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The Impact of Cooperative Learning Method on Learning Motivation and Academic Achievement of Elementary School Students

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ABSTRACT: This study aims to investigate the impact of Cooperative Learning Method on learning motivation and academic achievement among elementary school students in Indonesia. Employing a quantitative research design, Likert scale-based questionnaires were distributed directly to students to measure learning motivation, while academic achievement was assessed through examination scores. The study found significant positive relationships between the Cooperative Learning Method and both learning motivation and academic achievement. Moreover, learning motivation emerged as a crucial mediator, partially explaining the observed positive influence on academic achievement. The theoretical contribution lies in enhancing our understanding of the intricate dynamics between instructional methods, motivation, and academic outcomes. From a practical standpoint, the study suggests that educators and policymakers should prioritize the implementation of Cooperative Learning Methods and focus on cultivating and sustaining students' motivation to learn. However, it is crucial to acknowledge the study's limitations, including its regional focus and reliance on self-reported measures. Future research could expand the scope and incorporate diverse contexts, employing mixed-methods approaches for a more comprehensive exploration of these relationships.

KEYWORDS: Cooperative Learning Method, Learning Motivation, Academic Achievement, Elementary School Students

INTRODUCTION

Education is a dynamic field that continuously seeks innovative approaches to enhance the learning experience and academic outcomes of students (Higgins et al., 2019). In recent years, there has been a growing interest in exploring alternative teaching methods that go beyond traditional approaches (Roy & Uekusa, 2020). One such method that has gained attention is Cooperative Learning, a pedagogical strategy emphasizing collaborative efforts among students to achieve shared learning goals (Altun, 2015). Elementary education serves as the foundation for a child's academic journey, shaping their attitudes towards learning and influencing their overall academic performance (Wang & Degol, 2016). In this context, the application of Cooperative Learning in elementary schools becomes a pivotal area of investigation (Mehta & Kulshrestha, 2014). Cooperative Learning involves students working together in small groups, fostering an environment where they actively engage with the learning material and each other (Collazos et al., 2014).

Motivation plays a crucial role in the learning process, influencing students' willingness to participate, persevere through challenges, and ultimately excel academically (Trevino & DeFreitas, 2014). The Cooperative Learning method, with its emphasis on teamwork, interaction, and shared responsibility, has the potential to positively impact students' motivation levels (Silva et al., 2021). Understanding the relationship between the implementation of Cooperative Learning methods and the motivation levels and academic achievements of elementary school students is vital for educators, curriculum developers, and policymakers. This research seeks to explore and analyze the influence of Cooperative Learning on learning motivation and academic performance within the specific context of elementary education.

By investigating the potential benefits and challenges associated with Cooperative Learning, this study aims to contribute valuable insights to educational practitioners and stakeholders. The findings may inform future pedagogical practices, curriculum development, and educational policies aimed at creating a more effective and engaging learning environment for elementary school students. Ultimately, the research endeavors to enhance our understanding of the dynamics between teaching methods, student motivation, and academic success in the context of elementary education.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Cooperative Learning Method and Learning Motivation

According to Baloche & Brody (2017), The Cooperative Learning Method, an instructional approach that emphasizes collaborative efforts among students in small groups, has garnered attention for its potential impact on learning motivation. In this method, students actively engage with the learning material, work together to solve problems, and collectively pursue predetermined learning objectives (Callaghan, 2016). Each group member assumes responsibility for the overall success of the learning on of Cooperative process, fostering an environment of positive interaction and mutual assistance (Laal & Laal, 2012). Alsawaier (2018) assert that the implementatiopn of Learning introduces social dynamics that positively influence students' motivation to learn. By providing opportunities for shared ownership of the learning experience and assigning responsibilities within the group, students feel a sense of significance in achieving collective goals. Moreover, the social recognition received for group achievements serves as a reinforcing factor for extrinsic motivation (Richter et al., 2015). The satisfaction derived from the group's overall success contributes to a positive and motivating atmosphere surrounding the learning process. As such, Cooperative Learning demonstrates the potential to not only enhance academic outcomes but also to cultivate and sustain intrinsic and extrinsic motivation among elementary school students (Fernandez-Rio et al., 2017). Thus, the hypothesis is the following:

