Chapter # 11

PRINTMAKING ART APPLICATIONS FOR CHILDREN WITH SPECIAL NEEDS

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ABSTRACT
In applications where art is used as a psychoeducational intervention method in schools with various techniques. This study aimed to determine the application levels of simple printmaking techniques applied by children with special needs during art activities and to guide special education teachers and families while performing these applications with children through the results of this study. The research was conducted with 40 children who were receiving education in a special education center in Nicosia, selected by the purposeful sampling method. The research method is qualitative research and has a case study design. The data were analyzed in 5 categories: simple printmaking, techniques that children can do without needing support, they need support for, what kind of support they need, their reactions to the drawing activity, and whether the application tells its story. As a result, it was determined that children can perform techniques that they apply with direct contacts, such as hand printing, without needing support, that they need support in techniques such as citrus printing, that they need more support such as modeling, that they participate in activities with pleasure, and that they use mostly emotional nonverbal expressions in telling their stories due to their language developmental disabilities.

Keywords: art education, developmental disability, printmaking, psychoeducational intervention.

1. INTRODUCTION

This chapter deals with children's art. Art methods that have survived for centuries, such as printing techniques, are activities that human children are interested in and benefit from throughout their developmental processes. Inclusive quality education is the most fundamental human right for all children. The first human rights treaty to explicitly refer to the concept of inclusive quality education is the Convention on the Rights of Persons with Disabilities, adopted by United Nations member states in 2006 (Corradi, Crippa, Drasute, Sgaramella, & Ferrari 2022). In this chapter, the printmaking technique, one of the educational art activities, is based on the rights-based education framework. Hand prints made on cave walls by early humans thousands of years ago can be considered archetypes of printmaking art. While printmaking is used as an original art form in Japan and China, in Europe it is mostly considered as a reproduction. The art of printmaking is directly related to technique and material. Technical developments and innovations in these areas affect printmaking in terms of both aesthetic and technical success (Grabowski and Fick, 2012). Printing is the process of creating works of art, usually by printing on paper. Printing involves the process of creating prints that have an element of originality, rather than being a photographic reproduction of an image. Except in the case of monotyping, this process is

capable of producing multiple copies of the same piece, and is called a print. Each print produced is considered an "original" work of art and is properly referred to as an "impression" rather than a "copy" (this meant a different print that copied the first print, common in early printmaking). Often the impressions vary considerably, whether intentionally or not. The images in most prints are created for this purpose, perhaps through preparatory work such as a drawing. A print that copies another work of art, especially a picture, is called a "production print". Prints are created by transferring ink from a matrix to a sheet of paper or other material, using various techniques (Ahuja, 2021). Art fields have been used as a means of treatment and healing since ancient times. Printmaking is an ancient art form, used for healing and education. In education, techniques like drawing, painting, and printmaking aid development and emotional regulation. Art activities are also included in the curriculum in education both to support development and as a psychoeducational intervention tool. In this context, one of the important points to be considered is that the materials and tools of the technique to be applied are suitable for the development of the target audience (Yazgin, 2010). Printmaking offers several advantages for children. In a sense, printmaking is a second-chance art. If the first print fails, reprints are made again and again, and the best is ultimately retained. Printmaking is an art form that promises surprises. Some students may not appreciate surprises, but others eagerly await the results to see what they will encounter. While it may be difficult to implement in large classes, it can be collaboratively worked on with interested students simultaneously. This also encourages children to engage with each other (Douglas & Jaquit, 2019). Art activities should be an integral part of absolute education as a psychoeducational intervention tool in schools (Rihter & Potočnik, 2022). The techniques frequently preferred in education are drawing with charcoal, pastel, watercolor, oil painting, acrylic painting, sculpture, marbling art, ceramic making, tile painting and printmaking techniques. Based on the knowledge that art activities in education are effective in supporting the development of the individual the main problem of this research is the application level of simple printmaking techniques applied by children with special needs who are studying in a private special education school during their art activities. This study investigates the application levels of simple printmaking techniques by children with special needs. It aims to guide special education teachers and families in using art as a psychoeducational intervention tool. To determine which simple printmaking techniques children with special needs can apply. To evaluate the level of support required for each technique. This research is important in different aspects as it concerns the best interests of the child in education. Education is for everyone. It is known that art activities in both art education and general education are effective in ensuring the balanced development of people in all aspects. Art activities are a mechanism that keeps intuitions and memories in the memory. It eliminates despair by keeping beautiful and pleasing things in mind. It helps to cope with difficulties. It acts as an emotional regulator. It serves to concretize the ideas that the child cannot verbalize or define. It expands the child's vocabulary and allows him to gain perspective (Botton & Armstrong, 2013). However, since the techniques and practices mentioned are not suitable for the development of children, there will be negative consequences such as failure, disappointment and loss of self-confidence, it is important to underline that the results of this research will provide guidance to parents and teachers.

