Al-Tatawur : International journal of Social Science (TIJOSC)
E-ISSN: 3005-5342
P-ISSN: 3005-5334

Improving Medicinal Plant Cultivation Skills through Project-Based Learning Practice Methods for Grade VIII Junior High School Students with ADHD

Sari Asi Posma[1], Ishartiwi[2]

[1,2] Special Education Study Program, Universitas Negeri Yogyakarta, Yogyakarta, Indonesia, Email: sp.2024@student.uny.ac.id , ishartiwi@uny.ac.id

Abstract. This study aims to improve the cultivation skills of medicinal plants of ADHD students from the learning process aspect, which is characterized by active interaction and focus of ADHD students in following the project stages and increased learning outcomes as seen from the achievement of conceptual understanding and practical skills in cultivating medicinal plants.This study is a classroom action research (CAR) using the Kemmis & Mc Taggart model, implemented in two cycles at SMP Negeri 1 Karangan. The subjects were two students with special needs and ADHD. Data collection techniques were conducted through observation, written tests, and performance. Observation instruments were used to observe the learning process, while cognitive tests and performance tests were used to measure learning outcomes in cultivating medicinal plants. Observation data were analyzed descriptively qualitatively and learning test results quantitatively.The results of the study proved that ADHD students experienced an increase in the activeness of practical activities, were more focused, understood instructions and were able to complete projects independently, as evidenced by the results of observations obtaining 33% of the category of well implemented. Meanwhile, the increase in learning outcomes was evidenced by the results of cognitive tests by 17% in the very good completion category and an increase in performance tests by 21% in the very skilled category. The learning process of the Project Based Learning- based practical method provides opportunities for ADHD students to integrate theory and practice, so that the learning outcomes obtained include mastery of concepts and skills in cultivating medicinal plants. Improvements occurred through two cycles with additional reflection on improvements in the use of short instructions, the use of instruction boards and individual mentoring. Students were more active and focused in the practice of seed preparation, preparation of media and planting containers and planting seeds.

Keywords ADHD Children, Practical Methods, PJBL

Received: July 31, 2025
Revised: August 15, 2025
Accepted: September 19, 2025
Published: September 30, 2025

1. INTRODUCTION

The Independent Cultivation Craft Curriculum for 8th graders in Junior High School is part of an innovative agricultural movement. Equipped with the knowledge and skills they acquire, students will be prepared to become pioneers of change in the agricultural sector. Students will be directly involved in cultivation practices. They will learn to conduct observations and explorations, design and plan, practice production, and reflect on and evaluate their work. With this approach, students will develop practical skills, creativity, and critical thinking skills that are invaluable in the real world. The Cultivation Craft subject includes project-based lessons, where students can create a cultivated product based on local culture and potential. Mastery of these skills from junior high school can provide practical knowledge and foster awareness of the benefits of natural resources in the surrounding environment. Therefore, learning these cultivation skills is expected to develop sustainable cultivation capabilities.

The Indonesian people have traditionally recognized and utilized various types of plants as traditional medicines to address various health problems. This demonstrates that knowledge and skills in cultivating medicinal plants are crucial and relevant to teach students. Medicinal plant cultivation skills in grade VIII of junior high school are aimed at helping students improve their ability to produce cultivated products, fostering and

developing an entrepreneurial spirit through hands-on experience in the cultivation process (Ministry of Education and Culture, 2022). In the Cultivation Craft subject, there are four learning outcomes that require in-depth review. One of these is the production element. The learning outcome is that students are able to produce safe, responsible cultivated products based on environmental potential or local wisdom by modifying materials, tools, and techniques, and presenting them in attractive packaging according to their own plans. This achievement is expected to be achieved by students with special needs (ABK) with ADHD (*Attention Deficit Hyperactivity Disorder).*

ADHD (*Attention Deficit Hyperactivity Disorder)* is a condition that can affect children, adolescents, and even adults. Approximately 3-5 percent of school-age children experience this condition. Without proper treatment, it can lead to consequences such as school or work failure, difficulty forming relationships or social interactions, low self-confidence, and depression (Suharsiwi, 2017). Students with ADHD (*Attention Deficit Hyperactivity Disorder)* experience difficulty focusing, impulsive behavior, and sometimes hyperactivity. They often struggle to control themselves in class, especially when the teacher is explaining, making it difficult to stay focused. This can hinder their learning ability and academic achievement (Agustin & Zaitun, 2024).

Children with ADHD (*Attention Deficit Hyperactivity Disorder)* experience attention deficit disorder, difficulty focusing on assignments, and often become reluctant when bored, resulting in poor completion (Handayani, 2019). Therefore, learning methods and models are needed to address these skills challenges in ADHD students. The selection of these learning methods and models is also expected to improve overall medicinal plant cultivation skills for all students.

