

Re-thinking Project-Based Learning and Intrapersonal Intelligence at Kindergarten Talitakum: Can Early Learners Reflect?

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Abstract. This study seeks to examine how project-based learning can be applied to enhance intrapersonal intelligence among children in the Kindergarten Talitakum. The approach utilized is classroom action research, following the Kemmis and McTaggart model, which involves a cycle consisting of four key components: planning, action, observation, and reflection or evaluation. The students in Kindergarten B class were 18 children. The study's findings indicated that during the observation process in cycles 1 face-to-face 1 and 2, the data showed that only 31.25% of the children, which is 6 out of 18, exhibited an active response in face-to-face 1. The results from cycle 1 face-to-face session 2 showed that 59.38%, which is 11 out of 18 children, achieved the outcome. In cycle 2, when children were grouped for the implementation of Project Based Learning, the data showed that 84.37% of the children, which is 15 out of 18, were actively participating in class. Additionally, 15.63% of the children, or 3 out of 18, were quite active during the sessions. Thus, the use of project-based learning can enhance children's intrapersonal intelligence when it is integrated into group learning activities.

Keywords: *Early childhood, Intelligence, project based learning*

Abstrak. Penelitian ini bertujuan untuk mengkaji bagaimana pembelajaran berbasis proyek dapat diterapkan guna meningkatkan kecerdasan intrapersonal pada anak-anak di Taman Kanak-kanak Talitakum. Pendekatan yang digunakan adalah penelitian tindakan kelas, mengikuti model Kemmis dan McTaggart, yang melibatkan siklus yang terdiri dari empat komponen utama: perencanaan, tindakan, pengamatan, dan refleksi atau evaluasi. Jumlah siswa di kelas TK B adalah 18 anak. Temuan penelitian menunjukkan bahwa selama proses observasi pada siklus 1 tatap muka 1 dan 2, data menunjukkan bahwa hanya 31,25% anak, yaitu 6 dari 18 anak, yang menunjukkan respons aktif pada tatap muka 1. Hasil dari siklus 1 sesi tatap muka 2 menunjukkan bahwa 59,38%, yaitu 11 dari 18 anak, mencapai hasil yang diharapkan. Pada siklus 2, ketika anak-anak dikelompokkan untuk pelaksanaan Pembelajaran Berbasis Proyek, data menunjukkan bahwa 84,37% anak, yaitu 15 dari 18, berpartisipasi secara aktif di kelas. Selain itu, 15,63% anak, atau 3 dari 18, cukup aktif selama sesi berlangsung. Dengan demikian, penerapan pembelajaran berbasis proyek dapat meningkatkan kecerdasan intrapersonal anak-anak ketika diintegrasikan ke dalam kegiatan belajar berkelompok.

Kata Kunci: *Anak usia dini, kecerdasan, project based learning*

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Introduction

The progress of a country's development depends on improving its human resources skills and knowledge through education. The essence of education is learning that can develop children's abilities, knowledge, and skills (Nasihudin & Hariyadin, 2021). Basic education and the initial foundation in human resource development begins with early childhood education. Paying attention to childhood is crucial in improving the quality of human resources, which will have a significant impact on subsequent levels of education (Julaiha et al., 2023). The government's attention to the socialization and implementation of early childhood education demonstrates the importance and significance of education during childhood. Various forms of early childhood education institutions, ranging from day-care centres and playgroups to kindergartens, are not seen as miniature elementary schools, but rather as initial education towards formal education and also the foundation for formal education (Mulyasa, 2019).

The education provided should focus on the learning process that takes place through the efforts of teachers and young children as they learn. The learning process takes into account each child's current level of achievement and their stage of development. Throughout the learning process, teachers must prioritize meaningful and enjoyable learning (Munte, 2019). Meaningful and enjoyable learning activities can be achieved if teachers understand each child's characteristics, varying developmental patterns, and learning needs (Shihab, 2021). Basic principles in learning should be designed and implemented with the goal of building capacity for lifelong learning and a continuous future-oriented approach.

In early childhood education schools, the driving force behind the independent curriculum is more focused on student project-based learning. Various models and alternatives can be implemented in the learning process, such as project-based learning. An intelligent student is characterized by the ability to creatively solve problems and face challenges, producing outcomes that benefit those around them and themselves (Jalinus et al., 2017). Based on these characteristics, intelligence is a potential related to a person's culture and their own life. The benefits of intelligence include facilitating life within the family, school, and society at large (Susanto, 2021). Intrapersonal intelligence can be defined as the potential related to a person's internal state, related to metacognitive thinking, self-reflection, emotions, and spirituality (Babu M & Babu M,

2024). All of these competencies are needed by children to improve their future lives as adults.

Kindergarten education is very important for helping children grow, especially in developing their understanding of themselves and their own feelings (intrapersonal intelligence). Intrapersonal intelligence helps students gain a better understanding of self-motivation for learning, increasing self-awareness, and managing emotions (Yaumi, 2021). Therefore, facilitating the development of intrapersonal intelligence in kindergarten students is an important goal within the educational framework. One learning model that can be used to achieve this goal is project-based learning. This learning model emphasizes project creation and practical experiences oriented towards deeper problem-solving, which ultimately can enhance intrapersonal intelligence (Sulisworo, 2019). The project-based learning model emphasizes collaboration, communication, project management skills, and a focus on problem-solving. Learning activities that will be paired with this learning model include skills i.e. painting and colouring, folding, cutting, and pasting (Tumbel, 2024). Through well-planned activities (projects), students can understand and recognize their own emotions, overcome challenges, and feel motivated to complete assigned tasks.

Kindergarten learning activities always focus on how to train, enhance, and explore students' intelligence for optimal growth. Kindergarten teachers conduct various learning activities to enhance students' abilities, such as painting and colouring, folding, cutting, and pasting (Susanto, 2021). These various learning activities can stimulate various student abilities or intelligences, including intrapersonal intelligence. These learning activities stimulate children's fine motor skills and can influence their development. Stimulating kindergarten students through these learning activities influences socio-emotional, moral, spiritual, cognitive, affective, and other developments (Dewi et al., 2021). Learning in kindergarten through the independent curriculum is directed at project learning, which leads to outcomes that influence students and teachers in preparing learning activities.

