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The Effects of Cooperative Learning Approaches on Emotional Involvement to Enhance Artistic Creative Literacy among Third-Grade Art Students in Chinese Secondary Vocational School

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ABSTRACT

This study focused on the Yuehua Secondary Vocational School students in Dezhou City. The objectives of this research were: (1) study the cooperative learning method's impact on the emotional involvement of art majors in secondary vocational schools, (2) to investigate how students' emotional involvement influences their learning outcomes and artistic creativity literacy in the context of cooperative learning methods at the criteria of 70%, and (3) to examine the effect of emotional involvement affected on learning outcomes and artistic creativity. Krejcie and Morgan's table shows that the research sample included 1400 students, with a subset of 302 students, who finally participated in this study. The research employed a mixed-methods approach, combining both quantitative and qualitative analysis. To interpret the data, statistical analysis was conducted using percentages, means (*M*), standard deviations (*SD*), and narrative analysis. The primary research tools were questionnaires, tests, and lesson plans. The results revealed that: (1) the overall mean score for all variables was 3.76, with a standard deviation of 0.88, indicating a generally high level of agreement among respondents; (2) based on the test results, 70% of the students who participated showed that emotional involvement positively affected their learning outcomes and artistic creativity, as evidenced by the majority receiving grades of "Very Good" or "Excellent"; and 3) after implementing the emotional involvement difference before learning outcomes and artistic creativity literacy at the mean of 58 with a standard deviation of 0.98. These findings suggested that cooperative learning methods significantly enhanced students' emotional involvement, positively influencing their academic performance and creative abilities. The study underscored the importance of creating emotionally engaging cooperative learning environments. Recommendations included personalizing learning approaches, strengthening teacher-student relationships, providing professional development for teachers, and incorporating technology to boost emotional involvement and creative outcomes further. Future research should explore the longitudinal impacts and the integration of advanced educational technologies to improve cooperative learning strategies continuously.

Key words: Cooperative Learning, Emotional Involvement, Secondary Vocational Schools, Artistic Creativity Literacy

INTRODUCTION

In contemporary educational practice, the development of vocational education and training (VET) has emerged as a critical area for advancing students' readiness to face the challenges of their careers, particularly in developing the socio-emotional skills necessary to cope with rapidly changing work environments (Den et al., 2023). These skills, which include emotional regulation, self-awareness, and interpersonal competence, not only support students in making mature decisions when encountering value conflicts in their careers but also provide a strong foundation for their personal and professional development (Schonert-Reichl, 2019). Scholars such as Ha et al. (2023) have noted in their research that enhancing students' attention to intrinsic emotion, providing explicit instruction, and facilitating student-teacher interactions can effectively promote deeper exploration of students' self-emotion and values, thereby increasing their adaptability and creativity. Although the importance of social-emotional learning (SEL) is widely recognized in educational reform, especially in cooperative learning, where instructional experiences in which students' emotional skills and values are self-explored have a positive impact on improving learning outcomes (Herrmann, 2013), there is insufficient research on how cooperative learning affects students' emotional involvement, participation, and motivation to learn (Boekaerts, 2011). Furthermore, while collaborative learning is critical in promoting student

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learning strategy use and improving science achievement (Patiño Barrera, 2022; Ryzin & Roseth, 2021), we do not know how these factors work together in specific collaborative significance for teachers in secondary vocational education. This study is an attempt to provide answers to these questions. In addition, the current study will help reveal potential inequities in the educational process, provide a basis for educational policymakers to promote the development of educational equity, and offer new theoretical support and research and future educational practice, thus promoting continuous innovation and improvement in the field of education.

Objectives and Research Questions

The objectives below were followed in this study:

1. To study the cooperative learning method's impact on the emotional involvement of art majors in secondary vocational schools,
2. To investigate how students' emotional involvement influences their learning outcomes and artistic creativity literacy in the context of cooperative learning methods at the criteria of 70%, and
3. To examine the effect of emotional involvement affected on learning outcomes and artistic creativity.

The following research questions were posed based on the objectives:

1. How does the cooperative learning method impact the emotional involvement of art majors in secondary vocational schools?
2. In what ways does students' emotional involvement influence their learning outcomes and artistic creativity literacy in the context of cooperative learning methods?
3. What results of the differences between and after implementing the emotional involvement affected their learning outcomes and artistic creativity?

The Variables

The independent variable was cooperative learning approaches on emotional involvement while the dependent variable was artistic creativity literacy among third-grade art students.

LITERATURE REVIEW

Cooperative Learning

Cooperative learning has been widely studied and applied worldwide as an educational model. Its origin can be traced back to England in the late 18th century when Lancaster and Bell first proposed and practiced the teaching method of common learning groups. Over time, especially in the 20th century, cooperative learning was developed and popularized in the United States. Around 2009, Johnson and his colleagues began training educators in the pedagogical model of co-learning and applying it in their practice, leading to the creation of co-learning centers. This approach to education has had a tremendous impact on education, contributing to the flourishing of educational Theory and the development of an innovative and creative teaching philosophy.

The theoretical foundation of cooperative learning has benefited from the contributions of several psychologists and educational theorists. The Social Interdependence Theory, Lewin's (1935) Group Dynamics Theory and Vygotsky's (1978) Zone of Nearest Development Theory provide a solid theoretical foundation for cooperative learning. Together, these theories emphasize the interdependence of individuals in the learning process and the importance of reaching common goals through cooperation.

In cooperative learning, Sliwin (1980) emphasized six characteristics: group goals, individual responsibility, equal opportunity for success, intergroup competition, task specialization, and meeting personal needs. These characteristics underscore the importance of mutual learning motivation and the need for collective rewards to maintain motivation through cooperation. In addition, the importance of communication in cooperative learning cannot be overstated, requiring teachers to use dialogic teaching flexibly according to the teaching objectives and the actual situation, focusing on the principles of collectivity, reciprocity, helpfulness, accumulation, and purposefulness.