The selection of the right method will influence the success of learning because the right method ensures that the delivery and reception of information between teachers and students are in accordance with the objectives. Therefore, the selection of the right method is a crucial component in the success of learning. *Project Based Learning* , as a student-centered learning model that emphasizes learning experiences through projects, is believed to be able to increase student motivation and learning outcomes. The *Project Based Learning model* provides opportunities for students to be directly involved in the process of planning, implementing, and evaluating projects, so that learning becomes more meaningful and relevant to real life . According to Aziz & Nurhidayat (2023), Project-based learning makes learning something more alive for students. Students will work on projects within a certain time, where they are directly involved in the problem -solving process and answer complex questions. The purpose of the *Project Based Learning model* is to help students gain experience and change skills, values, and norms that control student attitudes and behavior (Umi, 2015). *Project Based Learning* provides a project-centered learning framework, starting from determining fundamental questions, planning, implementing, testing, and evaluation. Meanwhile, the direct practice method fills the framework with real activities that directly involve students.

Based on the results of observations conducted at SMP Negeri 1 Karangan, researchers found problems in ADHD students in class VIII D in the Craft subject, material on cultivation skills for medicinal plants. Initial assessments showed that the cognitive abilities of ADHD students were below the average KKTP and low psychomotor abilities. Students with ADHD have relatively low concentration abilities, difficulty in maintaining focus for long periods, especially in tasks that require detailed attention. Their thinking abilities tend to jump and are not systematic, so these students need explanations that are divided into small parts to make them easier to understand. In addition, these students often lose their belongings, often forget to do assignments. In the social and emotional aspects, these students do not have obstacles in making friends with their peers, only tend to often interrupt conversations or not listen well, thus making communication less comfortable with the person they are talking to. Hyperactive behavior is seen from their activities such as often leaving their seats when studying, often moving or fidgeting, difficulty doing activities calmly, easily bored, and when students are bored with learning activities, these students will do other activities outside of learning such as shouting or scribbling in their books. The results of the teacher's assessment were reinforced by the results of a psychological examination by a psychologist who concluded that this student had attention deficit *hyperactivity* disorder (ADHD) .

Cultivating medicinal plants requires concentration, precision, and the ability to work independently or in groups. Students with ADHD had final summative scores below the

minimum grade point average (KKTP), i.e., 71 or lower, and performance skills scores below 71, thus failing to achieve the learning outcomes and objectives.

In general, the reason why students with ADHD lack medicinal plant cultivation skills is because teachers dominate the learning process, students listen more but do less practice. Furthermore, inappropriate learning models make learning less engaging and make explanations less concrete and efficient. Teachers who tend to deliver learning through lectures and visual media can create opportunities for students with ADHD to engage in other activities, lose focus, and provide students with less opportunity to develop their skills. The learning methods currently used are considered less than optimal in accommodating the characteristics and learning needs of students with ADHD.

Success in the learning process is greatly influenced by factors originating from both students and teachers. From the student perspective, several factors play a role, including active student participation, motivation, and their ability to participate in the learning process. Meanwhile, factors related to teachers include their ability to develop various teaching skills (Yanti *et al* ., 2023).

The practical method is a method used to train and improve students' abilities in applying the knowledge and skills they have acquired in the field or in real life, work, or actual tasks (Sudjana, 2005). The practical method is believed to be able to improve students' skills, especially ADHD students in activities in the production element, because students can be directly involved in every production process, starting from seed preparation, preparation of media and planting containers, and planting. In addition, students can also improve their understanding of safety standards that must be considered during practical activities.

Based on the description above, it can be concluded that it is necessary to conduct research with the title "Improving Medicinal Plant Cultivation Skills Through *Project Based Learning Practice Methods* for ADHD Students in Grade VIII of Junior High Schools. This research is to improve the learning process and outcomes of students with ADHD (*Attention Deficit Hyperactivity Disorder*) in grade VIII of Junior High School.

2. LITERATURE REVIEW

A. Understanding ADHD (*Attention Deficit Hyperactivity Disorder*) Students

Children with attention deficit disorder, known as ADHD (*Attention Deficit Hyperactivity Disorder*), are a brain development disorder that causes sufferers to be hyperactive, impulsive, and have difficulty concentrating (Suharsiwi, 2017). Another definition states that ADHD is a neurodevelopmental disorder characterized by a lack of ability to concentrate and impulsivity, thus hindering the developmental process (Wylock *et al* ., in Liza, *et al* . 2022). Children with ADHD, due to accompanying problems, have difficulty taking action or adapting to their environment. This condition requires arrangements that allow children to control themselves in all their actions. In addition, every treatment for children with ADHD requires consistent feedback. This is important to reinforce desired behaviors and avoid unwanted behaviors. Based on this, there are several things that children with ADHD need, this is inseparable from the problems they experience, namely the need for self-control and the need for learning (Atmaja, 2018). Furthermore, according to Hayati and Apsari (2019), children with ADHD exhibit several key symptoms, such as always wanting to move, excessive activity, and difficulty concentrating, resulting in difficulties with learning and socializing. When attending formal education, children with ADHD require special services compared to normal students. Meanwhile, according to Pentecost (2004) in Gunawan (2021), ADHD is an attention deficit and behavioral disorder that makes children more easily distracted, difficult to concentrate on tasks, unable to think calmly before acting, difficult to pay attention and listen to others, and never able to stay still compared to other children in general. Therefore, children with ADHD often have difficulty forming friendships and communicating.

Based on the explanation above, it can be concluded that children with ADHD are children with a developmental brain disorder characterized by difficulty focusing, impulsivity, and hyperactivity. This condition causes them to have difficulty acting, adapting to their environment, socializing, and communicating. Therefore, children with ADHD require specialized services that differ from those of children without disabilities.