H1: Cooperative Learning Method impacts on Learning Motivation

Cooperative Learning Method and Academic Achievement

The Cooperative Learning Method, emphasizing collaborative efforts in small groups, is intricately connected to academic achievement (Liebech-Lien, 2020). Through active participation, students deepen their understanding of subjects, leading to improved performance (Sølvik & Glenna, 2021). The method cultivates a supportive environment where shared responsibility fosters a sense of collective accountability, motivating students to invest in their studies. Positive social dynamics enhance confidence, communication skills, and academic self-efficacy (Korfiatis & Petrou, 2021). Additionally, Cooperative Learning stimulates critical thinking and problem-solving skills through collaborative discussions, positively correlating with academic achievement (Warsah et al., 2021). Educators exploring effective teaching methodologies recognize the potential of Cooperative Learning in significantly enhancing students' academic success in elementary education. Therefore, the hypothesis is the following:

H2: Cooperative Learning Method impacts on Academic Achievement

Learning Motivation and Academic Achievement

Sáenz et al. (2020) defines that motivation serves as a driving force that influences students' willingness to engage in learning activities, persist through challenges, and ultimately achieve academic success. High levels of learning motivation are often associated with increased effort, focus, and persistence in academic tasks (Agger & Koenka, 2020). Students who are intrinsically motivated, deriving satisfaction and fulfillment from the learning process itself, tend to exhibit a deeper and more sustained engagement with their studies (Oudeyer et al., 2016). On the other hand, extrinsic motivation, driven by external rewards or recognition, can also positively impact academic achievement by encouraging students to meet specific goals or standards (Ryan & Deci, 2020). The connection between motivation and academic achievement is reciprocal. Aslam & Khan (2020) assess that academic success can reinforce and enhance motivation, creating a positive feedback loop. When students experience success, they are more likely to develop a sense of competence and confidence, leading to increased motivation to tackle new challenges. Educators play a pivotal role in nurturing and sustaining students' motivation. Creating a supportive and stimulating learning environment, incorporating relevant and interesting instructional methods, and providing constructive feedback are strategies that can positively influence motivation and, consequently, academic achievement. Then, the hypothesis is the following:

H3: Learning Motivation impacts on Academic Achievement

Learning Motivation as mediator

Learning motivation can play a crucial role as a mediator in the relationship between various factors and academic achievement. As a mediator, it acts as an intermediary variable that helps explain the process or mechanism through which certain factors impact academic outcomes. For instance, consider the relationship between teaching methods and academic achievement. The choice of instructional approaches, such as Cooperative Learning, can influence students' motivation to engage with the learning material (Herrmann, 2013). When students find the learning environment stimulating, collaborative, and relevant, it tends to enhance their intrinsic motivation, contributing positively to academic achievement. In this scenario, learning motivation serves as a mediator, elucidating how the teaching method indirectly influences academic success through its impact on student motivation. Similarly, factors like parental involvement, peer relationships, and self-efficacy can also be linked to academic achievement through the mediating role of learning motivation. When students perceive support from parents, experience positive interactions with peers, or develop a belief in their ability to succeed (self-efficacy), it can boost their motivation to learn, subsequently influencing academic outcomes. Thus, the hypothesis is the following:

H4: Learning Motivation mediates the relationship between Cooperative Learning Method and Academic Achievement

