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Recognizing the Character of Children with Special Needs Through Digital Motif Design Using the Visual Language Method

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Abstract

Every individual, including children with special needs, possesses creative potential that can be continually developed. This creativity is often expressed through visual media, such as images, which serve as a means of communication to convey messages, emotions, and thoughts. However, children with special needs often face unique challenges in expressing themselves, such as difficulties with verbal communication, limited motor skills, and cognitive barriers. Therefore, an inclusive and adaptive approach is essential to ensure that these children can fully express their creativity. One promising method for fostering creativity is the use of digital technology, such as Adobe Photoshop, to create digital motif designs. Through digital motif design, children with special needs can not only express themselves visually but also explore various shapes, colors, and compositions without limitations. This research aims to analyze digital motif works created by children with special needs using a visual language approach. The focus is on the objects depicted (*wimba*) and how they are arranged within a field (*tata ungkap*). Through this research, we hope to identify the personality traits of children with special needs through the interpretation of their digital motif designs. This analysis may also support the classroom learning process, provide stimulation, and enhance motivation. As a result, children's communication, emotional expression, and abilities can be further explored. The findings of this research indicate that the use of digital media facilitate creative expression in a more inclusive and adaptive way. Thus, the artworks produced by children with special needs are not only unique and interesting but also reflect their ability to adapt and innovate despite challenges.

1. INTRODUCTION

One of the most enjoyable and effective learning activities for exploring children's potential abilities while also providing space for self-expression is drawing. Drawing is an engaging form of play and a branch of art that aligns well with children's natural characteristics and boundless imagination [1]. Through drawings, children can express their ideas, feelings, and experiences without limitations, creating meaningful visual communication. Drawings created by children serve as an important communication medium, especially before they

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master writing skills. According to Tabrani, children tend to feel more comfortable and naturally communicating through pictures because, unlike writing, pictures do not require adherence to standardized rules [2]. The seemingly random and free scribbles in children's drawings actually hold significant meaning, reflecting their thoughts, emotions, and perceptions of the world around them. For example, a child might depict their family in varying sizes to signify emotional closeness or use striking colors to represent strong feelings.

From a research perspective, drawing is a creative activity and a window into understanding a child's inner world. Through their artwork, we can observe how children process information, respond to their environment, and express emotions that may be difficult to articulate verbally. Therefore, educators and parents must provide space and support for children, particularly through drawing, as it is essential in developing their communication skills, creativity, and self-confidence. Paying attention to children's drawings, including those of children with special needs, has prompted researchers to explore how they translate imagination and visual experiences into pictorial representations. As Nagara suggests, the creative process in children involves more than just the ability to draw; it also reflects how they process information and express emotions [3].

According to experts, every child, including those with special needs or disabilities, possesses creative potential that can be nurtured. This potential extends beyond artistic ability to include imagination, problem-solving, and innovation [4] [5]. As a result, educators, parents, and practitioners can design effective interventions to help children with special needs develop their creative abilities. For instance, digital technology, such as design software, can provide an inclusive solution for children with motor limitations, while art therapy can help children overcome emotional or cognitive challenges, enabling them to express themselves more freely [6].

A study by Jones shows that children with disabilities often benefit from creative outlets, such as art, music, or digital design, which can enhance their imagination and self-expression [7]. These creative tools help children articulate emotions and thoughts and support their cognitive, social, and emotional development [8]. For example, children with autism may struggle with verbal communication; they can express themselves effectively through drawings or visual designs [1]. Similarly, children with motor disorders can use digital technology, such as design software, to create artwork without being constrained by fine motor skills [9]. A study by Peppler and Keune also found that technology-based creative activities can boost the self-confidence and motivation to learn in children with special needs, as they feel more capable and valued [10]. Additionally, creative tools like art therapy have been shown to help children with special needs overcome emotional and social challenges. These tools provide an outlet for self-expression and aid in developing essential life skills such as critical thinking, cooperation, and adaptability. This demonstrates that creativity is not merely an innate talent but can also be cultivated through a supportive environment and inclusive learning methods [6] [11].

Although there is a significant body of literature on creative tools for children with special needs, research on the use of digital tools-specifically Adobe Photoshop software, to enhance and analyze their creative expressions remains limited. This study explores how digital motif design can provide new insights into the cognitive and emotional states of children with special needs. Understanding the imaginative processes of these children is particularly relevant in this context, as the digital motifs they create using software can offer valuable insight into their personality traits and how they interact with the world around them. Hanisha and Djalari stated that children's drawings reflect their cognitive and emotional processes. This research analyzes visual elements such as shapes, lines, and colors in digital motif designs to gain a deeper understanding of children's emotional states and

cognitive development [12]. According to Fauzan et al., children with special needs require adaptive and creative learning methods. Digital motif design, as a form of art therapy, allows deaf children, particularly those who are deaf, to develop their creativity and visual abilities [13].