With the continuous development of cooperative learning, various distinctive methods have been proposed, and applied learning environments to influence students' emotional involvement in education and motivation remain an open question. Student achievement in the discipline of Art reflects personal growth and is an essential indicator for evaluating the sophistication of the educational system. Therefore, research on improving students' academic performance in Art has become a key concern, which is every educator's responsibility in guiding their students to stand out in the fierce social competition and lay a solid foundation for their future. Especially in the field of secondary vocational education in Dezhou City, Shandong Province, there is a gap in in-depth research on the impact of cooperative learning methods on students' emotional involvement despite the high importance of vocational education in the region.

This study focuses on the effect of the cooperative learning method on the learning emotional involvement of third-grade Art majors in secondary vocational schools in Dezhou City, aiming to reveal how collaborative learning can provide practical guidance and theoretical support for the realization of high-quality development of education by facilitating students' self-exploration of their emotions and values, and then enhancing their adaptive and innovative abilities.

By deeply exploring the relationship between cooperative learning and students' emotional involvement, this study will provide teachers with valuable insights to help them personalize their teaching strategies, optimize the teaching process, and enhance their learning experience and effectiveness. It will not only promote the overall development of students, which will imprudence their learning interest and motivation, but it will also provide significant value in practice. For example, Sharan's group investigation method, the co-learning teaching method summarized by Johnson and Johnson (2009), Aronson's jigsaw classroom method, and the group game competition method created by Strom et al.

(2024) all provide rich cooperative learning methods and strategies. In recent years, research on collaborative learning has not only deepened the understanding of its effectiveness but also pointed out the problems and challenges in practice. For example, scholars such as Siya (2023) have critically analyzed the impact of cooperative learning on students' English performance and pointed out the problems of teachers' lack of control over group activities, while scholars such as Karmina et al. (2021) have explored the strategies and effects of implementing cooperative learning in different contexts, emphasizing the importance of teachers' attention and adjustments in the teaching process.

Cooperative learning has been thoroughly explored and developed in Theory as a teaching model, demonstrating its unique value and challenges in practice. Through continuous research and application, collaborative learning is expected to provide students with more effective and enriched learning experiences.

Cooperative Learning Related Measurement Factors Selection

Assessment

In education, "assessment" usually refers to a set of methods and tools used to measure, collect, and analyze student performance and outcomes in the learning process (Kadri & Amziane, 2021). Traditional assessment is defined as single-occasion and timed exercises through which student performance is measured. It is primarily designed to grade students' performance and recognize their learning (Andrade & Cizek, 2010). However, in recent years, an increasing number of scholars have shifted the focus of "assessment" from a single type of assessment to a more authentic and multidimensional kind of assessment, which includes the evaluation of students' knowledge, skills, attitudes, and values to improve the quality of education, guide student learning, and make instructional decisions (Schoor et al., 2015). These forms of assessment, which link classroom instruction to learners' real-world experiences, are formative and constructive because they motivate and engage students in the assessment process through their ability to inspire and engage them in learning (Panadero & Alonso-Tapia, 2013).

In a collaborative learning environment, "assessment" was chosen as an essential dimension to measure because the assessment process is a profound reflection of students' learning experiences, cognitive attitudes, and perceptions of the effectiveness of collaborative learning. "Assessment reveals not only students' knowledge but also their attitudes and values about the learning process (Lubbe, 2020). This includes students' perceptions of the fairness of the assessment system (Ion et al., 2023), their perceptions of the effectiveness of individual effort and teamwork (Strom et al., 2024; Vázquez et al., 2021), and their belief they are getting the grades they deserve (Yan & Carless, 2021).

The Collaborative Learning Application Scale (CLAS), developed by Atxurra et al. (2015), provides a concrete framework and tool for assessing and optimizing the implementation of collaborative learning. The CLAS scale helps teachers and researchers evaluate the effectiveness of a cooperative learning environment by measuring critical elements of the collaborative learning environment, such as the level of student involvement, the quality of the interactions, and the assessment's fairness. It helps teachers and researchers understand the application of cooperative learning strategies and provides a basis for improving and adapting instructional practices. Particularly on the assessment dimension, the CLAS scale emphasizes the importance of assessment, including ensuring that assessment methods fairly and accurately reflect the contributions and learning outcomes of each student and the role of the assessment process in promoting active student participation and individual responsibility. Therefore, the choice of "assessment" as a measurement dimension of cooperative learning variables is related to the quantification of academic achievement and, more importantly, to students' motivation, attitudes, and the overall effectiveness of cooperative learning. A fair and comprehensive assessment mechanism can stimulate students' motivation and enhance the spirit of teamwork, thus improving the effectiveness of cooperative learning. By applying CLAS scales, teachers and researchers can more precisely understand and improve assessment methods in cooperative learning to ensure they can effectively support students' learning and development.

Interpersonal skills

In education and psychology, "interpersonal competence" is often called an individual's ability to communicate and interact effectively with others in social situations (McConnell, 2018; Han & Son, 2020). It encompasses a range of skills, such as listening, expressing, resolving conflict, respecting differences, and building and maintaining positive relationships in diverse social environments (Klinkosz et al., 2021). Interpersonal skills are essential in the context of cooperative learning because they have a direct impact on student's ability to communicate ideas in group work effectively (Skinner et al., 2016), solve problems together (Ghavifekr, 2020), and establish a mutually supportive learning environment (Lau et al., 2014).

The reason for choosing "interpersonal skills" as a critical indicator of the effectiveness of cooperative learning is that this dimension reflects the fact that collaborative learning is not only about the accumulation of knowledge and skills but also about the development of social skills and personal qualities through group interactions (Ghavifekr, 2020; Mendo-Lázaro et al., 2018). Through cooperative learning, students can practice and enhance these skills in authentic social situations, such as learning to listen to different points of view, express their ideas, find consensus in differences, and reflect personal values in cooperation. These skills have long-term significance for students' future career development and social adaptation. Therefore, incorporating "interpersonal skills" into the assessment system of cooperative learning can provide a more comprehensive evaluation standard for educational practice and emphasize the importance of personal growth and social skills development in the learning process.