METHODS

This study adopts a quantitative research design, focusing on the influence of implementing the Cooperative Learning Method on the learning motivation and academic achievement of elementary school students. The research involves the distribution of Likert scale-based questionnaires directly to the student respondents, eliminating the need for distinct control and treatment groups. The research subjects consist of students from a randomly selected sample of 5th classes in Tanara Sub Distric, Serang Regency, Banten, Indonesia amount 150 respondents. The independent variable is the implementation of the Cooperative Learning Method, while the dependent variables include students' learning motivation and academic performance, measured through Likert scale questionnaires and academic test scores, respectively. Data will be collected through a meticulously designed questionnaire addressing various aspects of student motivation. Simultaneously, academic performance data will be gathered from students' test scores or examination results. The questionnaire aims to measure students' perceptions and experiences related to learning motivation using a Likert scale. Following the distribution of the questionnaires, the Cooperative Learning Method will be applied in selected sessions. Data on academic performance will be collected from students' test scores or examination results. The subsequent data analysis will employ descriptive statistical techniques and regression analysis to evaluate the relationships between variables. The anticipated results of this study aim to reveal a positive influence of implementing the Cooperative Learning Method on both learning motivation and academic achievement among elementary school students. These findings could have valuable implications for the development of more effective teaching strategies to enhance elementary education outcomes.

FINDINGS AND DISCUSSION

Validity and Reliability

The data presented provides an analysis of three constructs: Cooperative Learning Method (CLM), Learning Motivation (LM), and Academic Achievement (ACAD). For the Cooperative Learning Method, the outer loading values indicate the strength of each item's relationship with the construct. Notably, Positive Interdependence (CLM1) has a high outer loading of 0.949, suggesting a strong association with the overall construct. The reliability of the scale is supported by a Cronbach's Alpha of 0.962, indicating good internal consistency. Additionally, the Composite Reliability (CR) is high at 0.971, emphasizing the reliability of the scale. The Average Variance Extracted (AVE) is 0.869, signifying that a substantial proportion of the variance in the observed variables is attributed to the latent construct.Moving on to the Learning Motivation construct, Intrinsic Interest (LM1) stands out with an outer loading of 0.843, reflecting a robust connection to the overall construct. The scale's reliability is affirmed by a Cronbach's Alpha of 0.957, signifying internal consistency. The CR is notably high at 0.967, reinforcing the reliability of the scale. The AVE of 0.855 indicates that a significant proportion of the variance is captured by the latent construct.For the Academic Achievement construct, Subject Mastery (ACAD1) demonstrates a strong outer loading of 0.938, indicating a solid association with the overall construct. The Cronbach's Alpha of 0.914 suggests good internal consistency for the scale. The CR is high at 0.937, attesting to the reliability of the scale. The AVE of 0.750 suggests that a substantial proportion of the observed variables' variance is accounted for by the latent construct. In summary, the analysis highlights the robustness and reliability of the scales used to measure Cooperative Learning Method, Learning Motivation, and Academic Achievement. The high outer loading values, along with favorable internal consistency and reliability indices, indicate that the constructs are effectively captured by the selected items (see Table 1).

Table 1. Confirmatory Factor Analysis

Construct	Items	Outer Loading	Cronbach's Alpha	rho_A	CR	AVE
Cooperative Learning Method	CLM1= Positive Interdependence	0.949	0.962	0.963	0.971	0.869
	CLM2= Individual Accountability	0.931				
	CLM3= Face-to-Face Interaction	0.963				
	CLM4= Social Skills Development	0.876				
	CLM5=Group Processing:	0.940				
Learning Motivation	LM1= Intrinsic Interest	0.843	0.957	0.96	0.967	0.855
	LM2= Goal Orientation	0.966				
	LM3= Persistence and Effort	0.944				

	LM4= Positive Self-Perception	0.905				
	LM5= Engagement in Learning Activities	0.959				
Academic Achievement	ACAD1= Subject Mastery	0.938	0.914	0.915	0.937	0.750
	ACAD2= High Grades and Assessments	0.817				
	ACAD3= Class Participation	0.929				
	ACAD4= Completion of Assignments and Tasks	0.722				
	ACAD5= Continuous Improvement:	0.906				