In this context, digital motifs serve as an external medium for communication, allowing children to project their thoughts, emotions, and internal perceptions into visual form. Visual communication theory suggests that the images or designs created by children are not only the result of imagination but also reflect their internal processes of information and emotional processing [14]. For instance, children with autism may use specific colors and shapes to convey feelings that are difficult to express verbally, while children with motor disorders can leverage digital technology to create artwork that reflects their perspective of the world [9] [10]. Digital motifs stem from memory and imagination, which are considered primary cognitive processes. When children see or experience something, the information is stored in memory and processed by the brain, forming the foundation for their imagination. This cognitive process produces output through words, images, or symbols, which children use to communicate with others [15].

The output of these cognitive processes, visual images or symbols, is crucial in how children communicate and express themselves. For example, a child might use bright colors to represent happiness or abstract shapes to convey confusion. This study utilized digital motif design to decode these expressions, enabling researchers to analyze children's visual language to communicate their thoughts and emotions [11]. This approach not only aids in understanding the meaning behind children's artwork but also provides insight into how they process information and react to their environment. In this way, the creative process of digital design serves as a bridge between the child's internal and external worlds. What they see, experience, and feel is processed internally through memory and imagination and then realized in a visual form that others can understand. This makes digital art an invaluable tool in art therapy and inclusive education, as it allows children with special needs to express themselves freely and meaningfully while offering educators and parents valuable insights into their development [6].

The subjects of this research were six students with special needs from SLB B Pangudi Luhur, West Jakarta, consisting of three male students and three female students in grades 8 and 9. These students had hearing impairments or were deaf, affecting how they communicated and interacted with their environment. Despite their hearing limitations, deaf children often have well-developed visual and motor skills, enabling them to express themselves through visual media, such as digital motif designs [16]. Therefore, the researchers were interested in examining the digital motif designs created by these children to understand their creative process using Adobe Photoshop software. The study also explored how this activity could build artistic values, foster self-confidence, and motivate the students to explore their creative potential. Additionally, the research investigates the role of teachers in motivating children with special needs to create art and the children's ability to freely and imaginatively compose visual elements using the software.

Based on this, the researchers analyzed the digital motif works of children with special needs using a visual language approach. This approach includes analysis of the objects depicted (*wimba*) and how they are arranged within a field (*tata ungkap*), allowing researchers to understand the meaning behind children's artwork [2] [11]. Through this approach, this research seeks to identify patterns in digital motifs that reflect personality traits, emotions, and the way children perceive the world around them. Additionally, the study aims to explore how digital motifs can serve as an effective means of communication and self-expression for children with special needs. As noted by Hanisha and Djalari, visual language is an effective form of communication for children, particularly those who have

difficulty communicating verbally [12]. This finding aligns with the results of this research, where deaf children use digital motif designs as a tool to express their emotions and ideas.

This research is highly significant in inclusive education and the development of creative learning methods, particularly through design software that can be integrated into the curriculum to facilitate creative expression and increase children's participation in the learning process [6]. Additionally, it contributes to developing more effective art therapy methods, especially in helping children with special needs overcome emotional and social challenges [8]. The results of this research can also enrich the body of digital artwork produced by children with special needs, which not only holds aesthetic value but also reflects their uniqueness and inner richness. Thus, this research provides new insights into the creativity of children with special needs and offers practical solutions to improve the quality of their education and life. By applying a visual language approach, it is hoped that a more inclusive, adaptive, and empowering learning method can be developed, enabling every child-regardless of their special needs-to fully realise their creative potential.

2. METHODS

This research employs qualitative methods with a visual language science approach. Visual Language Science is a method used to understand and analyze works of art or design that rely on visual elements to communicate. According to Primadi Tabrani, visual language does not depend on text or words but rather on lines, shapes, colors, textures, and composition to convey messages, emotions, or meaning [15]. In this research, visual language science is used to interpret and understand works of art created by children with special needs. Although these works were made using modern tools like Adobe Photoshop, they still contain rich visual language elements that reflect the children's inner world, emotions, and thoughts. As Tabrani states, "Visual language is a way for humans to convey messages through images, without the need to use words, so that the message can be understood by anyone, regardless of the language they use" [2].

2.1. Visual Element Analysis

2.1.1. Lines

The lines used in digital motifs can reflect a child's emotions and personality. As Smith and Smith note, "Lines are the most basic visual elements, and how they are drawn can reveal the feelings and personality of the creator" [18].

2.1.2. Shapes

The shapes children choose as circles, triangles, or abstract forms, provide insight into how they perceive the world around them. Johnson explains, "Shapes are visual expressions of abstract ideas, and each shape carries its own symbolic meaning [19]."

