

## Identification of student with attention deficit hyperactivity disorder (ADHD): Experiences of primary school teacher's assessment in inclusive school

Asep Supena<sup>1</sup>, Adistyana Pitaloka Kusmawati<sup>2</sup>

### Abstract

Regarding which primary school teachers across the globe face the difficulty of teaching in an inclusive school, a broad range of ways exists to deal with the challenge. The primary characteristic of the students attending inclusive schools is that they experience attention deficit hyperactivity disorder (ADHD). This study aims to describe how teachers identify students with ADHD using a specific assessment instrument. Thus, it can make it easier for teachers to teach in class and provide special attention to students with ADHD. The data collection technique included semi-structured interviews with eight people comprising primary school class teachers, vice principals for student affairs, and school principals. The primary school teachers participating in this study have attended a workshop conducted by an expert in the Department of Special Education Need, teaching them how to use the assessment instrument in detecting ADHD. The data obtained were then analyzed and triangulated using qualitative data analysis techniques. Observations were made on teachers when assessing students with special needs having ADHD. The results revealed that the assessment conducted manually by the teacher by asking questions and paying attention to student attitudes with the ADHD instrument detected three categories: attention deficit disorder, excessive activity disorder, and self-control disorder. This study has implications for the primary school teachers and inclusive schools if they have ADHD students. It will help teachers detect students with ADHD syndrome.

**Keywords:** *student disorder, ADHD, assessment, hyperactive, inattention, primary school teachers*

### Introduction

ADHD is a medical condition related to brain dysfunction (Ewe, 2019a). ADHD makes it difficult for the patients to control their activities, impedes behavior, and renders them unable to concentrate for a long time. Thus, it can disrupt children's activities, causing learning, behavior, socializing, and other difficulties (Ewe, 2019). ADHD children need special treatment to contain some of them, and sometimes it becomes hard to distinguish ADHD children from typical ones. Special skills are

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<sup>1</sup> Dr., Department of Special Education, Faculty of Education, Universitas Negeri Jakarta, [asupena@unj.ac.id](mailto:asupena@unj.ac.id)

<sup>2</sup> M.Pd., Department of Basic Education, School of Postgraduate Studies, Universitas Negeri Jakarta

necessary to differentiate people with ADHD from others, detecting ADHD symptoms (Anastopoulos et al., 2018).

Children with ADHD need more attention to forge their skills and personality to integrate into society and they can be successful, provided that they can develop their potential (Mochrie et al., 2020). They usually have above-average intelligence, but their parents and families often cannot realize their potential. The role of the family is critical to providing moral and material support for ADHD children's success (Prasetyo et al., 2020). Therefore, children with ADHD must be detected at the earliest time by the family so that their growth and development can match the expectations of their parents (Hart et al., 2020). Although all children can display hyperactivity, those with ADHD behavior disorders will be more severe and occur at higher incidences than children without ADHD (Nelson & Liebel, 2018). According to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM 5), to test ADHD positive, a child must have symptoms for at least six months before the diagnosis; they must have been present for 12 years (Chaimaha et al., 2017). To some experts above, children with ADHD need to get special attention allowing their behavior control. Thus, the role of parents and teachers is critical to give them special attention and help them get the needed medical treatment.

Although a person may indirectly fall into the category of ADHD, they still should have the right to have education, ranging from fundamental education to higher education (Casmara et al., 2022). Based on Law No. 20 of 2003 concerning the Indonesian National Education System, every citizen needs a twelve-year compulsory education, including those diagnosed with special needs. In Indonesia, there is the Special School (SLB) for all students with special study needs. They cover elementary to secondary education to ensure that students with specific needs can get the proper training. The teachers responsible for teaching at the Special School (SLB) have a background in special education. Therefore, they can understand the condition of their students in detail and teach them accordingly (Ragamustari et al., 2021).

In Indonesia, the government has a new policy for students with special needs. It involves inclusion school. Inclusion schools are public formal educational institutions ranging from elementary to high schools (De Picker, 2020; Everett & Oswald, 2018). This inclusion school is an institution where most are typical students, but it can also accept students with special needs, including

ADHD students, deaf, blind, and others. This inclusion school policy raises at least three primary problems for students, teachers, and schools implementing it.

The first problem lies with the teacher. The teachers in inclusion schools do not have a “special” education background. Thus, they have difficulty in identifying and determining students with special needs. For example, when there is an ADHD student in his class, the teacher cannot know from the beginning that the student has this issue. It becomes exceedingly worse because the teacher will have difficulty in the learning process and providing specific care to these students (Dineen, 2019; Kilpatrick et al., 2017). The second problem relates to the teaching methodology. As inclusion school-teachers do not have a needed education background, they find it hard to determine specific learning media and methods, which can be implemented to teach students with special needs. Students with special needs entail a different approach during the learning process in the classroom. Therefore, teachers cannot treat them the same as other students (Mochrie et al., 2020; Sibley, 2021).

The third problem includes the students themselves. Students having special needs have their world of play and getting along. It makes it exceedingly hard for them to be friends with other students (Buchanan & LeMoyne, 2020; Climie & Mitchell, 2017). It is visible when the teacher gives a group assignment in the classroom. Students with special needs, including ADHD, never want to interact with other students, and vice versa. Concurrently, other students have no desire to interplay with them. Such circumstances have made teachers uncomfortable in the classroom during teaching.