B. Characteristics of children with ADHD (*Attention Deficit Hyperactivity Disorder*)

The characteristics of children with ADHD as revealed in the American Psychiatric Association (2004) in (Rosyad & Tarihoran, 2022) there are three main characteristics of ADHD disorders, namely:

a. Inattention (difficulty concentrating)

The characteristics are as follows:

1) Often failing to pay close attention to details or making careless mistakes. Superactive children simply follow their own desires.
2) Because she's easily distracted, she only takes in bits and pieces of information. As a result, what she's taught isn't fully understood.
3) Often has difficulty concentrating on tasks.
4) Often does not listen when spoken to directly.
5) Often does not follow instructions and fails to complete schoolwork.
6) Often experience difficulties in carrying out tasks and activities.
7) Often loses important items for tasks and activities.

b. Impulsivity (difficulty resisting urges)

The characteristics are as follows:

1) Often avoids, dislikes, or is reluctant to carry out tasks that require sustained mental effort, such as completing schoolwork.
2) Often confused/disturbed by external stimuli.

c. Hyperactive

1) Often talks excessively.
2) Often gives answers before the question is finished
3) Often have difficulty waiting for your turn
4) Often interrupts or disturbs others.

The same thing was expressed by Chelvanathan *et al* ., (2023) in Karlenata & Mutiara (2024) the characteristics of children with ADHD are showing defiant or rule-breaking attitudes, difficulty socializing with others, lack of self-confidence, poor organizational skills, getting bored easily, being restless, often rushing into decisions. According to the results of research by Gunawan (2021) the three main characteristics of children with ADHD are those who have limitations in the form of attention deficit disorder, impulsivity and hyperactivity. The characteristics often found in children with ADHD disorders are those who have difficulty listening to others, are easily forgetful, are not independent in tidying up their belongings, often lose things, cannot sit still, often blurt out answers before questions are finished being asked, have poor performance in class.

3. Learning principles for children with ADHD (*Attention Deficit Hyperactivity Disorder*)

Based on research by Rosyad & Tarihoran (2022), strategies that can be used to help children with ADHD who have difficulty concentrating include:

a. Make the child repeat instructions.
b. Ensure resources are available and in sufficient quantity
c. The assignments and activities used in optimal learning are short and fast.
d. Using instruction sheets and step-by-step instructions.
e. Ensure instructions are delivered clearly and concisely
f. Condition the class by minimizing distractions to help focus and complete tasks.

Meanwhile, learning strategies used to help overcome hyperactive difficulties include:

a. Emphasize the difference in modes between inside and outside the classroom
b. Creating a calm classroom atmosphere
c. Allows for full body movement/stretching exercises during lessons

Specific strategies to help with impulsive difficulties include:

a. Increase children's awareness of potential hazards, such as when using equipment
b. Pair work and/or support from positive models
c. Behavior management program
d. Set timed targets

In a school environment, the role of teachers is crucial to the success or failure of the learning process for students, especially those with ADHD. Therefore, the learning process undertaken by teachers is an effort and endeavor to condition students who experience learning difficulties. For these students, a more nuanced approach is needed;

these conditions and needs need to be created by teachers by developing learning designs and models that are appropriate to their needs (Rosyad & Tarihoran, 2022). This opinion is in line with the research findings of Nurtika *et al* . (2024), which stated that teachers play a crucial role in developing appropriate learning strategies for children with ADHD to optimize their academic and behavioral potential. Research findings by Anenda *et al* . (2024) indicate that understanding the main characteristics of students with ADHD is key to planning effective learning strategies. The main characteristics of students with ADHD include difficulty concentrating (inattention), difficulty controlling impulses (impulsivity), and difficulty controlling movements (hyperactivity). Some of the learning needs of children with ADHD include seating management, adaptations in material delivery, and modifications to assigned tasks.

The results of Hayati & Apsari's (2019) research also show that there are several things that children with ADHD need, namely 1) those related to the need for self-control related to reducing or eliminating hyperactivity, increasing attention span and controlling impulsivity, 2) related to learning needs that require a different learning method from other normal children. The results of the study that has been conducted, the special services provided by inclusive schools for children with ADHD include designing a special curriculum that is adapted to the characteristics of children with ADHD.

Based on the opinions above that have been described, it can be concluded that the role of teachers is very important in the learning success of ADHD students. Teachers strive to create learning that is appropriate to the specific needs of ADHD students, including understanding the characteristics of ADHD students (*inattention, impulsivity and hyperactivity*) as well as adaptation in the learning environment and learning strategies. The method used as a solution in this study has been adapted to the learning needs of ADHD students, namely a method that is expected to overcome the characteristics of ADHD students by offering more interesting, concrete activities and can focus on structured tasks in project activities according to the guidelines that have been made.

The subject of Cultivation Craft refers to the development of skills and entrepreneurial spirit in students, which combines cognitive abilities, social emotional intelligence, willingness to learn, attitude and take action or decision in making changes (Ministry of Education and Culture, 2022). The results of Sadiyah's (2024) research indicate that difficulty focusing in children during the learning process is a problem and is influenced by interacting psychological and educational factors. Psychological factors such as attention disorders, anxiety and cognitive development play a significant role in a child's ability to concentrate and absorb material. On the other hand, educational factors, including teaching methods, curriculum, and learning environment also influence children's focus in class. A deep understanding of these two factors can help teachers design appropriate strategies, such as creating a supportive learning environment, adjusting teaching methods and providing emotional support .