2.1.3. Color

The choice of color in digital motifs can convey a child's mood and emotions. Lee and Park argue, "Color is a universal language that can express a person's emotions and psychological states without the need for words [20].”

2.2. Composition and Layout

How children arrange visual elements in a drawing can offer valuable insights into their thoughts and emotions. As Brown explains, "Visual composition is the way visual elements

are arranged in a work, and this layout can reflect order, freedom, or even conflict in the creator's mind [21]."

2.3. Expression of Movement and Space

In visual language, movement and space can be conveyed through the arrangement of visual elements. Kim and Jung explain, "Movement in the visual arts can be created through the repetition of shapes, lines, or colors, which creates the illusion of movement in space [22]."

Visual language is a communication between humans and their artifacts, much like spoken language, which facilitates communication between humans and other subjects. In visual language, a specific term refers to the "object" depicted in an image, namely "*wimba*". A *wimba* is an object shown or described in the visual context. The arrangement of *wimbas* within a field is called the “Phrasebook”, which indicates whether the *wimbas* convey movement, space, the combination of time and space, or significance. *Wimbas* consists of two main components: *wimba* content and *wimba* method. *Wimba* content refers to the object depicted in a work of art, while *wimba* method refers to the technique or approach used to depict the object. In the context of this research, understanding both the content and the methods of *wimba* is crucial for analyzing digital motifs created by children with special needs. The depiction of *wimbas* follows the RWD (Flat Time Space) system, where objects are shown in various directions, distances, and times. Objects are often depicted in their entirety, from head to toe, emphasizing gestures or movements. This approach allows visual messages to be read and understood, thus creating what is known as visual language [2 p.68]. The following are several *wimba* depiction methods that are relevant to analyzing digital motifs: 1) Various Ways of Appearance (*Cara Aneka Tampak*): The position of the *wimba* is depicted from various angles that are easily recognizable, such as from the side, front, or even from above. In the context of digital motifs, children tend to draw objects from the angle that they understand best or find most interesting; 2) How to Enlarge and Reduce (*Cara Diperbesar dan Diperkecil*): *Wimba* that are considered more important are depicted in a larger size, while those deemed less important are shown in a smaller size. In the context of digital motifs, the size of an object can reflect the child's priorities or emotional focus; 3) Way of Space (*Cara Ruang Angkasa*): The *wimba* is depicted as floating without touching the ground line, free from boundaries of right, left, up or down. Everything can flip or spin. In the context of digital motifs, children often use this method to express their sense of freedom and imagination. It can be seen in compositions that are not constrained by conventional spatial rules, reflecting a creative and limitless way of thinking; 4) X-Ray Method (*Cara Sinar X*): The *wimba* is depicted transparently, with objects layered on top of one another within the same *wimba*. In digital motifs, this is relevant as it allows children to express complexity or layers of emotion; 5) Twin Ways (*Cara Kembar*): The same *Wimba* is depicted multiple times in different positions within a single plane. In digital motifs, the repetition of objects can reflect a child's mindset or focus on a particular theme.

By understanding the content and context of *wimba*, this research can more deeply analyze the digital motifs created by children with special needs. This approach enables us to interpret the visual messages they convey, gain insight into their emotions and thoughts, and offer more appropriate support for their learning process and creative development.

3. RESULTS AND DISCUSSION

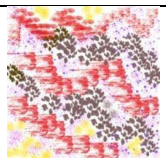
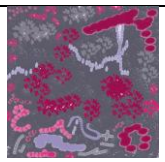
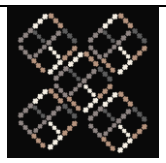
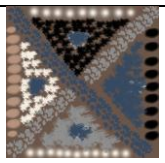
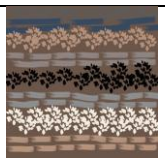
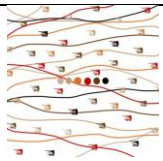
Children with special needs use Adobe Photoshop to create unique digital motif designs by applying various design elements in the software. The process of creating these motifs not only takes into account functional and aesthetic considerations but also serves as a medium for the children to express themselves creatively. In the digital motif they produce, color often functions as an indicator of mood or emotion. For instance, bright colors like red,

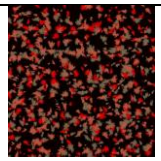
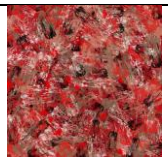
yellow, and orange can reflect energy and joy, whereas darker tones like blue or green may convey a sense of calm or sadness. As Lee and Park note, "Color is a universal language that can express a person's emotions and psychological states without the need for words [20]."

