



## The Impact of Collaborative Learning on Interpersonal Intelligence

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**Abstract.** This research aims to examine the impact of collaborative learning on children's interpersonal intelligence and differences after learning using collaborative learning models. The research used a quantitative approach through an experimental method with a True Experiment Design in the form of a posttest-only control group design involving 58 Grade-III students of SD Mujahidin Pontianak as the population. The data were collected through observation and questionnaires. The data were analyzed using the post-test data. In this research, the researchers discussed the impact of collaborative learning on students' interpersonal intelligence. The research findings indicated that the students' interpersonal intelligence was classified into a moderate category. In this category, the students had the average ability to communicate and were adequately capable of forming their social relationships. Thus, it can be concluded that collaborative learning models impact the students' interpersonal intelligence. The t-test result was  $0.021 < 0.05$ , meaning that  $H_a$  was accepted, while  $H_o$  was rejected. Thus, the implementation of collaborative learning methods impacted the students' interpersonal intelligence at grade III of SD Mujahidin Pontianak.

**Keywords.** Collaborative learning; Interpersonal intelligence; intelligence Characteristics; Dimensions; Interpersonal intelligence indicators.

## INTRODUCTION

To enhance and develop the quality of human resources, education is considered as a crucial capital. In order for students to actively

develop their potential for religious spiritual strength, self-control, personality, intelligence, moral character, and skills needed by themselves, society, nation, and state (National Education System Law, 2003), education is a

basic and planned effort to create a learning environment and learning process. Article 28 C paragraph 1 of 1945-Constitution on Human Rights states, "Everyone has the right to develop himself by meeting his basic needs, receive education, and obtain benefits from science and technology, arts, and culture to improve his life quality and the welfare of mankind."

As a result, the Indonesian population unquestionably demands higher-level and future-focused education. One of education's objectives is not only learning science but also intelligence development. Intelligence is the ability to solve problems and produce valuable work.

Interpersonal intelligence is one of the eight qualities of intelligence listed by Moran (2011). The term "interpersonal intelligence" refers to intelligence that exists in relationships with other people. This is consistent with the social nature of human life (Davis, 2011).

One variety of multiple intelligence is interpersonal intelligence, in which is popularized by Howard. There are eight different categories of multiple intelligences, according to Gardner (2018). These categories include linguistic intelligence, mathematical-logical intelligence, spatial intelligence, kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and natural intelligence. Interpersonal intelligence is one of many intelligences mentioned above that students can develop. Life requires interpersonal intelligence (King & Santrock, 2012). From conception to adulthood, patterns that shape children's development change constantly (Santrock, 2017). In accordance with Law of the Republic of Indonesia No. 20 Year 2003, each stage of development is supposed to get better both quantitatively and qualitatively as it advances.

Children are growing quickly in their childhood. Due to the fact that children can advance all facets of their development during this stage, it is frequently referred to as the "golden age" (Santrock, 2017). An intelligent child will be able to interact with others during their early education. In our society, intelligence is more highly regarded (King & Santrock, 2012).

According to Martel (2006), collaborative learning is a group learning process in which each participant shares their knowledge, experiences, ideas, attitudes, opinions, abilities, and skills in order to

collectively deepen everyone's understanding. A group of students collaborating to accomplish shared goals is referred to as the collaborative concept (LeJeune, 2022).

Students are known to use the collaborative learning style as a method when acquiring specific knowledge. The collaborative learning method will allow students to ask and receive assistance from their friends (Nasir, 2022; Marhayani, 2019).

Cooperative learning and collaborative learning are similar but distinct from one another. While in collaborative learning, tasks are divided horizontally (members work together more or less sequentially on different project aspects), in cooperative learning, tasks are divided vertically (members work more or less simultaneously on different project aspects) (Nasir, 2022; Marhayani, 2019; Martinez, 2012).

A method of teaching and learning called "collaborative learning" entails groups of students working together to complete tasks, solve problems, or produce products. Common tasks or activities, small group learning, cooperative behavior, interdependence, and individual responsibility and accountability are the main characteristics of collaborative learning (Lejeune, 2022).

The disposition to act, think, and feel in ways that are advantageous to people and society is referred to as strength of character (Baldwin, 2022; Chopik, 2022; Yeager, 2022; Duckworth, 2015; Peterson, 2007). Character qualities, also known as virtues, life skills, soft skills, social and emotional learning competencies, learning mindsets, developmental assets, and non-cognitive skills, are often referred to as character strengths. They have long been regarded as a crucial component of healthy human development (Feng, 2022).

