue learning to the maximum, not only for now but also for the future. The role of learning motivation determines the success of student learning outcomes at UPT SMKN 1 Bulukumba, where students believe that their success depends heavily on their motivation. The role of student learning motivation, an intervening variable, is very good in supporting student learning outcomes at UPT SMKN 1 Bulukumba. However, the cooperative learning model also has a good impact on improving student learning outcomes by supporting each other in learning and teachers who actively build a spirit of togetherness, then active learning by planting values in school.

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## **Biographies**

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