One solution for the teachers in inclusion schools can involve developing special assessment instruments for students with special needs, specifically those with ADHD. This assessment instrument becomes remarkably crucial because teachers working in inclusion schools with no “special education” background can use it readily to identify that there are ADHD students in the classroom (Girli et al., 2016; Wilton et al., 2018). Hence, knowing the presence of ADHD students in the class, teachers can adopt special techniques ranging from the teaching method to effective communication and proper motivation, thus letting these students have the fullest from the class. Usually, “special” education teachers, doctors, or specialized psychologists utilize these assessment instruments. They may try using standard tools to teach students with special needs to

no avail. However, no inclusion school teacher was able to develop a specific ADHD instrument for identifying the issue initially. Therefore, the problem became increasingly relevant for teachers in inclusion schools. When teachers in inclusion schools can develop special devices for ADHD students, they can early detect students with special needs. Therefore, the instrument can have critical implications in other inclusion schools.

The assessment process for ADHD students is very crucial. Previous studies have accentuated it, justifying its relevance to the present study. Jarret et al. (2018) were one of the first studies and covered the assessment or identification process for children with ADHD. Yet, medical personnel, including doctors and nurses with “special” training in ADHD, accomplished this assessment (Fitzgerald et al., 2020; Kilpatrick et al., 2017). It is relevant to the ADHD students’ assessment; thus, teachers with “special” education backgrounds can use the same instrument in the class medium. But even so, medical doctors usually have more in-depth diagnoses of ADHD students; hence, their assessments would be more accurate (Jarrett et al., 2018).

Lovvet and Harrison conducted another relevant research in 2021. It had similarities when identifying students with special needs, namely ADHD. However, there were differences in the instruments used to perform and detect students falling into ADHD category. However, the complaints and characteristics found in adult and child-anal students with ADHD were not the same. Therefore, this study would focus on the students with special needs in school (Lovett & Harrison, 2021). The third relevant research was by Hall and his team. They expressed the prominence of assessing how to detect students inflicted by ADHD. When a teacher could assess or process early detection of ADHD students. Then, the teacher would have conveniences in the learning and teaching process in the classroom (Hall et al., 2005).

Based on the three pieces of research relevant to the topic of this article, the focus of this study will be on two primary things. The first includes describing how teachers develop ADHD student instruments. It is exceedingly meaningful because detecting students with ADHD earlier helps their learning abilities. The second involves how the teacher can use the ADHD instrument to determine the problem.

## **Research Questions**

Based on the background above, the way teachers assess ADHD students, the research questions are as follows:

1. How can teachers in primary inclusive schools develop informally specific instruments to detect ADHD students?
2. How does the teacher use the research instrument for ADHD assessment?

## **Literature Review**

### **The History and Definition of ADHD**

ADHD is not new, but it is a problem occurring in a child and is associated with an overactive character (Climie & Mitchell, 2017; Hall et al., 2005; Jarrett et al., 2018). When looking at its history, the term ADHD has many versions and sentiments about its characteristics, according to experts. The person who first came up with the concept of ADHD was Heinrich Hoffman in 1845, listing it in a book entitled "children's stories." To Heinrich Hoffman, children with ADHD are those behaving exceptionally overactive in their faithful daily activities (Buchanan & LeMoyne, 2020; Sibley, 2021). In addition to Hoffman, there is another opinion saying that the person initiating ADHD was a doctor from England named George F. Still reported that someone with ADHD had an abnormal inability to focus, restless and restless. George F. Still also disclosed that a person experiencing ADHD had a solemn deficiency concerning willpower derived from biological inheritance. The disorder would be attributable to a childhood experience; thus, an innate illness (Chaimaha et al., 2017).

Other opinions suggested that ADHD was due to an encephalitis epidemic or inflammation of the brain, with the idea resonating throughout the world from 1917 to 1926 (Sibley, 2021). When people have the epidemic and are still alive, they will experience many primary problems with survival, behavior, irritability, weak attention, and hyperactivity. Brain disease may also be related to birth trauma, injuries in parts of the brain, poisoning, or other terms known as "brain-injured child syndrome," sometimes linked to the expression "mental retardation." Since the 1950s, a child with ADHD has been linked to hyperkinesis visible by the weak filtering of stimuli entering

a person's brain. Therefore, a person experiencing ADHD is hyperactive or has excessive movements as the primary characteristic (Sibley, 2021).

When checking some literature on the current definition, Attention-Deficit / Hyperactivity Disorder or ADHD is a term applicable to children, adolescents, and adults with a deficiency while paying attention to something. Usually, it is discernible when someone is in the learning process in the class, or a teacher is teaching materials in the classroom. Additionally, a person diagnosed with ADHD is easily confused with agitation and impulsiveness. To the experts, ADHD is not a disease with a specific cause but is a neurobiological disorder. Another opinion also discloses that ADHD is a problem experienced by someone with issues with attention centering, self-control, and the need to seek continual stimulation (Buchanan & LeMoyne, 2020). There are several categories of students with ADHD, namely Attention Disorder. To learn more about the characteristics of students with ADHD, see the Table below:

**Table 1**

*Characteristics of Students with ADHD Disorder*

No	ADHD Symptoms	Characteristics	Character
1.	Attention disorders	Attention disorders Have poor concentration Memory disorders Not able to concentrate when talking to the other person	Students have a disability to be able to receive attention from the teacher. Students find it hard to concentrate when the teacher delivers the material in class. Students have difficulty being able to remember the material presented by the teacher. Students cannot focus when talking to both the teacher and their peers.
2.	Excessive Activity Disorder (Hyperactivity)	Hyperactive Too much movement Difficult to control	Students are very active and have more than regular activities. Students have many “movements” that are not compatible with other students. Students have difficulty being able to control themselves. Students cannot have the ability to be able to coordinate “movement.”
3.	Disorders of self-control ADHD Symptoms	Inability to coordinate movement Unstable emotions Speech and hearing disorders	The emotions of these students are unstable and tend to change. Students have speech disorders and cannot listen to the material presented by the teacher. The character of the student is difficult to control. Students with ADHD have suboptimal academic abilities.

