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Improving the Cognitive Function of Intellectual Disability Children Through Visual Arts Therapy: Concepts In-depth and Practices Application

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ABSTRACT

This research aims to deepen and to apply visual arts therapy, especially fine arts, as intervention method to improve the cognitive function of children with down syndrome and intellectual disability. The case of intellectual disability, especially down syndrome, increases in Indonesia. Children with down syndrome experience delays in growth, development, and independence compared to their peers. Children with intellectual disabilities are believed to benefit from visual arts therapy as a means of self-development and rehabilitation. Four kids participated in this study; two of them had down syndrome and the other two were intellectually disable. Analysis was carried out by observing the development of the images produced by the kids from three separated sessions. The findings demonstrate positive developments in every kid's drawing skill, expression and artistic exploration. This research also discusses the application of SAVI method (Somatic, Auditory, Visually, Intellectually) in children's art activities. Children with intellectual disability benefit from the development of creativity and cognitive function through visual arts therapy that employs the SAVI technique, with a particular emphasis on visual features. In conclusion, children with down syndrome and intellectual disability can benefit greatly from visual arts treatment in terms of their cognitive performance. Parents' and facilitators' roles are crucial in supporting children's development process. It is proposed that this study would positively impact the creation of an all-encompassing therapeutic strategy to raise the standard of living for kids with disabilities.

ABSTRAK

Penelitian ini bertujuan untuk mendalami dan menerapkan terapi seni visual, khususnya seni rupa, sebagai metode intervensi untuk meningkatkan fungsi kognitif anak dengan down sindrom dan tunagrahita. Disabilitas intelektual, terutama down sindrom, menghadapi peningkatan kasus di Indonesia. Anak-anak dengan down sindrom menghadapi keterlambatan pertumbuhan, perkembangan, dan kemandirian dibandingkan rekan-rekan sebaya. Terapi seni visual dianggap sebagai wadah pengembangan diri dan pemulihan bagi anak-anak dengan disabilitas intelektual. Penelitian ini melibatkan empat anak, dua di antaranya dengan down sindrom dan dua lainnya dengan tunagrahita. Analisis dilakukan melalui pengamatan perkembangan gambar yang dihasilkan selama tiga pertemuan. Hasilnya menunjukkan perkembangan positif dalam kemampuan menggambar, ekspresi, dan

eksplorasi seni pada setiap anak. Penelitian juga membahas aplikasi metode SAVI (Somatic, Auditory, Visually, Intellectually) pada kegiatan seni anak-anak. Terapi seni visual dengan metode SAVI, terutama fokus pada aspek visual, mendorong perkembangan kreativitas dan fungsi kognitif anak-anak dengan disabilitas intelektual. Kesimpulannya, terapi seni visual menjadi sarana efektif dalam meningkatkan fungsi kognitif anak-anak dengan down sindrom dan tunagrahita. Peran fasilitator dan orangtua sangat penting dalam mendukung proses perkembangan anak. Penelitian ini diharapkan memberikan kontribusi positif terhadap pengembangan pendekatan terapeutik holistik untuk meningkatkan kualitas hidup anak-anak dengan disabilitas.

1. INTRODUCTION

In Indonesia, there is a growing recognition of intellectual disability, particularly those exemplified by down syndrome (Anggraini et al., 2020). According to Riskesdas data from 2013, down syndrome is a congenital genetic condition that is rather prevalent, with a frequency of about 0.13 percent in children between the ages of 24 and 59 months. However in 2018, this figure increased to 0.41 percent of total births, indicating significant upward trend (Hisbiyah et al., 2022).

Although children with down syndrome can be born with relatively normal physical characteristics, they experience delays in growth and development compared to peers who do not have down syndrome (Wahyuni et al., 2022). The main challenges faced by these children related to their ability for independence, which includes self-care issues. Children with down syndrome experience changes in their emotional behaviour and cognitive abilities when they experience delays in this area of independence.

