

ADHD Differentiated Learning

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ABSTRAK

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that affects a person's ability to control impulses, focus and attention span, and can cause disruption in various aspects of life. Children with ADHD are often considered naughty or nosy, and they may experience rejection and punishment that do not resolve their behavioral problems. The prevalence of ADHD in the world ranges from 3-7% in elementary school children, with more boys than girls. If ADHD is not treated properly, it can continue into adulthood and increase the risk of other psychiatric disorders. Handling children with ADHD requires the right approach to reduce stress in the family and increase the child's social interactions. Differentiated learning is an approach that adapts the teaching and learning process according to students' individual differences, including learning styles, interests and cognitive abilities. This concept was developed by Carol Ann Tomlinson and aims to prevent frustration and failure in learning by adapting teaching materials and methods. Differentiated learning involves creating an enjoyable learning environment, clear learning objectives, ongoing assessment, responsive teaching, and effective classroom management. The research results show that differentiated learning can improve student learning outcomes, including students with special needs such as ADHD. This research observes the learning outcomes of ADHD students in class V using differentiated learning. Initial observation results show that the learning outcomes of ADHD students are below the KKM. After implementing differentiated learning in two cycles, there was an increase in learning outcomes in most subjects. Cycle I showed an increase in completeness in Civics subjects by 100%, Indonesian by 50%, and other subjects varied. In cycle II, all subjects achieved 100% completeness. These results indicate that differentiated learning is effective in improving the learning outcomes of ADHD students.

INTRODUCTION

Differentiated learning has become the dominant pedagogical mode in most educational institutions in their teaching and learning practices. It is seen as the best way for teachers to get to know their students in terms of their knowledge base, level of preparation, language skills, learning priorities, interests, and learning methods. This knowledge allows teachers to approach teaching and learning activities differently for students with different skills in the same class, to maximize the performance of each student (Tomlinson. Et al. 2005). Teachers play an important role in ensuring that different teaching and learning activities take place effectively in their classes. Apart from choosing the right activities and teaching strategies for each student in the class, the teacher must also be aware of the teaching philosophy in the class. There are five factors that describe the current situation related to differentiated teaching from the teacher's perspective; This includes 1) teaching philosophy and practices related to growth, mindset, and ethics, 2) flexible grouping, 3) the principle of suitability between output and input, 4) teaching tailored to student interests and readiness, and 5) learning profiles. Students' interests, readiness, and learning profiles are all considered when designing instruction, which ensures that effective learning occurs for the majority of students (Tomlinson 2017). In the case of classroom teaching, a teacher. Students differ from each other because of unique qualities, economic variations, and special needs that may impact the learning process. The diverse characteristics demonstrated by students make it necessary for masters to vary their activities in classroom practice (Drinking spree, 2012). As classes become more diverse, differentiated instruction becomes increasingly important. Differentiated instruction (DI) provides opportunities for masters to address variations among students such as learning styles, needs, levels of readiness, and interests (Tomlinson,