Source: (Sibley, 2021)

Based on the first table, it is evident that many characteristics or indicators can be used as the primary reference by teachers when analyzing which students fall into the ADHD category. Based on the previous studies, the character of ADHD usually can be seen in emotionally unstable children (Chaimaha et al., 2017; Ewe, 2019; Malmqvist, 2018).

ADHD is a solemn problem for teachers in schools. Teachers will face at least three primary issues when having students with ADHD. First, students in the classroom cannot focus on the teacher when the teacher presents the material. It suggests that teachers require specific methods or ways for students having ADHD (Climie & Mitchell, 2017; Fitzgerald et al., 2020). In previous studies, ADHD students attending the inclusion schools were assisted by a Special Accompanying Teacher (GPK) who was responsible for helping the master teacher in teaching materials to ADHD students. The second problem is that ADHD students sometimes impact other students in the classroom; hence, the class is not conducive to use in the learning process (Buchanan & LeMoyne, 2020). Previously, it has happened that it becomes more difficult to condition when there are children with special needs. Therefore, the teacher's challenge is not only trying to focus attention but also the process of conditioning the class becomes lengthier. The third problem is that sometimes, teachers serving in inclusion schools cannot identify the type of learning disability experienced by a person. It is the most challenging thing in an inclusion school (Zid & Casmana, 2021). The teacher must detect students with ADHD during the first meeting in the classroom. Then, he can adjust the material and the specific approaches needed to teach students (Sibley, 2021).

### **Primary Inclusive School Teacher and Assessment for ADHD**

An inclusive school is a formal educational institution educating not only regular students but also students with special needs (Komarudin et al., 2019). At every level, there are at least a few students who can learn and participate in the educational process in the inclusive school. Therefore, this school is a milieu where someone can teach students with special needs. Teachers serving in inclusion schools require specific characteristics and a high level of patience. Teachers working in inclusion schools should have a personal spirit reflecting an excellent personality, stable, mature, wise, noble, and influential character and become role models for students (Aburaida, 2020; Morales et al., 2020; Polat, 2020).

The specific personality competency required for inquisitive school-teachers is being a good friend to students with special needs, including ADHD. Thus, they feel happy and motivated to study with those teachers and other typical students (Zid & Casmana, 2021). Motivating ABK students to learn and utilize learning media, tools, materials, and other means is critical in making teaching preparation and must include various principles. The teaching preparations must explain the goals to be achieved in harmony with the competence of ABK students, the characteristics of ABK, and the psychological development of ABK students.

Regarding the assessment of ADHD students, several previous studies have addressed the assessment of ADHD children. However, most are not done by teachers. First, a study conducted by Sibley (2021) covered the identification of ADHD children. The results showed that students with ADHD could be assessed by a psychologist using special instruments. The primary focus included how the child focused on specific objects given by a psychologist.

Besides psychologists, special-school teachers (SLB) also have a crucial role in identifying ADHD students. The second research centered on the way special-school teachers diagnosed prospective new students. Special-school teachers have specific abilities because they are provided with materials in their undergraduate lectures. Even students in the Special Education study program have special courses for ADHD students. Hence, research conducted by special-school teachers has involved a lot in evaluating ADHD students (Jarrett et al., 2018).

In Indonesia, no research on typical teachers or teachers in inclusion schools not having a “special” education background to develop instruments about ADHD exist. Therefore, it forms a research gap concerning studies on “special” education about learning and how teachers conduct an initial analysis to identify ADHD students.

## **Method**

### **Research Design**

This research uses a qualitative approach with descriptive design. Qualitative approaches were used to obtain in-depth data on some of the people involved in the study, particularly those teachers who teach in inclusive elementary schools and have students with special needs of ADHD. According to Creswell (2004) qualitative approach has made it possible to be able to obtain in-

depth data, because it is able to dig up some questions that cannot be answered with questionnaires, such as questions related to being able to obtain the main reasons regarding the way teachers teach, and some special methods used. So that the qualitative approach can provide maximum results in collecting this data. Qualitative approach is one of the ways that can be used when humans become the object of his research or some phenomenon that occurs. In this case, the way teachers identify ADHD students becomes the main topic.

The main focus in this research is on how teachers develop their research instruments, and how teachers use and apply them. Based on both researches focused, descriptive design is the right way to find out both research focuses. To be able to get maximum data, then there are three main events that have been done in this study. The first is to interview inclusion elementary school teachers who have special needs students with ADHD classifications in their classrooms, so that teachers who do not have or have never taught ADHD students cannot participate in the study. In addition to interviews with teachers, deputy principals and principals are also involved in in-depth interviews to be able to obtain the policies that have been carried out by the school. The second is to conduct training or mentoring of inclusion elementary school teachers who have or have taught ADHD students by inviting experts in their fields. Third, by analyzing the identification documents that have been made by students.