In improving kindergarten students' intrapersonal intelligence, it is important to pay attention to their activities, habits, and work results (Dewi & Surani, 2018). As Howard Gardner stated, "This intelligence is difficult to observe; the only way to identify it may be by observing students and analysing their work habits and products" (Nicholson-Nelson & Moss, 1998). Observing intrapersonal intelligence in students is quite difficult, simply by observing work habits and work results. Therefore,

the researcher chose the learning activities of painting and coloring, folding, cutting and sticking through the project learning model.

Facts on the ground show that in kindergartens who start education at kindergarten level, especially class A often show symptoms such as; children who cry for no reason to show symptoms of tantrums, emotional by showing anger towards friends or teachers, following along without a purpose, not daring to appear in front of others because of lack of confidence and so on. Symptoms shown by children as in interviews with teachers, continue to class B which is supposed to be students who will enter elementary school. There are even some children who have quite good intelligence intellectually marked by recognition of numbers, letters, animals, plants and several other objects, but are angry and selfish in class. Of the 18 children in the class, around 3 children show crying for no reason to show symptoms of tantrums. When playing there are 4 children who do not want to join in playing together, these children only want to be alone, if their friends want to join they get angry or immediately cry. When given an assignment by the teacher there are 3 who do not want to join the group and choose to work alone. The aspect that will be studied in improving children's intrapersonal intelligence through group learning and play activities in the project-based learning model. Researchers view the symptoms displayed by the child as an unstable intrapersonal condition in early childhood, which must be addressed by implementing appropriate learning models. Project-based learning is one model that can be offered and implemented in situations that occur in kindergarten, as evidenced by the existing facts.

The various facts and problems described above are considered to be quite clear that the project-based learning model in improving intrapersonal intelligence of kindergarten students, but there has not been much research specifically discussing the implementation of this model at the kindergarten level. The purpose of this study is to obtain empirical information about the implementation of the project-based learning model to improve intrapersonal intelligence in Kindergarten Talitakum. In In early childhood education, teachers in teaching always have a target to achieve success in learning. The learning process is processed by teachers professionally to achieve a child's ability to change, from not being able to become able, from not understanding to understanding and so on (Helmawati, 2019). Therefore, it can be said that the model is a way that is extensively based on existing resources and competencies owned by an organization to achieve planned goals. The model has several components that serve as

guidelines in its implementation, namely; scope, different abilities, and resource distribution (Peking & Utami, 2020).

Based on this background, the problems that will be studied in this research are: How is the implementation of the project based learning model in improving intrapersonal intelligence in Kindergarten Talitakum?

Methodology

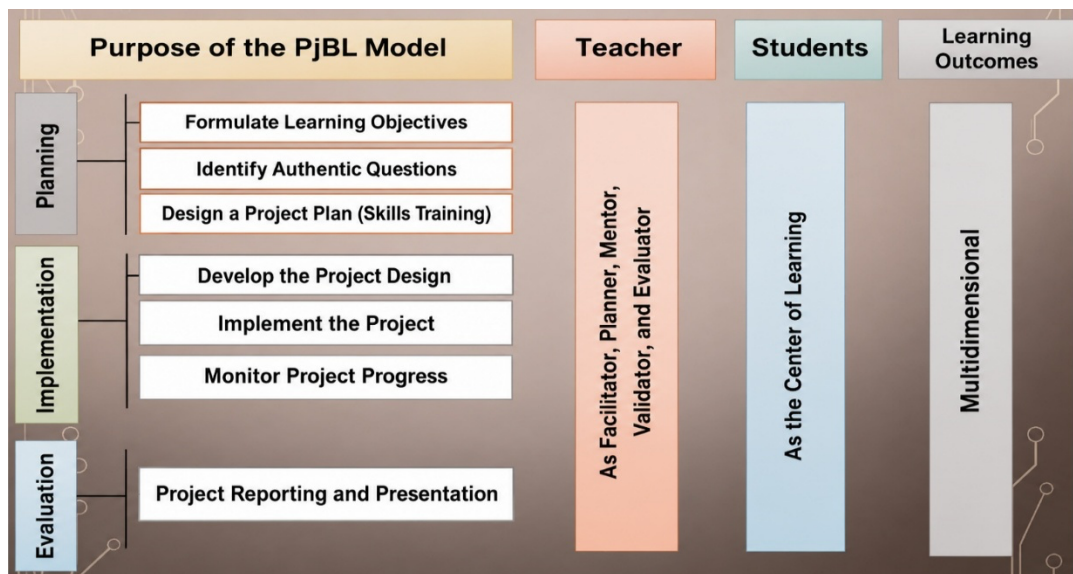
This study uses a reflective classroom action research (CAR) method with the aim of improving and strengthening professional classroom learning practices (Sani, 2020). This research action was conducted using the Kemmis and MC Taggart CAR model, where one cycle consists of four stages, namely: planning, action, observation, reflection, and evaluation (Kemmis et al., 2014). In this study, if one cycle has been implemented and reflected upon and has not been achieved, then it will be followed by re-planning which will be carried out in the next cycle (Norlaila & Dina Hermina, 2025). In this study, a collaborator, namely a kindergarten teacher, will assist the researcher in carrying out observations and the learning process in the classroom during the learning process.

The research was conducted from July to October 2025. In July, the researcher conducted a pre-cycle, then in August the researcher designed actions through the cycle stages, namely: planning research that begins with discussing problems faced by teachers and efforts to solve them, after which the researcher compiled an action plan and determined the focus of events that needed observation and made instruments. From September to October the researcher implemented a project-based learning model to improve students' intrapersonal intelligence. The chosen timeframe was adapted to the conditions and learning process in the field. The research took place at Kindergarten Talitakum, Rantepao, North Toraja. The subjects were 18 Kindergarten B students in the odd semester of the 2024/2025 academic year. Grade B students are students who will be moving on to elementary school and have been studying in the Playgroup class for one year at Kindergarten Talitakum.