Brimijoin & Narvaez, 2008). ‘Differentiation’ has been used actively for almost twenty years in inclusive education, while first being used as “mixed ability teaching” in education (Westwood, 2016, p. 5). Differentiation is about matching lesson content to students’ characteristics which can include their culture, interests, emotional traits, learning styles and modes, gender, and background knowledge (Tomlinson & Imbeau, 2013). Differentiated learning has become one of the fair teaching methods and shapes instruction based on students’ learning styles, level of readiness, interests, needs, and language proficiency (Chien, 2012; O’Meara, 2011; Spencer-Northey, 2013). Specifically, considering all differences among students within the same class as opposed to a one-size-fits-all approach. During implementation, four elements can be adapted; content (what students learn in the lesson), process (how students achieve knowledge), product (yield that shows what students learn in the lesson) (Tomlinson, 2017), influence and learning environment (learning media in which students have positive emotions such as success, autonomy, responsibility, and support for their improvement) (Tomlinson & Jay, 2006). While considering student differences by modifying lessons (Harmani & Effendi, 2018), it aims to accelerate student achievement and improve them academically (Guay et al., 2017; Westwood, 2016). Among the main influencing factors in the language classroom is motivation which triggers student achievement throughout the learning process (Daskalovska et. Al, 2012). Motivation and learning influence each other. Namely, the level of motivation influences learning outcomes in the same direction (Harmini & Effendi, 2018). For this reason, motivation is considered an individual characteristic that gives direction to foreign language learning and a learner’s foreign language achievement. The improvement and successful implementation of foreign language instruction depends on understanding the nature of learner motivation (Tatar, 2017). While previous studies focused on the role of different types of motivation in language learning (Deci, 1975; Gardner & Lambert, 1972; Lukmani, 1972; Spolsky, 1969), recent research is mainly concerned with what motivates learners regarding elements such as learner behavior, master behavior and ways to motivate students (Alizadeh, 2016; Chalak & Kassaian, 2010; Jowkar et al., 2017; Mauludin, 2021; Zareian & Jodaei, 2015). Mauludin (2021), for example, explored students’ perceptions of motivating teaching strategies in English for Special Purposes (ESP) classes. Information was collected from 163 ESP students from a state university in Indonesia through a questionnaire asking about their perceptions about the most and least motivating teaching strategies. The results revealed that strategies that provide comfortable and enjoyable learning are considered the most motivating strategies while strategies related to activities and tasks are considered the most non-motivating. In another study, Alizadeh (2016) provides an overview of motivation research in language learning reporting that learner motivation can rise and fall depending on the language learning context as well as the role of the master. Finally, Chalak and Kassaian (2010) examined the motivational orientation and attitudes of 108 Iranian students towards the target language and their community. The students majored in English translation at Islamic Azad University. Based on the results obtained from the survey, participants reported that they studied the language for both ‘instrumental’ and ‘integrative’ reasons. Lastly, their attitudes towards the target language community and its members were generally found to be very positive. Apart from motivating students during the learning process, increasing their independence and interest in learning is another important goal to achieve in language classes. It has been suggested that making the learning environment more challenging and interesting and providing several different learning options makes students feel more responsible for their learning (Clapper, 2010). When students take responsibility for their learning, meaning more student-centered lessons, their motivation, interest, and autonomy also increase (Betts, 2004; Sanacore, 2008). Basically, it is intended to increase learner autonomy, and this is achieved by enabling students to take responsibility for their learning through clear explanations of objectives, providing a learning environment with a variety of learning styles, materials, and activities. Likewise, presenting different ways of learning and making contributions to content, processes, and assessments helps students become more independent. Thus, differentiating learning processes and media for students gives them the opportunity to increase their autonomy (Convery & Coyle, 1993) Differentiated Learning in Education ‘Differentiated Learning’ or ‘differentiation’ is used as a concept, teachers begin to differentiate instruction, materials, and methods they are based on their students’ distinctive features such as background knowledge, culture, and needs (Tomlinson, 2014). The implementation of ‘Differentiated Instruction (DI)’ was first implemented to meet the needs of gifted students (Fogarty & Pete, 2011). The number of DI studies highlighting its effects on students’