### **Participants**

This research was conducted at an inclusion elementary school in Subang Regency, West Java Province, Indonesia. The schools that have participated in the study are public elementary schools that have children with special needs with ADHD classifications. The study focused on looking at how teachers identify with ADHD students. In this study, there were 8 participants who were interviewed in depth, they are six teachers, one school deputy principal and one school principal. The teachers interviewed in this research are class teachers in grades 3 to 5. They have the shortest teaching experience for 15 years in elementary school and each has an ADHD student in his or her class. The school principal and vice school principal were interviewed because they had managerial interests and responsibilities in identification activities and educational services for ADHD students at their school.

**Table 2***Characteristics of research participants*

No	Class	Class of group	Participants	Total
1	Class 3	2	Teacher	2
2	Class 4	2	Teacher	2
3	Class 5	2	Teacher	2
4			Deputy principal	1
5			Principal	1
Sum				8

Table 2 shows more detailed information about who participated in the study. Teachers have a very important role in this research, as they are the main source in this research. The data obtained a lot from teachers, because the teacher is someone who develops instruments to identify ADHD, as well as using these instruments. Moreover, the duties of the principal and deputy principal also included granting permission to the teacher when identifying ADHD students initially.

### **Research Instrument**

Qualitative research instrument is a tool used to be able to obtain data. In this study, there are interview instruments that are used to obtain in-depth data with teachers through focus group discussion (FGD), and document analysis. The interview instrument used is in the form of several questions that have been prepared by researchers in more detail to be able to answer research questions. Some questions are used such as "how do teachers know the characteristics of AD HD students?", "Reference sources used by teachers to be able to find out the characteristics of ADHD students?", as well as "what school policies have been done to deepen teachers' knowledge of the characteristics of children with special needs?", as well as some other questions that used by teachers to be able to dig up data regarding the identification of ADHD students. The next instrument used is data analysis. In this research instrument, researchers use forms to be able to see whether the documents used by teachers have matched the characteristics of ADHD or not, such as forms about the characteristics of ADHD students and also the results of analysis of forms that have been used by teachers.

### **Data Collection**

Data collection techniques used in this study are interviews, focus group discussions (FGD) and analysis documents. Interviews are conducted in depth in groups or Focus Group Discussion (FGD) with teachers. In accordance with the information in table 2, there were six teachers who

participated in the study, and they provided data on how teachers identify ADHD students. The data obtained from the results of focus group discussion (FGD) with elementary school teachers' inclusion is about teachers' understanding of ADHD students and how teachers identify ADHD students. This is the core data obtained through this study because the main focus in this study is to be able to obtain data on how teachers develop and use ADHD student instruments. The time used to be able to conduct focus group discussions is 135 minutes.

The second data collection technique is to use in-depth interviews. Table 3 shows that in-depth interviews were conducted with principals and vice principals at inclusion elementary schools that have special needs students, particularly ADHD. There are at least three main objectives to obtain the data desired by researchers, including the understanding of the deputy principal and principal about ADHD students because they have also been teachers before obtaining the current position. Next is to be able to obtain data on some policies and regulations in dealing with ADHD students in elementary school inclusion. This is very important because teachers are the ones who carry out these policies. The purpose of the next interview is to find out the efforts made by the school in facilitating teachers in understanding ADHD students. In addition to the principal, several teachers were also interviewed to obtain data about the teacher's impressions and experiences during the identification of ADHD. Table 3 briefly shows information about the data collection process as well as the results obtained in this study.

**Table 3**

*Information on the data collection process and the final results obtained*

No	Data Collection Process	Data collected
1	Initial group interview (FGD) with six classroom teachers in grades 3, 4 and 5 of inclusion elementary school	Teachers' understanding of ADHD and their way of identifying ADHD students.
2	Interviews with the principal and vice principal	<ol style="list-style-type: none"> <li>1. Participants' understanding of ADHD</li> <li>2. Policies and regulations in the treatment of ADHD</li> <li>3. Efforts are made by schools to facilitate teachers in understanding ADHD.</li> </ol>
3	Final interview with the teacher	Impressions and experiences of teachers during the identification of ADHD students and their results.
4	Document analysis	ADHD identification instruments and their results.

The third data collection technique is document analysis. In this technique, the document analyzed is an ADHD identification instrument used by elementary school teachers. In addition, the results of document analysis are also taken several sheets that have been used to be able to see how teachers analyze it.

## **Data Analysis**

The data analysis technique used is to refer to the way done by Widodo (Widodo, 2014). Widodo explained some steps that can be used to be able to analyze qualitative approaches, especially the results of data from focus group discussions (FGD) and also in-depth interviews. First, the process during focus group discussions and in-depth interviews is carried out by recording, so that all conversations that have been done are recorded to the maximum. After the data is recorded, the next step is to turn each recorded conversation into a piece of writing to be analyzed. After the data is converted into a piece of writing, it is then labeled in the form of codes related to the characteristics of ADHD students, the ADHD identification process, and also the results of ADHD identification. The next step after completing the coding process, the data is then interpreted into a result. The data analysis process is assisted by using nVivo software, making it easier for the process to be able to analyze it. To be able to validate data, triangulation is used, so that the results do not become biased.

