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## The Mediating Effect of Cooperative Learning in the Relationship between the Classroom Learning Environment and Language Learning Attitude

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### ABSTRACT

This research aims to determine the effect of cooperative learning as a mediating variable in the relationship between the classroom learning environment and language learning attitude. This is a non-experimental quantitative study using correlational and mediation methods. Data was collected face-to-face with 326 students in a public secondary school in the Cotabato division. The selection of respondents was done through stratified random sampling. Mean, Pearson product-moment correlation coefficient, Sobel z test, and medgraph were the statistics used. It was found that the independent variable classroom learning environment obtained a high level, as did the dependent variable language learning attitude. In contrast, the mediating variable of cooperative learning obtained the highest level. It was also found that classroom learning environment and cooperative learning had a significant relationship, as well as cooperative learning and language learning attitude and classroom learning environment and language learning attitude. The final analysis found that cooperative learning partially mediated the relationship between classroom learning environment and language learning attitude. The study shows that cooperative learning is important in improving the classroom learning environment and language learning attitude, so it would be beneficial for teachers and curriculum planners to include strategies that promote cooperation.

### INTRODUCTION

Language learning is a challenging process faced by many students. In today's globalized world, people must speak languages beyond English to work and communicate with individuals from other countries (Rosiak, 2022a). However, according to Musa (2023), there are issues in language learning, such as low student interest, lack of self-confidence, limited vocabulary, high anxiety levels, lack of willingness to take risks, low curiosity, and an unclear understanding of the purpose of language learning. These issues make the learning process difficult and hinder the development of a positive language-learning attitude. Therefore, understanding and addressing these challenges language learners face is essential for fostering a successful language learning attitude.

Liu *et al.* (2023) discovered that ecological perspectives on language are crucial in the continuous evolution of English. Moreover, their study added to the knowledge of language learning motivation, particularly for minority and endangered languages (Rosiak, 2022b). According to Alharbi (2022), research on language learning attitudes benefits everyone involved in education. Recognizing students with different needs, interests, perspectives, learning styles, and educational experiences is important to promote engagement. Analyzing students' attitudes can help language teachers, educators, curriculum designers, and researchers better understand teaching and learning processes. Understanding students' perspectives on their language-learning process significantly encourages positive language-learning attitudes.

The classroom learning environment is vital for cooperative learning. Students thrive, build trust, and participate more actively in a supportive environment than in an unfriendly or unsupportive one. According to Bada and Jita (2022), cooperative learning benefits students and should be applied at all educational levels. Moges (2019) adds that teachers who use cooperative learning strategies create classroom environments that are both supportive and learner-centered.

Indeed, cooperative learning plays an essential role in shaping language learning attitudes. Students with positive attitudes are likelier to engage in cooperative learning, improving their language skills and fostering a positive cycle. Harianingsih and Jusoh (2022) stated that cooperative learning could enhance self-confidence, motivation, learner-centred approaches, and accountability within the classroom learning environment. Salvaña and Potane (2023) also noted that group work and cooperative learning effectively promote student learning.

Overall, the classroom learning environment significantly impacts language learning attitudes. Positive, engaging, and stimulating classrooms foster language learners' motivation, confidence, and positive attitudes. A study by Sukasih (2022a) found that teacher performance and the quality of the classroom learning environment influenced students' language learning attitudes. However, discrepancies between students' and teachers' beliefs regarding language learning can negatively affect student satisfaction and lead to disengagement (Ahmadi-Azad *et al.*, 2020; Kim, 2021). Pulindao and Mohamad (2023)

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explored the impact of modular learning approaches during the COVID-19 pandemic, highlighting how learners' attitudes towards modular learning can influence English language learning performance, with positive attitudes resulting in better outcomes. Additionally, Cebelleros and Buenaventura (2024) emphasized the significant relationship between learning environment and teacher communication behavior as key determinants of student engagement, which further underlines the importance of creating supportive and engaging learning environments for fostering positive language learning attitudes.