Interaction

Based on the social perspective, the essence of interaction is the socialization pattern between individuals through the exchange of information. It refers to the communication patterns between teaching participants, students and students, and students and teachers (Tian, 2018). This paper combines the actual situation of third-grade art majors in secondary vocational schools in Dezhou City, Shandong Province, and chooses the measurement dimension of group interaction as an essential aspect of cooperative learning research, mainly because "group interaction" profoundly reflects the practical value and educational goals of cooperative learning theory. Under the guidance of cooperative education theory (Tian, 2018) and constructivism theory, interactive teaching activities aim to cultivate students' independent learning ability and emphasize information exchange and interaction between individuals in the learning process (Ma, 2011). Through group interaction, students are not only able to promote each other in knowledge acquisition, but more importantly, they can develop their critical thinking skills (Warsah et al., 2021), exploratory skills, collaborative skills, and creativity in a comprehensive way (Ramdani & Susilo, 2022). In this mode of teaching, students become the main body of learning in the classroom, and all aspects of teaching and learning need to be centered on students' needs and development.

However, the challenges faced in implementing group interactive teaching should not be ignored. For example, scholars such as Buchs et al. (2017) have raised questions about ensuring that every student can participate effectively in a group in cooperative learning and how teachers can transfer more ownership to students while ensuring the quality of teaching and learning. These queries point to the need for further exploration and validation of the effectiveness and applicability of group interactive teaching. Therefore, selecting group interaction measurement dimensions can help assess and enhance the effectiveness of teaching activities and provide meaningful feedback for educational practices to promote the continuous optimization and innovation of teaching methods.

Group reflection

"Group reflection" is a process in which collaborative learning participants review and evaluate their teamwork experiences, work styles, problem-solving strategies, and learning outcomes (Jeppu et al., 2023). This reflection includes in-depth thinking about interactions within the group, individual contributions, challenges encountered, and team effectiveness (Subasman, 2024). Through group reflection, members can identify strengths and weaknesses in the collaboration to develop improvement strategies to increase the effectiveness and efficiency of future collaborations.

Group reflection was chosen as a critical indicator of the effectiveness of cooperative learning because it is directly related to the quality of the learning process and the depth of teamwork (Ramachandran et al., 2024; Radović et al., 2024). Group reflection promotes students' self-evaluation and team evaluation and helps them learn by doing and continuously improve their collaboration skills. This process helps improve students' critical thinking and problem-solving skills and reinforces teamwork and personal responsibility. More importantly, group reflection encourages students to actively participate in learning and optimize teamwork and learning strategies through self- and collective reflection. Therefore, incorporating "group reflection" into the assessment system of cooperative learning not only provides essential information about students' learning effectiveness but promotes students' personal growth and the development of teamwork skills.

Counseling

"Counseling" in an educational context, especially in cooperative learning, refers to the guidance, support, and feedback teachers provide to groups of students during the learning process (Loh & Ang, 2020). This includes helping students set learning goals, solving problems encountered during the collaborative process, providing necessary resources, and evaluating student learning outcomes (Iraola & Romero, 2024). Reinhard (2021), in a study on the impact of collaborative learning, stated that the purpose of tutoring in collaborative learning is to promote students' cognitive development, social skills, and problem-solving. The purpose of tutoring in cooperative learning is to encourage students' cognitive development, social skills, and problem-solving abilities, which in turn enhances learning and group work.

Tutoring was chosen as an indicator of the effectiveness of cooperative learning because it reflects the active role of the teacher in the learning process and the student's response to this support (Abramczyk & Jurkowski, 2020). Assessing the quality and frequency of tutoring provided by teachers provides insight into how teachers promote collaborative learning among students through a variety of strategies (Karmina et al., 2021), including how they encourage positive interactions among students, provide timely feedback to improve learning outcomes, and how they help students overcome learning challenges through mentoring (Muñoz-Martínez et al., 2020). In addition, teacher tutoring stimulates students' intrinsic motivation (Liu & Lipowski, 2021). It enhances their sense of involvement and belonging (Bećirović et al., 2022), essential for constructing positive learning environments and fostering students' holistic development. Thus, tutoring as a measure not only evaluates the structure and process of cooperative learning but also reflects the effectiveness of educational practices in promoting active learning and students' personal growth.

Emotional involvement

Emotional involvement consists of 1) Extrinsic Emotional Involvement and 2) Intrinsic Emotional Involvement aspects as follows:

Extrinsic emotional involvement

a. Satisfaction with School

Definition: Refers to students' satisfaction with their school's educational resources, teaching and learning environment, extracurricular activities, and teaching and learning

equipment (Vidić, 2021). It includes the importance placed on specific subjects, such as fine arts, and the school's success in creating a conducive learning environment.

Importance: This indicator directly affects students' attitudes, motivation, and quality of learning behaviors (Li, 2023). Satisfied students with art education resources will likely show higher emotional involvement and active participation, leading to improved learning outcomes. Additionally, student satisfaction serves as critical feedback for schools to assess and improve the quality of education, identifying and addressing problems to create more positive and supportive learning environments (Kanwar & Sanjeeva, 2022).

b. Sense of Belonging to School

Definition: The degree to which students feel connected to the school community, including feeling accepted, valued, and supported within the school (Ahn & Davis, 2023). This sense of belonging is reflected in students' identification with the school environment, participation in activities, and positive relationships with teachers and students (Ibrahim & El Zaatari, 2020).

Importance: A strong sense of belonging impacts students' emotional states, motivation, and academic performance. Students who feel accepted and valued are likelier to engage actively in learning activities and exhibit higher academic involvement (Allen et al., 2021). It also reduces anxiety and isolation, enhancing self-esteem and self-efficacy, which promotes emotional well-being and social adjustment.

c. Identification with Teachers

Definition: Refers to how students positively evaluate and internally accept their teachers based on personal qualities, pedagogical competence, emotional support, and professional image (Esteban & del Cerro, 2020). It includes the emotional connection between teachers and students and the teachers' image and status in students' minds.