## **Findings**

### **Research Question 1: How Can Teachers in Inclusion Schools Develop Special Instruments Informally to Detect ADHD Students?**

#### ***Participating in Training Held by the College***

Teachers have a very important role in the educational process. As someone who transfers knowledge to learners, teachers need some special strategies so that the material delivered to the students can be delivered to the maximum. The main challenge of teachers in elementary school inclusion is not only teaching students who fall into normal categories, but also students with special needs such as ADHD. Students who fall into the category of ADHD need special treatment, so that they are able to absorb the material maximally. ADHD students as a whole look like normal and do not look characteristics, but when tried to be examined in more detail, this ADHD student has very special characteristics, So teachers who teach in inclusion elementary schools need to know specific ways of identifying ADHD students. One of the policies made by inclusion

schools is to encourage teachers to participate in special training on getting to know ADHD students.

Teachers in inclusion primary schools usually do not have a “special” educational background when studying at university. They follow Elementary School Teacher Education Curriculum in general, and it may only include a limited emphasis on special education. It makes it hard for elementary school teachers to meet the needs of “special” children with special needs, especially those with ADHD. One of the policies conducted by the principal is to hold special training sessions. Teachers in elementary schools are included, thus allowing them to develop special assessment instruments to readily identify the ADHD students in their classrooms.

*“I am trying to create a workshop for the teachers in school and inviting some experts from the university lecturer who can help teachers identify students with ADHD in the school.” Interview, School Principal*

*“Before assessing the student with ADHD, I got some training and workshop on using the instruments. This school’s principals invite an expert who is a university lecturer focusing on Special Education Need.” Interview, Teacher I*

Training and workshops are critical for the schoolteachers. They help teachers observe how to use ADHD instruments. Based on the primary school teachers’ interview, they stated that the school principals invited some experts from the university to depict how to understand that a student had a disorder. In the training session, the experts explained to the teachers how to assess precisely that a given had ADHD disorder. For example, one of the ADHD characteristics is that the students never pay attention to the person either friends or teachers talking to them. The lecturer from the university disclosed that the character was the defining issue as typical students demonstrated the same. Therefore, the training had utmost prominence in helping teachers identify the problem.

ADHD is a mental health disorder. The first assessment done by the teacher focused on attention deficit disorder. The teachers observed the students’ characteristics and behaviors to feel how their daily activities were. However, even though the teacher could detect and follow differences in students’ behaviors in the ADHD category, the teacher had to resort to several ways. Thus, it was necessary to assess students with mental concentration disorders. This assessment was specifically needed by teachers, especially in inclusive schools, because students with special needs (ABK) can attend inclusive schools.

*“The workshop content that I learn from the expert mainly discusses the characteristic of ADHD, assessment for ADHD students, the teaching approach used in the classroom, and learning media in the classroom.”*

*Interview, teacher 2*

*“I have learned extensively from the lecture in the workshop, particularly about how to identify the first assessment on students with ADHD.” interview, teacher 1*

During the workshop, there were three primary points where the expert from the university shared the information about ADHD. The first material shared by the expert with the teachers was about the characteristics of ADHD students. It was the first essential knowledge that the teachers should know as fundamental. For example, teachers learned about the theory of ADHD, its diagnosis, characteristics, and some treatments in the classroom. Therefore, teachers in inclusive primary schools could gather the fundamental personalities of ADHD students. Then, the experts shared knowledge about the ADHD assessment. This assessment was the critical point where teachers could learn to detect and assess students with ADHD. Experts from the university delineated how to use the assessment form and analyzed the results depending on their character. Also, the experts explained the teaching approach and learning media to the teachers during the training. For instance, lectures gave some examples such as music and videos that would be beneficial for the students to learn and cope with the materials in the classroom.

### ***Teacher develops ADHD identification instrument***

Training on how to understand the characteristics of ADHD students has a very important role for inclusive elementary school teachers. As previously stated in the results of previous studies, that the purpose of the training is to be able to provide teachers with an understanding of the characteristics of ADHD students and provide information on how to identify ADHD students in elementary school, especially the lower class. During the training process, teachers are given detailed modules and information about ADHD students, the learning process, how to handle it, and also learning methods that allow it to be used during the identification process. The result of this training is that teachers can produce identification instruments that have been agreed upon and checked the results by speakers who are experts from universities.

*"The result of the training carried out is that teachers are able to develop personal ADHD identification instruments that can be used when conducting ADHD assessments in the classroom" interview, principal*

Based on the information from the principal, the main result of the training held is that teachers are able to produce ADHD instruments independently and can also use them directly when assessing in the classroom. So, teachers can know the learning methods and media used and special ways that ADHD students can also learn optimally in the classroom. Training on understanding students with special needs in inclusion elementary schools is carried out regularly every year by the school, so that the knowledge possessed by teachers continues to be upgraded. This is the policy of every elementary school inclusion, so that funds obtained from the government can also be used to increase the scientific capacity and teaching practices of every teacher in the school.

*"Every year, our school always holds training on children with special needs and invites experts from universities. The topic discussed is not only about ADHD, but also about some specifications of other student characteristics" principal interviews.*

Although not about ADHD, upgrading teachers' knowledge about children with special needs is very important. It aims to be able to improve the teacher's understanding of special needs students. The following are the results of ADHD student assessment instruments that have been created by teachers to be used in the process of initial identification of ADHD.