Thompson (2021) explained that there are relationships between positive attitudes and language learning performance. However, the literature needs to examine more factors influencing students' language learning attitudes and their predictors. This study aims to assess changes in students' language learning attitudes over time, addressing a gap identified by Alhamami (2022), who highlighted that positive perceptions of the classroom learning environment encourage student engagement and participation. Students with negative attitudes toward their learning environment are less likely to engage or use available resources, particularly in cooperative learning activities. Since no similar study has been conducted in Antipas, North Cotabato, the researcher explored how cooperative learning affects the relationship between the classroom learning environment and language learning attitudes.

This study examines the mediating effect of cooperative learning in the relationship between the classroom learning environment and language learning attitude. Specifically, it seeks to answer the following questions: First, determine the level of the classroom learning environment in terms of classroom positive, diversity values, personal negative, and persistence in major; Second, describe the level of language learning attitude in terms of self-image, inhibition, risk-taking, ego permeability, motivation, and ambiguity. Third, determine the level of cooperative learning. Fourth, determine the significant relationship between the classroom learning environment and cooperative learning, cooperative learning and language learning attitude, and classroom learning environment and language learning attitude. Fifth, determine the effect of cooperative learning as a mediating variable on the relationship between classroom learning environment and language learning attitude.

## LITERATURE REVIEW

This study is based on Gardner's Socio-educational model theory. This theory shows how attitudes play a significant role in learning a new language (Gardner, 2006). According to Gardner (1985), a person's motivation to learn a second language is a combination of effort and desire to achieve the goal of language learning, along with positive attitudes toward language learning. This means other social and psychological factors influence a person's desire to learn a second language. This theory

states that attitudes and language learning outcomes are interconnected. As a result, a better understanding of how emotions affect language learning was achieved through this model.

This is supported by humanistic approaches, constructivism, and sociocultural theory (Jacobs, 2004; Stepanovien, 2013). In the humanistic approach, cooperative learning emphasizes the importance of students learning independently and in a supportive environment. Similarly, sociocultural theory states that learning is a social process, not an individual one, and occurs when people interact.

Additionally, according to Dewey (1986), constructivism suggests that people generally learn new things and understand their meaning through their experiences and interactions with others in a supportive environment. In the same way, Piaget stated that people learn through social experience, knowledge, language, rules, values, and morals through interaction with others. Likewise, Vygotsky (1980) noted that in a cooperative learning environment, students can share ideas and knowledge to achieve common goals.

Various kinds of literature show the concepts, influences, and effects of Cooperative Learning as a mediating variable in the relationship between the Classroom Learning Environment and Language Learning Attitude. First, in the independent variable of the Classroom Learning Environment, effective teaching and a positive classroom environment are crucial in language learning, as shown in various studies. The study by Jafri *et al.* (2023) found that teachers' perspectives and the social context in the classroom strongly influence learning. Furthermore, the learning in the classroom plays a role in linking the teacher's creativity with the students' resilience in school (Almonia & Oliva, 2022).

Sukasih (2022b) study emphasized how the teacher's performance and classroom climate affect students' perspectives on learning the Indonesian language. Similarly, Astuti (2021) study showed that students' positive attitudes toward English affect their motivation and willingness to study and use the language in class and official communication.

Regarding a positive classroom, Meng (2023) found that three cognitive factors significantly impact students' second language education in English. These factors include language transfer, redundancy, and brief switching in speech, which suggests that teachers should promote a positive outlook and effective teaching strategies.

Regarding diversity values and environment, Hasanah (2021) and Malazonia (2021) state that the educational environment and language use are interconnected. A positive educational environment strengthens learning and improves students' intelligence, ability, and perspectives. On the other hand, studies by Sonam *et al.* (2023) and Naibaho (2022) show that a negative environment and teaching methods can cause anxiety and nervousness among students learning English as a second language. This implies that teachers should address these

negative factors by using various strategies and motivating students.