Based on the above opinion, it can be concluded that the cultivation aspect of Practical Work learning not only emphasizes skills and an entrepreneurial spirit, but also requires the integration of psychological and educational factors. These factors influence the difficulty of cultivating medicinal plants for children with ADHD, thus requiring special attention in interventions or more effective approaches to help students with ADHD develop their medicinal plant cultivation skills.

A. Practical Method Study

1. Understanding practical methods

The methods used in the learning process must be aligned with predetermined objectives. According to Sutikno (2019), learning methods are ways of presenting subject matter used by educators to facilitate learning within students in an effort to achieve objectives. Therefore, one of the teacher's skills that plays a crucial role in the learning process is the ability to select methods. One such learning method is the practical method. The practical method is a learning method where students learn independently to directly prove the theories they have learned (Djamarah, 2006) in Damayanti *et al* . (2020).

According to Fatima (2020), through hands-on practice, students have the opportunity to apply the material taught by the teacher. Furthermore, they can prove and confirm the validity of a theory through practice. Furthermore, research by Fatimah (2020) found that using hands-on practice in the Crafts subject, specifically

on medicinal plant cultivation, can improve student skills and enhance learning completion.

Based on the explanation above, the practical method is an effective approach to learning, particularly in Crafts. Through this method, students are given the opportunity to learn directly, verifying theories and strengthening their understanding through real-life experiences.

2. Steps for learning the practical method

The steps for using the practical method according to Syah *et al* . (2009) in Syahrorowiyah (2016), namely:

a. Preparation stage
   1) Establish the purpose of the demonstration.
   2) Establish demonstration steps.
   3) Prepare the tools or objects needed for the demonstration.

b. Implementation stage

1) Demonstrating something according to the objective accompanied by an oral explanation.
2) Give students the opportunity to ask questions.
3) Give students the opportunity to try and practice.

c. Follow-up and evaluation stage

1) Assign students to try and practice what has been demonstrated.
2) Carry out an assessment of the tasks that have been given in the form of work or actions.

3. Advantages of the practical method

According to Duhmuts (2023), the practical learning method has several advantages that make it a good choice in the learning process, including the following :

a. Meaningful learning experience, students get the opportunity to learn in a real and direct way.
b. Applying knowledge in real contexts helps students to relate the knowledge they gain to real situations or contexts.
c. Stimulating active involvement, students are invited to be actively and directly involved in learning.
d. Collaborative learning, encourages collaboration and discussion between students.
e. Improving practical skills, students can develop practical skills that are relevant to their field of study or future professional needs.

Based on the research results of Fatimah (2020), the application of direct practice methods in the Craft subject in the aspect of medicinal plant cultivation has a positive impact on student activities, including students becoming more active in learning activities and being directly involved in learning.

B. Study of PJBL (*Project Based Learning*) based learning

1. Understanding PJBL-based learning (*project based learning*)

The project-based learning model is simply defined as a learning model that focuses on the project work process, where students will be given a series of learning activities linked to real life in the form of problems that must be solved in groups (Musyawir *et al* ., 2022). Furthermore, according to Nurhamidah & Nurachadijat (2023), *Project Based Learning* is a learning model based on projects, where students are faced with real-world problems that are considered meaningful, then act collaboratively to create solutions to these problems.

2. Steps for implementing PJBL (*project based learning*)

According to Sinta *et al* . (2022) learning activities by implementing a project-based learning model emphasize a contextual learning process that takes place in the form of complex activities to train students to build diverse mindsets and solve problems realistically and accurately. Project work is carried out from the planning stage to the presentation stage requiring higher thinking skills such as understanding project ideas, formulating strategies to complete the project, the form that the project must take, identifying unique elements of the project to differentiate it from similar projects and presenting the results of the project implemented.

Furthermore, according to Mulyadi (2016), project-based learning consists of several project syntaxes or stages, including project determination/introduction, project

design, determining the project completion schedule, implementation and supervision, presentation and testing of the project, then evaluation and reflection process of the project.

3. *project-based learning* practice method

project- based learning model (PJBL) can provide several advantages for students, teachers, and school quality. According to Railsback (2002) in Priansa (2017), some of these advantages are:

1. Preparing students to face the evolving real life.
2. Increase students' motivation to learn and encourage their ability to do important work.
3. Connecting learning to the real world.
4. Forming students' work attitudes.
5. Improve students' communication and social skills.
6. Improve students' abilities in solving various problems they face.

Furthermore, according to Kosasih (2014), *Project-Based Learning* is a learning module that uses projects or activities as its goal. The learning focus on problem-solving is the primary goal, thus providing a meaningful learning experience, where students not only understand what they have learned but also understand the benefits of that learning for their environment.

Furthermore, according to Banawi (2019), project-based learning is a learning activity that uses projects or activities as a learning process to achieve competency in attitudes, knowledge, and skills. The emphasis is on student activities to produce products by applying research, analysis, creation, and presentation skills based on real-life experiences. This learning allows students to work independently or in groups to produce tangible products.