perceptions has recently increased (Karadağ & Yaşar, 2010; Mok, 2012; Stop, 2017; White, 2015). Karadağ and Yaşar (2010), for example, conducted research to identify the attitudes of 30 Turkish 5th grade students (16 girls and 14 boys). According to the results collected from semi-structured interviews and attitude scales, students have positive attitudes when learning English through DI. In another study, Mok (2012) explored undergraduate students' perceptions of the usefulness of DI. In the study, four focus group discussions and an online questionnaire were administered to 267 students. Findings reported that participating students preferred DI activities over traditional activities such as fill in the blanks and matching. At the same time, DI increases students' motivation when learning English. Furthermore, White (2015) sought to investigate the implementation of DI in elementary level classes (N=18) examining its effects on students' perceptions, their participation and learning. Information obtained from surveys, pre- and post-exams, and post-interviews revealed that students' perceptions were very positive, and they were more active during DI-based lessons. Similarly, Stop (2017) aimed to determine middle school students' perceptions and their understanding of DI in a public school in Florida. Information collected from 10 students using surveys, face-to-face interviews, observations, and reflective notes revealed that students were aware of the advantages of , and they viewed it positively during their learning process. In addition to students' perceptions of , teachers' perceptions have also been discussed by leading scholars (Aftab, 2015; Ballone & Czerniak, 2015; In a recent study, Ismail and Allaq (2019) tried to uncover the perceptions of 200 English language masters about cooperative learning and . The results collected from questionnaires and interviews stated that the master considers cooperative learning and effective for students' interaction as well as their participation. In a similar study, Aftab (2015) explored the perceptions of 120 secondary school masters regarding implementation in their classroom practices. Information obtained from a questionnaire adapted from Ballone and Czerniak (2001) reported that masters shared their positive views on implementation, and they all agreed on the need for active implementation in their classroom practice. In another study, Chien (2015) investigated elementary school English masters' perceptions of during a summer course. Information collected through videos, interviews, surveys and documents reveals that masters obtain information about and feel its benefits in improving student learning. Differentiated learning is an effort to adapt the learning process to the diversity of student characteristics. While at school, students bring various differences such as their abilities, experiences, talents, interests, language, culture and learning styles (Santika & Khoiriyah, 2023). This diversity is a reality that exists in the school environment. Each student has unique abilities, experiences, talents, interests, language, culture and learning styles. Therefore, it is unfair if teachers only use the same teaching and assessment method for all students. Teachers must consider these differences and provide services that suit individual needs (Meilia & Murdiana, 2019). According to Hayati and Apsari (2019), children with Attention Deficit Hyperactivity Disorder (ADHD) show several main symptoms, including: For example, a constant urge to move, excessive activity, and difficulty concentrating can make learning and socializing difficult. Students with ADHD require special services when attending formal education compared to students in general. Anjani's study by Aviandini et al. (2021) explains that students with ADHD have difficulty concentrating on learning. When you don't pay attention to your teacher by doing other activities or interrupting your friends while studying. This certainly affects performance and learning success at school. Therefore, schools should implement differentiated learning strategies in regular education units for children with special needs, especially students with ADHD. Demonstrating learning differentiation allows teachers to meet the learning needs of each student. Teachers adapt lesson materials, teaching methods, and learning approaches based on each student's abilities, interests, and needs. The goal is so that students do not feel frustrated or fail in their learning process (Agung, 2020). In differentiated learning, teachers must understand that there is no one method that is suitable for all students. Each student has different abilities, interests and learning needs (Wahyuningsari, Mujiwati, Hilmiyah, Kusumawardani, & Sari, 2022). Teachers need to adapt lesson materials, class activities, assignments, and assessments according to each student's level of readiness, interests, and learning style. Teachers need to adjust lesson materials, class activities, assignments, and assessments based on each student's level of readiness, interests, and learning style. The aim is to ensure that the learning methods applied are appropriate to the individual needs and characteristics of each student (Jurais, 2023). In differentiated learning, there are three important aspects that teachers must pay attention to so that students can understand the material well. The first is the content aspect, which