According to Bappenas in Fajri et al., (2021, p. 22), around 13.5 percent of the total number of children with disabilities in Indonesia suffer from behavioural/emotional disorders and difficulties in taking care of themselves. Social attitudes and beliefs of children with intellectual disabilities are intimately linked to this dependency phenomena. They are susceptible to being viewed as a burden by some in society since they are unable to care for themselves and to control their emotions on their own without assistance.

Some find that having close relationships with those who have intellectual disabilities to be problematic, which prevents them from receiving the serious attention that their situation deserves. Indeed, people with intellectual disabilities are frequently overlooked and undervalued, even as adults. The primary obstacle they confront is the stigma of being associated with as "troublesome," which is getting worse as false information on social media and careless social networks proliferate. (Sulistiyowati, 2021, p. 9).

Variously referred to as mental retardation, feeblemindedness, mental disability, or mental disabilities, intellectual disability encompasses a range of conditions that provide unique difficulties for those who experience them. The term mental disabilities refers to children who experience mental barriers, including slow learners or mental retardation, and who are viewed as foolish, dumb, or stupid (Mumpuniarti et al., 2014). Children with intellectual disabilities are generally perceived in Indonesia as being late and having trouble interacting with others.

When it comes to intellectual and cognitive performance, children who suffer from mental retardation or mental disabilities perform less well than their classmates. (Hisbiyah et al., 2023). Many challenges arise from this delay, such as trouble adjusting, trouble learning, and trouble attracting other people's attention. They also tend to be avoided or treated with indifference by many individuals, including parents, due to their frequently dissimilar physical characteristics.

Thus, the purpose of this research is to thoroughly examine the effects of visual arts therapy, particularly visual arts therapy, as an intervention strategy for kids with intellectual disabilities and down syndrome. This study investigates the potential benefits of visual arts therapy for enhancing children with intellectual disabilities' emotional health, independence, and cognitive abilities. Furthermore, this study attempts to dispel the stigma that society has associated with intellectually disabled children by highlighting the positive effects of art therapy in shifting societal perceptions of these children. With such an objective in consideration, it is expected that this research will contribute to the creation of a holistic therapy approach to enhance the quality of life for children with down syndrome and intellectual disabilities.

2. RESEARCH METHOD

Fieldwork and a review of the literature are used in this study to put earlier techniques for the topic under consideration into practice (Rofiqi & Haq, 2022). The intention of this research is to discover whether visual arts treatment affects mentally and intellectually disabled children's intellectual level and cognitive function development. In this case, a qualitative method was decided upon with the intention to gain a thorough understanding of the role that visual arts therapy plays in helping mentally retarded children as well as the interactions that take place during therapy. Because it enables observation and exploration into potential for creating art therapy as an alternative form of healing for kids with mental and intellectual disabilities, the qualitative technique is regarded as an appropriate approach (Tridjata et al., 2022, p. 128).

Other indications were also taken into account in the research, including the appreciation aspect, which is connected to self-confidence, self-acceptance, and the identification of interests and abilities in painting and drawing. This is essential when it comes to the development of rehabilitation therapy and creative thinking for children with mental and intellectual disabilities. Prior studies, as emphasized by Reni Nur Jannah (2022, p. 5190), highlights the importance of conveying appreciation in order to raise public awareness of creativity and potential for independence that children with mental disabilities possess. It is hoped that by means of expressing appreciation to one another, children with and without mental or intellectual disabilities will be able to support and value each other.

Observation and comparative analysis of drawings made by children with and without mental disabilities comprise the research methodology. These drawings were examined using Lowenfeld and Brittain's phases of development for early childhood drawing skills. A three-week period of research activities was conducted at each child's home over three meetings in order to track the development of the kids. The objective is to evaluate the extent to which art therapy can support mentally disabled children's cognitive abilities in perceiving, comprehending, and expressing themselves and their surroundings. All of this alludes to self-recovery and creative possibilities as steps toward facing the future, particularly since children with intellectual disabilities have the potential to be independent.

3. RESULTS AND DISCUSSION

Through image analysis, this study aims to monitor the growth of cognitive function in kids with mental and intellectual disabilities. Four children participated in the study: the first, AN1, was four years and one month old; the second (AN2) was six years and two months old; the third (AT3) was five years and six months old; and the fourth (AT4) was six years and four months old. The fourth (AT4) and third (AT3) children were diagnosed with cerebral palsy and down syndrome, respectively, and both experienced mental and intellectual disabilities.