According to research by Anitimo (2024), students' craft learning outcomes improved after using the *Project-Based Learning (PJBL*) method. This aligns with research by Kusadi & Kertih (2020), which showed that the project-based learning model has a stimulating effect on students' social skills and creative thinking.

The benefits of the PJBL (*Project Based Learning*) learning method for ADHD students according to Agustin and Zaitun (2024) are as follows:

1. Increase motivation and engagement.
2. Develop problem solving skills.
3. Increase creativity and innovation.
4. Improve collaboration and communication.
5. Improve critical thinking skills.

Based on the explanation above, it can be concluded that PJBL (*project based learning*) based learning consists of structured stages that enable students to develop their potential attitudes, knowledge and skills through real activities, both independently and in groups, to produce and present learning products.

C. Study of cultivation skills of medicinal plant species

1. Understanding the skills of cultivating medicinal plants

The Cultivation Crafts course focuses on developing sustainable cultivation skills. One of the most important and fundamental stages is the production aspect, where students learn cultivation skills from preparation to harvest. Medicinal plant cultivation introduces students to Indonesia's natural wealth and local wisdom in utilizing plants for medicinal purposes. This aligns with the spirit of the Independent Curriculum, which emphasizes context-based learning and local wisdom (Ministry of Education and Culture, 2022).

According to Aziz & Nurachadizat (2023), learning skills are a system, method and technique that is well mastered by students regarding knowledge and learning materials delivered by teachers in a fast, effective and efficient manner, which of course these learning skills must be practiced so that students become skilled in undergoing learning at school.

2. Curriculum for the Practical Arts subject at the Junior High School level

The Cultivation Craft Curriculum in Phase D contains four competency elements, namely observation and exploration, design/planning, production, and reflection and evaluation. 1) Observation and exploration elements, learning outcomes: Students are able to systematically observe modifications of materials, tools and techniques

according to environmental potential or local wisdom, and describe cultivation products from various sources. 2) Design/planning elements, learning outcomes: Students are able to prepare cultivation activity plans and determine production feasibility based on modifications of materials, tools and techniques according to environmental potential or local wisdom based on observation results. 3) Production, learning outcomes: Students are able to produce safe cultivation products responsibly based on environmental potential or local wisdom with modifications of materials, tools and techniques, and displayed in attractive packaging according to the plans they have made. 4) Reflection and evaluation, learning outcomes: Students are able to assess their own or others' cultivation products based on modifications of materials, tools and techniques that have economic value according to environmental potential or local wisdom (Ministry of Education and Culture, 2022).

3. METHODS

This research was conducted using Classroom *Action Research (* CAR). According to Ishak (2021) , classroom action research is applied in classroom teaching and learning activities with the aim of improving the teaching and learning process, with the aim of increasing or improving learning practices to be more effective. The identification of problems in this classroom action research is known from teacher activities in teaching and student learning outcomes. This research effort is useful for finding solutions in the form of actions designed to improve the quality of learning skills in medicinal plant cultivation. Data collected from each activity of the CAR cycle implementation were analyzed descriptively qualitatively and descriptively quantitatively using percentage techniques to describe the actions given to provide improvements, enhancements, or changes in a positive direction compared to the previous situation that occurred in the learning activities. Qualitative descriptive data is data from observations of the learning process through the *Project Based Learning- based practice method* described in the form of descriptive attitudes shown from the beginning of the activity to the end of the activity. Quantitative descriptive data is the result of observations of children's abilities in implementing each indicator in the research, which is shown through the scores achieved for each action.

This Classroom Action Research uses the research design model from Kemmis and Taggart. The research model chosen in this study is the spiral model with two cycles of action. According to Arikunto (2019), each cycle of classroom action research has four stages of activity: planning *, acting* , *observing* , and *reflecting.*

4. RESULTS AND DISCUSSION

This classroom action research was conducted in two cycles with the aim of improving medicinal plant cultivation skills through *project-based learning* for third-grade junior high school students with ADHD. Observation and analysis showed significant improvements in every aspect of learning between cycles I and II.

1. Improving the learning process of ADHD students through practical methods based on *Project Based Learning*

In cycle I, learning implementation only reached 50%. Students showed attention and activeness in the basic questioning, project planning, and schedule development stages, but still experienced difficulties in implementing practice and reflection. This was due to the characteristics of ADHD students who have difficulty focusing, are easily distracted, and have difficulty maintaining attention during long stages of activities. Teachers also did not provide clear directions, and the learning media were less than engaging. Through reflection on cycle I, planning for learning improvements was carried out to be implemented in cycle II so that the research would achieve the specified targets.

After the actions were taken in cycle II, the implementation rate increased to 83%, with five of the six indicators achieved. Improvement strategies such as the use of short instructions, the use of instruction boards, and individual mentoring proved effective. Students were more engaged and focused in the practice of seed preparation, media preparation and planting containers, and planting seeds. This success can be attributed to the advantages of using the *Project Based Learning method* , which is tailored to the needs of students with ADHD, which can improve the learning process. The *Project Based Learning model* also provides opportunities for regular students and students with ADHD to work together in groups, so that interaction between them becomes part of the learning process.