Character is malleable even though it is generally stable in the absence of exogenous forces (Lerner, 2022). In fact, social learning has been demonstrated to have a significant and advantageous effect among the many factors for the adoption of pedagogical innovations: the more teachers participate in professional networking and collaboration, the more likely it is that they will implement the pedagogy (König, 2022). Similarly, there is a correlation between teacher efficacy and collaboration, which appears to predict student achievement (Li, 2022).

The collaborative learning model is explained in more detail as follows: When

collaborative learning is practiced, all students will be active and will naturally communicate with one another in groups of four to six. The teacher will create scenarios for students to collaborate on during the Collaborative Learning implementation. To encourage children to cooperate and work in groups, a teacher will facilitate one or more groups (Oeste, 2023; Crook, 2022).

The collaborative learning model encourages students to collaborate or form relationships based on mutual learning and listening in small groups so they can dare to share their ideas, experiences, and skills in order to deepen understanding among group members and accomplish predetermined goals (Haataja, 2022; Nakata, 2022).

In general, the terms "collaborative" and "cooperative" refer to a single group learning experience that can involve classmates in tutorial groups or faculty students from each group's short-term project for a single class (Jasmi, 2015). The learning process that takes place while a group of students collaborates, typically in the classroom, is referred to as cooperative learning (Haataja, 2022; Nakata, 2022).

One factor significantly influences and supports an individual's intelligence and skills, specifically within the context of the world of an individual's skills and within the context of education, is one of many factors that can affect a person's level of intelligence and skills. Education is an activity that helps people grow, develop, and enhance their innate abilities in a planned and organized way. Education itself has many different meanings. One of the most important skills for the 21st century is collaborative learning. Although there is a lot of knowledge about how it affects learning, examining collaborative processes is still difficult. The investigation of collaborative learning is approached in this paper from a psychophysiological angle. In order to determine whether biosensors could be used to analyze collaborative learning, experiments were conducted (Crook, 2022; Nakata, 2022).

In addition to traditional classroom settings, such as open and distance learning programs in higher education, argumentation is a tool for collaborative learning processes in online and blended learning settings (Banihashem, 2022; Noroozi, 2012). Collaborative learning is based on the notion that educational activities should support and

encourage students to actively participate in knowledge construction so that they are viewed as the focal point of educational activities. Students benefit from collaborative learning, which also boosts their level of activity. Individuals with certain qualities may want to stand out, or vice versa. Weak people feel inferior and must always rely on those with the right knowledge (Banihashem, 2022). As a result, elementary school-aged children should be exposed to a lot of hands-on learning opportunities, like cooperative learning.

The term "collaborative" is derived from the Latin word "collaborare," which means "to cooperate" (Barkley, 2014). According to Saito (2022), the collaborative learning model teaches students how to collaborate with friends to find educational resources. In a group learning process known as "collaborative learning," each participant offers their knowledge, expertise, ideas, attitudes, opinions, abilities, and skills in order to collectively deepen the peers understanding (Major, 2020). Interactive communication and collaborative learning create two relationships where people listen to and learn from one another (Saito, 2022).

Through active and collaborative learning, students can learn from one another using the collaborative learning model. Each group member has the chance to learn from the others through this learning model, which can help to increase students' motivation to learn (Major, 2020; Saito, 2022). According to Uchidiuno (2021), "Much of the research on peer collaboration would answer this question in the affirmative; interaction with a more competent peer has shown to be highly, effective in causing cognitive development."

Learning that is based on the zone of proximal development theory from Vygotsky and the theory of communication from Dewey is known as collaborative learning, in which learning activities are known as sociocultural practices through interactive communication activities. which results in active, group-based reflective learning. Students who are more capable assist students who are less capable in the collaborative learning model, and vice versa. Students who are competent help students who feel inadequate to foster a culture of mutual learning (Saito, 2022).

Social constructivism is the root of collaborative learning, which has a different epistemology at its core. According to Matthews, collaborative learning can occur if

teachers and students work together to create knowledge. This is because collaborative learning is a pedagogy that is based on the premise that people always create shared meaning, and that process always enriches and broadens their horizons.

Barkley (2014) provides a more detailed explanation of the collaborative learning process. He claims that the focus on collaborative learning goes beyond simply working in a group and includes a thorough and equitable process of classroom communication. Collaborative learning includes both social and academic competencies (Saito, 2022). It combines three ideas: personal responsibility, group advantages, and success for all. Collaborative learning aims to increase student interaction so that they can better understand a task and express themselves (Barkley, 2014; Major, 2020; Saito, 2022).