Down syndrome, as explained by Kosasih in (Rohmadheny, 2016, p. 69), is a disorder where chromosomal abnormalities cause delayed mental-intellectual and physical development. The 21st chromosome arrangement is abnormal in this case because, while normal persons have 23 pairs of chromosomes totalling 46 chromosomes, those with down syndrome have three chromosomes on the 21st chromosome, making a total of 47 chromosomes. Chromosome abnormalities influence the metabolic system of the cell and end up causing down syndrome.

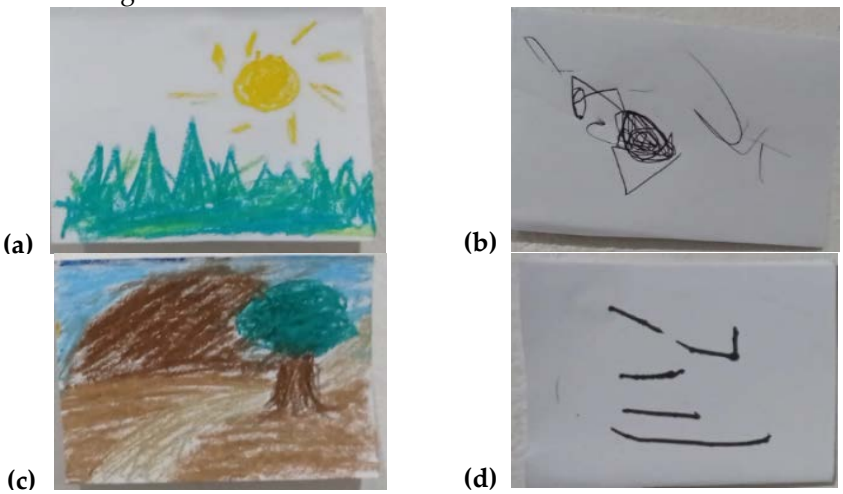
Simply put, cerebral palsy dan be defined as cerebral paralysis. According to Nur Azizah in a journal article that was written by Nurul Janah (Janah, 2017, p. 189), impaired muscular control, unusual body position, and impediments to movement are the outcomes of cerebral paralysis. One of the causes of cerebral palsy is an infection of the cerebrum, leading to weak and brittle body nerves that induce paralysis.

3.1. Analysis of Children's Cognitive Development Through Pictures

Based on knowledge regarding people with mental disabilities particularly those with down syndrome and cerebral palsy, drawings of simple objects made from flat shapes are requested to the children, without eliminating possibilities that drawings may contain symbols. To compare and assess the developmental stages of children through their drawings, the activities are divided into three sessions stretched over three weeks (one per week).

Week One:
AN1, AN2, AT3, and AT4 were asked to draw on paper

Figure 1. Drawing results of children with intellectual disabilities in the first week

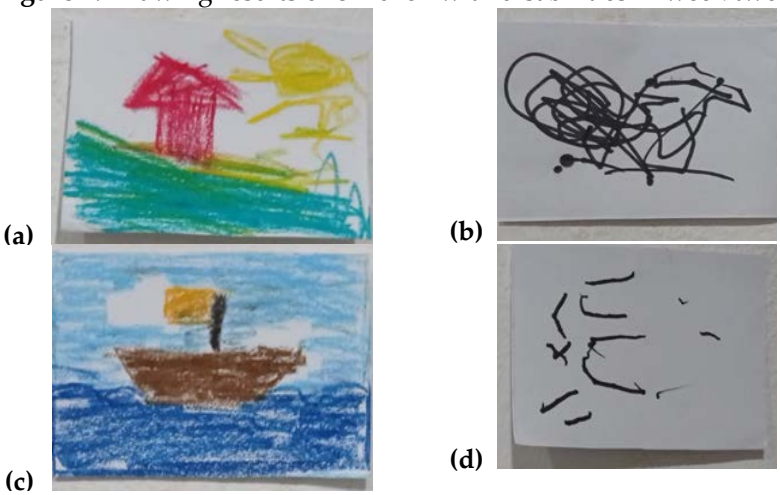


Drawing (a) made by AN1 (four years and one month old)
Drawing (b) made by AT3 (five years and six months old) – *Down syndrome*
Drawing (c) made by AN2 (six years and two months old)
Drawing (d) made by AT 4 (six years and four months old) - *Cerebral Palsy*