**Table 4**

*Early ADHD identification instruments that have been created by teachers from training results*

No	ADHD characteristics	Results	
		Yes	No
1	Restless, squirming; tapping hands or feet	V	
2	Feeling restless (child will run around or climb inappropriately)	V	
3	Need to work hard to be able to play quietly or to do activities in silence		V
4	Always ready, like being driven by a machine	V	
5	Very chatty		V
6	Explode talk even before the question is asked	V	
7	You need to work hard to be able to wait until your turn comes	V	
8	Cutting others off, slipping into other people's discussions or games	V	
9	Making mistakes recklessly, not paying attention to details	V	
10	Has trouble paying attention (while doing tasks or playing)	V	
11	Like not paying attention when someone is talking to him	V	
12	Not following up (homework, homework, work); easy to switch	V	
13	Unorganized	V	
14	Avoiding tasks that require prolonged focus (such as schoolwork)	V	
15	Can't remember tracks or often loses keys, glasses, papers, tools, etc.	V	
16	Easily distracted	V	

Table 4 is the result of the teacher's understanding when participating in training on the characteristics of ADHD students including one of the results of student assessment for ADHD. There are 16 characteristics found by teachers based on the results of sources that have been obtained from the training carried out by the school. The sixteen characteristics can be identified during several meetings by the inclusion elementary school teacher. Through the results of the assessment of the instrument, it can make it easier for elementary school teachers to be included in the ADHD identification process. But even so, this allows for some problems in terms of the level of accuracy of the instrument, as well as the teacher's understanding in identifying ADHD students. Therefore, there needs to be validation of the instruments that have been made by the teacher and also further examination both by the teacher and by psychologists who are experts in the field of ADHD students.

#### ***Comparing the Assessment Instruments Made by Teachers with the Other Resources***

People usually assessing the ADHD include special needs teachers, medical doctors, and psychologists. Special needs teachers learn about disabled students while at the university, thus making them extraordinarily familiar with ADHD students. Psychologists and medical doctors also have particular instruments to diagnose students with ADHD syndrome. The literature has suggested that some devices such as DSM-5 or Diagnostic and Statistical Manual Mental disorder exist for this end. Medical doctors and psychologists usually use it to assess people with ADHD. The present study included a form to make inclusive teachers evaluate students with ADHD. Then, the result could be compared with that of the medical doctors and psychologists, who also detected ADHD.

*“After training with the experts, teachers had to compare the instruments made by themselves with the psychologists’ and doctors’” interview, The School Principal.*

Validating the instrument involves consulting with psychologists and medical doctors who specifically deal with students having ADHD. When the teacher follows the training process provided by the expert, the result is that the teacher develops a specific assessment instrument. The instrument is then compared to a psychologist, thus ultimately obtaining validation with the results provided by doctors and psychologists.

An instrument is valid if it can precisely measure what it should. If teachers want to do a test to see the characteristics of ADHD students, then they need to make specific ADHD instruments. It is necessary to develop tests per the targeted goals, getting excellent results meaning that they should accurately determine students with ADHD. Validity for a research instrument involves showing the achievement or success of a tool in measuring what should be measured. The principle of the test instrument is valid but not universal. The degree of validity only applies to one specific group planned to be used by researchers to see the degree of validity in children with special needs ADHD.

*"After being compared to instruments made by psychologists and doctors, I feel more optimistic in using the instruments I have created to be able to identify ADHD students" Interview, teacher 4*

After the validation process, the teacher can use the instrument on the students in the classroom. It can be used by the teacher in the first encounter with students in class, and then while performing instrument validation processes for students.

### **Research Question 2: How Do Teachers Use Instruments of Identification on ADHD?**

After getting ready on how to use the instruments, teachers try to identify the ADHD students following lectures information on the training. Based on the results of interviews with teachers, at least some characters can be used as an initial assessment when detecting students with special needs, especially those classified as ADHD students. This characteristic can be used by the teacher when observing the characteristics of students in the classroom.

*"In the learning process, I try to be able to provide games in learning, such as making airplanes and boats. Although most of the students are able to make boats, ADHD students feel less focused on the material I convey, so they don't understand" Interview, teacher 1*

One of the characteristics of someone having an ADHD mental health disorder is that a person cannot focus on the learning material presented by the teacher. Based on the interview results with one of the teachers, he stated that his students lacked focus and could not receive learning materials in almost every meeting. It is not the case with other students because the other students can readily refocus even if they cannot focus at first. However, students detected with ADHD could not follow the learning process at each meeting. Although teachers have tried to provide stimulation as direct

practical learning, such as making planes from paper to make students more interesting, ADHD students still cannot focus on the material delivered by the teacher. It always happens in almost every learning process. Therefore, it is difficult for teachers to provide special treatment if students lose focus during the learning process.

The second assessment that was used by the teachers can include inviting ADHD students to communicate directly. Direct communication with students identified with ADHD can make teachers understand that these students are incorporated. According to several previous studies, one way of finding out which students have ADHD is that especially those with attention deficit disorder do not seem to pay attention to the person talking to them.

*“I always try to be able to communicate directly with students personally who I think are ADHD students. Usually, students who have this type of disability are not paying attention to people who talk to them, including me”*  
interview, teacher II

The students, falling into the ADHD category, especially those with attention deficit disorder, have difficulty communicating with other people, including those closest to them, namely their families. Based on the results of interviews with teachers, these students are very hard to talk to. In addition, they are not good at challenging and detailed things, such as asking for help to take something. The following characteristic related to concentration is that the student always avoids activities or assignments associated with focusing. In other words, these students have concentration problems when they receive learning materials from the teacher. In this case, the students cannot concentrate on the learning material. It is one of the characteristics of students identified with ADHD, and with this character, difficulty in concentration becomes one of the traits of students with ADHD.