Importance: Teachers significantly influence students' emotional involvement through positive relationships, psychological support, and professional competence (Jia,2020). High identification with teachers enhances motivation and participation in learning because students feel supported and respected. It also improves their sense of belonging and active participation in learning (Tao et al., 2022).

Intrinsic emotional involvement

a. Confidence in Learning

Definition: Learning confidence is a student's belief in their ability to complete learning tasks and master learning materials (Oktafiani & Yusri, 2021). This concept is closely related to self-efficacy and emphasizes an individual's assessment of their learning ability and confidence level when facing learning challenges (Manipol et al., 2024).

Importance: Confidence in learning is directly related to students' attitudes, involvement, and learning outcomes. Studies have shown that confident students are more likely to participate in learning activities actively, adopt effective learning strategies, and maintain perseverance in facing challenges, which are critical manifestations of emotional involvement (Sadeghi & Ganji, 2020). Additionally, high learning confidence promotes a deeper understanding and long-term content retention, enhancing students' satisfaction and sense of achievement in learning (Almasri, 2022).

b. Interest in Learning

Definition: Interest in learning is students' natural inclination and positive feelings towards learning a particular subject or topic, reflecting their intrinsic motivation to explore knowledge without external rewards or pressures. It involves curiosity, a desire to explore, and a willingness to invest time and energy in in-depth study (Oktafiani & Yusri, 2021).

Importance: Interest in learning is a critical factor in motivating students to participate actively in the learning process, enhancing persistence and depth of learning. Interest-driven learning promotes cognitive involvement, stimulates creative thinking, and increases learning efficiency. Students' interest significantly affects their attitudes and academic performance by making the learning process enjoyable rather than burdensome (Sadeghi & Ganji, 2020; Almasri, 2022).

c. Value of Learning

Definition: The value of learning is defined as students' awareness and evaluation of the importance, benefits, and significance of learning a particular subject or content. This concept relates to how students perceive the contribution of learning activities to their personal development, future goals, and interests (Manipol et al., 2024).

Importance: The value of learning impacts students' motivation, involvement, and persistence in learning. When students recognize the value of learning a subject, they are more likely to feel optimistic about the process, put more effort into it, and demonstrate higher efficiency and deeper involvement. A high awareness of learning's value helps students remain resilient when facing difficulties, seeing the long-term benefits beyond immediate challenges. Assessing students' perceptions of the value of learning helps educators design effective strategies that align with students' values, improving teaching effectiveness and the overall learning experience (Sadeghi & Ganji, 2020; Almasri, 2022).

Artistic creativity literacy

Artistic creativity literacy is a multifaceted subject extensively studied across multiple disciplines, including psychology, art history, and education. This section reviews and analyzes the research conducted by various scholars in this field to lay the theoretical foundation for this study. This study emphasizes creativity's dynamic and iterative nature, highlighting the importance of divergent and convergent thinking (Shimizu & Okada, 2021). Artists frequently report this state during the creative process, indicating that optimal creative performance is closely related to intrinsic motivation and flow experience (Abuhamdeh, 2021).

Additionally, educational research has explored methods to cultivate students' artistic Creativity literacy (Siya, 2023). Cremin and Chappell (2021) argue that creative teaching strategies such as open-ended projects and collaborative learning can significantly enhance students' creative abilities.

These methods encourage experimentation, risk-taking, and the development of personal artistic styles. Furthermore, cultural and social factors play a significant role in shaping artistic creativity literacy. Gao (2023) emphasizes that the goal of art education in universities is to cultivate students' innovative abilities, enhancing their creative personality, aesthetic skills, and correct values to provide high-quality talent for society.

Similarly, Li (2021) asserts that art education should focus on improving students' aesthetic qualities and creative abilities. Cultivating students' artistic creativity requires various teaching strategies and methods, including open-ended projects, collaborative learning, encouraging experimentation and risk-taking, and optimizing teaching environments and resources. These multifaceted insights collectively provide a comprehensive understanding of the factors that nurture and influence artistic creativity literacy.

METHOD

This section reports the sampling method and instrumentation separately for each objective.

Population and Sample

The population was 1,400 Art majors. Based on Krejcie and Morgan's (1970) table, the suitable sample size for a population of 1400 is 302 students. In this school, there are 28 grade-three classes. Each class, from Class 3/1 to Class 3/28, has 25-65 students. The sample group participated in cooperative learning lesson plans, and course testing, and a convenience sampling method was employed to select participants from 3/7 third-year Art majors.

Research Procedure for Objective 1

Research instruments

A questionnaire was used to collect data from the students. The questions were designed based on the research objectives of the article as well as the relevant literature. Before using the questionnaire, the advice of relevant experts was taken, and the questionnaire was tested to ensure its validity. The questionnaire survey consists of 7 aspects as follows (Table 1).

Table 1. Questionnaire structure

			Subject	Item	Reference Source
Demographic variables			Gender, age, Urban/rural background	4	Guo (2018)
Cooperative learning	Assessment		V1-V6	6	Atxurra (2015) and Guo (2018)
	Interpersonal skills		IS1-IS7	7	
	Interaction		I1-I4	4	
	Group reflection		GR1-GR7	7	
	Counseling		GA1-GA7	7	
			total	31	
Emotional Involvement	External Emotional | Involvement	Satisfaction with school	JS1- JS5	5	Guo (2018)
		Sense of belonging to the school	SB1- SB3	3	
		Sense of identification with teachers	SI1- SI4	4	
	Intrinsic Emotional Involvement	Confidence in Learning	CL1- CL4	4	
		Interest in Learning	IL1- IL3	3	
		Value of learning	VL1- VL5	5	
			total	24	
The overall questionnaire consists of 55 measurement items					

Data collection

The researcher designed the questionnaire based on the framework of the study, where all the questions were in declarative sentence form, and the sampled students were allowed to choose their answers based on their ideas. The standard five-point Likert scale was used in this study. There are 59 questions divided into three dimensions, with each dimension measuring a variable number of questions as follows:
A rating of 5 means "completely agree."
A rating of 4 means "agree."
A rating of 3 means "not sure."
A rating of 2 means "disagree."
A rating of 1 means "completely disagree."