The procedure for this research began with a pre-cycle to ensure the class was suitable for CAR treatment. The first stage in CAR is planning, which identifies the problems faced by students in their ongoing learning. The planning process involved analyzing the problem and reviewing various theories to develop a framework (Susilo, 2022). Planning included creating a student learning schedule, preparing equipment and

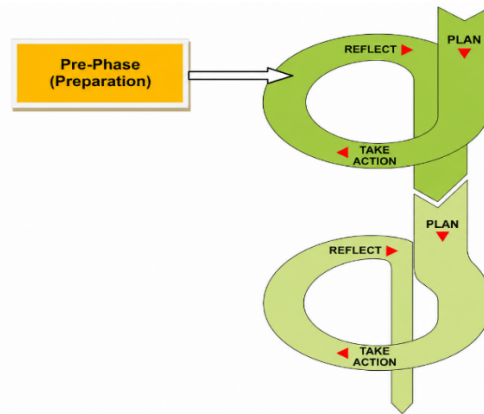
materials, developing devices and learning modules for Kindergarten Talitakum integrated with the project-based learning model, research instruments, success indicators, and assessment rubrics. Specifically, this involved developing kindergarten teaching modules according to the themes to be discussed, establishing an approach, preparing materials and tools, and creating observation sheets. The second stage, action, is the treatment or implementation of the previously prepared plan. This stage is aligned with the learning plan in the module, as seen in the following structure (Koparan & Güven, 2014):

Figure 1: Seven stages of the Project Based Learning Model



The third stage, observation, is carried out concurrently with the action stage by observing, collecting data, and documenting the implementation process in the classroom. The fourth stage, reflection, is conducted to identify the strengths and weaknesses (evaluation) of the actions taken. The results obtained from the reflection are then evaluated to guide planning for the next cycle. The intended CAR process can be seen in the following figure.

Figure 2. Kemmis and Taggart's Classroom Action Research Model (Purnama et al., 2020)



The data collection instrument was carried out by collecting quantitative data from observations of teacher and student activities in project-based learning, student skills in carrying out projects in groups, and student learning outcomes in finger painting, folding, and cutting projects. Data collection techniques used observations in the form of group performance tests and checklists. Meanwhile, data analysis used descriptive statistics. This was done because classroom action research only applies to one particular class and cannot be generalized.

Results and Discussion

Classroom Action Research was conducted by researchers and collaborators (class B teachers) on September 18-22, 2025, and October 2-5, 2025. The treatment was implemented in the form of a project-based learning model in seven stages, which were then operationalized in three simpler steps because the research subjects were kindergarten children, so they were made in planning, implementation, and evaluation. The prepared plan became a guideline for implementation. The implementation was divided into several more concrete parts as follows:

Table 1. Work Procedures

No.	Work Stage	Activities	Tools and Materials
1	Planning and Preparation	Painting and Colouring	Paper, colouring materials (paint, pastels, crayons), brushes, picture templates
		Folding	Origami paper, folding patterns
		Cutting	Scissors, paper, leaves, and templates
		Pasting/Collage Making	Paper cutouts, seeds, pebbles, beads, glue, scissors

2	Implementation (Treatment)	Organizing students into groups of 3-4 children (groups will be rearranged randomly for future activities to encourage social interaction and cooperation).	Adjusted according to the activities planned in Stage 1.
		a) Explaining the objectives of the activity. b) Guiding children to prepare the required tools and materials. c) Allowing children to choose the project template they wish to complete: • Painting: Plants (trees and flowers), animals (reptiles, birds, and four-legged animals). • Folding: Creating plant and animal shapes. • Cutting: Patterns, shapes, geometric figures, and classroom decorations. • Pasting/Collage: Arranging cutouts into themes of plants, animals, and the environment; attaching pebbles, paper pieces, and seeds to templates featuring animals, houses, and plants.	
		Teacher-Guided Action: a) Students begin working in groups according to the instructions. b) The teacher facilitates, assists groups experiencing difficulties, and observes the ongoing process. c) The teacher encourages teamwork, active participation, and mutual support while completing the assigned tasks.	
3	Evaluation (Project Report and Presentation)	a) The teacher guides students in presenting their work and gives them time to explain their projects in their own words.	

		b) The teacher provides rewards for students' efforts and achievements. c) The teacher offers motivation and encouragement. d) The teacher provides feedback and clarification on each group's performance and project outcomes.	
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Cycle 1

Student Activities in Project-Based Learning to Enhance Intrapersonal Intelligence

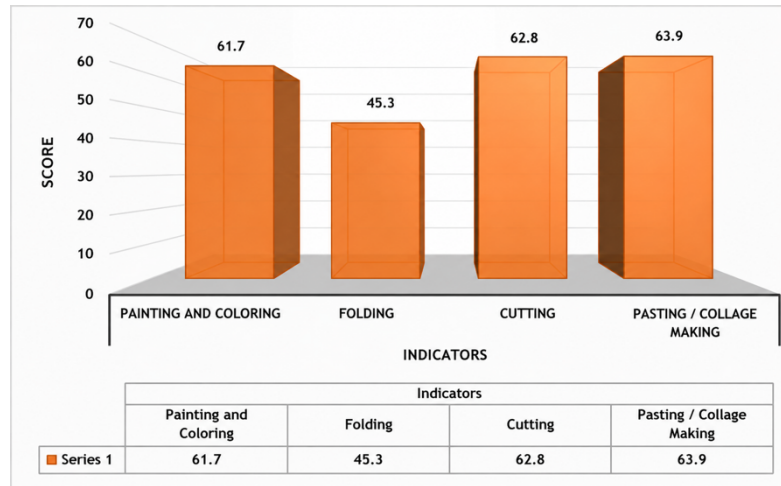
The following presents data on student activities in Cycle 1, with the theme "Plants", involving painting and coloring, folding, cutting, and gluing using the project-based learning model.