In the broader context of education, studies by Yang and Wu (2023) and Chehimi *et al.* (2024) highlight the importance of motivation, perseverance, and early exposure to foreign language learning. These are critical in improving performance and encouraging students in their studies. Finally, Landero-Reyes and Limpot study (2022) underscores the importance of learning the Filipino language, indicating that teaching and learning strategies should be effective and aligned with students' needs.

Second, in the dependent variable Language Learning Attitude, a positive approach, patience, resilience, adaptation, confidence, cultural sensitivity, satisfaction, and goals can aid language learning. Specifically, habits and motivation mentioned by Pham and Pham (2021) affect language learning. Alhamami (2022) also emphasized the attitudes of language learners.

As language learners gain confidence and experience, their self-image may change. Students in EFL may lose interest in teachers who need more confidence (Le & Le, 2022). However, negative beliefs about self-efficacy may help learners regulate themselves (Zhang *et al.*, 2020) and adopt a more positive and realistic foreign language learning attitude (Waddington, 2019). While self-esteem and inhibition in language need assistance, students show less inhibition and can participate in class (Bao & Liu, 2021). However, Pulido (2021) found that avoiding native language equivalents improved immediate and delayed recall.

Language learning can have a positive impact on mental health. Getie (2020) says that many factors influence the language learning habits of EFL students. Risk-taking involves independent communication that challenges students' language and culture, according to Slavkov and Séror (2019). Ego permeability indicates how the ego adapts to second language learning. Success in second language acquisition increases as learners' ability to adapt to changing language self-images grows (Zahra *et al.*, 2023). In Naif (2022) study on Acculturation and learning Finnish as a second language, he emphasized culture and linguistic shock, integrative and instrumental motivation, and low to moderate openness to Finnish culture.

However, motivation plays a crucial role in the language learning process. This is because English language learners require strong encouragement. Dwinalida and Setiaji (2022) related the goal of learning English to an individual's success. On the other hand, Pan *et al.* (2022) emphasized that language learning requires intense motivation. Meanwhile, openness to ambiguity also contributes to the language learning process. In a positive aspect, Chen (2023) demonstrated that accepting ambiguity reduces anxiety in foreign language classrooms, a point supported by Ertürk *et al.* (2023).

Lastly, the mediating variable of Cooperative Learning plays a known role in enhancing student participation, understanding, and information retention. In the study by

Ramzan *et al.* (2023), collaboration in language learning helps create more pleasant classroom conditions and shapes students' positive attitudes.

In a study by Li and Li (2022), path analysis showed that students' perspectives on modern teaching and task orientation positively indicate academic success; equality is expected to lead to academic success through teacher-student interaction, while peer interaction indirectly reflects success through cooperative learning.

Furthermore, Zheng and Zhou (2022) examined how cooperative learning and emotion regulation improve students' satisfaction with learning a foreign language. University students with good emotion regulation skills were more likely to be satisfied with their studies, and positive interdependence and interpersonal support during cooperative learning also impacted satisfaction in language learning. Although teachers believe in the benefits of cooperative learning, knowledge, beliefs, and challenges in implementation hinder its widespread use in courses (Tamimy *et al.*, 2023).

Cooperative learning is important in promoting high-quality education worldwide, especially in language learning. From a global perspective, it enhances communication skills, collaboration, and critical thinking, all essential in addressing global challenges. It also supports the goal of Sustainable Development Goal 4, which is to ensure inclusive and equitable quality education. In the context of DepEd, cooperative learning helps develop the skills students need to be prepared for the future. It also fosters positive values such as teamwork, empathy, and respect for others, strengthening social cohesion and understanding different cultures.

Cooperative learning provides an interactive and supportive environment for language learning for both teachers and students. Teachers act as facilitators, encouraging students to collaborate and exchange knowledge, resulting in deeper understanding and higher learning outcomes. For students, it leads to greater motivation and satisfaction in learning while acquiring important social interaction and cooperation skills. For future researchers, the study of cooperative learning provides valuable data that can be used to improve teaching methods and develop more effective educational policies and programs.