The collaborative learning model is explained in more detail as follows. All students will participate in collaborative learning. A group of four to six students will naturally communicate with one another. The teacher will create scenarios for students to collaborate on during the Collaborative Learning implementation. To encourage children to cooperate and work in groups, a teacher will facilitate one or more groups (Oeste, 2023; Crook, 2022; Haataja, 2022; Nakata, 2022).

According to the descriptions given above, it can be said that the collaborative learning model is a student-centered learning model because it encourages students to collaborate or form relationships based on mutual learning and listening in small groups so they can dare to share their opinions, experiences, and skills in order to better the understanding of all group members and accomplish the predetermined objectives.

According to Armstrong (2016), interpersonal intelligence ideal competencies include the capacity for communication, empathy, sympathy, teamwork, direction, and motivation. The capacity to cooperate and communicate with others is a measure of interpersonal intelligence (Indria, 2020; Mursidi, 2019; Holili, 2018; Armstrong, 2016; Rita, 2013).

Interpersonal intelligence, according to Armstrong (2016), is the capacity to comprehend and collaborate with others. Understanding other people's intentions and desires and responding appropriately are both

aspects of this intelligence. This demonstrates how the ability to build relationships with others and the capacity to give appropriate responses are signs of interpersonal intelligence.

The ability to establish and maintain relationships with others by comprehending and anticipating the feelings, temperaments, moods, intentions, and desires of others and responding appropriately is referred to as interpersonal intelligence. This has to do with empathy, specifically comprehending another person's feelings from that person's perspective. A person can develop intimacy, influence, leadership, and relationships with society by using this intelligence (Frانيا, 2022; Susanti, 2022).

A person who wants to develop relationships with others must be able to recognize and employ a variety of interpersonal communication techniques. Communicating effectively with others through both verbal and non-verbal means, being able to observe thoughts and feelings of motivation and then be able to influence opinions or actions. A person who possesses interpersonal intelligence can also assume a role and serve as a mediator in resolving a conflict as well as be able to establish and maintain synergy (Agustriana, 2022).

The aforementioned can be accomplished by visiting frequently and exchanging ideas through information exchange and discussions. Work collaboratively and study in a group that puts students in emotional situations so that they can experience how to sympathize and empathize with others (Mursidi, 2019).

Communication skills and interpersonal skills are two words that are frequently used to describe interpersonal intelligence. While interpersonal skills are those needed to interact in social settings, interpersonal communication is a type of communication that takes place between two people who rely on one another to share experiences. These abilities include the capacity to effectively communicate one's feelings to others and to comprehend thoroughly the essence of all other people's statements about an object (Indria, 2020; Frانيا, 2022; Susanti, 2022; Agustriana, 2022).

## METHOD

This research employed True Experiments in quantitative research. The quantitative method, which is used to examine

particular populations or samples, can be seen as a positivist-based research technique. The sampling technique is typically random, research instruments are used for data collection, and quantitative/statistical data analysis is done with the intention of testing the applied hypotheses (Sugiyono, 2019).

The Posttest Control Group Design was used in this research. There were two groups in this design, and each was chosen at random (R). The experimental group was the group that received treatment (X), and the control group was the group that did not receive treatment. The first group was treated, and the second group was not. In order to determine the impact of interpersonal intelligence following learning activities using collaborative learning methods, we use data collection techniques by observing schools and posttests.

The participants in this study were all grade-III students from class D and class A of SD Mujahidin. The population data are provided in the following Table 1.

**Table 1.** Population Data of Grade III

No	Class	Number
1.	Grade III D	29 students
2.	Grade III A	29 Students
<b>Total</b>		58 Students

In this research, 29 students from class D served as the experimental group and received treatment using collaborative learning models, while 29 students from class A served as the control group and received traditional treatment.

In this research, the posttest-only control group design was the experimental strategy of choice. This research design, which included a control group and an experimental (treatment) group that was chosen in a non-random manner, was a true experiment that was conducted posttest.

Both groups are given equal treatment in the design of this method. Students were given a question to answer following treatment.

The researcher used t-tests, normality tests, and statistical homogeneity tests to analyze the research data. Researchers have discovered that there are limitations to research after conducting studies in schools. The research limitations are as follows: (1) Limited research duration; (2) Students who are still not used to using collaborative learning; (3) Technological facilities in schools are still minimal for use in

learning media; (4) Understanding of teachers who still don't really understand using collaborative learning.