Data analysis

Quantitative data are analyzed using frequencies, percentages, means (*M*), and standard deviations (*SD*). The mean value of the suitability score of expert opinions is calculated and compared with the following criteria:
A mean score of 1.00-1.50 means "completely disagree," interpreted as "very low."
A mean score of 1.51-2.50 means "disagree," interpreted as "low."
A mean score of 2.51-3.50 means "not sure," interpreted to=moderate
A mean score of 3.51-4.50 means "agree," interpreted as high
A score of 4.51-5.00 means "completely agree," interpreted as "very high."

Research Procedure for Objectives 2-3

Research instruments

a. Lesson plan

There are 4 lesson plans for four weeks, and the total time for teaching was 20 hours.

1. Lesson Plan for Week 1: Basic Theoretical Knowledge of Art Color (5 hours)
   - Purpose: Enhance artistic appreciation, understand color theory, and develop color expression.
   - Focus: Hue, lightness, purity, and color analysis.
2. Lesson Plan for Week 2: Composition Training (5 hours)
   - Purpose: Stimulate aesthetic sense, master compositional methods, and improve creativity.
   - Focus: Object placement, compositional aesthetics.
3. Lesson Plan for Week 3: Copying Excellent Works of Art (5 hours)
   - Purpose: Learn color mixing and tonal composition and recognize diversity in color and still life.
   - Focus: Copying techniques, color relationships.
4. Lesson Plan for Week 4: Still Life Drawing (5 hours)
   - Purpose: Develop color modeling and creativity and understand still life techniques.
   - Focus: Gouache painting techniques, overall picture relationships.

b. The Test

This study selected a 3/7 class of 25 third-year art primary students to participate in cooperative learning lesson plans and the test. The test consisted of 4 topics: The students made the pretest and post-test during the experimental design. The time for testing was 3 hours.

1. Compositional skills = (20 scores)
2. Use of color = (20 scores)
3. Realistic Technique Expression = (20 scores)
4. Innovation and individuality = (40 scores)

Total 100 scores

c. Evaluation Criteria of the test

- Compositional Skills: Reasonable composition and correct structure.
- Use of Color: Rich, varied colors with clear transitions.
- Realistic Technique Expression: Hierarchical presentation and detailed brushwork.
- Innovation and Individuality: Original, unique treatment with visual impact.

Data collection

The researcher conducted tests and implemented lesson plans with the selected students during their scheduled class times. Art materials were provided, and students were guided through the test steps and lesson plan activities. The data was collected from 100 scores on the test. It is shown in Table 2.

Data analysis

To analyze the quantitative data, descriptive statistical analysis methods, including frequency, percentage, means (*M*), and standard deviations (*SD*), were used while the qualitative data was analyzed using narrative analysis.

RESULTS

This section presented the analysis results for objectives 1-3 using tables and descriptions. It included percentage, the mean score, standard deviation, and coefficient of variation. Subsequently, the items of all factors are presented similarly.

Cooperative Learning Method's Impact on Emotional Involvement

The results of the data analysis elicited by the questionnaire are reported in this section. As it was mentioned before, to analyze the impact of the cooperative learning method on students' emotional involvement, a questionnaire was used, which divided Cooperative Learning Approaches into 7 domains aspects as follows:

Assessment

1. Interpersonal skills
2. Interaction
3. Group reflection
4. Counseling
5. External Emotional Involvement
6. Intrinsic Emotional Involvement

To assess respondents' perceptions of each research variable, this study employed SPSS statistical software to calculate the mean and standard deviation for the primary variables under investigation. The questionnaire in this research utilized the Likert five-point scale method, where a higher mean value for a given research variable suggested more robust capabilities or positive attitudes among respondents in that area. Conversely, a mean value of 3 indicated a neutral or medium level of perception towards the variable. Table 3 presented the mean and standard deviation for each leading research variable, facilitating an understanding of respondents' attitudes and capabilities related to the study's focus as follows:

Table 3 shows the results from all variables: the *mean score* was 3.76, with *SD* = 0.88. The lowest score was for Interpersonal Skills (*M*=3.56, *SD*=0.99). The highest score was observed for Interaction (*M*=3.88, *SD*=0.90). All these mean scores indicate a high level of agreement.

Influence of Emotional Involvement on Learning Outcomes and Artistic Creativity Literacy

To explore the students' emotional involvement, it was found that it affects their learning outcomes and artistic creativity literacy by 70%.

- Compositional skills = (20 scores)
- Use of color = (20 scores)

Table 2. The test scores

Evaluation projects	Criteria for evaluation		assessment score
Compositional skills	The composition of the work is reasonable.	10	20
	The structure of the work is correctly proportioned.	10	
Use of color	The use of color is rich and varied, and the color combinations are reasonable.	10	20
	There is a clear distinction between light and dark colors, and there are transitions in colors.	10	
Realistic Technique Expression	There is a sense of hierarchy in the presentation.	10	20
	There are apparent brushstrokes in the picture, and the details are well-handled.	10	
Innovation and individuality	The treatment of the subject matter is original and unique.	20	40
	The work has a visual impact, attraction, and uniqueness.	20	

- Realistic Technique Expression = (20 scores)
- Innovation and individuality = (40 scores)

Four main themes emerged by analyzing the data elicited from the students (n=25). These themes included compositional skills, the use of color, the expression of realistic techniques, and the display of innovation and individuality. The maximum score for each section is 20 scores, 20 scores, 20 scores, and 40 scores, respectively, with a total score of 100.

Table 3. Means and standard deviation analysis for each study variable (n=302)

Variant	*n*	*M*	*SD*
Assessment	302	3.73	0.96
Interpersonal Skills	302	3.56	0.99
Interaction	302	3.88	0.90
Group Reflection	302	3.84	0.91
Counseling	302	3.85	0.90
External Emotional Involvement	302	3.79	0.72
Intrinsic Emotional Involvement	302	3.69	0.77
Total	302	3.76	0.88

As the results in Table 4 indicate, a total of 25 students who participated in this test had more than 70%.