## MATERIALS AND METHODS

This section presents various methodologies in the study, including research respondents, materials and instruments, and design and procedure.

### Research Respondents

The respondents of this study are Junior High School students from Grades 7 to 10. The research was conducted in four public secondary schools in the Antipas cluster, North Cotabato. The total sample for this study was 326, determined using the Raosoft sampling calculator based on an estimated total of 2,148 respondents. Using the Raosoft Application, from the 2,148 sample

size encompassing all junior high school students, 326 respondents were selected, ensuring a 95% confidence level and a 5% margin of error. This number is suitable for a quantitative study.

**Materials and Instruments**

This study employed a survey questionnaire that was divided into three parts. First, the questionnaire on classroom learning environment adapted from McGhee *et al.* (2007), which included four (4) indicators and thirteen (13) items. Second, a language learning attitude questionnaire adapted from Orwig (1995) with six (6) indicators and thirty-six (36) items. Lastly, a cooperative learning questionnaire adapted from Cardino Jr. and Ortega-Dela Cruz (2020) contained seven (7) items. These research instruments were contextualized based on the local research setting. The content validation was carried out by experts from the University of Mindanao and external reviewers, resulting in an average mean score of 4.7, indicating high validity. A pilot test involving 40 respondents assessed item reliability, with Cronbach’s alpha used for evaluation. The results showed that the classroom learning environment questionnaire was acceptable, with a Cronbach’s alpha of 0.77. The language learning attitude questionnaire had a Cronbach’s alpha coefficient of 0.80, showing high reliability, and the cooperative learning questionnaire was deemed usable with a Cronbach’s alpha of 0.70, also interpreted as acceptable.

**Design and Procedure**

This study employed a quantitative non-experimental descriptive-correlational survey with mediation analysis to determine how cooperative learning, as a mediating variable, affects the relationship between the classroom learning environment and language learning attitude. This type of research aims to describe individuals, events, and conditions without manipulation (Siedlecki 2020). Cresswell and Clark (2008) noted that variables can be measured using instruments and statistical analysis. Mediation analysis, increasingly used in research (Nguyen, Schmid, and Stuart 2020), follows Bhandari’s (2023)

approach, which involves assessing linear regression to determine if a variable mediates.

The following steps were adhered to by the researcher: first, after adapting the questionnaires for review, translation, and validation by evaluators, the researcher analyzed and revised them based on feedback. External validators were also engaged to enhance the credibility of the instruments further. Second, once finalized, the questionnaires were prepared for submission to U MERC for validation. Third, a letter was sent to the schools requesting permission to conduct the research, which was addressed to the principal.

For data interpretation, the statistical tools used included the mean, which measured the levels of the classroom learning environment, cooperative learning, and language learning attitude, addressing the first, second, and third objectives; the Pearson product-moment correlation coefficient to determine the significance of relationships among the variables; and the Sobel z-test and Medgraph to assess the mediating effect of cooperative learning on the relationship between the classroom learning environment and language learning attitude.

Before data collection, the researcher submitted the manuscript to U MERC under Protocol No. U MERC-2024-162 for review and ethical recommendations. Ethical considerations ensured participant safety, respected voluntary participation, and maintained confidentiality for all involved.

**RESULTS AND DISCUSSION**

**Classroom Learning Environment**

Table 1 shows the level of the independent variable, the classroom learning environment. This variable recorded a standard deviation of 0.35 and a mean score of 3.72, described as High. This indicates that students have a positive perception of their classroom learning environment. Positive classrooms had the highest descriptive level among the four indicators, with a standard deviation of 0.48 and a mean score of 4.30. This result suggests that students are highly satisfied and have positive classroom experiences.