According to the results of research by Fajarwati (2025), project-based learning plays a role in creating social interactions between regular students and students with special needs, where they help each other in project work.

2. Improving learning outcomes in the cultivation skills of medicinal plants through practical *project-based learning methods* for students with ADHD.

Learning completion is the final result achieved by students after taking a learning evaluation test. Based on data analysis regarding students' cognitive learning completion during learning in cycles I and II, the comparison can be seen in the bar chart below:

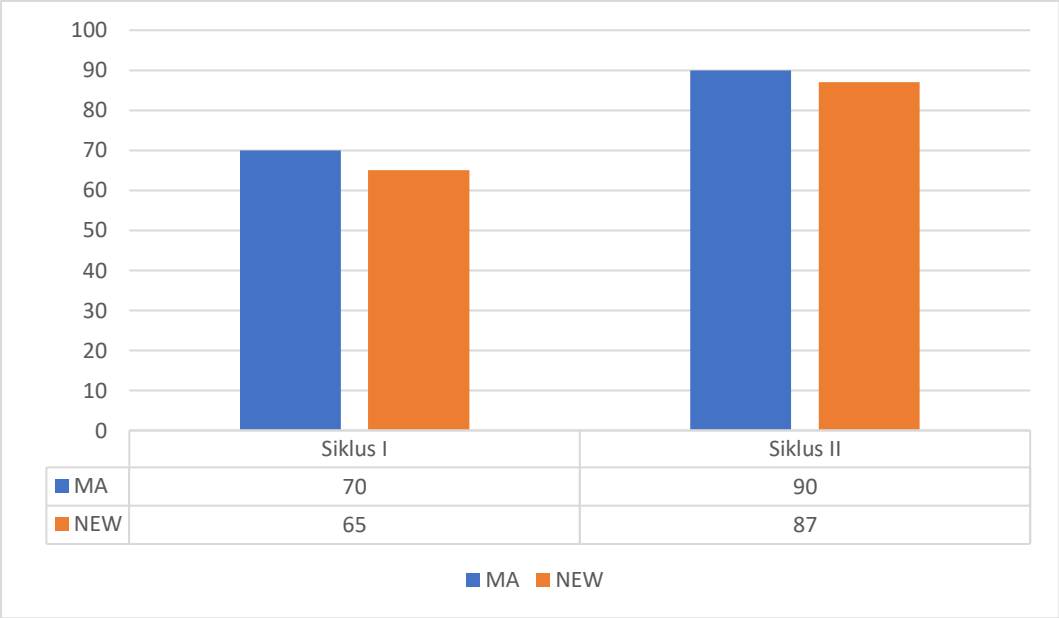

Figure 4.2 Comparison Diagram of Performance of Cycle I and Cycle II

In the first cycle of practical skills improvement, the two ADHD students were unable to complete the practical stages correctly. They appeared to lack focus, often rushed, and still needed help from the teacher. This is consistent with the characteristics of ADHD students, who require engaging activities and structured direction.

In cycle II, practical skills improved significantly. Both students with ADHD successfully completed the steps of seed preparation, media and planting containers, and seedling planting independently. The resulting products met the established criteria. This improvement occurred because the teacher provided individual guidance and positive reinforcement, which increased student motivation.

Despite improvements, the learning reflection indicators in cycles I and II were not optimally implemented. This was because students with ADHD were already bored and distracted by their surroundings when the practical activities ended. However, overall, the implementation of *the Project Based Learning (PBL) practice method* , tailored to the needs of students with ADHD, successfully improved the implementation of the learning process, cognitive learning outcomes, and practical skills. Improvements to the strategy in cycle II had a significantly positive impact compared to cycle I. With the achievement of the success indicators, the research was discontinued in cycle II.

Based on the results of this study, it can be concluded that improving medicinal plant cultivation skills through the *Project-Based Learning -based practice method* implemented by the researcher was successful. *Project-Based Learning -based practice methods* can improve focus, the ability to follow project steps independently, and understanding the material. This has a positive impact on the learning process and learning outcomes of students with ADHD in learning medicinal plant cultivation skills in Grade VIII of Junior High School.

5. CONCLUSION

Based on the findings and discussions presented, it can be concluded that through *the Project Based Learning- based practical method* , it can improve the learning process and outcomes of ADHD students in learning the skills of cultivating medicinal plants.

The analysis of the implementation of the learning process for medicinal plant cultivation skills in cycle I was 50%, categorized as not being implemented optimally. After the implementation in cycle II, the implementation increased to 83%, categorized as being implemented well, a 33% increase.

The learning outcomes of ADHD students are based on learning completeness with KKTP ≥ 71. The analysis results show that the cognitive test results in cycle I action have an average completeness of 10%. After being given action in cycle II, there was an average increase of 17% with a very good completion category. While the performance test results in cycle I have not increased, after being given action in cycle II there was an average increase of 21% with a very skilled category.

This demonstrates that the *Project-Based Learning (PBL) practice method* can encourage students to be more active and creative in the learning process and understanding the material. This is evident in the improvement in cognitive test scores. The average score was 17% and the performance test reached 21%. Thus, it can be concluded that ADHD students have achieved a very good level of mastery and demonstrated high skills in implementing learning on cultivating medicinal plants.