Children are instructed to draw for thirty to one hour at the first meeting. It is evident from the four compared drawings that children with mental disabilities—particularly those with down syndrome and cerebral palsy—have not progressed cognitively in comparison to children their own age. Children between the ages of four and six can typically describe basic items that they see or come across in their daily surroundings. Drawings **(a)** and **(c)** demonstrate how children without mental disabilities are able to utilize crayon drawings to represent a familiar place, object, or environment. whilst most children with mental disabilities have difficulty creating objects, most of them still are fond of sketching on paper. This is seen in Drawings **(b)** and **(d)**, where both of them prefer to just scribble or scratch rather than concentrate on the object they wish to draw. Even though they can only draw scribbles or lines, children around the age of six typically pay more attention to the symbols in their objects because, depending on their perspective, these are the remarks they wish to portray. (Rubin, 2005, p. 42).

Week Two:

Figure 2. Drawing results of children with disabilities in week two



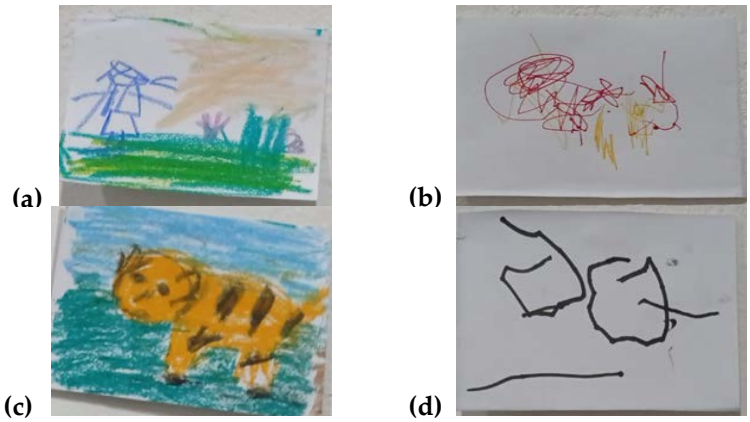
Drawing (a) made by AN1 (four years and one month old)
Drawing (b) made by AT3 (five years and six months old) – *Down syndrome*
Drawing (c) made by AN2 (six years and two months old)
Drawing (d) made by AT 4 (six years and four months old) - *Cerebral Palsy*

Similar with the first week, children were allowed to sketch freely for 30 to 60 minutes during the second week. Paper, crayons (AN1 and AN2), and black markers (AT3 and AT4) were the media used. It is evident from comparing the four drawings that children with mental disabilities frequently repeat things. When closely examined, it can be shown that during the first week of life, children with mental disabilities create similar forms and scribbles while using diverse mediums, such as markers.

However, the lines and strokes are more varied; for instance, the line in Drawing **(d)**, created by an individual with cerebral palsy, are more variable; some of them form a cross, some are slightly bent, or they form brackets. Children with cerebral palsy are affected by this because of weak nerves (Imroatun, 2017, p. 182). On the other hand, children without mental disabilities tend to sketch objects that shift in color and can distinguish between different items based on color. As an illustration, Drawing **(c)** shows the boat as brown (presumably due to its wood construction) and the sea as blue.

Week three:

Figure 3. Drawing results of children with disabilities in week three



Drawing (a) made by AN1 (four years and one month old)
Drawing (b) made by AT3 (five years and six months old) – *Down syndrome*
Drawing (c) made by AN2 (six years and two months old)
Drawing (d) made by AT 4 (six years and four months old) - *Cerebral Palsy*

During the third week of session, children are instructed to sketch for 30 to 60 minutes. AN1 and AN2 actively request to draw living things, while AT3 and AT4 specifically request to draw something to do with circles. Using given paper, the four of them attempted to draw an image that reflected their ideas. Media being used were crayons (AN1 and AN2), colored pens (AT3), and black markers (AT4).