Effect of Emotional Involvement on Learning Outcomes and Artistic Creativity

The third objective was to compare the difference between and after implementing the emotional involvement that affected their learning outcomes and artistic creativity. The results of this objective are shown in Table 5:

Table 5. To compare the difference between before and after implementing emotional involvement, which affected their learning outcomes and artistic creativity, the analysis of test scores before and after implementing cooperative learning methods revealed significant improvements in students' learning outcomes (*M*= 9.58, *SD*=0.98*)*.

As shown in Figure 1, this study aimed to explore how students' emotional involvement affected their learning outcomes and artistic creativity, targeting 70% effectiveness. Analysis of 25 students' test scores before and after implementing a cooperative learning approach showed significant improvements—Pretest scores of more than 70%.

Table 4. Results after the experiment (n=25)

No.	Pretest Score	Post-test Score	Difference Score
1	77.5	88	10.5
2	82	94	12
3	72.5	81	8.5
4	79	90	11
5	85.5	94.5	9
6	68	74.5	6.5
7	70	79.5	9.5
8	69	78.5	9.5
9	80.5	86	5.5
10	72.5	82.5	10
11	81	87	6
12	79	89	10
13	78	87	9
14	80	89.5	9.5
15	79.5	91	11.5
16	85	94.5	9.5
17	75	87.5	12.5
18	81	87.5	6
19	70	80	10
20	78	85.5	7.5
21	80.5	93.5	13
22	67	80.5	13.5
23	76	80	4
24	68.5	86.5	18
25	82.5	90	7.5
M	76.7	86.3	9.58
SD	0.52	0.48	0.98

Table 5. Comparison of test scores before and after (n=25)

No.	Pretest Score	Post-test Score	Difference Score
1	77.5	88	10.5
2	82	94	12
3	72.5	81	8.5
4	79	90	11
5	85.5	94.5	9
6	68	74.5	6.5
7	70	79.5	9.5
8	69	78.5	9.5
9	80.5	86	5.5
10	72.5	82.5	10
11	81	87	6
12	79	89	10
13	78	87	9
14	80	89.5	9.5
15	79.5	91	11.5
16	85	94.5	9.5
17	75	87.5	12.5
18	81	87.5	6
19	70	80	10
20	78	85.5	7.5
21	80.5	93.5	13
22	67	80.5	13.5
23	76	80	4
24	68.5	86.5	18
25	82.5	90	7.5
M	76.7	86.3	9.58
SD	0.52	0.48	0.98

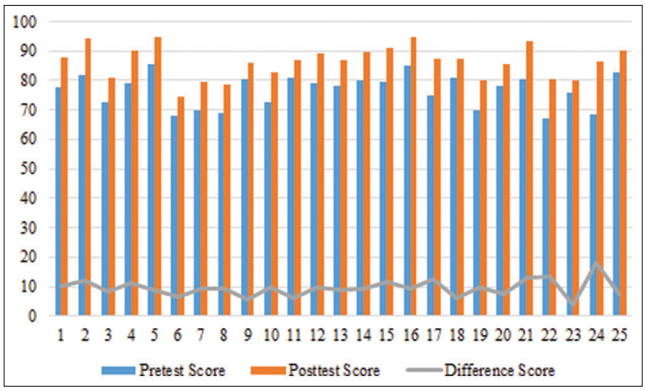

Figure 1. Comparison of student scores

DISCUSSION

Research Objective 1: To Analyze the Impact of Cooperative Learning Methods on Students' Emotional Involvement

The results indicated that overall (M= 3.76, SD=0.88*)*, suggesting that respondents generally held a positive attitude toward the impact of cooperative learning methods on students' emotional involvement that consisted of 7 aspects as follows:

Assessment

In the context of constructivist Theory, as emphasized by Piaget (1966), the positive perception of assessment reflects the active meaning construction process, where students are not passive recipients but active constructors of knowledge. It aligns with the findings of Schoor et al. (2015), who emphasized that formative assessments, which engage students actively, are more effective in enhancing learning outcomes. Thus, the study's results reinforce the importance of evaluation as a critical dimension in cooperative learning, validating the conclusions drawn by Kadri and Amziane (2021) regarding the need for multidimensional and authentic assessment methods in educational settings.

Interpersonal skills

Interpersonal Skills reflected a moderately positive assessment of respondents' interpersonal communication abilities. It suggested that while most respondents considered themselves proficient in interpersonal interactions, a notable fraction remained reserved or perceived a lack of skill. This variance highlighted the complexity of self-assessment in interpersonal skills, pointing to the diversity in individual confidence and perceived competencies.

According to Johnson and Johnson (2009), effective cooperative learning is predicated on positive interdependence and facilitative interactions, which include mutual encouragement and feedback.

The moderately positive rating of interpersonal skills aligns with their findings, underscoring the role of social interdependence in fostering these skills. Furthermore, Mendo-Lázaro et al. (2018) emphasize the importance of developing social skills through cooperative learning, reinforcing the study's findings on the critical role of interpersonal skills in educational settings.

Interaction

The Interaction variable received one of the highest ratings among all variables examined, indicating respondents' firm positive valuation of interactivity within the scope of the study. This high mean score suggested that participants valued interactivity highly, reflecting its significance in the research context. However, a standard deviation close to 1 also revealed variations in the evaluation of interactivity, pointing to differing levels of appreciation or experience with interactive elements among respondents.

The high valuation of interaction is consistent with Vygotsky's Zone of Proximal Development (ZPD) theory, which emphasizes social interaction's importance in cognitive development (Vygotsky, 1978). Similarly, Warsah et al. (2021) found that interactive learning environments significantly enhance critical thinking and collaborative skills. This supports the study's findings on the importance of interaction in cooperative learning, validating the emphasis on interactive teaching methods highlighted by Ramdani and Susilo (2022).