includes the material taught to students. Second is the process aspect, which includes activities or delivery activities carried out by students during class learning. Third is the assessment aspect, which includes product creation or assessment to measure the achievement of learning objectives (Sarnoto, 2014). Demonstrating learning is different from the person learning demonstration that is often used to teach children with special needs. Within the boundaries of learning, teachers do not need to teach each student personally to ensure they understand the material. Students can study in large, small groups, or even independently. Apart from individual learning, there is also differentiated learning. Learning differences are well known in the world of education. Differentiated learning is an approach that accepts, manages, and recognizes student diversity in the learning process based on the different interests, readiness, and preferences of each student (Peduk, 2016). Learning focuses on students' needs and abilities. Teachers or educational staff must pay special attention and take action to meet students' needs. Differentiated learning is the process of collecting information about students in order to understand their learning style needs based on existing differences. When teachers know students' differences and needs, effective and efficient learning can be realized. Learning is based on four elements: content, process, product, and learning environment. These elements are based on the teacher's knowledge of students' learning needs which includes their interests, readiness and learning profile. Education is not only for children born typically, but also for children with disabilities or special needs. Most children with special needs often have difficulty obtaining learning that suits their needs at school, which can result in classroom learning not running ideally. Individual learning and differentiated learning are interrelated. This research will discuss the application of individual learning to support teaching for students with special needs. In this context, the updated mathematics curriculum emphasizes that masters design their own differentiated instruction by considering students' individual differences such as different levels of readiness, different learning abilities, and different levels of achievement (Dack, 2018; Tomlinson, 2014). However, although the mathematics performance of Turkish students has improved in recent years, the average score of Turkish students in international exams such as the Program for Universal International Relations (PISA), is lower (459) compared to the average score of students from the Organization for Cooperation and Development (OECD) (489) (Avvisati, Echazarra, Givord & Schwabe, 2019). In the context of mathematics lessons, it is very clear that theoretically differentiated instruction is not at the desired level in classroom practice (Afurati, Echols & Wadsworth, 2019). Which is desired in classroom practice (Afurobi, Izuagba, Ifegbo & Opara, 2017; Melesse, 2015; Senturk & Sari, 2018).

1) Differentiated instruction is the process of determining content according to students' abilities and their level of success. Their level of success, taking into account the level of readiness of students.

2) To find out whether there is a significant difference in the pre-test and post-test mathematics attitude scores between students in the experimental group who apply learning that applies differentiated teaching, and students in the control group, who apply methods that apply traditional teaching methods.

3) To find out the opinions of students in the experimental group about differentiated instruction in the context of the Turkish context.

RESULTS AND DISCUSSION

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that includes brain dysfunction, when a person experiences difficulty in controlling impulses, inhibits behavior and does not support attention span, or attention span is easily distracted. In general, ADHD is a condition when a person shows symptoms of lack of concentration, hyperactivity and impulsivity which can cause an imbalance in most of their life activities. Hyperactive children are also referred to as children who have difficulty concentrating, whose attention shifts very easily, have excessive motor skills, and have difficulty following commands. ADHD disorders can last throughout life from childhood, adolescence

and adulthood. It can also increase the risk of failure to complete school, peer rejection, family conflict, drug abuse, oppositional behavior, poor performance, depression and risk of suicide as well as various physical and mental health problems. In everyday life, many people still think that children with ADHD are naughty, nosy, a source of trouble, like to be defiant, impolite and considered reckless so they are treated harshly, often punished and ostracized, both at home by parents and siblings. Or at school by masters and peers or by the surrounding community. According to Russel, et al (2015) "Giving punishment and rejection from family, school and society will not solve behavior problems, on the contrary, it has the potential to make the problem more complex." The prevalence of ADHD in the world ranges from 3-7% of the elementary school child population. According to Setiawati, et al (2019) "The male ADHD population is larger than that of girls with a ratio ranging from four to one." According to Kerekes et al., 2013; Kessler et al., 2008; Silva et al., 2015 in Yunias Setiawati's book "ADHD which occurs together with extreme introvertedness, learning disorders, and obsessive compulsive disorders and amusement disorders as well as antisocial behavior has a negative impact on neurocognitive and psychosocial function with poor long-term outcomes." According to Kessler et al., 2008; Rydell, 2010 in Yunias Setiawati's book ADHD in childhood will continue into adulthood in 6-66% of sufferers. In addition, patients with ADHD will tend to have other psychiatric disorders in adulthood, such as alcohol dependence, reserved personality disorder, substance abuse, generalized anxiety disorder, and generalized depression. According to Iris and Sam, 2006 in Yunias Setiawati's book "Parenting children with ADHD creates stressors in the family because ADHD children have a troublesome child temperament, which is characterized by behavior that is difficult to adapt to the surrounding environment, such as difficulty in communicating with family, friends, masters and the environment. with clinical manifestations of defiant behavior, disobeying orders, forgetfulness, tending to do whatever he wants, thus causing tension in poor communication between family members which can lead to arguments within the family."