The developmental stage of children without intellectual disabilities is consistent with what is typical for children their age, as presented by the drawings created by the four children. Drawings **(a)** and **(c)**, featuring humans **(a)** and animals **(c)**, demonstrate their ability to depict live creatures. Since both are dynamic, living beings, the children's perceptions determine the figure's position, pose, and shape.

Meanwhile, children with the disabilities draw repetitive pictures, yet they have made a new advancement by making circles (for individuals with cerebral palsy) and colorful circles for persons with down syndrome. This is an upward trend, as people with cerebral palsy contend to draw curves because their movements are stiff and often feeble. In contrast, children with down syndrome have success when it comes to color mixing, which relates to how they perceive their surroundings (Hidayati, 2020, p. 35).

3.2. Table of Experiment Analysis

An examination of the evolution of four mentally and intellectually disable children's sketching processes over the course of three meetings is given in the table below. The kids' identification numbers were AN1, AN2, AT3, and AT4. Each session is represented by each column in the table, while the observed children is represented by each row. This table provides a detailed evaluation and analysis of the children's drawing process and expressive ability.

Table 1. Children with Mental and Intellectual Disabilities' Drawing Process Analysis

No. of Session	Drawing Process Child 1 (AN1)	Drawing Process Child 2 (AN2)	Drawing Process Child 3 (AT3)	Drawing Process Child 4 (AT4)
1	The child is able to give simple descriptions of familiar objects/places, including sun and grass. In addition, colors were chosen to complement the familiarity of the observation or perceive.	The child is able to perceive known familiar objects/places in simplicity; mountains and trees. Then colors and shapes were drawn in accordance with what was perceived.	The child is still enjoying the doodling activity on paper using favorite drawing media. This activity aims to explore upon their creative process.	The child still enjoys activity of doodling or scribbling markers on paper. The fond of exploratory activities and familiarization upon drawing media and creative process were realized.
2	The child is able to describe more varied objects and environments with more color combinations: A red house on a green plain with a yellow sun. 'Stories' were also uttered verbally during the drawing process	The child is able to describe objects and to add more color combinations variedly according to what they see/perceive; A brown boat with a yellow flag in the middle of blue sea and light blue-sky background.	The child enjoys repetitive drawing activities, the scribbles that made tend to be the same as the previous session although the strokes tend to be bolder and stronger. Different drawing tools	The child enjoys drawing activities repetitively; lines created tend to be the same as previous session, however the addition of curves is starting to be explored and it can be seen that emphasizes to lines are happening. Although stories about related

	explaining drawings that were created.	The child is able to provide explanations regarding the drawing verbally.	were explored. Although the drawings have not yet being described, but exploration of scribbles happened.	drawings were not yet described, but some particularities were given to the scribbles.
3	The child is able to describe different shapes/objects than previously; namely objects of living things: humans and their environment. Living creatures were also began to be perceived certain 'expression' to 'story' in the drawing was given.	The child is able to describe actively moving living creatures as object, namely animals. Perceptive of animal in a familiar environment and an 'expression' along with the drawing's narration also occurred. Symbols were also drawn upon the object of animal: for example, lines on a tiger's body.	The child is able to draw scribbles with variation of colors and shapes that are quite different from before. Color was used to convey 'expression' and its shape of strokes tends to be bolder and more varied than in previous session.	The child is able to configure forms from lines that was drawn. Emphasize on round shapes were given upon straight lines that was stroked by a marker. "Expression" was given through simple forms that was drawn.

3.3. The Application of SAVI Methods *(Somatic, Auditory, Visually, Intellectually)* during Experiment Session

The findings of the conducted trials indicate that the four children are enthusiastic about performing art activities, namely drawing. This is in favor of the SAVI methods (Somatic, Auditory, Visually, Intellectually), which allows kids to develop by deepening certain method—particularly visual (Sukmana & Mahmudah, 2019, p. 2).