Table 2: Observation Data of Student Activities Cycle 1

No	Indicator	Number of Items	Score
Painting and Coloring			
1	Students learn in groups (discipline, communication)	2	63
2	Collaborate in determining the project theme and tools to be used (Ideas for projects to be worked on)	2	62
3	The composition of colors used	3	56
4	Accuracy and precision in using and applying color to images	3	42
5	Neatness and cleanliness of the resulting image	2	61
6	Reporting work results in front of the class	2	49
Amount		14	333
Folding			
1	Students learn in groups (discipline, communication)	2	42
2	Collaborate on determining project themes and tools	2	61
3	Neatness in folding (no repeated folds)	2	60
4	Reporting work results in front of the class	2	39
Amount		8	163
Cutting			
1	Students learn in groups (discipline, communication)	2	62
2	Collaborate on determining project themes and tools	2	60
3	Neatness in cutting patterns	3	59
4	Reporting work results in front of the class	2	45
Amount		9	226
Stick			
1	Students learn in groups (discipline, communication)	2	65
2	Collaborate in determining project themes and tools (building project ideas to be worked on)	2	55

3	Cleanliness and tidiness	2	64
4	Presenting work results in front of the class	2	46
Amount		8	230

Figure 3: Observation Data Diagram of Student Activities Cycle 1



From the student activity data in Table 2, it provides information that the score obtained by students in painting and coloring activities is 333 from the expected score of 540, (This value is obtained from $= \Sigma \text{ indicators of each section} \times \text{highest score (5)} \times \text{number of students}$). If expressed as a percentage, the results obtained are $\frac{333}{540} \times 100\% = 61,7\%$. Learning activity acquisition score through folding 163 out of 360 ($\frac{163}{360} \times 100\%$) or 45.3%. In the cutting activity, the score obtained was 226 out of a score of 360 ($\frac{226}{360} \times 100\%$) or 62,8%. Meanwhile, in the learning activity of sticking, the score obtained was 230 out of a score of 360 ($\frac{230}{360} \times 100\%$) or 63,9%.

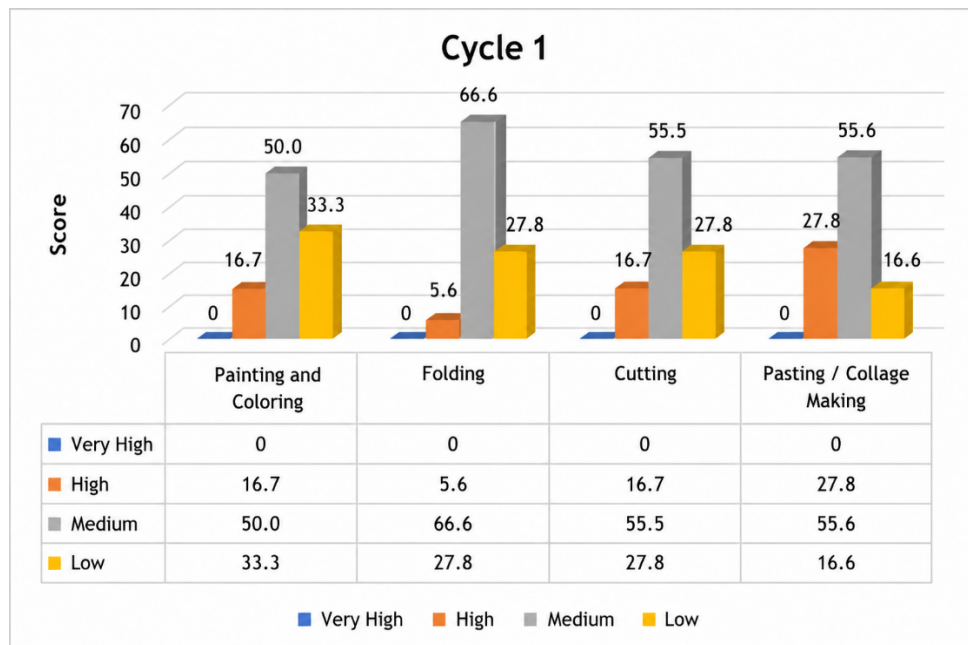
The percentage results indicate that student learning activities to improve intrapersonal intelligence are not optimal, and the scores for each indicator do not reach the target. The standard for student success is $x \geq 70\%$, or within the high criteria. Therefore, it can be concluded that learning to improve intrapersonal intelligence is not optimal. The scores obtained by each student are presented in the following data (Table 3).

Table 3: Categories of Student Activities in Project Based Learning Cycle 1

Skor Siswa	Kategori	Frekuensi	Frekuensi Relatif (%)
Melukis dan Mewarnai			
85-100	Very high	0	0%
70-84	high	3	16,7%
60-69	Medium	9	50%
30-59	Low	6	33,3%
Jumlah		18	100%
Folding			
85-100	Very high	0	0%
70-84	high	1	5,6%
60-69	Medium	12	66,7%
30-59	Low	5	27,8%
Amount		18	100
Cutting			
85-100	Very high	0	0%
70-84	high	3	16,7%
60-69	Medium	10	55,6%
30-59	Low	5	27,8%
Amount		18	100%
Stick			
85-100	Very high	0	0%
70-84	high	5	27,8%
60-69	Medium	10	55,6%
30-59	Low	3	16,7%
Amount		18	100%

The above data will be combined in the following diagram to demonstrate student progress in implementing the project-based learning model to enhance intrapersonal intelligence. Project-based learning activities include painting and drawing, folding, cutting, and pasting.

Figure 4: Cycle Diagram 1



From the data given, in Cycle 1 of the Project-Based Learning (PjBL) model, none of the students who participated in the Painting and Coloring activity reached the Very High category, which means 0% of the 18 students achieved that level. In the High category, there were 3 students (16.7%). The Medium category included 9 students (50%), while 6 students (33.3%) were in the Low category. In the Folding activity, the percentages shown in the diagram indicate that out of 18 students, 5 students (27.8%) were in the Low category. The Medium category consisted of 12 students (66.7%), while 1 student (5.6%) was in the High category. No students (0%) reached the Very High category. For the Cutting activity, the data show that out of 18 students, 5 students (27.8%) were in the Low category, 10 students (55.6%) were in the Medium category, and 3 students (16.7%) were in the High category. No students (0%) achieved the Very High category. In the Pasting/Collage-Making activity, 3 students (16.6%) were in the Low category. Meanwhile, 10 students (55.6%) were in the Medium category, and 5 students (27.8%) were in the High category. Similar to the other activities, no students (0%) reached the Very High category.

Overall, the data indicate that the implementation of the Project-Based Learning (PjBL) model in Cycle 1 still requires improvement to achieve optimal results and to further enhance students' intrapersonal intelligence. The majority of students were concentrated in the Medium category across all learning activities, suggesting that

additional refinement of instructional strategies and project implementation is needed to support higher levels of student achievement.