Understanding Differentiated Learning Demonstrate

The term differentiation found in the Big Indonesian Dictionary is the act of differentiating, compiling, or dividing into two different parts (Poewadarminta, 2003). Differentiation learning shows are learning shows designed to accommodate personal differences between students in the learning process. In demonstrating this, teachers pay attention to differences in learning styles, levels of readiness, interests, cognitive abilities and cultural backgrounds of students. Masters use a variety of teaching strategies that are appropriate for each student, so that they can achieve their maximum learning potential (Sarnoto, 2012b). The main figure of the differentiated learning show concept is Carol Ann Tomlinson. Carol Ann Tomlinson is a professor of education at the College of Virginia who is known as one of the leading figures in the field of differentiated education (Munawaroh, 2023). He has developed the theory and practice of differentiated learning which is widely adopted by masters in various countries. His works, such as the books "The Separated Classroom: Reacting to the Needs of All Learners" and "How to Distinguish Instruction in Mixed-Ability Classrooms," serve as guidelines for educators in designing inclusive and effective learning for all students. According to Carol Ann Tomlinson quoted by Kristen (2021), differentiated learning is a teaching and learning process that allows each student to understand the subject matter according to their respective abilities, interests and needs. The goal is to prevent taste frustration and failure in the learning process. Likewise, Widayati defines a differentiated learning show as a learning show that allows students to explore subject matter according to their respective abilities, interests and needs. The aim is so that students do not feel frustrated or fail in the educational process (Wahyudi, Siddik, & Suhartini, 2023). Differentiated Learning Show is based on the master's belief that every student has the potential to develop ideally according to his abilities. Tomlinson and Moon (2013), experts in this field, proposed five basic principles as a guide for masters in implementing this learning program (Zulkarnain & Khoir, 2023).

Learning Environment

The learning environment includes the physical space in schools and classrooms, where students learn. Meanwhile, learning climate refers to the atmosphere and conditions that students feel while studying, including relationships and interactions with fellow students and masters (Amalia, Rasyad, & Gunawan, 2023). An effective learning process requires the master to provide responses that suit each student's readiness, interests and learning profile. This aims to meet their learning needs. Tomlinson (2013) quotes Hattie who states that students' self-confidence can be grown by masters through:

- A) Provide appropriate appreciation for students' values, abilities and responsibilities;
- b) foster optimism in students that they have great potential to learn the subject matter; And
- c) actively and concretely support students to achieve success.

Quality Curriculum

In a quality curriculum, objectives must be clear so that the master understands the direction he wants to achieve at the end of the learning. The master's focus should be on students' understanding of the material, not just memorizing it (Sarnoto & Wahyudin, 2018). The main goal of learning is for students to truly understand the material and be able to apply it in everyday life. Teachers need to adapt the curriculum to challenge all students, including those with above, average, or below average abilities. For students who have above average abilities, masters need to provide deeper challenges to keep them interested and motivated in learning.

Continuous Assessment

Continuous assessment is a practice in which the master consistently conducts formative assessments throughout the learning process. The aim is to improve teaching methods and ensure students' understanding of the material being taught (Sasmayunita, Haerul, Thahir, & Afriyanti, 2023). In this formative assessment, grades are not given; rather, it serves as a diagnostic tool to identify barriers students face in understanding the material, understand what is not yet understood, and help masters design strategies to improve their understanding.