First, Somatic. In somatic, "learning by doing" is intimately associated. Through this project, children learn to draw by doing it themselves rather than only watching YouTube videos or drawing lessons on social media.

Second, Auditory. Children learn by listening. The researcher used instructions that were presented prior to, during, and following the activities to deliver this method. Children learn to listen to directions, ideas, and views, as well as compliments from parents and others close to them.

Third, Visually. This feature is most commonly explored in drawing activities. Through drawings, children are given the chance to appreciate their environment and their own thoughts. Children acquire ideas, perspectives, colors, shapes, and modes of expression through drawing activities. Children were encouraged to use their imaginations to describe and perceive things through painting and sketching, rather than "just" knowing colors and shapes This feature is emphasized notably in the visual art therapy technique because it is used constantly during the activities.

Fourth, Intellectually. Children learn how to think. In fact, drawing in this context has less to do with arithmetic and algebra; instead, it encourages children to express themselves freely in their artwork. However, when a child wants to express oneself, he or she must consider how to form it. For instance, a child would like to draw a boat, then the kid will need to visualize the shape of a boat; its colors, the two-dimensional figures that make up the boat, how the boat will float on the water's surface, and other details.

Children seeing their own reality through drawings and color combinations chosen in conjunction with pure expressiveness (Lowenfeld, 1951, p. 2). The four ways presented above demonstrate development through lines and thoughts realized on paper. For example, through portrayals of places, environments, figures, or spiral, straight line, and colorful doodle drawings. These are the product of children's perceptions of what they feel, experience, or observe in the world. This perception then evolves through elaboration, either individually or in collaboration with others who assist in the development of existing work activities.

The outcomes of the children's efforts, particularly those with mental disability, are shown to their parents and those closest to them. This is done to instill a sense of appreciation for one another, and to reveal that children with mental disability may develop and flourish despite being late than typical children of their age (Kesumawati & Damanik, 2019, p. 147). Through appreciation activities performed on photographs of these children (particularly those with mental disability), new interactions in the form of 'acceptance' carried out by the surrounding community, particularly families who previously were unaware of the potential of children with intellectual disabilities, were explored.

Since there are five points out of a total of eight points of special needs that have been successfully achieved, the appreciation process has transformed into a gift that will ignite the spirit of children with intellectual disabilities, among them are: (Fatimah et al., 2017, p. 221)

1. The Sense of Initiative
   Children were asked to draw freely during the research activities, which indicates they will be able to express themselves freely through drawing. In the drawings, one can "act" on one's own initiative and without restriction. This will enable children indirectly feel a sense of “freedom”, at least in drawing throughout the session to describe favorite things.
2. The Sense of Duty and Accomplishment
   Children with intellectual disabilities were assigned a task - drawing on paper. Although the drawing is done freely, the request to draw is a task, and once completed, children with mental disabilities have completed the assignment.
3. The Sense of Identity
   Children with mental disabilities are encouraged to draw freely, and the results are shown to their parents and other close relatives. Through these activities, children with mental disabilities receive the same recognition that can foster a sense of pride in themselves and that their artworks are a part of themselves. Through these activities, children may be able to improve their self-esteem since they have accomplished something noteworthy.
4. The Sense of Intimacy
   If feasible, children with intellectual disabilities were provided opportunity to engage with others. If this is not possible, children with mental disabilities can interact with the researcher or the drawing. This must occur so that children with intellectual disabilities can "recognize" themselves and feel familiarity via the process of creating artwork.
5. The Parental Sense
   Mentally disabled children were given the opportunity to present their artwork to their parents. These appreciated artworks will allow mentally disabled children to feel closer to their parents through artmaking activities and the parents' responses to their creations. Children will feel encouraged to become closer to their parents and, gradually, to their surroundings.

The treatment towards these four children in drawing activities motivated them to continue drawing and being creative on their own (Giri, 2021, p. 279). This remark has a positive impact on children with intellectual disabilities since art therapy can be done more simply without the need for a facilitator, which not every parent can afford. Parents, on the other hand, can independently aid their children with mental disabilities in carrying out art therapy while enhancing the link between children and parents. Because parental assistance is the best approach to increase children's independence (Rahmatika & Apsari, 2020, p. 330).

