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Art Education, Therapy Interventions and School Management in Autism

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Abstract: A variety of research has shown that involvement in the arts increases student achievement across all subject areas, as well as social and adaptive skills. Accordingly, special education and art integration might be beneficial on many levels for individuals with ASD as well. This study aims to determine the trends in the studies on autism and arts through content analysis and discuss the role of school management in art education for individuals with autism. Several databases were examined in the study in order to carry out the content analysis in order to provide a review of on the studies related with art interventions in Autism Spectrum Disorder (ASD). Articles published in academic databases were examined based on certain criteria including year of publication, research subject, sample, name of the journals, authors in the studies. Data were analyzed based on content analysis method. Results are discussed with reference to relevant literature and implications for further research and practices are also provided.

Keywords: *Autism spectrum disorder; art; art education; intervention; review.*

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1. Introduction

In today's world, there is a close relationship between education, science and arts. Art is one of the most important part of peoples's lives in the past, today and in the future. In most general terms, art could be described as the methods used to express an emotion, design or phenomenon (Silverstein & Layne, 2010; Yolcu, 2018). Accordingly, Naughton, Biesta and Cole (2017) stated that teaching arts is also important for exploring and discovering the new in line with the aims of education and science. Art education is the field of education which contributes to people in terms of gaining positive personality characteristics, internalizing humanistic values, becoming sensitive about the society, coping with the negative situations, self-fulfilment and acquiring esthetics value and perspective.

Art education is not only for individuals who prefer arts education or make artistic activities; it is an essential phenomenon for all individuals living in a society (Duncum, 2001; Buyurgan, 2007). In addition, Cahnmann-Taylor and Siegesmund (2017) stated that art education incorporates theoretical and practical studies related with arts education from preschool to higher education and it involves many branches such as arts, music, sculpture, architecture, graphic arts, industrial design, fine arts, cinematography, fashion design and video art. Furthermore, there are several methods in art education which have technical characteristics such as drama, analysis and merge, visual activities and computer assisted methods (Ramamoorthi & Nelson, 2011; Kirisoglu, 2014).

Art is very important for individuals to express themselves and to create aesthetic perceptions. It is known that art develops creativity, enables individuals to produce practical solutions to problems and helps students to relate to other courses with its interdisciplinary role. Derby (2011) mentioned that the visual arts course at a young age also develops fine and gross motor skills and establishes eye-hand coordination. The limits of art are so wide; it is even used today for therapeutic purposes. Treatment with art increases the physical, mental and sensory well-being of people through various applications.Art, especially painting, helps children to express their mental health. It enables them to develop a sense of responsibility and cooperation, solidarity and sharing in individual or group work, and feelings and behaviors such as love, respect and cooperation between each other and gain technical knowledge and skills about formal expression. It enables the child to learn by doing and prepares the child for the stages of learning with

versatile stimuli (Lusebrink, 2004; Malchiodi, 2011; Demir & Demir, 2018; Martin *et al*., 2018; Bal, 2019; Chiang, Reid-Varley & Fan, 2019).

Special education is the form of education provided by specially trained professionals in appropriate educational environments with individualized education programs and methods based on their individual abilities and requirements in order to fulfil educational and social needs of individuals with special needs (Cook & Oldom, 2013; Wilmshurst & Brue, 2018). Individuals with special needs are individuals who show significant differences from their peers in terms of developmental characteristics and competencies. According to Salderay (2012), art education is really important for individuals with special needs to gain individual identity, experience the feeling of success, increase self-confidence and encouragement, adapt to social life, enable hand-eye-brain coordination, develop and regulate emotional structure, improve self-expression abilities, increase ability of percetion, develop fine and gross motor skills and make comparison and metaphors.

The importance and necessity of art education for individuals with autism spectrum disordershould first be adopted by school managers, supervisors, educators and parents. School managers and teachers should be involved in art education and intervention activities for students with autism. First of all, it is important that the management staff believe, adopt and support art education. For this reason, it is a realistic and beneficial way for school managers and teachers to approach the solutions by supporting art education for students with autism to the practice, theory and education of art. Art education is an area where problems are experienced for many reasons. These problems arise mainly from general education policy, curriculum, managers, teachers, physical structures of schools. This prevents art education from reaching its goals.