Reflection on Cycle 1

In Cycle 1, the observation data from the implementation of the Project-Based Learning (PjBL) model through four activities painting and coloring, folding, cutting, and pasting/collage making had not yet achieved the target of $X \geq 70\%$ as specified in Table 2. The learning process failed to reach the target due to the following factors:

1. Students were still adapting to the Project-Based Learning model, which requires them to participate actively in all stages of the learning process, from planning and implementation to evaluation. Previously, students were more accustomed to completing individual activities. In contrast, the PjBL model places greater emphasis on group-based activities.
2. The PjBL model trains students to complete tasks and present their work. This process helps build children's self-confidence through activities such as painting and coloring, folding, cutting, and pasting, while allowing them to demonstrate their skills. In addition, it encourages students to interact effectively within groups and solve problems collaboratively. However, in Cycle 1, the indicators across the four activities had not yet reached optimal levels; therefore, improvement is needed for each indicator in the subsequent meetings.
3. The results of Cycle 1 revealed variations in student achievement. The PjBL model provides opportunities for students to engage in activities that align with their interests and personal preferences. These activities enable students to better understand themselves, including what they enjoy and what they care about.
4. The PjBL model motivates students to take responsibility according to the indicators established for each learning activity. Students become motivated to complete tasks because they receive guidance and support regarding what they are learning and how they can explore the topics being studied.
5. Kindergarten students encounter challenges and obstacles during the learning process. Through these experiences, students have opportunities to develop emotional regulation skills, enabling them to cope with disappointment, frustration, and anxiety while learning.
6. The PjBL model emphasizes student responsibility in planning and organizing their own projects, including creating schedules, managing time, and monitoring

their own progress. In this process, the teacher's role shifts to that of a facilitator, motivator, and administrator.

7. Each learning activity includes an evaluation stage in which students present their work. This indicator encourages students to reflect on and evaluate their own performance. Students develop skills in self-assessment and project evaluation through these activities.
8. Students work collaboratively in groups, which provides opportunities to practice effective communication and teamwork. Collaboration and communication within groups serve as important platforms for students to explore ideas and develop interpersonal skills.

In the next stage, Cycle 2 will be implemented, as the target of $X \geq 70\%$ was not achieved in Cycle 1. The researcher will design and prepare learning activities for Cycle 2 to re-engage students in the learning process and achieve the expected level of success in accordance with the established standards.

Cycle 2

Student Activities in Project-Based Learning to Improve Intrapersonal Intelligence

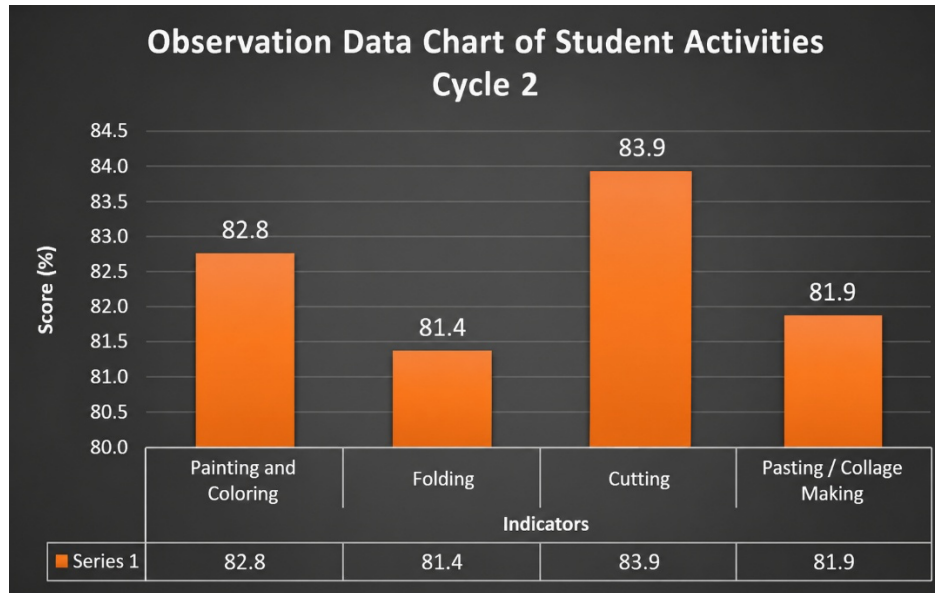
The following will present observation data to students in cycle 2 with the theme "Animals" which has the same level of difficulty and pattern curves as the theme "Plants" in cycle 1. This was done by the researcher to train students to be more skilled with the appearance of the new theme.

Table 4: Observation Data of Student Activities Cycle 2

No	Indicator	Number of Items	Score
Painting and Coloring			
1	Students learn in groups (discipline, communication)	2	70
2	Collaborate in determining the project theme and tools to be used (Ideas for projects to be worked on)	2	71
3	The composition of colors used	3	76
4	Accuracy and precision in using and applying color to images	3	70
5	Neatness and cleanliness of the resulting image	2	79
6	Reporting work results in front of the class	2	81
Amount		14	447
Folding			
1	Students learn in groups (discipline, communication)	2	70
2	Collaborate on determining project themes and tools	2	76
3	Neatness in folding (no repeated folds)	2	76
4	Reporting work results in front of the class	2	71

Amount		8	293
Cutting			
1	Students learn in groups (discipline, communication)	2	75
2	Collaborate on determining project themes and tools	2	70
3	Neatness in cutting patterns	3	72
4	Reporting work results in front of the class	2	85
Amount		9	302
Stick			
1	Students learn in groups (discipline, communication)	2	70
2	Collaborate in determining project themes and tools (building project ideas to be worked on)	2	72
3	Cleanliness and tidiness	2	71
4	Presenting work results in front of the class	2	82
Amount		8	295

Figure 5: Observation Data Diagram of Student Activities Cycle 2



The data from cycle 2, shown in Table 4 and the diagram in Figure 4, provide information on increased student activity in implementing the project-based learning model. The student success standard of $x \geq 70\%$ in the table and diagram presented above has been achieved. In the painting and coloring activities, the results obtained from 18 students were 447 out of a maximum score of 540 ($\frac{447}{540} \times 100\%$) or 82,8%. In the folding activity, the result was 293 out of a maximum value of 360 ($\frac{293}{360} \times 100\%$) or 81,4 %. Likewise, in the cutting activity, the result was 302 out of a maximum value of 360 ($\frac{302}{360} \times 100\%$) or 83,9 %. Meanwhile, in the sticking activity, the result was 295 out of a maximum value of 360 ($\frac{295}{360} \times 100\%$) or 81,9%.