Apart from fostering independence, therapy can assist children with intellectual disabilities gain confidence by allowing them to become acquainted with their surroundings through artistic activities.

Children with intellectual disabilities who are subjected to external pressure likely to suffer from more severe emotional damage (Ningrum, 2021, p. 81). The pressure from their surroundings and family will make children with intellectual disabilities even more confused and make it harder for them to recover from this kind of situation. This will impact their self-confidence as well as their ability to adapt, which diminishes as they continue to face rejection from society. Thus, art therapy can help children with mental disability to avoid boredom, stress, tantrums, insecurity, and worry.

Aside from that, this research will broaden people's willingness to accept children with intellectual disabilities. Most people look down on children with intellectual disabilities because they are regarded to be unable to fit in with society. However, after these specific drawing activities, society will be able to see the potential that children with mental disabilities possess. Especially the general public, which observed and learned about the therapeutic actions and process. Following that society will become more open to the type of therapy required by persons with mental disabilities, which is related to the adaptation process of the mentally disabled to their social surroundings (Solicha & Suyadi, 2021, p. 163).

This was recognized by Fitri Daryanti, a student at FKIP Lampung University who published the Flagship Community Service Report titled "Pelatihan Parenting: Meningkatkan Kecerdasan Sensor Motorik Anak Berkebutuhan Khusus di Kota Bandar Lampung". She emphasized that the role of parents is critical for the growth and development of children, particularly the figure of a mother who is both mentally and emotionally close to her child. Nonetheless, parents frequently lack a thorough understanding of their children's knowledge, processing speed, and educational demands, particularly when it comes to children with exceptional needs like mental disabilities (Daryanti et al., 2022, p. 13). Further issues arise when parents of people with mental disabilities are unaware of their child's condition. This may occur if parents are unaware with the type of mental disability their kid is experiencing.

Mental disability is classified into three categories: mild, moderate, and severe. (Ramanda et al. 2008, 23):

1. Mild mental disability, with the title moron or debil, has an IQ between 68-52 (*Binet*) or 69-52 (*Weschler*). People with mild mental impairment can nonetheless learn to read, do elementary math, and write. Children with mild intellectual disabilities can gradually learn to be independent via education and effective facilitation from facilitators.
2. Moderate mental disability, with the term imbecile, has an IQ between 51-36 (*Binet*) or 54-49 (*Weschler*). Children with moderate mental disability can develop, although not as quickly as children with mild mental disability or children who do not have mental disability. These children can be educated to protect and care for themselves.
3. Severe mental disability, with the title idiot, it is further subdivided into two categories: severe and extremely severe mental disability. People who have severe or severe mental disability has an IQ between 32-20 (*Binet*) or 39-25 (*Weschler*). Meanwhile, people with extreme severe mental disability or what also known as profound has an IQ below 19 (*Binet*) and 24 (*Weschler*). People with severe and extremely severe rely heavily on their facilitators, particularly their parents. This is due to the fact that people with severe and extremely severe mental disability cannot do practically all activities and interactions on their own.

People with mental disabilities have specific set of needs that must be met by the people around them, according to Witner & Kotinsky in the journal written by Fatimah dkk., (2017), these needs are:

1. The Sense of Trust
2. The Sense of Autonomy
3. The Sense of Initiative
4. The Sense of Duty and Accomplishment
5. The Sense of Identity
6. The Sense of Intimacy
7. The Parental Sense
8. Integrity Sense

These are the needs of people with mental disabilities, which can be met over time by those who aid them, particularly facilitators or parents who accompany them.

According to Ajeng Nidar Ramanda in her article "Dinamika Penerimaan Ibu terhadap Anak Tuna Grahita" children who are mentally disable have difficulty complying with the curriculum in conventional schools due to their restricted IQ. (Ramanda, 2008). As a result, mentally disabled kids require special education that is adapted to their ability. This education is carried out with the assistance of mentors or facilitators who understand the child's intelligence level and are knowledgeable about effective methods for supporting children with mental disability. Aside from education, therapy is required to help improve the cognitive function of mentally disabled children, refine their creativity, and prevent tantrums.