**Table 1:** Level of Classroom Learning Environment

Indicators	SD	Mean	Descriptive Level
Positive Classroom	0.48	4.30	Highest
Diversity of Values	0.55	4.14	High
Personal Negative	0.86	2.47	Low
Persistence in Major	0.62	3.97	High
<b>Overall</b>	<b>0.35</b>	<b>3.72</b>	<b>High</b>

Conversely, the personal negative indicator had a standard deviation of 0.86 and a low mean score of 2.47, indicating minimal negative emotions, such as anxiety or emotional distance, among students. This demonstrates that students have high confidence and are not significantly affected by emotional barriers in their learning. The low level of personal negative suggests a more positive learning

outlook and better interaction within the classroom, which is essential for their academic development. Nevertheless, among all indicators, diversity of values and persistence in major showed high descriptive levels. This indicates a strong appreciation for value diversity within the classroom, essential for expanding understanding and openness to different social and cultural perspectives.

Furthermore, the high level of persistence in the major reflects the students' determination and commitment to their chosen field, emphasizing their perseverance in their learning journey.

Based on the results, a positive classroom environment is vital to the overall student experience. Additionally, it can lead to higher levels of motivation and learning. The high mean for a positive classroom environment is supported by studies suggesting that modern, comfortable, and well-equipped classrooms enhance the quality of student experiences and reduce discussion boredom (Closs *et al.*, 2021). Moreover, embracing linguistic diversity, valuing students' home languages, and employing creative learning methods create an enjoyable and inclusive environment, fostering better understanding, vocabulary retention, and cultural awareness (Al Farabi *et al.*, 2024).

### Language Learning Attitude

Table 2 shows the level of the dependent variable, language learning attitude. This variable recorded a standard deviation of 0.34 and a mean score of 3.63, described as High. This suggests that students have a positive perspective regarding their language learning attitude. Some indicators, such as ambiguity with a standard deviation of 0.51 and a mean score of 4.07, and Risk-taking with the same standard deviation of 0.51 and a mean score of 3.81, reflect a high level. The high result for ambiguity indicates that students are willing to try new approaches even in uncertain situations. However, it would be preferable if this were lower to indicate more careful decision-making. Guidance is essential to balance openness to new knowledge and caution in making decisions.

**Table 2:** Level of Language Learning Attitude

Indicator	SD	Mean	Descriptive Level
Self-Image	0.44	3.37	Moderate
Self-Control	0.54	3.27	Moderate
Risk-taking	0.51	3.81	High
Ego Permeability	0.51	3.45	High
Motivation	0.51	3.78	High
Ambiguity	0.51	4.07	High
<b>Overall</b>	<b>0.34</b>	<b>3.63</b>	<b>High</b>

On the other hand, self-control, with a standard deviation of 0.54 and a mean score of 3.27, shows a moderate level. This means students can regulate their emotions and attitude while studying, though there may be times when they struggle to remain focused.

The results show that indicators such as risk-taking and motivation have high mean scores, which signify their positive impact on language learning and personal development. Additionally, understanding indicators with lower mean scores, like self-image and self-control, is crucial for improving student support and guidance. The results align with studies indicating that positive learning attitudes are associated with higher levels of language comprehension and use (Dunn & Iwaniec, 2021; Calafato, 2023).

Students with higher motivation levels are likelier to achieve greater proficiency in their target language. Interventions such as task-based instruction (TBI) and collaborative learning can be applied to strengthen positive language

learning attitudes. TBI enhances motivation and reduces anxiety and communication skills in language learners (Ismail *et al.*, 2023). Collaborative learning, involving students in group activities and discussions, has also improved language acquisition. This approach fosters a more interactive and supportive learning environment, encouraging students to engage actively and apply their language skills (Rajaram, 2021).

### Cooperative Learning

Table 3 illustrates the level of cooperative learning as a mediating variable in this study. Overall, it can be observed that this variable achieved the Highest level, with a standard deviation of 0.49 and a mean score of 4.40. This indicates a very high degree of cooperation and collaboration between students and teachers in classroom activities. All items in the table have very high mean scores, signifying strong support and implementation of cooperative teaching methods.