In addition, the lines utilized in digital motif designs can offer valuable insight into a child's personality. Curved, flowing lines often suggest softness and emotional expressiveness, whereas straight, firm lines may indicate confidence and determination. Smith and Smith note, "Lines are the most basic visual element, and how they are drawn can reveal the creator's feelings and personality [18]." The shapes children select as circles, triangles, or abstract forms also reflect their perception of the world. For example, a child who frequently uses circular shapes may view the world as harmonious and interconnected, while using sharp, angular shapes such as triangles may signify assertiveness or emotional tension. Furthermore, the texture and level of detail present in digital motif designs can provide insight into a child's attention span and cognitive focus. Detail-oriented children often incorporate intricate textures and fine detail into their work, whereas those with a more spontaneous approach may produce simpler yet expressive designs.

By analyzing design elements such as color, line, shape, and texture, we can gain a deeper understanding of how children with special needs use the digital design as a means of self-expression. This approach supports their learning process and provides valuable insight into their personalities, emotions, and cognitive styles. It highlights the potential of digital design as a powerful tool for interpreting non-verbal communication, particularly in the context of children with special needs.

Table 1. Digital Motif Design for Children with Special Needs

No	Name	Motif 1	Motif 2	Motif 3 (Finish)
1.	Gendi			
2.	Lina			
3.	Farell			
4.	Azel			
5.	Margaux			

6.	Thomas			

The table above presents a series of alternative digital motif designs created by children with special needs using Adobe Photoshop. Each child produced three variations inspired by a mood board provided at the beginning of the activity. During the initial stage of the design (Motif 1), the children's work appears rigid and highly structured. This was evident in their early designs, which were overly symmetrical, uniform, and lacked visual variety-suggesting that they had not yet fully tapped into their creative imagination. This initial rigidity may be attributed to several factors. First, children with special needs may feel uncertain or lack confidence when using unfamiliar digital tools such as Adobe Photoshop, leading to hesitation or fear of making mistakes. Second, they might struggle to interpret abstract concepts or translate visual inspiration from a mood board into original design ideas. As a result, they often revert to safe and familiar patterns, such as symmetrical shapes and orderly compositions. Furthermore, limited prior experience with digital design tools can further constrain their creative exploration during the early stages of the design process.

In the early stages, children often concentrate more on learning how to use basic tools such as brushes, shapes, and color pickers rather than exploring their creativity. However, this initial rigidity should not be viewed negatively. On the contrary, it reflects an important part of the learning and adaptation process. The structured and symmetrical design seen in Motif 1 can be considered a foundational step in their creative development. Recognizing this early rigidity, the researcher provided guidance and encouragement to help the children expand their imagination while creating digital motifs. They were encouraged to develop more freely, using the mood boards as inspiration rather than a strict template. For example, the researcher presented visual examples demonstrating how abstract concepts could be translated into more dynamic and expressive design forms. Children were also encouraged to experiment with a wider range of tools in Adobe Photoshop-such as gradients, layer effects, and custom brushes-to create richer and more varied designs. In addition, praise and positive feedback were consistently offered to boost the children's confidence in expressing themselves. Emphasis was placed on the idea that there are no mistakes in the creative process, fostering a safe and supportive environment where children feel comfortable exploring new techniques without fear.

After receiving guidance and encouragement, significant progress became evident in the children's subsequent designs. Their creativity began to flow more freely, and their expressions grew noticeably more dynamic. By the second motif stage, the designs exhibited greater variety in shape, more expressive lines, and bolder color combinations. Although the children were still developing their ideas, their work clearly reflected a growing confidence and willingness to experiment. This progress was visible through their more diverse color choices, varied forms, and increasingly dynamic compositions. Some children began to combine bright and dark colors, while others explored the contrast between geometric shapes with more organic, freeform elements. The lines also become more varied by introducing flowing, curved lines that suggest a deeper emotional engagement and a more imaginative approach to design. These developments indicate that the children were beginning to discover new ways of expressing their thoughts and feelings through digital motif design.

This development did not occur instantly. Researchers provide evaluation and constructive feedback to the children after they complete Motif 1 and Motif 2. These evaluations aimed to build their self-confidence and encourage them to explore their creative ideas more

freely. Following this process of feedback and mentoring, the children were asked to create Motif 3 as a final alternative. At this stage, they were encouraged to push their ideas further while using the mood board as a reference for inspiration. As a result, the children began to demonstrate greater creative freedom and more dynamic expression. Some stated that incorporating more complex abstract shapes, experimenting with bolder color combinations, and creating compositions that were still more asymmetrical maintained a sense of visual harmony. This progression highlights that children with special needs can move beyond initial rigidity and fully explore their creative potential with the right support and guidance.