In the context of rehabilitation centres for children with exceptional needs, a journal "eDimensi Arsitektur Petra" by Untono and Handinoto (2020, p. 33) underlined the importance of these facilities in allowing children in care to actively socialize and develop their skills. Therapy, particularly art therapy, plays an important role in the cognitive development of children with mental disabilities. Art therapy, such as drawing, colouring, and painting activities, is frequently thought to be effective since art and creativity can increase children's skills and sharpness.

Drawing or painting is one way to develop and monitor children's cognitive functions, as explained by Dewi (1970). This activity allows children to convey their understanding and experience of the surrounding environment. Parents frequently use their children's drawings to assess cognitive development and determine whether the child is mentally disable. Parents can learn how far their child has developed by using image analysis.

A book *"Introduction to Art Therapy"* by Judith A. Rubin (1959, p. 32) outlined how drawing, painting, and colouring are common activities used in art therapy, especially visual therapy. Children with mental disability are more likely to interact directly with visual media, such as painting or drawing, under the supervision of facilitators, particularly parents. Art therapy is thought to 'take care' of the person who uses it by giving guidance, protection, and a development process.

Firda Ningsi (2020, p. 62) highlights the role that visual media have in education. Visual media aids the audience's comprehension of the information being presented. As a result, in the case of children with intellectual disabilities, analysing their artistic works might be a useful tool for evaluating their cognitive development.

However, there are still challenges in the education of mentally disable children. Many educators focus more on normal children because they are considered easier to teach (Ruslan et al., 2021, p. 69). Aside from that, educators are hesitant to teach mentally handicapped children due to a lack of understanding of teaching methods and facilitation. Facilitators and specially trained educators are essential in assisting children with mental disabilities to develop optimally in their social environment. (Bastian, n.d., p. 80).

Measuring children's cognitive function with art and art therapy begins with direct practice, particularly with drawing exercises. (Isbell & Raines, 2012, pp. 115–118). The first stage, known as the streak stage, occurs between the ages of one and two years. At this age, children scribble without control and enjoy the process of doodling more than making representations of objects in drawings. As time passes, they begin to produce more controlled streaks, generating patterns such as zig-zag lines, curves, or basic objects.

Children aged three to four years have developed better hand-eye coordination in the next stage, known as the stage of mastering basic forms. This enables kids to draw simple forms with more advanced hand movement control abilities, which supports their ability to draw specific shapes.

The pre-scheme stage, which occurs between the ages of four and seven years, marks the beginning of the construction of object representations in drawings. Children begin to use symbols and combine various objects to make simple visual compositions. These symbols serve as a bridge for them to communicate their ideas and experiences. By outlining these stages, a more extensive examination of children's cognitive development through their artistic work may be carried out, providing in-depth insight into their ability to represent and communicate ideas.

4. CONCLUSIONS

Children with intellectual disabilities require an atmosphere in which they can grow and develop without being pressured by their surroundings. Art is not only a place to grow oneself, but it also serves as a place of recovering for children with intellectual disabilities. Art therapy plays an important part in assisting children with mental disabilities to grow, develop, and recover without the stress of pressure. Children do not feel burdened since art therapy allows them to express themselves freely. They can gradually understand their surroundings and gain self-confidence to interact with society through art therapy.

The role of facilitators and parents is critical in the development of children with mental disability. Although these children can participate in art therapy, the presence of individuals closest to them, particularly facilitators and parents, is tremendously beneficial to the children's rehabilitation process and creative expression. Children with mental disability have the same right to an education as other children, and they require the support of their parents and the surrounding community to ensure they receive an appropriate education and room to develop in the arts.

This study employs qualitative research methodologies that focus on process and interaction, as well as previous research on children with intellectual disability, cognitive function, and their engagement with art therapy. This method is considered valid even when the outcomes are immeasurable. This study was inspired by researchers' interest in mentally challenged children and their poor cognitive skills. Multiple studies have shown that art therapy can be an embracing and non-stressful way for children with intellectual disabilities, assisting them in overcoming the symptoms of tantrums that they frequently suffer.

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