Hypothesis Result

The analysis of the hypotheses provides valuable insights into the relationships between Cooperative Learning Method (CLM), Learning Motivation (LM), and Academic Achievement (ACAD). Hypothesis 1 (H1), which posits a direct relationship between CLM and LM, is supported by a T statistic of 2.837 and a p-value of 0.005. This suggests that there is a statistically significant positive relationship between Cooperative Learning Method and Learning Motivation. Consequently, H1 is accepted. Moving to Hypothesis 2 (H2), which suggests a direct link between CLM and ACAD, the T statistic of 3.606 and a p-value of 0.000 indicate a statistically significant positive relationship between Cooperative Learning Method and Academic Achievement. Thus, H2 is accepted, underscoring the impact of Cooperative Learning Method on Academic Achievement.

Hypothesis 3 (H3) explores the direct association between Learning Motivation (LM) and Academic Achievement (ACAD). The T statistic of 4.581 and a p-value of 0.000 demonstrate a statistically significant positive relationship between Learning Motivation and Academic Achievement. Therefore, H3 is accepted, highlighting the crucial role of Learning Motivation in influencing Academic Achievement. Lastly, Hypothesis 4 (H4) investigates the sequential relationship involving CLM, LM, and ACAD. The T statistic of 2.304 and a p-value of 0.022 suggest a statistically significant positive relationship. Consequently, H4 is accepted, indicating that the combined influence of Cooperative Learning Method and Learning Motivation has a positive impact on Academic Achievement.In summary, the analysis provides robust evidence supporting the hypotheses. The accepted hypotheses underscore the importance of Cooperative Learning Method and Learning Motivation in predicting and influencing Academic Achievement. These findings contribute to a deeper understanding of the interplay between these constructs in the educational context (see Table 2 and Figure 1).

Table 2. Hypothesis Result

Hypothesis	Construct	Original Sample	STDEV	T Statistics	P Values	Result
H1	CLM -> LM	0.299	0.105	2.837	0.005	Accepted
H2	CLM -> ACAD	0.369	0.102	3.606	0.000	Accepted
H3	LM -> ACAD	0.343	0.075	4.581	0.000	Accepted
H4	CLM-> LM -> ACAD	0.103	0.045	2.304	0.022	Accepted

*) CLM=Cooperative Learning Method; LM=Learning Motivation ; ACAD=Academic Achievement

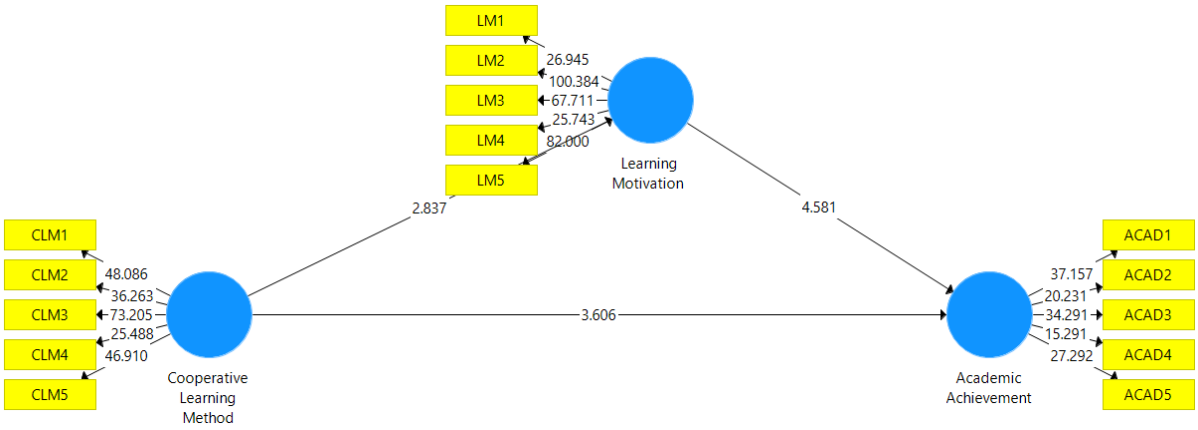

Figure 1. Bootstrapping Result

The research findings unequivocally support the acceptance of all hypotheses (H1, H2, H3, and H4), shedding light on critical aspects of the educational landscape. Firstly, H1 establishes that the implementation of the Cooperative Learning Method