In conclusion, creating digital motif designs by children with special needs demonstrates significant progress from the initial stage (Motif 1), which was characterised by rigidity and structure, to later stages (Motif 2 and Motif 3), which became increasingly dynamic and expressive. The rigidity observed in the early stages represents an essential phase in their learning journey, one that can be effectively supported through thoughtful evaluation, constructive feedback, and encouraging mentorship. With this guidance, the children gradually built confidence and expanded their creativity, producing designs that were not only visually engaging but also rich in emotional expression. When they reached Motif 3, clear differences were evident in shape, line, color, and composition compared to earlier motifs. These changes reflect the children's creative growth and highlight their capacity to explore and communicate more complex emotional and visual ideas through digital design.

Table 2. Visual Elements of Digital Motif Design for Children with Special Needs

No	Visual Elements	Motif 1 & 2	Motif 3 (Finish)
1.	Shapes	In previous motifs, the shapes used tend to be simple and symmetrical, such as circles, squares, or triangles, which show a regular structure but lack variation.	In Motif 3, the shapes used become more varied and complex, such as abstract and organic shapes. This shows that children are starting to feel more confident to experiment with unconventional shapes. These shapes also look more dynamic, with a combination of geometric and free forms creating a sense of movement and energy.
2.	Line	The lines used previously tended to be straight and firm, showing firmness but less expressiveness.	In Motif 3, the lines used begin to vary, with the appearance of twisting curved lines. These lines are not only more expressive, but also show that children are starting to explore new ways to express their emotions and ideas through visual movement. These dynamic curved lines can reflect a more flowing and free feeling.
3.	Color	The colors used previously tended to be monochromatic or used a limited color palette,	In Motif 3, the colors used are more varied and contrasting, such as a combination of bright colors (eg red, yellow, orange) with dark colors (eg blue, green). This shows that children are starting to feel

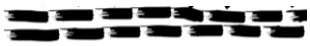
		showing caution in experimenting with color.	more comfortable experimenting with colors and expressing emotions through more complex color combinations. Bright colors convey joy or energy, while dark colors can indicate calm or even sadness.
4.	Composition	The composition of the previous motif tends to be symmetrical and regular, showing a rigid structure but lacking flexibility.	In Motif 3, the composition becomes more asymmetrical and dynamic, with visual elements scattered randomly but still creating a harmonious impression. This shows that children are starting to understand how to create visual balance without having to follow strict rules. These freer compositions reflect greater freedom of expression and imagination.

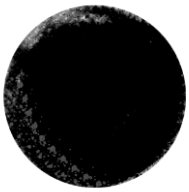
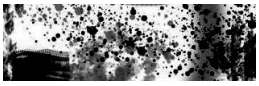
Although significant progress is evident in Motif 3, the children's creative process is challenging. One of the main difficulties lies in translating abstract concepts into visual design. Some children produced motifs that remained rigid or lacked cohesion, which may reflect frustration of difficulties with abstract thinking. In some cases, the designs appeared overly structured or fragmented, indicating that certain conceptual ideas were harder for the children to internalise and express visually. In addition, fluctuating emotions also influenced the children's creative processes. Children with special needs often experience rapid mood changes, affecting their concentration, motivation and overall engagement with the task. When experiencing emotional distress or instability, some children produced less detailed designs or were unable to complete their motifs. This highlights the significant role that emotional regulation plays in the creative development of children with special needs, emphasizing the need for a supportive and flexible learning environment that accommodates their emotional needs.

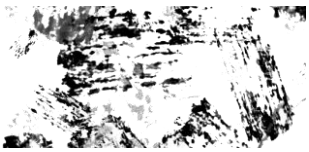
To overcome these obstacles, specialized support is essential to assist children in navigating their creative processes. Perangin-angin and Nagara emphasize the crucial role of teachers in supporting the creativity of children with special needs [23]. In this study, the researchers observed the strategies implemented by teachers at Pangudi Luhur SLB B, which included providing targeted guidance and emotional support. For instance, teachers allowed short breaks to help children regulate their emotions and refocus before continuing their creative tasks. They also offered simple, easy-to-understand explanations on using digital tools, which helped boost the children’s confidence in expressing their ideas. Additionally, teachers provide visual examples and demonstrate the use of tools to help translate abstract concepts into visual designs. The presence and active involvement of teachers who understand the uniqueness of these children play a critical role in maintaining their mood and motivation throughout the creative process. Ningrum also highlights the importance of teachers in fostering an inclusive learning environment. By offering guidance and support in creating digital motif designs, teachers help children with special needs overcome verbal communication barriers and engage more meaningfully in creative expression [24].