In general, the attitudes of managers, supervisors, other teachers and parents who perceive and interpret art such as emotional relaxation, discharging, pleasure, reflecting beauties, exhibiting talent have reduced the position of art education to the occupation of leisure time. School managers and teachers should be aware of the importance and necessity of art education and that it is an important activity in the life of the child with autism. If art is an important element in special education institutions, they should not ignore the development of human life, experience and aesthetic aspect for a qualified, balanced education. It is very difficult to limit art education to forty minutes in schools and to achieve the positive developments expected in our students with insufficient physical equipment. This is because one of the tasks of the visual arts teacher should inform and

educate students, colleagues, managers, families and other members of society (Ture, 2007).

Furthermore, art education and therapy interventions help individuals with special needs to develop esthetics, emotions and values and acquire and generalize knowledge and academic skills such as basic mathematical skills and daily life skills (Hourigan, 2014; Dunn-Snow, 2015). Individuals produce a product or a work of art with artistic activities and one of the most basic goal of art education is to improve individuals' social and communication skills. At this point, it could be inferred that art contributes to individuals with special needs in terms of acquiring independent living skills in the society which is one of the most important goal of special education. Integration of art into special education enhances many skills of individuals with special needs and ensure permanence and generalization of these acquired skills (Epp, 2008).

Autism Spectrum Disorder (ASD) is a disorder that manifests symptoms in early childhood and prevents the development of the brain that causes lifelong, impair social interaction and communication, and leads to limited and repetitive behaviors (DSM-5 American Psychiatric Association, 2013). Children with ASD have problems in attention gathering, coping with problems and keeping in memory and these problems primarily affect their social lives as well as their academic success (Tekin-Iftar & Degirmenci, 2012).

Today, children with the diagnosis of ASD are given various supportive and alternative treatment methods (music therapy, art therapy, dolphin therapy, hippo therapy, hydrotherapy etc.). According to recent studies, researchers divide supportive and alternative treatment methods into three main groups (Riesgo, Gottfried & Becker, 2013; Kircaali-Iftar, 2015):

a. Promising therapies: This treatment method, which gives very good results, includes music therapy, art therapy, imitation based education, naltrexone and acetyl-cholinesterase inhibitors and so on. comprising.

b. Treatments with a certain degree of scientific evidence: This treatment group includes carnitine, ocytocin, vitamin C, tetrahydrobiopterin, adrenergic alpha-2 agonists, as well as hyperbaric oxygen therapy, immunomodulatory therapy, and anti-inflammatory therapies.

c. Treatments with no scientific evidence: This treatment group includes carnosine, multivitamin and mineral complexes, omega-3 fatty acids, selective diets, auditory integration training, neuro-feedback, acupuncture, dolphin therapy, hippo and hydro therapies.

Children express their feelings and thoughts with shapes and colors by using various tools and colors through art education. According to

Osborne (2003), art intervention for autism has two aspects including both educational and therapeutic outcomes. In other words, art workshops (painting, music, theater and dance sessions) in the daily education programs of individuals with ASD are obligatory in terms of therapeutic effect. Art is a very special and important channel for the self-expression of individuals with autism and for meeting with others individuals. In addition, children's use of non-verbal expression encourages them to share their experiences. Figures represent objects, and a drawing with a purpose can encourage contact with the object of the child with ASD. There are various positive outcomes of art education for individuals with ASD and these can be listed as follows:

- They gain sensory experience and sensory relaxation occurs.
- They learn to analyze and explore.
- They develop skills to express themselves individually.
- Their imagination develops and they become more sociable.
- They gain skills and their attention span increases.
- They develop eye-hand coordination and enhance big and small muscles.
- They acquire new ideas, learns new concepts and develop sensory abilities while using creative tools and materials.
- It leads them to manage to plan, implement and finalize their own work and increase self-confidence.
- They use time constructively and enjoy through an activity (Kellman, 2001; Schweizer, Knorth & Spreen, 2014;Gabriels & Gaffey, 2012;Ozcan, 2015; Alter-Muri, 2017).