*“When I teach the material to students, one of the disabled students in my class is having difficulty concentrating. This can be seen when I explain the material, the student concerned does other activities and does not focus on learning”* interview, teacher II

According to the results of interviews with teachers, one of the characteristics of students indicated with ADHD is allied to concentration. Early concentration implies that students identified with ADHD have fundamental differences from other students. One of the problems characterizing the diagnosis of ADHD is the difficulty of being able to think and concentrate on teachers delivering learning materials to their students, so according to the interviewed teachers, they need special strategies to be able to teach and identify ADHD students in terms of communicating.

The interview results show that based on the teachers' experience in identifying ADHD, the training workshop in using the instruments is exceedingly helpful in detecting ADHD students. The abovementioned characteristic depends on the teachers' experience when teaching in the classroom. Then each student distinguished as ADHD was analyzed using the instruments of ADHD disorder. After receiving the workshop on the device, teachers can identify and assess students with this disorder. Therefore, the assessment of ADHD instruments helps teachers to discover attention deficit disorder.

### **Assessment of Students with Excessive Activity Disorders**

This part will discuss how school-teachers identify excessive activity disorders using ADHD instruments. Excessive activity or hyperactivity is the second characteristic of ADHD. If a child cannot be silent, always talks a lot while communicating, and moves very actively, it may indicate the issue of ADHD. That is why students identified with ADHD are more active than typical students. It can be seen from how they behave and convey several messages when communicating with others. It is characteristic hyperactivity associated with somebody having ADHD. Then, hyperactivity can be remarkably hard to control. The characteristics of hyperactive students relate to continual movement. They have exceedingly accretive behavior and are readily disturbed if they are in a stressful environment. These factors make an ADHD-identified student increasingly hard receive learning materials from school. Some experts also say that when students have activities increasingly different from usual activities, then these students can be classified as ADHD (Hsiao, 2020). Thus, students identified with ADHD exhibit varied activity levels from typical ones.

The impact becomes evident when someone identified with ADHD has a poor relationship with family or peers. Therefore, an accident or injury may occur when someone who is hyperactive meets typical students. It is due to the negative behavior and has a worse impact on peers in the school environment. It is discernible from the statement of the results of interviews with teachers.

*"Students in my class are very easy to get distracted, and their attention is very short, so when the teacher asks for an opinion, the student has difficulty concentrating" interview, teacher III*

*"My students are always careless in doing things, for example when he is asked for help, he always tries to divert the conversation and refuses in a different way" interview, teachers IV*

The type of hyperactivity of students identified with ADHD was exceedingly different from typical students, based on interview results and discussions with teachers. Usually, other students can completely concentrate on the learning process. However, based on the interview of teachers, students with ADHD stated that their concentration was less than a minute. It shows that the way ADHD communicate both with students and teachers become the main focus in identifying ADHD characteristic. The last assessment of students associated with ADHD was about hyperactivity. It can involve several things related to motor activity and can be seen when the student moves more and cannot stay still. One of the teacher's remarks is as follows.

*“One of the ADHD students in my class has a lot of movement. When the other students are quiet in class, ADHD students cannot sit still, especially in a quiet environment” interview, class teacher II.*

Based on information from classroom teachers who have ADHD students, students in the class always have excessive and a lot of movement. For example, when they are silent or pray in the morning before class time, ADHD students cannot be quiet and always disturb other students. It is one of the assessments of excessive activity disorders for students with ADHD. Limited concentration, easily getting destructed, and carelessness in doing something are other examples of ADHD, specifically excessive activity disorder. When the teachers use the assessment instruments, they need to see and pay attention to the detail of each student's activities. As mentioned earlier about the teacher training in advance, teachers argued that assessing the ADHD should be a repetitive process. It is why the characteristic of ADHD needs to be observed at least every six months and done daily. It means that the ADHD instrument is used after several months of students coming to the school.

### **Discussion**

The process of identifying ADHD students can be done in a variety of ways. The purpose of identifying and diagnosing ADHD is to be able to know how the process of educating, as well as learning methods and models that can be used by educators in their classrooms. Elementary school students are a condition where their children are very difficult to be able to receive learning materials from teachers, so teachers need a special way in the process of transferring knowledge to students. As for teaching in inclusion elementary schools, the teacher's challenge is not only to

think about learning models and methods for normal students in general, but also to add how to teach students with special needs (Anastopoulos et al., 2018; Emmers et al., 2017). Therefore, inclusion elementary school teachers need specific ways and strategies in identifying students with special needs, which in this study focused on ADHD students (Anastopoulos et al., 2018).

Based on several experts, the main way to be able to identify students with special needs is through special assessments using the DSM-5 form or diagnostic and statistical manual mental disorder (Bertills et al., 2018; Climie & Mitchell, 2017). This form is also used by psychologists as well as outstanding school teachers (SLB) in identifying students with special needs (Potts et al., 2021). The form can be used as the main reference by doctors and psychologists because in the form there are several characteristics of students with special needs, including those who belong to ADHD students. However, as the existence of an inclusion elementary school policy in Indonesia, students with special needs including ADHD can attend public elementary schools (Sarkadi et al., 2020). So this is the main challenge of inclusion elementary school teachers who have students with special needs.

To be able to identify ADHD students, there are several ways that can be used by teachers and schools. The results of previous studies, mentioned that there are at least some ways done by schools as institutions to be able to make general policies so that teachers know special ways to identify students with special needs, including by improving the understanding of elementary school-teachers inclusion about children with special needs, assigning teachers to conduct special research on children with special needs, and also developing schools. special needs student identification instrument (Anastopoulos et al., 2018; Berchiatti et al., 2021; Ewe, 2019b; Kirkland et al., 2020).