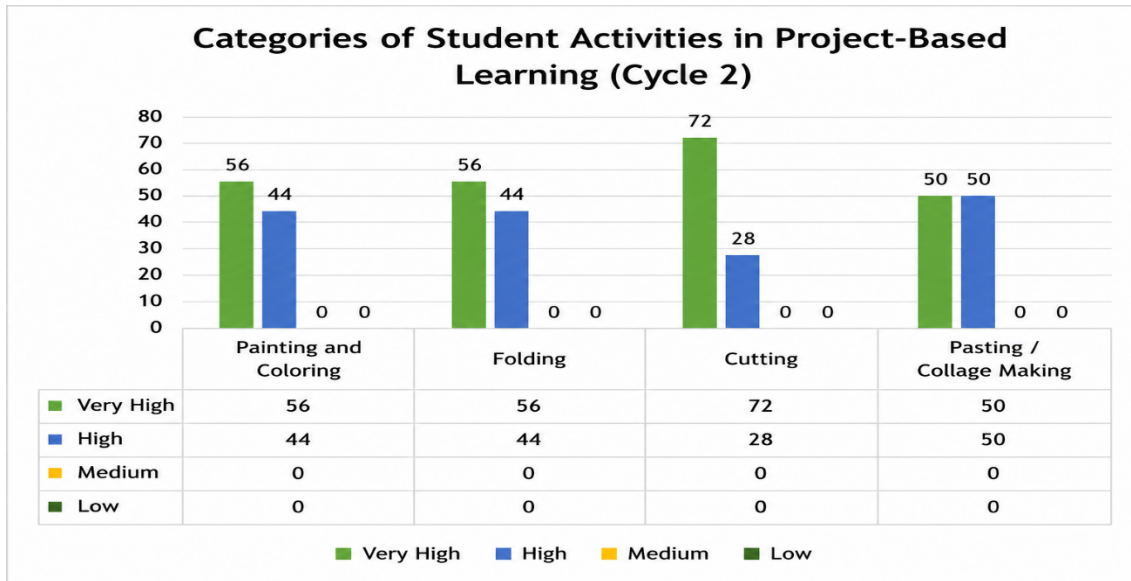
From each of the data above, it shows that the implementation of the project-based learning model to improve the intrapersonal intelligence of class B Kindergarten Talitakum students has experienced a better improvement than cycle 1. The score achievement for each student is categorized in table 5.

Table 5: Categories of Student Activities in Project Based Learning Cycle 2

Student Score	Category	Frequency	Relative Frequency (%) $FR = (F/\Sigma student * 100)$
Painting and Coloring			
85-100	Very high	10	56
70-84	high	8	44
60-69	Medium	0	0
30-59	Low	0	0
Amount		18	100
Folding			
85-100	Very high	10	56
70-84	high	8	44
60-69	Medium	0	0
30-59	Low	0	0
Amount		18	100
Cutting			
85-100	Very high	13	72
70-84	high	5	28
60-69	Medium	0	0
30-59	Low	0	0
Amount		18	100
Pasting			
85-100	Very high	9	50
70-84	high	9	50
60-69	Medium	0	0
30-59	Low	0	0
Amount		18	100

The data on student activity categories in the project based learning model cycle 2 will be displayed through a diagram of student learning activity categories as follows:

Figure 6: Student Activity Categories in the project based learning model Cycle 2



Cycle 2 Reflection

The effectiveness of the project-based learning model in improving the intelligence of grade B Kindergarten Talitakum students has improved compared to Cycle 1 and Cycle 2. The implementation period, September 18-22, 2025, and October 2-5, 2025, suggests that:

1. The project-based learning model is effective in improving students' intrapersonal intelligence.
2. Through the habit of working together in groups, intrapersonal intelligence can be enhanced through the implementation of the project-based learning model.
3. The skills demonstrated by each kindergarten student, which require patience in applying colors, folding, cutting, and pasting, each with its own level of difficulty, can enhance students' intrapersonal intelligence.
4. Students can plan and organize their own project assignments, involving selecting goals and determining how to achieve them. Through these learning activities, students can enhance their self-understanding of their competencies and preferences in working on and processing assigned tasks.
5. Real-life projects in the project-based learning model provide students with concrete results from their learning and projects. This is an important step in developing emotional regulation.

6. Self-management skills are integral to improving students' intrapersonal intelligence. Self-management skills can be strengthened through various project-based learning projects.
7. Reflection and self-assessment, supported by indicators from each learning activity, can develop students' ability to critically evaluate their own performance and make necessary changes or improvements.
8. Collaboration within groups builds social understanding, which is a crucial aspect of intrapersonal intelligence.
9. In the project-based learning model, students are confronted with various problems that require problem-solving and decision-making. This fosters student competencies, which are part of intrapersonal intelligence.

Based on the Kemmis and Taggart classroom action research model, it is emphasized that if there has been an improvement after carrying out the treatment, the action is not continued. So, in cycle 2 that has been carried out, the success target has been achieved and can be said to be successful $\times \geq 70\%$ according to table 4. Thus, the project-based learning model can help kindergarten students develop various aspects of intrapersonal intelligence including self-understanding, motivation, emotional regulation and self-management skills. Through the project-based learning model, kindergarten students are allowed to be actively involved in their own learning which ultimately increases the development of healthy intrapersonal intelligence.

Discussion of Cycle 1 and Cycle 2

The implementation of the Project-Based Learning (PjBL) model in improving the intrapersonal intelligence of students at Kindergarten Talitakum was carried out effectively and smoothly. All parties involved in the process, including the researcher, teachers, and students, demonstrated enthusiasm throughout the learning activities using the Project-Based Learning model. The results from Cycle 1 to Cycle 2 showed continuous improvement through ongoing revisions and refinements aimed at achieving the objectives of both the learning process and the research.