When art materials are adapted to children's developmental levels, children's autonomy is encouraged, and physical modeling is provided when necessary, art can serve as an emotional and communication bridge with its developmental pedagogical effects.

1.1. Limitations

This study was conducted with children with special needs. During the applications conducted for the purpose of collecting data, the researcher, who was a printmaking expert, could not be directly involved in the process. Since working with people they do not know, who are a sensitive group, would have negative effects, the applications and information about the techniques were conveyed to the special education teachers by the printmaking expert. The applications were carried out by special education teachers. While this caused a limitation in one respect, the fact that they worked with their own teachers also had a positive effect. Another limitation was that during the period when the applications for the purpose of collecting data began, education was interrupted several times, albeit briefly, due to intense Covid-19 cases. Participant profile is limited to children with neurodevelopmental disorders: 24 children (incl. autism, ADHD, etc.), neurological disorders: 2 children, comorbid disorders: 11 children, genetic/special conditions: 1 child, speech/language disorders: 2 children.

2. MATERIALS AND METHODS

In accordance with the ethical procedure of the research, the ethics committee (Near East University) permission was obtained first. After obtaining the ethics committee permission, the school administration and a teacher were informed about the research procedure and the families were informed and their consents were obtained through the school administration. The research method is qualitative research and has a case study design. The data recording form developed by the researchers was used as the data collection tool in the research. The data were analyzed in 5 categories: simple printmaking techniques, techniques that children can do without needing support, techniques that they need support for, what kind of support they need, their reactions to the drawing activity, and whether the application tells its story.

2.1. Participants

The research was conducted with 40 children aged between 4-13 who were receiving education in a special education center in Nicosia, selected by the purposeful sampling method. A classification of the types and levels of special needs of individuals is grouped under four main headings: neurodevelopmental disorders, neurological disorders, comorbid disorders, and speech and language disorders. There is also a category of genetics and special conditions. The group of students with disabilities is diverse. The only thing they have in common is a disability that prevents them from taking advantage of the general education without specialized support. Although the age ranges of the children were wide, the children's ages were not taken as a criterion variable since the aim was to examine the participation and ability levels of simple printmaking techniques, not age categories.

2.2. Data Analysis

The order of techniques in the data record list is; from those that do not require formatting template material, from those that are easy to format templates to those that are difficult to format. The order is made in the form of techniques with low to high variety of tools and equipment, while the tools used are ranked from easy to difficult in terms of use. The grouping is made from simple to complex. In the order made by taking these criteria into consideration, simple printmaking techniques are in the following order:

Prints made without material

- Hand print
- Finger print

Prints made by tools

- Steel wool print
- Sponge print
- Paper print
- Fabric printing
- Brush print (1.5/ 2 inch.)
- Brush print (15/20 no.)
- Stencil print
- Rope print

Printing with natural materials

- Citrus print
- Onion press
- Apple print
- Leaf print
- Potato print

3. RESULTS

A classification of the types and levels of needs of the children included in the study is grouped under four main headings: neurodevelopmental disorders, neurological disorders, mixed (comorbid) disorders and language and speech disorders. There is also a genetic and special conditions category.