Developing and improving general knowledge and teacher capacity and capability in understanding students with special needs is the most important way (Sibley, 2021). This is because inclusion elementary school teachers do not have basic knowledge about children with special needs, so this can be a new knowledge for these teachers. In this study, teachers did not have special knowledge because their educational background was elementary school teacher education, not special education. So schools need to make special policies in order to improve teachers' abilities about ADHD students (Sibley, 2021). In this study, the school invited experts

from the college to be able to provide specialized training on how to identify ADHD students and also how to educate and deal with it, so that teachers gain specialized knowledge about the process and how to deal with students with special needs. This is in line with research conducted by Lovett and Harrison where the results of the study stated that teachers' knowledge of children with special needs becomes a corner stone on teaching students in inclusive schools, so the upgrading process becomes a necessity (Lovett & Harrison, 2021). The result of training and upgrading such science is the ADHD identification instrument.

Instruments that have been made by teachers need to be validated by comparing with other instruments, as well as consulting with experts. According to Jarrett (2018), one way to be able to validate is to compare with common instruments and also consult with experts, in this case doctors and psychologists (Jarrett et al., 2018). Doctors and psychologists who work in agencies can issue letters legally explaining in more detail about the condition and diagnosis of children belonging to ADHD students. In this study, after the teacher carried out the identification process using the instruments he had made, the results obtained were then consulted with experts. The goal is to be able to ensure that the students identified by him are students with special needs ADHD, so that in providing judgment, the teacher gains reinforcement. This is in accordance with the results of research conducted by Hall (2005) which states that the validation process of students with special needs can be done in consultation with experts, namely doctors and psychologists (Hall et al., 2005).

After the teacher produces the instrument and validates, the next step is for the teacher to carry out the initial identification process to be able to detect students with special needs, especially ADHD students. To be able to identify ADHD students, experts in several studies focused on three main characteristics, namely hyperactivity characteristics, student concentration and communication ability (Papadopoulos et al., 2002; Scott & Nimon, 2021). In the first assessment performed by the teacher is the hyperactive characteristic of the student. The results of this study are in accordance with a study conducted by Papadopolus (2022) that students are hyperactive, difficult to communicate, and also difficult to focus are the main characteristics about ADHD. In table 4 of the instrument developed by the teacher, one of the main focused characteristics is having a trouble in paying attention. So that the difficulty of being able to focus on others, in this case including teachers is also a major characteristic of ADHD students (Greene, 1995).

Based on many previous studies related to student assessment with ADHD, the novelty in the present study is the development of instruments made by elementary school teachers when identifying ADHD students in their classrooms. Previous studies related to the assessment of ADHD students were conducted by psychologists or medical experts who were able to detect ADHD. Yet, teachers were the ones who assessed ADHD in students in this study. Moreover, previous studies examined ADHD symptoms in adults or college students, while this study centered on identifying ADHD in elementary school students.

### **Conclusion**

Based on the findings in this study, there are several ways that teachers can use to be able to detect and identify the beginning of students with special needs in elementary school inclusion. An inclusion elementary school is a school where public schools can accept students with special needs. The focus in this study was students with special needs who belonged to ADHD. Teachers who teach in inclusion elementary schools do not have a qualified educational background about children with special needs, nor ADHD students, so the main way that needs to be done by the school is to create a training that aims to be able to improve the understanding and knowledge of the teacher. This training can be done annually and becomes the main policy of the school, so that teachers slowly improve understanding and knowledge about children with special needs, including ADHD. Because at the research site there are more students with special needs, the focus of the training used is the way teachers develop instruments that can be used to identify ADHD students. So, the result is that the teacher makes an instrument that contains the characteristics of ADHD students.

Instruments that have been made by teachers as the outcome of training organized by the school are the final product of training. The instrument can be used by teachers in inclusion elementary schools to be able to identify ADHD students early on, particularly in low grades. Although teachers have been able to develop such instruments, it is necessary to validate the instrument by comparing it with experts, in this case doctors, outstanding school-teachers and psychologists. Doctors and psychologists working in a particular agency can provide legal and written information by letter about a specific diagnosis that a person belongs to ADHD, while an inclusion elementary school teacher cannot provide such a diagnosis. So that the instrument developed is

only for the personal needs of a teacher in school. After the teacher knows and feels confident about the characteristics of ADHD students, the teacher can adjust methods, media, learning models and other special treatments. So that this can be used as an initial reference for teachers in knowing ADHD students.

The main focus of teachers in using ADHD instruments is the ability to communicate, the ability to focus and hyperactive character. The ability to communicate can be seen from the level of focusing of the student. Usually, students who fall into the category of ADHD cannot focus for a long time on the learning materials delivered by the teacher, so teachers need to study more deeply about the level of focus on a person's focus on the learning path that is being delivered. When students cannot focus, then they are also difficult to be able to communicate seriously, because they have their own world and a way of communicating independently. Therefore, after finding several ways that can be used, the teacher can adjust according to the characteristics of ADHD.

However, some limitations have also occurred in this study. The first is the Hawthorn effect., Teachers have realized and known that they are under research while interviewed and observed. Therefore, they may have overestimated their responses in the interview. The second limitation is that this study has only focused on teachers and principals. Thus, future research should include students and parents having ADHD issues as respondents.

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