## RESULTS AND DISCUSSION

### Result

The pre-treatment results of checklist observation sheet instruments used to observe the interpersonal intelligence of Grade-III students from SD Mujahidin Pontianak in the academic year of 2021–2022 are shown in the following Table 2.

**Table 2.** Observation Results of Learners' Interpersonal Intelligence Improvement per Treatment (Pre-Treatment)

Interpersonal Intelligence	Score	F	%
Extremely Poor	30-32	1	3.4
Very Poor	33-35	2	6.9
Poor	36-38	3	10.3
Adequately Poor	39-41	4	13.8
Adequately Good	42-44	10	34.5
Good	45-47	3	10.3
Very Good	48-50	4	13.8
Extremely Good	51-53	2	6.9
Total		29	100%

According to Table 2, before using the collaborative learning method or ongoing conventional learning methods, the Grade-III students at SD Mujahidin Pontianak had an interpersonal intelligence level at adequately good category, as evidenced by the majority of students, while one student had the interpersonal intelligence level at extremely poor category.

**Table 3.** Observation Results of Interpersonal Intelligence Improvement of Learners Per Action (Post Treatment)

Interpersonal Intelligence	Skor	F	%
Extremely Poor	30-32	1	3.4
Very Poor	33-35	4	13.8
Poor	36-38	4	13.8
Adequately Poor	39-41	5	17.2
Adequately Good	42-44	3	10.3
Good	45-47	7	24.1
Very Good	48-50	4	13.8
Extremely Good	51-53	1	3.5
Total		29	100%

Table 3 shows that there was a significant drop in the interpersonal intelligence category after using the collaborative learning approach, from the prior 10 students to just 3. However, after implementing the collaborative learning approach, the interpersonal intelligence level of Grade-III students from SD Mujahidin Pontianak increased by one level to be good from the prior level, which was adequately good. This is evident from the number of students who scored the highest in all other categories for good interpersonal intelligence as well as the level of interpersonal intelligence, which is extremely low and only occurs in one student.

The normality test is used to determine whether or not the data is normally distributed. If it is, then regression or estimation can proceed. The Shapiro-Wilk test determines whether the data are normally distributed if the prob value is Sig. > significance value, was used in this research as the normality test (0.05). The SPSS results on the normality test are shown in the following Table 4.

**Table 4.** Normality Test Results

Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
Statistic	Sig.		Statistic	Sig.		
c	df	.	ic	df	Sig.	
Y	.116	5	.04	.974	5	.257
		8			8	

a. Lilliefors Significance Correction

a. Lilliefors Significance Correction

The probability significance value of interpersonal intelligence variables is  $0.257 > 0.05$  based on table 4 above, indicating that the data is normally distributed.

To ascertain whether two or more groups of data share the same variance, the homogeneity test is used. The ANOVA test was employed in this study to examine the homogeneity of the data used. If the prob value is statistically significant at the level of significance, the data is regarded as homogeneous. The outcomes of the homogeneity test conducted using SPSS are listed below in Table 5.

**Table 5.** Homogeneity Test Results (Pre-Treatment)

Values			
Levene			
Statistic	df1	df2	Sig.
.581	1	56	.449

The variance of the data on interpersonal intelligence test results among Grade-III students from SD Mujahidin Pontianak is the same or homogeneous, according to Table 4.8, where the sig.  $0.449 > 0.05$ . The validity test for the effect of the independent variable on the dependent variable, also known as the t-test, is used to ascertain whether there is an effect or relationship between the independent variable and the dependent variable. The prob value can be used to determine the t-test's foundation. If a statistic or sig. value is less than the alpha (0.05) level of significance, then there is an influence, otherwise, there is none. The outcomes of the t-test performed with SPSS are listed below in Table 6.

**Table 6.** The independent variable's significance

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	43.483	2.193			19.832	.000
X	-.690	1.387	-.066		-.497	.021

Table 6 shows that the independent variable's significance level is  $0.021 < 0.05$ , indicating that the use of collaborative learning techniques has an impact on the interpersonal intelligence of Grade-III students at SD Mujahidin Pontianak.

The application of collaborative learning models is more effective or influential than the application of traditional learning models to students' interpersonal intelligence, according to the discussion of research findings.

## CONCLUSIONS AND SUGGESTIONS

Based on the results of research and discussion of data analysis, it can be concluded that there is a significant effect of collaborative learning on children's interpersonal intelligence in third-grade students of SD Mujahidin Pontianak. There is a difference between

students' interpersonal intelligence after applying the collaborative learning model and the conventional learning model. After the implementation of the collaborative learning method, the level of interpersonal intelligence of students rose one level to be good from what was previously quite good.

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