An effective learning process requires the master to actively monitor the student's learning process. The master needs to identify whether anyone needs additional help with the assignment or further explanation of the instructions given. After learning is complete, the master conducts a final assessment to measure students' understanding. The final assessment can be done in various ways, such as giving paper to students and asking them to write down new things they learned that day. Masters can also give students a short post-lesson test to ensure their understanding of the material that has been explained. This final assessment is useful for the master to evaluate whether students have truly understood the lesson or still need further explanation. The results of this assessment help the master determine areas that need to be repeated or clarified, provide additional assistance to students who experience difficulties, and assess the effectiveness of the teaching methods used. Of course, this kind of assessment is not considered in terms of assessment, but rather as a tool to improve the quality of learning and students' understanding of the subject matter.

Responsive Teaching

The final assessment of each lesson provides the master with valuable information about the effectiveness of his or her teaching. According to Sasmayunita et al. (2023), the results of the final assessment help masters identify deficiencies in guiding students to understand the subject matter (Sasmayunita et al., 2023). Thus, the master can adjust the next learning plan based on the current conditions and situation. This is important because teaching is more important than the curriculum

itself. Effective masters respond to learning outcomes by modifying subsequent lessons according to students' readiness, interests and learning profiles (Sarnoto, 2012a). Leadership and Routines in the Classroom A qualified master is one who is able to manage his class effectively. Here, master leadership refers to his ability to lead his students so that they can follow the learning well and comply with the rules that have been set (Sarnoto, 2013). Meanwhile, class routine refers to the master's skills in managing the class through routine procedures and activities that students carry out every day, so that the learning process can run smoothly and efficiently.

Characteristics of Differentiated Learning Demonstrators

Mukti and Sayekti in the research explained by Purwanto, identified that differentiated learning has four characteristics (Purwanto, 2023), namely: Learning Focuses on the Main Concepts and Principles of Subject Matter. Syaodih and Ibrahim emphasized that in determining subject matter, several things need to be considered, namely (a) learning materials must support the achievement of instructional goals; (b) lesson materials must be appropriate to the student's level of education or development; (c) learning material must be structured systematically and continuously; (d) subject matter must include factual and conceptual aspects (Ningrum, Fajriyah, & Mujilah, 2023). In the context of differentiated learning, the focus is on understanding the concepts or core of the subject matter, so that all students can explore these concepts. Students who experience difficulty can understand and use ideas from the concepts taught. Meanwhile, talented students can broaden their understanding and application of these main concepts.

The following are indicators or parameters of differentiated learning as an implementation of the concept of independent learning:

Creating a Fun Learning Environment

The Master creates a fun and meaningful learning environment, encouraging students to be enthusiastic about learning and achieving high learning goals (Munauwarah & Achadi, 2023). Master's creativity is very important in creating an atmosphere that makes students feel at home, enjoy the lesson material, and remain motivated in learning. Apart from that, the master must also ensure that each student feels supported during the learning process. Masters need to pay special attention to students who have special challenges or needs, both in terms of materials, facilities, health and motivation, to ensure that they remain enthusiastic about learning.

Clearly Defined Learning Objectives

A curriculum that has clearly stated learning objectives. This means that not only masters need to understand the learning objectives clearly, but also students must understand the learning objectives they want to achieve so that they can direct their learning and prepare themselves well, including preparing learning materials.

Learning that Favors Students

How does the master respond or respond to students' learning needs? When a master responds to students' learning needs, this means that the master is differentiating learning by adjusting, expanding, or increasing time to achieve optimal learning outcomes (Sarnoto, 2022). The Master always strives to adapt learning plans to meet students' learning needs. This may involve the use of different resources, different teaching methods, and adapted assignments and assessments.

Effective Classroom Management

How masters can develop procedures, routines, and methods that allow for flexibility, but still provide a clear structure so that the class can continue to run effectively even when different activities are performed. Basically, every individual is a learner, therefore, the main challenge for masters is not only providing knowledge to students as many masters do, but also how they can empower students to become students who are able to discover their own knowledge, not just able to answer exam questions but also be able to reflect on the wisdom and meaning contained in the lesson (Rusydie, 2011).