Table 3. Visual Language in Digital Motif Design for Children with Special Needs

No.	Picture	Visual Language	
		Wimba	**Internal Disclosure System (TUD)**
1.		*Wimba* 1  *Wimba* way: depicted with wave lines repeatedly filling the image field.	The expression in this design is an internal expression in which the contents of the *wimba* are depicted in one image area. The depiction of *Wimba* is dominated by curved lines and waves that are created repeatedly to fill the area of the image which is important. A curved line that twists and turns as if it is in a state of movement and movement that expresses movement. The composition of one *wimba* and another is made irregularly as if it were turning upside down to express space.
		Wimba 2  *Wimba* way: depicted with short curved lines repeatedly filling the image field.	
		Wimba 3  *Wimba* method: depicted with thin wave lines repeatedly filling the image area.	
2.		*Wimba* 1  *Wimba* method: depicted with dot elements repeatedly forming a new motif/pattern in the center of the image area.	The expression in this design is an internal expression in which the contents of the *wimba* are depicted in one image area. The depiction of *wimba* is dominated by dot elements that repeat themselves to form a new motif/pattern that fills the area of the image that is significant. The composition of one

		Wimba 2  *Wimba* way: depicted with dot elements repeatedly forming a new motif/pattern on each side of the image field. *Wimba* 3  Way of *wimba*: depicted by repeatedly using leaf motifs to fill the picture area.	*wimba* and another is patterned, one side is the same as the other as if it has been shifted so that you get an impression of balance that conveys space.
3.		*Wimba* 1  Way of *wimba*: illustrated by using leaf motifs repeatedly stretching to fill the image field from one side to the other. *Wimba* 2  *Wimba* method: depicted using a repeated line motif that stretches to fill the image area from one side to the other.	The expression in this design is an internal expression in which the contents of the *wimba* are depicted in one image area. In the depiction of the *wimba* there are two patterns which are important because they dominate and are made repeatedly stretching from one side to the other in parallel. The lines that stretch from one side to the other are depicted as spaced and patterned at the same distance so that they appear to be in a state of movement and movement which expresses motion.

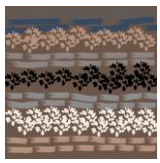
4.		*Wimba* 1  *Wimba* way: depicted with wave lines repeatedly filling the image field. *Wimba* 2  *Wimba* method: depicted with large dot elements forming a complete circle. *Wimba* 3  Way of *wimba*: depicted repeatedly using a splash motif that fills the image field.	The expression in this design is an internal expression in which the contents of the *wimba* are depicted in one image area. The depiction of *Wimba* is dominated by curved lines and waves that are created repeatedly to fill the image area. *Wimba* 2 is depicted at an enlarged size indicating its importance. A curved line that twists and turns as if it is in a state of movement and movement that expresses movement. The composition of one *wimba* and another is made irregularly as if it were turning upside down to express space.
5.		*Wimba* 1  Wimba way: depicted with short curved lines repeatedly filling the image field. *Wimba* 2  *Wimba* method: depicted with wave lines that are unified and unbroken in the center of the image area with different thicknesses.	The expression in this design is an internal expression in which the contents of the *wimba* are depicted in one image area. The depiction of *Wimba* is dominated by curved lines and waves that are created repeatedly to fill the area of the image which is important. The composition of *wimba* 1 and *wimba* 4 is described as spaced and patterned at the same distance so that it appears to be in a state of movement and movement which expresses movement. The patterned placement of *wimba* at certain distances gives the

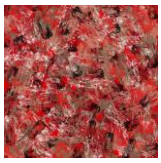
		Wimba 3  *Wimba* way: depicted with point elements that fill the image field. *Wimba* 4  *Wimba* method: depicted with a straight zigzag line that fills the image area.	impression of shifting which expresses space.
6.		*Wimba* 1  Way of *wimba*: depicted repeatedly using brushstroke motifs that fill the image field.	The expression in this design is an internal expression in which the contents of the *wimba* are depicted in one image area. The depiction of *wimba* is dominated by scratch patterns that are made randomly and repeatedly filling the area of the image which shows its importance.

Based on the visual language analysis results of the six digital motif designs created by children with special needs, it can be concluded that certain patterns and *wimba* (visual motifs) frequently appear. These are often expressed as freeform scribbles that, while seemingly spontaneous, carry specific meanings. Such visual elements can be interpreted to understand better each child's unique characteristics, including personality, emotional states, and cognitive style. As KP and Nagara emphasized, visual language is an effective tool for interpreting the visual expressions of children with special needs [25].