The learning activities were conducted in two cycles. The pre-cycle consisted of one meeting, Cycle 1 was conducted over five meetings, and Cycle 2 over four meetings. Each meeting was divided into three phases: planning/preparation, implementation, and evaluation. These phases were designed in a simple and concise manner considering that the participants were kindergarten children aged 5–6 years. In each phase, the teacher explained the learning objectives and the purpose of the activities to the students.

The 18 students were divided into five groups consisting of three to four students per group. The researcher served as the teacher and was assisted by a collaborator, namely the classroom teacher. Each group was provided with tools and materials according to the assigned theme, after which students discussed and worked collaboratively within their groups. The final products were then presented in front of the class.

The projects assigned to students through activities such as painting and coloring, cutting, folding, and pasting in kindergarten learning activities contributed to the development of students' intrapersonal intelligence. These learning activities provided opportunities for students to reflect, develop self-understanding, and stimulate the growth of intrapersonal intelligence. Through colors, shapes, and artistic expression, students were able to better understand their own ideas, feelings, and thoughts, which are important aspects of intrapersonal intelligence.

When kindergarten students engaged in teacher-designed art activities, they were encouraged to reflect on their choices of colors, compositions, and the messages conveyed through their artwork. This process helped students reflect on their personal preferences, values, and emotions. Students were required to make various creative decisions, such as selecting colors, techniques, and design elements. Such activities fostered personal decision-making skills and enhanced students' understanding of their own preferences.

The Project-Based Learning model also promotes independence by allowing students to manage their time, plan projects, and complete tasks independently. Problem-solving activities carried out through the PjBL model encouraged students to combine various elements into a complete work of art. Students learned to overcome obstacles and seek creative solutions. Completing assigned tasks successfully increased students' confidence and self-belief. Furthermore, self-awareness emerged as students explored their interests, strengths, and weaknesses through the creation of their projects. These learning activities also helped students manage negative emotions and stress, as the creative process provided comfort and emotional regulation.

Students worked collaboratively in groups and conducted experiments, creating interactions between students and teachers that strengthened relationships and contributed to the development of intrapersonal intelligence. Through direct learning experiences within groups, students gained valuable insights and skills. In the PjBL

model, each student was required to present their completed work in front of the class, enabling other groups to gain new knowledge and understanding.

Each learning indicator was specifically designed to enhance students' intrapersonal intelligence. For example, the painting and coloring activity consisted of six indicators. The indicator of learning in groups emphasized communication and interaction skills needed to achieve shared goals. The cooperation indicator encouraged students to explore ways of completing tasks collectively. Determining color composition involved reasoning skills and an appreciation of aesthetics. Accuracy and careful use of tools and materials reflected students' ability to work attentively and responsibly. Neatness and cleanliness represented self-reflection and self-discipline. Finally, presenting work in front of the class served as a means of building students' confidence.

Similarly, the learning activities of folding, cutting, and pasting were designed with indicators intended to enhance students' intrapersonal intelligence. The issues and challenges identified by teachers in the background of the study were addressed through the implementation of Project-Based Learning activities.

The results of Cycle 1 revealed shortcomings in the four learning activities, as the success indicators had not yet been achieved. According to Table 2, the indicator related to presenting work in front of the class showed the lowest achievement scores: 49 for painting and coloring, 39 for folding, 45 for cutting, and 46 for pasting. These findings indicate that students' self-confidence and courage were still relatively low. During presentations, students often relied on their group members, and typically only one or two students were willing to explain the group's work.

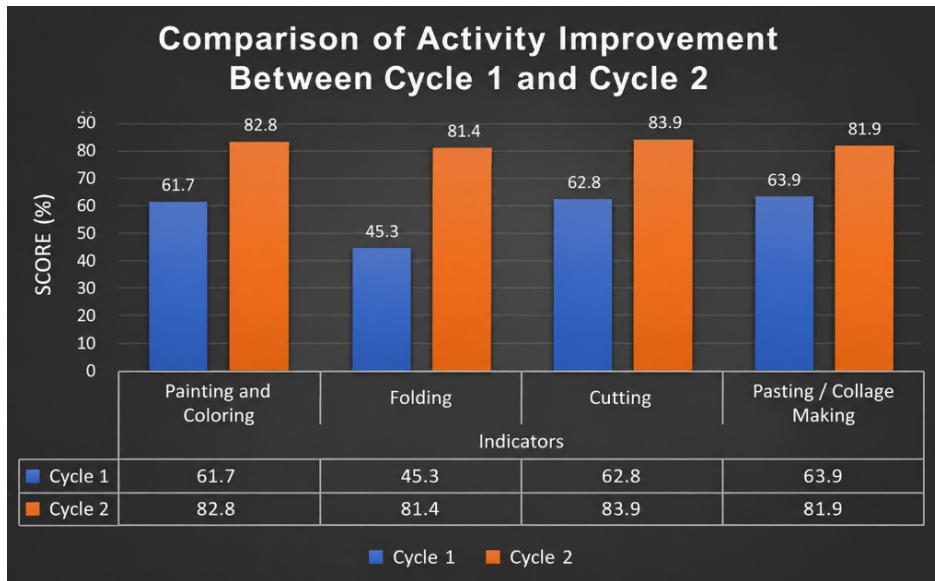
The indicator of learning in groups (discipline and communication) also showed low achievement in Cycle 1, with scores of 63 for painting and coloring, 42 for folding, 62 for cutting, and 65 for pasting. Likewise, the cooperation indicator produced scores of 62, 61, 60, and 55, respectively. Therefore, the success criteria in Cycle 1 were considered unmet. Consequently, Cycle 2 was conducted as an improvement and revision phase following the findings from Cycle 1.

Cycle 2 consisted of four meetings. During each meeting, the teacher clearly explained the learning objectives and provided examples or instructions before organizing students into groups. To improve cooperation, the teacher continuously encouraged all students and motivated group leaders to involve members who were still

passive. Students who were shy or lacked confidence were directly appointed by the teacher to present their work and serve as the main presenters.