Art works, in the most general terms, aim to support the mental and emotional development of children diagnosed with autism through art activities. Art works provide concrete outputs in areas such as improving life skills, eliminating behavioral disorders, eliminating problem behaviors, and improving the child's self-expression processes.There are some specific art activites which can be used for children with ASD. These might include painting, finger-printing, ceramics and clay and other kneading materials. Children with ASD express the connections between the inner world and the outer world through painting activities (Josefi & Ryan, 2004; Karim & Mohammed, 2015; Snapp, 2017).The picture relaxes the child emotionally and sometimes pictures about the child's inner world give us clues. Finger-printing provides emotional relaxation without any means of sensory satisfaction. First, the child plays shyly by inserting a finger in a short time with wide arm and hand gestures spread the paint on paper. Ceramics, clay

and other kneading materials are essentials of art workshops. Rolling, punching and easily shaped kneading agents help the child relax (Kim, 2009).

The materials used in art works can also provide the child with a sense of satisfaction and relaxation in the field of sensory integration (Case-Smith & Bryan, 1999; Dunbar *et al.*, 2012). There are several important reasons why artwork is beneficial for individuals with autism. One of the most significant symptoms of autism is the difficulties in communication. Individuals with a diagnosis of autism often have difficulty in verbal communication and language. For individuals who have difficulty expressing themselves in language and words, art offers a different channel that allows them to express themselves directly. Since most people with autism have a stronger visual memory, using visual art has positive effects for them. The child's ability to express himself through art makes him a more comfortable and happy individual than the first day (Silverman, 2008).

Malley (2014) expressed that art works also reduce the difficulties of the autistic child in social communication and strengthen their communication with their peers. During art activities, positive effects arise in terms of understanding others 'perspective, taking turns, and 'looking' at others' art productions and seeing other perspectives. Artwork is an effective process used to reduce autism and symptoms associated with autism. It relaxes the child in the areas of communication, emotional development and sensory integration and enables the child to express himself / herself.

A variety of research has shown that involvement in the art increases student achievement across all subject areas, as well as social and adaptive skills and special education and art integration might be beneficial on many levels for special needs students as well. Given the importance of art education and therapy in the lives of individuals with special needs in terms of enhancing their daily living skills; this study aims to determine the trends in the studies on autism and art through content analysis and discuss the role of school management in art education for individuals with autism.Considering the positive learning outcomes and therapeutic effect of art activities for individuals with ASD, it is important to reveal the current trends in the scientific studies regarding art interventions in autism to shed light for future research and practices regarding art and autism.

2. Method

2.1. Research Model

This study used content analysis as a qualitative research method in order to analyze the published documents on arts and ASD in Google

Scholar, ULAKBIM and DergiPark databases which are academic databases that indexes a wide variety of journal sources. Content analysis is defined a method which involves organization, categorization and comparison of verbal or written materials and inference of outcomes from these materials and it is frequently used in educational and social sciences (Karasar, 2005; Cohen, Manion & Morrison, 2007).

2.2. Data Collection

Google Scholar, ULAKBIM and DergiPark were selected as the database for the study. The published documents were obtained through searching keywords "art" and "autism" in order to reveal the current situation and trends in this area. A total number of 6 published documents were searched, identified and obtained based on the search for the study.

2.3. Data Analysis

The obtained published documents which were obtained based on a comprehensive literature review were analyzed especially based on aim, participants, results, implications and publication of journal.

3. Results and Discussion

The research which were included and analyzed in the study are shown in Table 1. Author(s), subject, study group and journal of the published documents on autism and art are demonstrated.

Table 1. Research on Art Interventions for Autism

Research on the related subject	Research subject	Study group	Journal
Ozorak (2019)	Views of teachers on the effects of child songs for speech problems among children with autism	4 special education teachers, 1 guidance and psychological counseling specialist, 1 school principal, 1 music teacher	Afyon Kocatepe University Academic Music Research Journal
Sensoy (2017)	Designing a sensory garden for individuals with	Literature review	Inonu University Art and Design Journal

	ASD		
Pektas (2016)	Importance of music education for children diagnosed with ASD	Literature review	Art Education Journal
Ekmen & Yukselen (2015)	Using qanun instrument as a communication tool for children diagnosed with ASD	2 children diagnosed with ASD	Proceeding Book of International Art and Health Symposium
Girli & Sabirsiz (2011)	Effect of "Teaching Emotions through Pictures" program on emotion recognition skills of children with ASD	3 children diagnosed with ASD	Ankara University Education Sciences Faculty Special Education Journal
Senel (2009)	Effect of sport and art activities on communication of children with ASD with their peers	2 seperate groups consituted from Children with ASD and their peers	Ankara University Education Sciences Faculty Special Education Journal