**Table 3:** Level of Cooperative Learning

Indicator	SD	Mean	Descriptive Level
The teacher instructs students to collaborate to come up with as many solutions as possible for the given problem.	0.65	4.49	Highest
The teacher gives students sufficient time to think and research with their peers to achieve their goals.	0.80	4.33	Highest
The teacher provides opportunities for students to develop new ideas.	0.73	4.42	Highest
The teacher applies group work in class to achieve desired objectives.	0.68	4.39	Highest

The teacher assigns different tasks to each student for teaching and learning.	0.82	4.24	Highest
The teacher encourages students to communicate with each other in a positive manner.	0.89	4.30	Highest
The teacher motivates students to treat each other with respect.	0.67	4.63	Highest
<b>Overall</b>	<b>0.49</b>	<b>4.40</b>	<b>Highest</b>

Based on the results, the high mean scores across all items indicate the positive impact of cooperative learning on students' teaching and learning skills. The findings support studies highlighting the benefits of cooperative learning, such as fostering a supportive learning environment and enhancing classroom dynamics by promoting positive social interaction and reducing students' sense of isolation (Hornby & Greaves, 2022). Teaching skills can be further improved through professional development in cooperative learning. This is reinforced by the study of Alansari and Rubie-Davies (2021), which found that teachers who participated in professional learning and development (PLD) programs reported increased student engagement and more frequent implementation of cooperative learning strategies in their classrooms. Teachers confident in their ability to apply CL and who believe in its benefits tend to achieve higher-quality applications, resulting in improved academic performance and student participation (Adl-Amini *et al.*, 2023). To strengthen cooperative learning in classrooms,

providing ample focus on teacher training in specific cooperative learning techniques is crucial to ensure their ability to engage in meaningful group activities and foster a more inclusive and participatory classroom environment (Khasawneh *et al.*, 2023). Li *et al.* (2022) emphasized the importance of continuous professional development for teachers to implement cooperative learning strategies effectively. Indeed, these studies highlight the importance of teacher training in cooperative learning methods to improve student engagement and learning.

#### Relationship between Classroom Learning Environment and Cooperative Learning

Table 4 shows the significant relationship between the classroom learning environment and cooperative learning. The overall r-value is .349, with a p-value below 0.05, indicating a strong and significant correlation as the p-value is  $\leq 0.05$  level of significance. Therefore, the null hypothesis of no significant relationship between the classroom learning environment and cooperative learning is rejected.

**Table 4:** Significant Relationship Between Classroom Learning Environment and Cooperative Learning

Classroom Learning Environment	Cooperative Learning
Classroom Positive	.483**
Diversity of Values	.402**
Personal Negative	-.200**
Persistence in Major	.326**
<b>Overall</b>	<b>.349**</b>

Based on the results, the total r-value for each indicator of the classroom learning environment and cooperative learning indicates positive correlations, except for personal negative experiences, which show a negative relationship. The indicators of the classroom learning environment—positive classroom atmosphere, diversity of values, and dedication to the major—obtained high r-values of .483, .402, and .326, respectively, showing a strong positive correlation with cooperative learning. However, the personal negative experience, with an r-value of -.200, indicates a weak negative relationship with cooperative learning. The significant relationship between the classroom learning environment and cooperative learning highlights the importance of a positive teaching environment in developing cooperative practices and strategies within the classroom. This emphasizes enhancing aspects such as positive interpersonal relationships, collaboration, and active student participation in cooperative learning activities.

According to Zheng and Zhou (2022), their longitudinal study showed that university students learning English as a Foreign Language (EFL) experienced improved language skills and increased satisfaction due to cooperative online learning. Additionally, their study underscored the importance of reflective practices and collaboration in enhancing student's learning experiences and overall satisfaction in learning foreign languages.

This finding aligns with the study by Amerstorfer and Frein von Münster-Kistner (2021), which indicated that academic engagement and motivation are strengthened by active participation in learning activities, such as problem-based learning (PBL) and strong student-teacher relationships.