Continuous Assessment

How masters utilize information gained from the formative assessment process to determine which students still need additional help and which students have achieved learning goals early. Masters must have fast and accurate assessment tools, such as applications and innovative assessment methods, to assist them in this process. One of the core principles of the Independent Curriculum is differentiated learning, which emphasizes the importance of taking into account personal differences between students in designing learning. The aim of differentiated learning in the Merdeka Curriculum is to ensure that each student can learn according to their own needs, interests and abilities. This is done by considering personal differences in learning styles, cognitive abilities, level of readiness, interests, and cultural background. In differentiated learning, masters must pay attention to the personal needs of each student, identify different abilities, interests and learning styles, and choose appropriate teaching strategies for each student. In addition, masters also need to provide a variety of choices in learning activities and assessments, so that students can choose how to learn and assess themselves. One way to implement differentiated learning in the Independent Curriculum is to use a project-based approach. In this approach, students are given the freedom to choose a topic of interest and develop projects relevant to that topic. This approach allows students to learn in a way that is interesting and meaningful for themselves.

Result

Based on observations and the odd mid-semester learning results of GPPH students in class V for the 2021/2022 academic year, it can be seen that the learning results of 2 GPPH students are below KKM, namely 68 for PPKn, 65 for Indonesian, 60 for Mathematics, 65 for Science, 65 for IPS and 68 for SBdP. The average learning outcomes as pre-cycle information for GPPH students can be seen in table 1 below.

Table 1. Learning Outcomes as Pre-Cycle Information for GPPH Students

No. Subjects Average Learning Outcomes of GPPH Students

- 1 PPKn 45
- 2 Indonesian 40
- 3 Mathematics 40
- 4 IPA 50
- 5 IPS 50
- 6 SBdP 55

The information in table 1 shows that the average of the 2 GPPH students in PPKn subjects was 45, Indonesian 40, Mathematics 40, Science 50, Social Sciences 50 and SBdP 55. Based on this, the researcher conducted cycle 1 classroom action research using differentiated learning to improve the

learning outcomes of class V GPPH students. The following is table 2 analysis of the learning outcomes of GPPH students in cycle I. Table 2. Participants' Learning Results

Educate GPPH Cycle I

No Subjects Completed by GPPH Students Percentage

- 1 Civics 2 100%
- 2 Indonesian 1 50%
- 3 Mathematics 0 0%
- 4 Science 0 0%
- 5 Social Studies 0 50%
- 6 SBdP 1 50%

50 Based on the information in table 2, it can be seen that there has been an increase in the completeness of learning outcomes of GPPH students after carrying out cycle I through differentiated learning. In Civics subjects there was an increase of 100%, which means that the learning outcomes of GPPH students increased in cycle I. In Indonesian language subjects there was an increase of 50%, which means that only 1 GPPH student experienced completion of KKM. Furthermore, in Mathematics and Science subjects there was no increase in the percentage of GPPH students who completed the KKM. In social studies subjects there was an increase of 50%, which means that only 1 GPPH student had completed the KKM, and in SBdP subjects there was an increase of 50%, which means that only 1 GPPH student had completed the KKM. Even though there was an increase in the percentage of GPPH students who completed the KKM from pre-cycle to cycle I, these learning outcomes still do not need to be reflected back by carrying out research in cycle II. After carrying out the second cycle learning process using differentiated learning strategies, information on the learning outcomes of GPPH students was obtained which is presented in table 3 below.

Table 3. Learning Results of Cycle II GPPH Students

GPPH Students who Pass the KKM

No. Subjects Total Percentage

- 1 Civics 2 100%
- 2 Indonesian 2 100%
- 3 Mathematics 2 100%
- 4 Science 2 100%
- 5 Social Studies 2 100%
- 6 SBdP 2 100%

Based on the information in table 3, it can be seen that there was an increase in the percentage of learning outcomes of GPPH students in all subjects from cycle I to cycle II, namely 100%. This means that both GPPH students experienced complete learning in all subjects. A comparison of the percentage of learning outcomes of GPPH students from pre-cycle, cycle I and cycle II will be presented in Figure 1 below.