REFERENCES

Alfiyah, Z., & Marsuki, MF (2023). Optimizing the Improvement of Cognitive Learning Outcomes of Solar System Material Through the Implementation of Project Based Learning Class 7E at SMP Negeri 49 Surabaya. *Indonesian Multidisciplinary Journal* , *2* (7), 1661-1676.

Agustin, N., & Zaitun, Z. (2024). The Effectiveness of Project-Based Learning Methods for ADHD Students to Improve Creativity in Indonesian Language Lessons at SMP Labschool FIP UMJ. *SEMNASFIP* .

Anenda, DA, Maisurah, D., Rahma, IA, & Fitri, R. (2024). Characteristics of Students with Attention Deficit Hyperactivity Disorder (ADHD) and Treatment Efforts. *Bersatu: Jurnal Pendidikan Bhinneka Tunggal Ika* , *2* (3), 123-134.

Anitimo, SS, Muda, L., & Datunsolang, R. (2024). Improving Student Skills Through the PJBL (*Project Based Learning*) Method in Craft Subjects. *MIDA: Journal of Islamic Basic Education* , *7* (2), 287-299.

Arikunto, S. (2019). Research Procedures: An Approach and Practice. Jakarta: Rineka Cipta.

Asrul, Abdul, H. S, Mukhtar. 2022. Learning Evaluation. Perdana Publishing. Medan.

Atmaja, JR 2018. Children with Special Needs. Rosdakarya Youth. Bandung

Aziz, SA, & Nurachadijat, K. (2023). Project Based Learning in Improving Students' Learning Skills. *Journal of Innovation, Evaluation and Learning Development (JIEPP)* , *3* (2), 67-74.

Banawi, A. (2019). Implementation of the Scientific Approach to Discovery/inquiry Learning, Based Learning, and Project Based Learning Syntax. *BIOSEL (Biology Science and Education): Journal of Science and Education Research* , *8* (1), 90-100.

Darmayanti, S., Wayan, N., Wijaya, IWB, & Sanjayanti, NPAH (2020). Practicality of Simple Elementary School Science Practical Guidelines Oriented to the Environment. *Orbita* , *6* (2), 310-314.

Duhmuts. (2023). Practical Learning Research Methods. https://perpusteknik.com/metode-penelitian-pembelajaran-praktik/ . Posted on October 11, 2023.

Fajarwati, S., & Nisa, K. (2025). Exploration of Social Interaction of Children with Special Needs in Project-Based Science Learning (PJBL). *Journal of Modern Education* , *10* (03), 192-208.

Farisah, SH, & Wafiqah, S. (2025). PJBL Learning Model to Improve Student Learning Skills. *Journal of Educational Sciences* , *1* (1).

Fatimah, C. (2020). The Use of Practical Methods in Improving Medicinal Plant Cultivation Technique Skills. *azkiya* , *5* (1), 25-32.

Fitriyani, F., Dimpudus, A., & Haryaka, U. (2023, July). Implementation of Project Based Learning Model to Improve Mathematics Learning Outcomes of Grade VIII Students. In *Proceedings of the National Seminar on Mathematics Education, Mulawarman University* (Vol. 3, pp. 177-182).

Fitri, AE, Ramadhani, A., Budiana, D., Nilza, F., Farida, NR, Sari, MM, & Widyawati, S. (2025). Attention Deficit Hyperactivity Disorder (ADHD). *Writing: Indonesian Research Journal* , *1* (2), 5-8.

Gunawan, L. (2021). Interpersonal Communication in Children with Attention Deficit Hyperactivity Disorder (ADHD). Journal of Psycho-Education, 19(1) 49-68.

Handayani, IN (2019). Inclusive Education for Children with ADHD (Attention Deficit Hyperactivity Disorder). In *Annual Conference on Islamic Early Childhood Education (ACIECE)* (Vol. 4, pp. 291-302).

Hamal. (2023). Types of Practical Learning Methods. https://perpusteknik.com/jenis-metode-pembelajaran-praktik/. Posted on October 16, 2023.

Hapsari, YD, Rahmawati, SA, Sani, FA, Baskoro, AP, Lestari, R., & Nadia, S. (2023). The influence of practical and lecture learning methods on art learning in grade III of SD 6 BulungKulon. *Scientific Journal of Teacher Profession (JIPG)* , *4* (2), 137-145.

Hayati, DL, & Apsari, NC 2019. Attention Deficit Hyperactivity Disorder (ADHD) in Schools. Proceedings of Research and Community Service, 6(1) 108-122

Jannah, R., & Fatmawati, DP (2023). The Effect of Project Learning on the Concentration of Children with Attention Deficit Hyperactivity Disorder (ADHD): The Effect of Project Learning on the Concentration of Attention Deficit Hyperactivity Disorder (ADHD). *Indonesian Journal of Early Childhood* , *5* (2), 411-416.

Ishak. (2021). Classroom Action Research on the Independent Learning Curriculum. Watampone. Dimar Jaya.

Karlenata, H., & Mutiara, ZT (2024). Learning in Children with ADHD. *EJIP: Educational Journal of Innovation and Publication* , *3* (1), 37-51.

Ministry of Education and Culture. 2022. Craft Teacher's Guide: Cultivation. Jakarta.