#### Relationship between Cooperative Learning and Language Learning Attitude

Table 5 shows the significant relationship between cooperative learning and language learning attitude. Cooperative learning associated with language learning attitude yielded an overall r-value of .402 and a p-value

below 0.05. Thus, these two variables have a significant relationship. The null hypothesis that cooperative learning and language learning attitude have no significant relationship is rejected.

**Table 5:** Significant Relationship Between Cooperative Learning and Language Learning Attitude

Cooperative Learning	Language Learning Attitude						
	Self Image	Self Control	Risk Taking	Ego Permeability	Motivation	Ambiguity	Overall
	.261**	.104	.353**	.243**	.337**	.332**	.402**
.000	.061	.000	.000	.000	.000	.000	

Additionally, the table shows that all indicators of cooperative learning have a positive relationship with students' language learning attitude, except for restraint, which has an r-value of .104 and a p-value above .05. This indicates a weak relationship between restraint and cooperative learning. This study's limited relationship between restraint and cooperative learning is consistent with other research. Cooperative research environments have been shown to have less impact on the suppression or control of unrelated or competing information. Silva *et al.* (2023) say cooperative learning minimally improves students' inhibitory control despite clear advancements in collaborative skills and motivation (Zheng & Zhao, 2022). This study also aligns with findings that show a weak relationship between inhibitory control and cooperative learning, supported by an r-value of .104 and a p-value above .05. This indicates that cooperative learning may not directly contribute to improving inhibitory skills, which are typically related to individual cognitive processes rather than group interactions, even though it offers many benefits for language learning (Cochon Drouet *et al.*, 2023; Zhou & Colomer, 2024). Consequently, Mendo-Lázaro *et al.* (2022) found that students engaged in cooperative learning were more motivated and set more ambitious academic goals. This

approach not only strengthened their engagement but also enhanced the development of critical interpersonal skills. For instance, Silva *et al.* (261-282) analyzed strategies such as Jigsaw Cooperative Learning, which effectively improved students' academic motivation and collaboration skills, crucial for effective language learning. The broader benefits of cooperative learning on various aspects of student attitude and learning are supported by additional research. Zhou and Colomer (2024) conducted a systematic review showing that cooperative learning strategies improve social skills, collaboration, and motivation. Furthermore, Keramati and Gillies (2021) emphasized the gains from cooperative learning, including creating interactive and supportive learning environments, promoting social interactions, and deepening meaningful learning.

**Relationship between Classroom Learning Environment and Language Learning Attitude**

Table 6 shows a positive relationship between classroom learning environment and various aspects of language learning attitude, suggesting that fostering a supportive classroom learning environment can lead to better outcomes in language learning.

**Table 6:** Significant Relationship Between Classroom Learning Environment and Language Learning Attitude

Classroom Learning Environment	Language Learning Attitude						
	Self Image	Self Control	Risk Taking	Ego Permeability	Motivation	Ambiguity	Overall
Classroom Positive	.316**	.146**	.387**	.155**	.289**	.261**	.381**
Diversity Values	.303**	.112*	.302**	.169**	.192**	.217**	.316**
Personal Negative	.170**	.169**	.019	.151**	.124*	.021	.160**
Persistence in Major	.321**	.086	.374**	.134*	.347**	.136*	.341**
<b>Overall</b>	<b>.482**</b>	<b>.240**</b>	<b>.435**</b>	<b>.276**</b>	<b>.411**</b>	<b>.252**</b>	<b>.512**</b>
	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>	<b>.000</b>

The significant relationship between the classroom learning environment and language learning attitude underscores the importance of a positive teaching environment for developing essential language learning attitudes among students. This highlights the importance of fostering a positive classroom environment, such as strengthening positive teacher-student relationships and

collaboration and providing opportunities for language skill development.

Moreover, this supports studies showing the benefits of a good education environment, such as enhancing student engagement and success, which can be achieved by creating an effective learning environment that promotes positive teacher-student relationships and

offers opportunities for cooperative learning (Galos & Aldridge, 2020). Creating an engaging and motivating classroom environment is also emphasized, facilitating continued effort and academic success (Wu *et al.*, 2024).