Group reflection

Group Reflection (M=3.84 SD=0.91) was perceived similarly to Interaction, with respondents generally viewing group reflection as a positive activity. This perception underscored the value of group activities for fostering learning and development.

The slightly high mean indicated that most participants recognized the beneficial impact of reflective practices within a group setting, promoting a collective learning experience. Nevertheless, the standard deviation suggested varying appreciation for group reflection among respondents. Group reflection is crucial for the learning process, as it allows students to review and evaluate their teamwork experiences, supported by Subasman (2024). The findings align with Radović et al. (2024), who emphasize the importance of reflection in enhancing teamwork and learning outcomes. This suggests that group reflection fosters critical thinking and problem-solving skills and reinforces cooperative learning by promoting self and collective evaluation.

Counseling

The variable "Counseling" (*M*=3.85 *SD*=0.90) garnered a high positive evaluation among all variables examined, indicating a widespread consensus on the importance and value of giving advice. This high mean score suggested that providing advice was universally regarded as a significant and beneficial behavior. The relatively low standard deviation pointed to a firm agreement among respondents about the value of giving advice, highlighting its perceived importance across the board.

As Reinhard (2021) described, counseling is essential in promoting cognitive development and social skills in

cooperative learning environments. The study's findings echo this by highlighting the universal appreciation of counseling in educational settings. Liu and Lipowski (2021) further support this by emphasizing the role of mentoring in enhancing student motivation and involvement, reinforcing the importance of counseling in cooperative learning.

External emotional involvement

The "External Emotional Involvement" variable (M=3.79 SD=0.72) revealed that respondents had a uniformly positive and consistent perspective toward engaging emotionally with external factors. The relatively low standard deviation indicated a close alignment in opinions among participants regarding this variable. This suggested that the study's respondents broadly recognized external emotional involvement as beneficial or significant. Appleton et al. (2008) classified emotional involvement into several dimensions, including peer and teacher-student relationships, which are crucial for fostering a supportive learning environment. The study's findings align with this classification, highlighting the importance of external emotional involvement in promoting student involvement and well-being. It is further supported by Liu and Guo (2016), who emphasized the multidimensional nature of emotional participation in educational contexts.

Intrinsic emotional involvement

The "Intrinsic Emotional Involvement" variable (*M*=3.69 *SD*=0.77) indicated a generally positive attitude among respondents towards engaging with their emotions. Compared to "External Emotional Involvement," this suggested that internal and external emotional involvement was necessary. Yet, there was a slightly greater consensus on the value of intrinsic emotional involvement. As Sadeghi and Ganji (2020) described, intrinsic emotional involvement is critical for fostering self-awareness and personal internal emotional processing in the learning experience. Almasri (2022) further emphasizes the growth. The study's findings support this by highlighting the significant role of intrinsic emotional involvement in enhancing learning satisfaction and achievement, validating the study's conclusions on its importance. The result from Objective 1 was related to Objectives 2-3, according to the information background used to design the lesson plans and the test to explore the emotional involvement that affected their learning outcomes and artistic creativity literacy.

Research Objective 2: To Explore how Students' Emotional Involvement Affected their Learning Outcomes and Artistic Creativity Literacy According to 70%

Based on the test results, 70% of the students who participated demonstrated that emotional.

Involvement positively affected their learning outcomes and artistic creativity, as evidenced by the majority receiving "Very Good" or "Excellent."

The test results indicated that 70% of the students who participated demonstrated that emotional involvement positively affected their learning outcomes and artistic creativity, as evidenced by the majority receiving "Very Good" or "Excellent." This high level of performance can be attributed to the significant role that emotional involvement plays in motivating students to invest more effort, take risks, and persist in their tasks. When emotionally engaged, students are more likely to immerse themselves fully in the learning process, resulting in improved skills and creative expression.

Compositional skills

High scores in compositional skills, the scoring of many students were between 15 and 20 points, suggest that emotional involvement helps students effectively organize and structure their artwork. Engaged students tend to be more attentive to detail and adept at applying principles of composition, resulting in cohesive and well-balanced artworks. This indicates that emotional involvement enhances students' ability to harmonize various elements in their creative projects. This finding aligns with the constructivist Theory proposed by Piaget (1966), which emphasizes active meaning construction through involvement and interaction.

Use of color

High scores in the use of color, ranging from 13.5 to 19 points, reflect that emotionally engaged students are more willing to experiment with and effectively use color. This willingness to explore different color palettes and techniques allows students to express their ideas more vividly and creatively. The emotional involvement fosters a deeper connection to the artistic process, encouraging students to be bold and innovative in their use of color. According to the social interdependence theory by Johnson and Johnson (2009), positive interdependence in cooperative learning environments can enhance facilitative interactions, such as experimenting with color, which is critical for artistic development.

Realistic technique expression

Scores in realistic technique expression, which ranged from 14 to 19 points, show that emotional involvement is crucial for developing technical proficiency. Students who are emotionally invested in their work dedicate more time and effort to honing their technical skills, resulting in more accurate and realistic depictions in their artwork. This technical refinement is essential for achieving higher evaluations and demonstrates the positive impact of emotional involvement on skill development. The learning involvement theory by Kuh (2001) supports this finding, emphasizing that more significant investment in learning activities leads to better outcomes.

Innovation and individuality

The innovation and individuality category had the highest scores, ranging from 30 to 38 points. It highlights the significant impact of emotional involvement on fostering creativity and personal expression. Emotionally engaged students are

more inclined to think creatively and bring unique perspectives to their work, resulting in innovative and distinctive pieces that stand out in evaluations. Emotional involvement encourages students to express their individuality and creativity, leading to higher artistic originality. The research on learning involvement, which includes behavioral, emotional, and cognitive involvement, further corroborates the importance of emotional involvement in promoting creativity and individual expression.