A total of 24 children are included in the neurodevelopmental disorders category. The most common condition in this group (n=12) is autism. Autism is followed by attention deficit and hyperactivity disorder (ADHD) with 3 children. Developmental delay, hearing impairment/disability, mental disability/disability and attachment disorder-attention deficit conditions are each present in 2 children. Learning disability was detected at a lower rate in 1 child. There are 2 children diagnosed with epilepsy in the neurological disorders category. There are 11 children in the mixed (comorbid) disorders category. The most common combination in this group is autism and ADHD (n=4). Other combinations included ADHD and epilepsy (n=1), ADHD and developmental delay (n=1 individual), epilepsy, ADHD and autism (n=1), epilepsy and developmental delay (n=1), epilepsy and Dravet syndrome (n=1), autism and attention deficit (n=1), and autism, Down syndrome and intellectual disability (n=1). There was only 1 child in the genetic and special conditions category, who was diagnosed with Down syndrome.

Finally, 2 children were diagnosed with delayed speech in the speech and language disorders category.

3.1. Findings regarding Prints Made without Tools, with Tools, with Natural Materials

Table 1.
Results of printing without using any tools.

		Techniques applied without needing support	Techniques applied with needing support	Techniques applied with excitement/eagerness
	Application Success	**n**	**n**	**n**
Hand printing	Successful	35	14	30
	Unsuccessful	5	26	10
Finger print	Successful	34	14	28
	Unsuccessful	6	26	12

In general, children's autonomy levels and motivation levels were important determinants of success in hand and finger print art applications. The failure rate increased significantly in applications requiring support. On the other hand, the success rate was high in children who practiced with excitement or enthusiasm. This situation shows that children's emotional and physical support needs in technical applications should be evaluated correctly. Encouraging children's autonomy and increasing their motivation in hand print technique can be considered as an effective strategy in increasing the success rate. Three of the children among the participants refused to apply these techniques.

Sample quotes from teachers' statements in the category of techniques applied willingly (with excitement) by participating children:

C.6. "*A child who loves to draw... enjoyed all the activities very much. All the activities seemed different to .. wanted to smell it constantly because the smell of onion only attracted her attention in vegetable prints".*

C.13*." We did simple printmaking techniques between classes. C.13 enjoyed doing these practices because C.13 perceived them as a reward. I think it was therapy for C.13".*

C.18 *"Successfully painted and practiced simple printmaking techniques with patience and enthusiasm. He wanted to paint and print again and again. He wanted to take his works home. He enjoyed them very much despite practicing them with physical support".*

C.36 "..did all the simple printmaking techniques with great pleasure. C.36 applauded constantly to express his feelings".

C19 *"Enjoyed touching the paint with his hands while practicing hand and finger printing techniques. He was very excited to see different colors forming in his hands. He wanted to mix the paints constantly".*

Table 2.
Findings regarding the printing done by children with special needs using tools.

		Techniques applied without needing support	Techniques applied with needing support	Techniques applied with excitement/eagerness
	Application Success	**n**	**n**	**n**
Steel wool print	Successful	21	11	12
	Unsuccessful	19	29	28
Sponge print	Successful	31	11	21
	Unsuccessful	9	29	19
Paper print	Successful	24	12	13
	Unsuccessful	16	28	27
Fabric print	Successful	22	14	10
	Unsuccessful	18	26	30
Brush print (1.5/2 inch)	Successful	10	12	3
	Unsuccessful	30	28	37
Brush print (15/20 no.)	Successful	11	12	3
	Unsuccessful	29	28	37
Stencil	Successful	3	7	8
	Unsuccessful	37	33	32
Rope print	Successful	25	15	14
	Unsuccessful	15	25	26

Sponge printing, paper printing and rope printing were techniques that children practiced more successfully than other techniques, had higher levels of excitement and desire, and required less support.

Table 3.
Findings regarding the printing with natural materials.

		Techniques applied without needing support	Techniques applied with needing support	Techniques applied with excitement/eagerness
	Application Success	**n**	**n**	**n**
Citrus print	Successful	11	8	5
	Unsuccessful	29	32	35
Onion print	Successful	17	11	11
	Unsuccessful	23	29	29
Apple print	Successful	17	10	11
	Unsuccessful	23	30	29
Leaf print	Successful	23	15	15
	Unsuccessful	17	25	25
Potato print	Successful	28	15	20
	Unsuccessful	12	25	20

Figure 1.
Examples of children's prints.