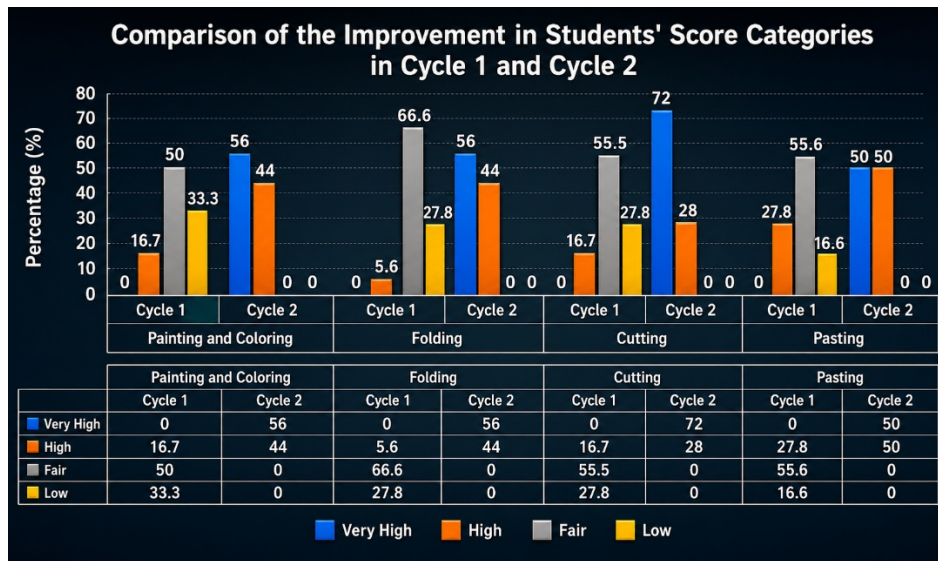
Another strategy employed by the teacher during the four learning activities was to ensure active participation from all students by inviting each student to explain their experimental results in turn, using their own style and method of presentation. The improvement from Cycle 1 to Cycle 2 can be seen in the following diagram.

Figure 7: Comparison of Increase in Activity between Cycle 1 and Cycle 2



The diagram above shows that the implementation data for Cycle 2 was better than the previous one. Every indicator in Cycle 2 improved, meeting the success target. This was because the teacher encouraged each student to play an active role by modifying various processes within the activity and providing opportunities for less active students.

Figure 8: Comparison of Student Score Category Improvement in Cycle 1 and Cycle 2



The diagram above, which shows student performance in Cycles 1 and 2, demonstrates an improvement in assessment results compared to the previous performance, which was still lacking in Cycle 1. In Cycle 2, the implementation of the project-based learning model to improve intrapersonal intelligence in kindergarten students places greater emphasis on active student involvement in various group assignments. The more learning activities kindergarten students engage in, the more they are able to develop their latent intrapersonal intelligence. Learning activities such as painting and drawing, folding, cutting, and pasting during the initial introduction process at the kindergarten level can enhance students' various intelligences. The selection of the project-based learning model in kindergarten actually underpins the concept of the independent curriculum currently promoted by the Ministry of National Education. The improvements and changes in kindergarten students that occurred from Cycle 1 to Cycle 2 indicate that students are able to solve various intellectual problems within themselves and gain new knowledge by learning from their peers and teachers in the classroom.

Thus, the project-based learning model can provide numerous benefits for improving students' intrapersonal intelligence. Learning activities using the project-based learning model help students to better understand themselves, increase their understanding of emotions and personal preferences, and develop creative skills and self-confidence.

Implications

The learning outcomes of the project-based learning model in enhancing the intrapersonal intelligence of Kindergarten Talitakum students have brought about a significant change in the learning process. The implementation of the project-based learning model also supports the independent curriculum currently being developed by every school, from early childhood education units to universities. The project-based learning model addresses not only the cognitive domain but also the affective domain, especially the psychomotor domain. This is because the project-based learning model directly involves students (student-centered learning). The teacher's role as facilitator and motivator in kindergarten students' learning activities. Learning activities using the project-based learning model in enhancing intrapersonal intelligence can be explored effectively.

Students who previously struggled to complete learning processes, displayed selfish and indifferent attitudes, were unable to manage their emotions, and exhibited tantrums were overcome through group collaboration. The interactions they built within the group through the project-based learning model strengthened. All children's skills were explored through basic techniques such as painting and colouring, folding, cutting, and pasting.

Conclusion and Suggestions

Based on the research conducted and the data analysed, the researcher concludes that the project-based learning model has the potential to enhance the intrapersonal intelligence of kindergarten students. By using the project-based learning approach, the cognitive abilities of kindergarten students can be examined through four specific activities: painting and colouring, folding, cutting, and sticking. The standard for student success is a score of 70% or higher. In the painting and colouring activities, the results from 18 students ranged from 61.7% to 82.8%. In the folding activity, the results ranged from 45% to 81.4%. Similarly, in the cutting process, the results ranged from 62.8% to 83.9%. While participating in the sticking activity, the results ranged from 63.9% to 81.9%. In the scoring category, it is considered successful if it falls within the high criteria range (70-84) or the very high range (85-100).

In cycle 1, there were still students in the less category for painting and colouring activities, with 6 students or 33.3% falling into this category, while 9 students or 50% were in the sufficient category. After continuing to cycle 2, there were no students left in

the less or sufficient categories, with both categories having 0%. In the folding activity during cycle 1, 12 students, which is 66.7%, fall into the sufficient category, while 5 students, or 27.8%, are in the less category.

In cycle 2, all students are in the high category, with 8 students, or 44%, and 10 students, or 56%, in the very high category. For the cutting activity in cycle 1, there are still 5 students, or 27.8%, in the less category, and 10 students, or 55.6%, in the sufficient category. In cycle 2, all students are in the high category, with 5 students, or 28%, and 13 students, or 72%, in the very high category. In the learning activity, during cycle 1, three students, which is 16.6%, were in the less category, ten students, or 55.6%, were in the sufficient category, and five students, or 27.8%, were in the high category. In cycle 2, all students were in the high category, with nine students, or 50%, scoring high and nine students, or 50%, achieving very high scores. Using the project-based learning model in a way that involves student work groups can help improve children's intrapersonal intelligence.

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