This classroom action research was conducted on 2 GPPH students

Class V at SDN Srirahayu. The research was carried out in 2 cycles using a differentiation learning strategy. Implementation of the I cycle begins with the planning (arranging) stage. At this stage the researcher designs the profiles of GPPH students, learning implementation plans (RPP), assessments and learning environments that suit the needs of GPPH students. The class profile that the researcher designed will be shown in table 4 below.

Table 4. Profile of Class V GPPH Students at SD Negeri Srirahayu No. Student's name Learning Style Learning Environment

1	Danang Saputra	Kinesthetic, Visual	Enjoys moving, talking and likes free and group learning environments
2	Hanif Pratama	Kinesthetic, Visual	Enjoys moving, talking and likes a free learning environment, but prefers to study alone

After designing the learning curriculum, assessment and profiles of GPPH students, the researcher collaborated with a master assistant in implementing the differentiated learning process in class V. Apart from that, based on the opinion of Marlina (2021) that there are 4 components in differentiated learning, then in this planning stage play on words researchers design and implement components in the form of content, processes, products and learning environments. The content that researchers design is material that students will study. Researchers made modifications to the curriculum and learning materials to suit the conditions, learning styles and needs of ADHD students. The conditions and learning styles of ADHD students are greatly influenced by their mood and behavior. ADHD students tend to have difficulty concentrating so they need to reduce activities that hinder their mood and concentration. One of these ways is to use the brain exercise method (brain exercise center). ADHD students carry out movements that are useful for balancing their right and left brains so that they can control their hyperactive behavior. Hidayati (2015) in her research explains that the brain exercise center can help hyperactive students to shift their hyperactive attitudes by synergizing the performance of their right and left brains.

In the process component, researchers design how GPPH students can process the information they receive. Learning conditions, styles and needs are different from other students in the class, so a learning process design is needed that can accommodate the understanding of learning material received by GPPH students. Regarding the intellect mapping method used, the researcher created a mind map containing the main topics of the material to be studied. Intellect mapping is the best way for ADHD students to receive and process information. This is relevant to the opinion of Purwasari (2013) in his research stating that intellect mapping can improve learning outcomes for students with learning difficulties.

Next are the product components. In this component, researchers provide various options for GPPH students to be able to present learning results that suit their needs and learning styles, such as singing, making chants or reading poetry. Apart from that, GPPH students are allowed to collaborate and learn with peer guides in carrying out the learning process. The final component is the learning environment. In this component, researchers together with accompanying masters, GPPH students and other students

create a comfortable learning space and environment with minimal distractions. The learning environment created by Play on Words can be in the form of an open air course which can accommodate the learning needs of GPPH students related to their learning styles. Widodo et al., (2020) in their research explained that learning activities in the classroom can create a learning atmosphere that is not conducive to learning because the classroom conditions are boring. Apart from open air lessons, researchers and accompanying masters can provide counseling services to help ADHD students understand themselves and their learning needs.

CONCLUSIONS

Definition and Impact of ADHD: ADHD is a condition that includes brain dysfunction, difficulty controlling impulses, and easily distracted attention span. Children with ADHD are often considered naughty and receive negative treatment, which can actually worsen their condition. ADHD can last throughout life and increases the risk for a variety of academic, social, and mental health problems.

Differentiated Learning: Differentiated learning is an approach designed to accommodate students' individual differences, including learning styles, interests, and cognitive abilities. The main character of this concept is Carol Ann Tomlinson. The goal is to prevent student frustration and failure, ensuring that each student can learn according to his or her abilities and needs.

Principles and Implementation of Differentiated Learning: Differentiated learning is based on the belief that every student has the potential to develop. The main principles include a supportive learning environment, quality curriculum, continuous assessment, responsive teaching, and effective classroom management.

Results of Implementation in Class V: After implementing differentiated learning, there was an increase in the learning outcomes of GPPH students in class V. Cycle I showed an increase completeness in several subjects, but there are still those who have not reached the KKM. After cycle II, all GPPH students achieved KKM completion in the subjects taught.

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