Among the printing techniques where natural materials are used as tools, the techniques that children prefer the most and have successfully applied are leaf printing and potato printing techniques.

As a result, when the average durations of the activities on which children spend the most time among all printing techniques are examined, it is seen that the highest rates are hand, finger, potato and sponge prints, while the least time is spent on stencil, citrus and apple prints.

4. DISCUSSION

All fields that can be applied without being a professional in art can be used as psychoeducational intervention tools in schools. Art provides students with disabilities with a positive and empowering way to express their ideas. This non-traditional way of communicating allows students to express themselves in ways that often transcend their limitations. In this way, art serves as a vehicle for addressing inequalities (Schwartz & Pace, 2008). In art education programs Printmaking techniques can be used effectively with children with special needs. Techniques should be selected based on ease of application and emotional engagement. Here, it is important that the techniques are well known by teachers and are appropriate for the developmental levels of the children.

Art serves as a powerful tool for learning, expression, and healing. In this context, one of the important points to consider is that the materials and tools of the technique to be applied are suitable for the development of the children (Yazgın, 2010). In this study, 12 different printmaking techniques in three categories were presented for the use of children with special needs. Various studies in the literature indicate that the printmaking art can be an effective tool for art therapies in terms of helping with spontaneity and expression of emotions the themes of this multi-step process align with the three Rs of recovery: remediation, restoration, and reconnection, as well as its underlying precondition of hope. (Morton, 2019; Paddock, 2020). Corradi et al. (2022), report that the Covid-19 pandemic has forced schools to accelerate the digitalization process, further deepening existing educational inequalities and increasing the number of students affected by mental health problems worldwide. In response to these serious problems, the OECD calls for the identification of inclusive education strategies that address both learning and emotional issues. Specific applications of arts education enable these strategies to be effectively implemented. Corradi et al. (2022) demonstrate the benefits of arts education for children through their InCrea project, "Inclusive Creativity through Educational Artmaking," an innovative educational approach focused on universal design for learning principles and inclusive creativity through educational art production. In parallel with this study, children participated in the majority of the 12 different printmaking techniques with excitement, curiosity and desire, and expressed their pleasure and happiness by patiently painting, with gestures such as applauding. White (2002), outlined the historical, educational, and healing contexts of printmaking. As a result of this research, children's high level of participation and satisfaction in printmaking activities using both their hands and fingers and various tools and natural materials can guide teachers in making more place for printmaking art activities in the education programs of children with special needs. Engelmann, Kappel, and Kerry-Moran (2018) reported on how pre-service teachers can cultivate art for their future classrooms by using a two-stage method in an early childhood and special education program that transformed pre-service teachers' attitudes toward visual arts and art integration. The researchers reported that pre-service teachers who had no prior art education and were resistant to abstract painting began to enjoy it and appreciate the value of art for children's learning. They recognized visual art as a tool for supporting social development and children with special needs, understood the importance of process in children's art experiences, and considered ways to integrate art throughout the curriculum.

Mareza, Mumpuniarti, Suwarjo, Mustadi, and Dewi (2025) state that, based on the results of scientific research, inclusive, multidisciplinary, multisensory, simplified instructions and individualized educational strategies in art education are effective in the benefit and participation of children with disabilities. Researchers also point to weaknesses in education, particularly inadequate materials and teacher training. This highlights the need for arts education programs. Consistent with the results of this study, it is important to emphasize that teacher educators and teaching artists should include art in teacher education programs to prepare future teachers to integrate art into their future classrooms. Teaching students with disabilities is a requirement for all teachers, regardless of their subject-matter expertise (Mareza et.al., 2025). Since human society began, the arts have helped humans reconcile the eternal conflict between their instincts and the demands of society. Therefore, the arts are therapeutic in the broadest sense of the word. School should be a place that prioritizes the well-being of the child. Therefore, art serves as a qualified tool in education.

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