**Regression Analysis Showing the Influence of the Classroom Learning Environment on Language Learning Attitude as Mediated by Cooperative Learning**

Table 7 shows the four steps for the third variable

(cooperative learning) acting as mediation. In the first step, the classroom learning environment directly affects language learning attitude.

The high beta ( $\beta$ ) of .512 indicates that the classroom learning environment significantly affects language learning attitude. In the second step, the classroom learning environment directly affects cooperative learning. This shows that the classroom learning environment positively impacts cooperative learning, with a  $\beta$  of .349.

**Table 7:** Regression analysis showing the influence of the classroom learning environment on language learning attitude as mediated by cooperative learning

Step	Path	B	S.E.	B
1	C	.501	.047	.512***
2	A	.492	.073	.349***
3	B	.177	.034	.255***
4	c'	.414	.048	.423***

$p < 0.05$

Meanwhile, in the third step, cooperative learning directly affects attitude towards language learning. Cooperative learning significantly influences language learning attitude, with a  $\beta$  of .255. The three steps (Paths A, B, C) have significant relationships; further mediation analysis through MedGraph is warranted to determine the importance of the mediating effect. This analysis includes the Sobel z-test. Full mediation will occur if the effect of the independent variable on the dependent variable becomes statistically insignificant at the end of the analysis, indicating that the mediating variable fully accounts for the effect.

Furthermore, only partial mediation is achieved if the regression coefficient significantly decreases in the final step but remains significant. This suggests that part of the influence of the classroom learning environment is mediated by cooperative learning. In contrast, other parts are directly influenced or affected by factors not included in the paradigm. Moreover, as observed in the fourth step (c'), the classroom learning environment

still significantly affects language learning attitude when cooperative learning is included. Although reduced from the original  $\beta$  of .512 to .423, it remains significant at  $p < 0.05$ , indicating partial mediation.

**Statistical Analysis Results Regarding the Presence or Absence of the Mediating Effect**

The Sobel test in Table 8 shows the statistical analysis results regarding the presence or absence of the mediating effect of cooperative learning on the relationship between the classroom learning environment and language learning attitude. The Sobel z-value of 4.108891 with a p-value less than 0.05 indicates partial mediation.

The mediation analysis results show that cooperative learning is a partial mediator in the relationship between the classroom learning environment and language learning attitude. This demonstrates that the effect of the classroom learning environment on language learning attitude is not solely direct but partially mediated by cooperative learning.

**Table 8:** Results of statistical analysis on the presence (or absence) of mediating effect

Combination of Variables	Sobel z	p-value	Mediation
Classroom learning environment → Cooperative learning → Language learning attitude	4.108891	<0.05	Partial mediation

$p < 0.05$

**CONCLUSION**

Based on the research results, the classroom learning environment achieved a high descriptive level. Language learning attitude also attained a high descriptive level. Cooperative learning achieved a very high descriptive level. There is a significant relationship between the classroom learning environment and cooperative learning, cooperative learning and language learning attitude, and the classroom learning environment and language learning attitude. Overall, the mediation analysis

shows that cooperative learning has a significant effect as a partial mediator in the relationship between the classroom learning environment and language learning attitude.

This supports Gardner's Socio-educational theory, highlighting the importance of fostering a supportive classroom environment and collaborative activities to enhance language skills and motivation.

To improve learning experiences, addressing low-scoring aspects in each variable is essential. Strategies include

mental health workshops, stress management programs, personalized learning plans, and positive reinforcement through feedback and language games. Cooperative learning, though already strong, can be further enriched with inclusive activities, structured group work, and regular peer feedback.

Teachers are encouraged to design activities that promote collaboration and teamwork, while students should actively participate to enhance their language skills and attitudes. Future research should delve deeper into cooperative learning's role as a mediator, exploring diverse contexts and long-term impacts to refine teaching methods and educational programs.

By strengthening these elements, educators can create an environment that fosters language learning success and boosts student motivation and confidence.

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