K hotimah, K. (2025). Analysis of the Implementation of Project-Based Education to Realize Inclusive Education in the Modern Era. Learning *: Journal of Innovation in Educational Research and Learning* , *5* (1), 74-82.

Kosasih, E. (2014). Learning and Teaching Strategies for the Implementation of the 2013 Curriculum. *Bandung: Yrama Widya* , *170* .

Kusadi, NMR, Sriartha, IP, & Kertih, IW (2020). Project-Based Learning Model for Social Skills and Creative Thinking. *Thinking Skills and Creativity Journal* , *3* (1), 18-27.

Liana, S. (2024). A Study on Children's Difficulty Focusing in Learning: A Psychological and Educational Review. *PIJAR: Journal of Education and Teaching* , *3* (1), 26-33.

Liza, LO, Effran, Z., & Elvira K, U. 2024. Basics of Children with Special Needs. LPPM Lancang Kuning University. Pekanbaru.

Magdalena, I., Odicus, DA, Oktaviani, D., & Nurrahama, MI (2023). Assessment of Educational Evaluation Skills: Theory and Implementation Through Qualitative Methods. *Journal of Social Education and Counseling* , *1* (2), 108-113.

Mulyadi, E. (2015). Application of Project Based Learning Model to Improve Physics Learning Performance and Achievement of Vocational High School Students. *Journal of Technology and Vocational Education* , *22* (4), 385-395.

Musyawir, Sopian Ansori, Ulfah Irani, Mera Kartika Delimayanti, Grace S. Surwuy, Siti Nurul Hidayah Ismail, Candra Sihotang, Berdinata Massang et al. 2022. Innovative Learning Models. Mifandi Mandiri Digital.

Nurhamidah, S., & Nurachadijat, K. (2023). Project-based learning in improving student learning independence. *Journal of Innovation, Evaluation and Learning Development (JIEPP)* , *3* (2), 42-50.

Nurtika, AR, Lestari, AS, & Samara, D. (2024). The Role of Teachers in Handling the Behavior of Children with ADHD-ADHD in the Learning Process. *Journal of Social Education and Humanities* , *3* (2), 1600-1610.

Putra, Thomas. 2022. *Children with ADHD and How to Handle Them.* Victory Pustaka Media. Yogyakarta Special Region.

Priansa, DJ (2017). Development of Learning Strategies & Models. Pustaka Setia. Bandung.

Rosyad, A., & Tarihoran, NA (2022). Learning Models and Strategies for Children with ADHD (*Attention Deficit Hyperactivity Disorder*). *Journal of Innovation Research and Knowledge* , *2* (3), 591-600.

Sahir, S. (2022). Research Methodology. KBM Indonesia Publisher.

Sapriyah, S. (2019, May). Learning media in the teaching and learning process. In *Proceedings of the National Seminar on Education, Faculty of Teacher Training and Education* (Vol. 2, No. 1, pp. 470-477).

Sartika, D., Mikrayanti, M., & Anggriani, A. (2024). Application of Project Based Learning (PjBL) Model in Improving Student Interest and Learning Outcomes. *Journal of Elementary and Secondary Education Innovation* , *1* (2), 82-99.

Sinta, M., Sakdiah, H., Novita, N., Ginting, FW, & Syafrizal, S. (2022). Application of *Project Based Learning* (PjBL) Learning Model to Improve Students' Creative Thinking Skills on Newton's Law of Gravity Material at MAS Jabal Nur. Jurnal Phi Jurnal Pendidikan Fisika Dan Fisika Terapan, 3(3), 24-28. https://doi.org/10.22373/p-jpft.v3i3.14546

Suharsiwi, (2017). Education for Children with Special Needs. Prima Print. Yogyakarta.

Syahrowiyah, T. (2016). The Influence of Practical Learning Methods on the Motivation and Learning Outcomes of Islamic Religious Education of Fourth Grade Elementary School Students. *Studia Didaktika: Scientific Journal of Education* , *10* (02), 1-18.

Syah, D., & Supardi & Eneng, M. (2009). Teaching and Learning Strategies. *Jakarta: Diadit Media* .

Tuzahara, NK, Andriani, O., & Hania, AP (2024). Educational Service Approach for Children with Special Needs (Mild ADHD). *Journal of Vocational Education and Arts* , *2* (2), 27-37.

Ulpa, M., & Selian, SN (2025). The Role of Teachers in Developing Learning Strategies for Children with ADHD. *Journal of Social and Humanities Education* , *4* (3), 5866-5877.

Umi, U. (2015). Implementation of a Scientific Approach Through a Project Based Learning Model to Improve Process Skills and Learning Outcomes of Fourth Grade Students of Seworan Public Elementary School, Wonosegoro. *Scholaria: Journal of Education and Culture* , *5* (1), 24-38.

Yanti, FA, Kristiawan, M., Yunitasari, Y., & Aini, M. (2023). Workshop on Implementing Project-Based Learning in Science Materials to Improve Elementary School Teachers' Teaching Skills. *J-DEPACE (Journal of Dedication to Papua Community) Community Service Journal* , *6* (2), 58-69.

Yusro, AC, & Ardania, R. (2023). Efforts to improve science learning outcomes through the implementation of differentiated learning using the PJBL model with card media. *Journal of Science Education Innovation (JIPS)* , *4* (1), 1-9.