significantly influences learning motivation. This implies that incorporating cooperative learning strategies in educational practices can effectively enhance students' enthusiasm and engagement with the learning process. Secondly, H2 underscores the substantial impact of the Cooperative Learning Method on academic achievement. The positive correlation identified in this study emphasizes the method's potential not only to foster collaborative learning but also to contribute significantly to overall academic success among elementary school students. Furthermore, H3 illuminates the influential role of learning motivation in shaping academic achievement. This finding emphasizes the need for educators and policymakers to prioritize initiatives that cultivate and sustain high levels of student motivation, recognizing its direct link to academic performance. Most notably, H4 introduces an intriguing dimension by establishing that learning motivation serves as a mediator in the relationship between the Cooperative Learning Method and academic achievement. This suggests that the positive effects of cooperative learning on academic success are, in part, channeled through its impact on students' motivation to learn.These research insights carry profound managerial implications for elementary education in Indonesia. Firstly, educators should actively integrate and prioritize Cooperative Learning Methods in their pedagogical approaches. This not only aligns with the broader global shift towards collaborative learning but also addresses the specific needs of the Indonesian educational context. Moreover, acknowledging the pivotal role of learning motivation, schools and policymakers must implement targeted strategies to enhance and sustain students' motivation. This could involve professional development programs for teachers, focusing on creating engaging learning environments, acknowledging individual learning styles, and incorporating varied teaching methodologies. Understanding the mediating role of learning motivation provides a strategic lever for educational managers. It suggests that interventions targeting increased motivation may amplify the positive effects of Cooperative Learning Methods on academic achievement. Therefore, educational leaders in Indonesia can tailor professional development initiatives and resource allocations to fortify these interconnected elements, ultimately fostering a more vibrant and effective elementary education system.

CONCLUSION

This study has provided valuable insights into the relationships between Cooperative Learning Method, learning motivation, and academic achievement among elementary school students in Indonesia. The acceptance of hypotheses (H1, H2, H3, and H4) underscores the significance of collaborative learning approaches and the role of motivation in influencing academic outcomes. The Cooperative Learning Method has been found to positively impact both learning motivation and academic achievement, with learning motivation identified as a crucial mediator in this relationship. The findings have theoretical implications by contributing to the understanding of how instructional methods, motivation, and academic achievement interconnect in the context of elementary education. The study reinforces the importance of considering motivational factors in educational theories, emphasizing that effective pedagogical strategies should not only enhance collaboration but also cultivate and sustain students' motivation to learn. Practically, the results suggest that educators and policymakers should prioritize the incorporation of Cooperative Learning Methods, implement motivational strategies, and recognize the interconnectedness of these elements for a holistic educational approach.

Limitations and Recommendations for Future Research

Despite the meaningful contributions, this study has limitations. The research scope focused on a specific geographic region or school setting, potentially limiting the generalizability of findings. Additionally, the study primarily relied on self-reported measures for learning motivation, introducing the possibility of response bias. Furthermore, external factors such as socio-economic background and individual differences were not extensively explored, representing potential variables that could influence the outcomes.To address these limitations, future research endeavors could adopt a broader scope, encompassing diverse demographic and socio-economic contexts. Employing mixed-methods approaches could provide a more comprehensive understanding of the intricate dynamics between Cooperative Learning, motivation, and academic achievement. Additionally, longitudinal studies may offer insights into the sustainability of the observed effects over time. Lastly, investigating potential moderators and contextual factors influencing these relationships could enhance the depth of knowledge in this field.

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