Table 4. Characteristics of Digital Motif Designs for Children with Special Needs

No	Motif	Visual Elements	Psychological Analysis	Interpretation
1.	Gendi 	Gendi uses curved lines and waves with lots of twists, as well as bright colors such as red and yellow.	The twisting curved lines show that Gendi has a personality that is not rigid, this shows that he has a cheerful and expressive personality. The twisting lines also	Gendi's use of fluid shapes and bright colors may indicate that he is an expressive and sensitive child, but also needs structure to

			reflect softness and flowing emotions. The large number of bends in the line can reflect high sensitivity and sensitivity to the surrounding environment. Bright colors used indicate energy and excitement, but can also be an indicator of intense and volatile emotions.	manage his intense emotions.
2.	Lina 	Lina uses regular geometric shapes and pastel colors such as light blue and light green.	The orderly and neat pattern shows that Lina is a child who is systematic and careful in her expressions. Soft pastel colors reflect calm and high emotional sensitivity. Lina may be a more introverted child and needs a stable environment to feel comfortable.	Lina's motifs, with their regular lines and soft colors, can depict a personality that is more introverted but attentive to detail, showing a tendency to find comfort in order.
3.	Farell 	Farell uses firm lines and contrasting colors such as black, brown and white.	Bold lines convey assertiveness and confidence, while contrasting colors such as black and white can reflect strong energy and intense emotions. Farell may be a firm and confident child, but he also has a tendency to experience emotional tension.	The use of sharp lines and contrasting colors in Motif 3 may reflect emotional tension or increasing anxiety, but it also shows Farell's ability to express himself clearly and forcefully.
4.	Azel 	Azel uses curved lines and large dot elements with bright colors such as orange and yellow.	The curved lines and large dot elements show that Azel is an expressive and confident child. The bright colors used reflect energy and joy, showing that Azel may be an optimistic and enthusiastic child.	Azel's motif, with its round shapes and bright colors, can depict calm and confidence, showing that she feels safe and comfortable in expressing herself.

5.	Margaux 	Margaux uses curved lines, waves, dots and zigzags with varying colors.	The complexity of Margaux's designs shows that she tends to be hesitant and confused in expressing her ideas. The use of various visual elements such as curved lines, dots, and zigzags reflects confusion or uncertainty in the creative process. Margaux may be a child who has lots of ideas but has difficulty focusing or organizing them.	Margaux's motifs, with their random, overlapping elements, may reflect confusion or frustration in managing complex ideas, indicating a need for further guidance to direct her creativity.
6.	Thomas 	Thomas uses one repeated stroke with contrasting colors, such as red, black	The stiff and repetitive strokes show that Thomas is a child who is firm and full of confidence. The use of one type of stroke and the color black reflects focus and decisiveness, but can also indicate a need for structure and control. Thomas may be a child who is very independent and confident in expressing himself.	Thomas's motif, with its stiff, repetitive strokes, may depict assertiveness and self-confidence, but also suggests a tendency to control his environment as a way to feel safe.

The digital motif designs created by children with special needs through visual language (*wimba*) reveal a unique and distinctive character in each child's work. Every child can express themselves through visual elements such as shapes, lines, color, and composition. The *wimba* they produce reflects their personalities and offers insight into their emotional states, cognitive development, and overall growth. These visual expressions are meaningful indicators of each child's inner world, making digital design a valuable tool for creative exploration and deeper understanding.

3.1. Wimba as a Reflection of Individuality

Children with special needs often use *wimba* to express their unique perspectives and how they perceive the world around them. For instance, when a child creates *wimba* that is large and dominant, it may indicate that the object holds particular significance or emotional importance. In Motif 1, for example, Gendi draws large, striking curved lines, which could reflect strong emotions or deep personal connections to the subject being depicted.

3.2. Wimba and the Concept of Flat Space-Time

The concept of "flat space-time" in visual language refers to the tendency of children to depict objects in full view, without applying three-dimensional perspective. This style is commonly observed in children who are still in the early stages of cognitive development, where understanding of depth, space, and time is still forming. In Motif 2, Lina's use of regular and symmetrical geometric shapes suggests a focus on order and structure rather than spatial realism, exemplifying this flat space-time approach.

3.3. Wimba that Expresses Movement and Space

Some w*imba* communicate a sense of movement, often represented through swirling lines or dynamic object placements that seem to suggest action. This may reflect the child's internal energy or emotional dynamics. Conversely, *wimba* that emphasize spatial arrangement-such as consistent patterns or well-defined distance-can signify a desire for structure and predictability. In Motif 3, Farell employs bold lines and contrasting colors to express movement and vitality, while in Motif 4, Azel uses rounded shapes and bright colors to create a sense of harmony and spatial balance.

3.4. Wimba and Emotional Conditions

Wimba also serve as visual representations of a child's emotional state. The use of dark colors and sharp, jagged shapes can suggest feeling of tension or anxiety, whereas bright colors and softer, rounded shapes may indicate happiness or calmness. In Motif 5, Margaux incorporates a mixture of curved lines, dots, and zigzags patterns-elements that may reflect confusion, frustration or an internal struggle in articulating her ideas visually.