Research Objective 3

The third objective was to compare the difference between and after implementing the emotional involvement affected their learning outcomes and artistic creativity. The analysis of test scores before and after implementing cooperative learning methods revealed significant improvements in students' learning outcomes. The pretest scores averaged 76.70 with a standard deviation of 0.52, while post-test scores averaged 86.3 with a standard deviation of 0.48. The average improvement of 9.58 points demonstrates the effectiveness of cooperative learning approaches. The upgrades could be discussed as follows:

Active engagement and social interaction

These findings align with Piaget's (1966) constructivist Theory, which posits that learners construct knowledge through active engagement and social interaction. In this study, cooperative learning provided students with opportunities to engage actively and collaboratively, thus enhancing their understanding and skills.

Furthermore, the improvement aligns with Johnson and Johnson's (2009) social interdependence theory, which emphasizes the importance of positive interdependence and cooperative interactions in achieving higher academic outcomes. This Theory asserts that when students perceive their goals to be linked with the success of their peers, they are more likely to engage in behaviors that promote mutual learning and support. The significant increase in post-test scores suggests that the cooperative learning environment fostered such interdependence and collaborative efforts among students.

Additionally, the findings support George Kuh's learning involvement theory, which highlights the critical role of student engagement and institutional support in achieving adequate learning outcomes (Kuh, 2001). The cooperative learning approach increased students' time and effort invested in learning activities and created a supportive environment facilitating deeper engagement and interaction. This is evident in the improved scores across various assessment categories, indicating that the cooperative learning method effectively enhanced both the academic and creative aspects of students' performance.

Impact of cooperative learning on emotional engagement

The cooperative learning approach significantly enhanced students' emotional engagement, positively influencing their learning outcomes. According to Appleton et al. (2008), emotional engagement includes dimensions such as a sense of belonging, teacher-student relationships, and peer relationships, all of which contribute to a supportive and motivating learning environment.

In this study, the cooperative learning approach fostered positive emotional connections among students and between students and teachers, as reflected in the increased test scores and positive teacher evaluations.

As articulated by Lewin and further developed by Johnson and Johnson (2009), social interdependence theory underscores the role of emotional engagement in cooperative learning. The Theory posits that cooperative learning environments, emphasizing shared goals and interdependence, enhance students' emotional involvement and motivation. The findings of this study support this assertion, as students demonstrated higher levels of engagement and improved academic performance following the implementation of cooperative learning strategies.

Moreover, Guo's (2018) learning involvement theory emphasizes that emotional involvement is crucial for sustained engagement and academic success. By creating a learning environment that promotes emotional connections and mutual support, cooperative learning helps students invest more deeply in their educational activities. This study's results, showing significant improvements in testing scores and high levels of teacher evaluations, indicate that students' emotional engagement was effectively enhanced through cooperative learning, leading to better learning outcomes and increased artistic creativity.

Emotional engagement influencing learning outcomes and creativity

The significant improvements in students' learning outcomes and artistic creativity literacy can be attributed to the enhanced emotional engagement fostered by cooperative learning. This study's cooperative learning approach created such an environment, resulting in higher test scores and greater creativity in students' artistic expressions.

Furthermore, the findings align with the research by Liu and Lipowski (2021), which emphasizes the multidimensional nature of emotional engagement, including factors such as self-confidence, interest, and learning initiative. The cooperative learning approach implemented in this study effectively addressed these dimensions by encouraging active participation, fostering a sense of community, and providing opportunities for creative expression—this holistic approach to learning improved students' academic performance. It enhanced their creative abilities, as evidenced by the significant improvements in compositional skills, use of color, realistic technique expression, innovation, and individuality.

In conclusion, the study's findings demonstrate that cooperative learning significantly enhances students' emotional engagement, improving learning outcomes and artistic creativity. By fostering active engagement and social interaction, cooperative learning impacts emotional engagement, influencing learning outcomes and creativity. They were supportive and collaborative learning environments;

cooperative learning helps students develop deeper emotional connections, increased motivation, and greater academic and creative success. These results underscore the importance of integrating emotional and collaborative elements into educational practices to achieve better learning outcomes and promote holistic student development.

CONCLUSION

The study revealed that cooperative learning significantly enhances students' emotional involvement. To further improve this, the following strategies are recommended:

1. Professional Development for Teachers: Providing training and professional. Development for teachers on effective cooperative learning strategies can ensure they are equipped with the skills to implement these methods successfully. These methods of collaborative planning sessions can be beneficial.
2. Incorporating Technology: Utilizing educational technologies can enhance cooperative learning experiences. Online collaborative tools, virtual group projects, and interactive platforms can provide dynamic and engaging learning environments.
3. Supportive Learning Environment: Creating a classroom atmosphere that values and supports artistic expression is crucial. Providing access to art materials, encouraging risk-taking in artistic endeavors, and celebrating artistic achievements can motivate students and enhance their creative outcomes.

Building on the findings and implications of this study, several recommendations are proposed for expanding research in cooperative learning within vocational art education. Future studies should consider longitudinal approaches to track the long-term impacts of cooperative learning on students' academic and emotional development. Such studies would provide valuable insights into the sustained effects of these learning environments on student outcomes over time, including their career success and personal growth post-graduation. Additionally, comparative research across various educational settings and disciplines would be beneficial. These studies could elucidate the effectiveness of cooperative learning in vocational schools compared to traditional academic settings, potentially revealing distinct advantages or challenges inherent to each context.

Moreover, as technology continues to advance, exploring the integration of cutting-edge tools like virtual reality, augmented reality, and AI-driven platforms in cooperative learning strategies becomes essential. Such research could identify innovative ways to enhance collaborative learning and emotional involvement, which are particularly pivotal in art education due to their visual and interactive nature. Furthermore, investigating cooperative learning's impact on diverse students, including those with special educational needs, different cultural backgrounds, or varying levels of prior achievement, would enable the customization of cooperative learning methods to be more inclusive and effective for all students. Lastly, there is a need for focused research on developing and evaluating assessment methods tailored for cooperative learning environments. This includes pioneering assessment strategies that accurately and fairly measure individual and group contributions, which are crucial for ensuring accountability and equity in educational outcomes.

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