3.5. Wimba and Stages of Development

Finally, *wimba* can offer valuable insight into a child's developmental stage, both cognitively and emotionally. Children in earlier developmental phases tend to depict objects in simplified, symbolic form. As they grow, their designs often become more complex and abstract. In Motif 6, Thomas repeatedly uses a single type of stroke, which may signal that he is currently focused on developing fine motor skills rather than exploring complex emotional or conceptual themes.

By analyzing *wimba* in the digital motif designs of children with special needs, we gain valuable insight into how they express themselves, their emotions, and their thought processes. Each visual element-such as shape, line, color, and composition-serves as a reflection of the child's personality, emotional condition, and stage of development. This analysis not only deepens our understanding of the child's inner world but also provides a meaningful foundation for developing more effective, inclusive approaches to education and therapy.

4. CONCLUSION

This study's digital motif designs created by children with special needs demonstrate that creativity can flourish with the right stimuli and support. Using Adobe Photoshop, these children produced unique works of art and conveyed their emotions, ideas, and personal perspectives. Their designs offer valuable insight into how creativity can be a powerful tool for nonverbal communication and self-expression, particularly for children who experience verbal or motor communication challenges.

In the digital motifs they create, the personality traits of children with special needs can be interpreted through a visual language approach. This method not only helps teachers

understand the children's emotions and thought processes but also offers valuable elements such as shape, line, color, and composition, Educators can better tailor learning strategies to support each child's unique needs. For example, a child who consistently uses symmetrical and highly structured designs may prefer order and predictability. In such cases, teachers can introduce stimuli that gently encourage flexibility and imagination, such as activities involving freer or more diverse color palettes. Conversely, a child who frequently creates abstract and expressive designs may demonstrate a high level of creativity yet may also require support in self-regulation and emotional articulation. For these children, structured guidance combined with opportunities for open expression can help balance creativity with emotional development.

By understanding the meaning behind digital motifs created by children, teachers can design a more inclusive and adaptive learning environment. This approach enhances children's motivation and engagement in the learning process and supports their emotional and social development. Creative activities such as drawing, designing, and conceptualizing can bring joy to children, especially when they are free to express themselves using digital tools in imaginative and intuitive ways. Unlike manual fine arts activities such as painting or drawing, which require the preparation of physical tools and materials, digital methods often allow for quicker adaptation and easier access. As a result, children may demonstrate different levels of sensitivity and engagement depending on the medium. In digital environments, children can more easily navigate the tools provided by the software without needing extensive time to adjust. In contrast, manual methods often require children to go through multiple stages of sensory adaptation and motor coordination. For instance, drawing a line with a pencil differs significantly from using a brush, and choosing colors manually involves understanding how to mix primary, secondary, and tertiary colors. Likewise, mastering application techniques such as producing thick or thin strokes takes time and practice and cannot be achieved instantly.

Based on the findings of this research, the sensitivity of children with special needs should continue to be nurtured to enhance the quality of their drawing skills in digital and manual formats. Each approach offers its strengths and benefits, and the role of the teacher is crucial in fostering creativity, imagination, and emotional awareness in the learning process. Teachers must be intentional in selecting appropriate materials and techniques and introducing a variety of drawing methods so that children can experience the emotional responses that arise from interacting with diverse tools, media, and surfaces. By offering a rich and varied artistic experience, educators enable children to explore and express their creativity more freely. Engaging with different textures, tools, and processes, digital or traditional, develops technical skills, emotional sensitivity, and personal expression, all of which contribute to a deeper and more meaningful artistic journey.

This study has several limitations that should be acknowledged. First, the small sample size consisting of only six children with special needs who are hearing impaired or deaf limits the generalizability of the findings. While the insights gained are valuable, they may not fully represent the broader population of children with special needs. Additionally, the study's focus on digital tools, specifically Adobe Photoshop, may not encompass the full range of abilities, preferences, or learning styles of children with different disabilities.

Additionally, future research could explore the use of other creative tools and media manual art activities or emerging technologies like augmented reality (AR)-to examine how different approaches influence the creative expression of children with special needs. Investigating these alternative methods may reveal new insights into how various tools support or challenge different sensory, cognitive, and motor abilities. Moreover, future studies could examine the role of collaboration among teachers, therapists, and parents in fostering children's creativity and developing more inclusive and adaptive learning environments. A

collaborative approach could provide more comprehensive support systems tailored to each child's needs. By addressing these limitations and broadening the scope of research, we can deepen our understanding of how creativity functions as a powerful tool for supporting the emotional, cognitive, and social development of children with special needs. Such work will not only enrich the academic discourse in inclusive education but also offer practical strategies to enhance these children's quality of life and learning.

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