It has been revealed in many current studies that music education or music activities for children diagnosed with ASD have lasting positive effects in many of their developmental areas (Shi, Lin & Xie, 2016; Dieringer *et al*., 2017; LaGasse, 2017; Gottfried, Thompson, Elefant & Gold, 2018; Mossler *et al*., 2019). In the study carried out by Ozorak (2019), it was aimed to determine whether selected children songs used together for the treatment of speech disorders seen in children with ASD are effective. It was found that In this study, the selected children songs were supportive in the treatment of speech disorders among children with ASD. Although song is not sufficient by itself, but it is concluded that children songs are both a solution providing method for speech problems and a supportive element by teaching the concepts mentioned in the songs by means of speech therapy or language-speaking lessons. Within the scope of the research, two children with ASD participated in one-to-one therapy sessions during a school year in

a Special Education and Rehabilitation Center affiliated to the Ministry of Education. In the sessions carried out with children, plays were applied through songs and rhythms which wereconsidered to contribute to their level and speaking skills.At the end of this study, based on the fact that genetic, physical or environmental factors that cause speech disorders require therapy studies, it is concluded that children songs can be a supportive implementation in the education of children with ASD.

In the other study examined, Sensoy (2017) described how a sensory garden should be designed for individuals with ASD and what features the sensory garden should have. Benefits of sensory gardens for the individuals with ASD and how sensory gardens based on a literature review should be designed were mentioned. As a result, it was stated that sensory gardens should be designed as a supportive green area covering the therapeutic procedures.Providing playgrounds for individuals with ASD that take into account their perceptions and sensory problems allows them to gain the benefits of playing outdoors while relieving some of their symptoms. When the sensory garden samples were examined, it was observed that the attention duration of indviduals with ASD who spend time in the natural environment increased, their reaction times decreased and behavioral temperament improved.

Pektas (2016) provided a literature review on the importance of music education for children with ASD and revealed that a broad number of studies showed that music education or music activities for children with ASD have a lasting positive impact on many of their developmental domains. It also plays an active role in minimizing problem behaviors that manifest themselves in many of children with ASD. For those children who do not communicate much with the outside world, music is the one of the most enjoyable communication tool. It has been proved by research that we can teach a concept or skill we want to teach children with autism sometimes faster and more permanently through music.

Furthermore, Ekmen and Yukselen (2015) aimed to investigate whether music, especially the qanun instrument, has an effect on the communication and interaction skills of children with ASD who have social interaction problems.Two children with ASD participated in the research. In the first session; K. did not make eye contact, did not look at the instrument, did not establish eye contact, and displayed swinging movement, irrelevant reactions, began to shake his head after a while and was bored. However, it was observed that he was delighted and interested when he came near the law and touched the wires on both sides of the threshold with his fingers. Especially the sound of birds on the right side of the threshold attracted

attention. It was seen that E. tried to get up, talked, showed great interest in the instrument and often wanted to stand up and come to the researcher to play. It was later discovered that E., like K., tried to explore the law by playing and enjoyed it. As a result, it was concluded that using qanun insrument improved social interaction problems of the participants.

Girli and Sabirsiz (2011) investigated the effect of "Teaching Emotions through Pictures" program on emotion recognition skills of children with ASD. In the study, the "five-stage emotion teaching program" developed by Howlin *et al.* (1999) was implemented to three students diagnosed with Asperger syndrome and high functional autism teach sad, angry, happy and scared emotions with picture cards. In order to determine whether the emotion teaching program using picture cards is effective or not, multiple probe design of single-subject research method was used.It was determined the three students who participated in the study learned the targeted emotions, generalized them in different materials and preserved them to a great extent during the monitoring process.This result is parallel to the results of other studies in which children with autism are taught emotions using visual materials.

Particularly, the necessity and importance of interactions with peers of individuals with autism is known. In the last study examined, Senel (2009) presented two examples of interaction in which groups with and without autism come together through different activities. Examples of these interactions were carried out in two separate schools, a private college and an Anatolian High School. The students who volunteered to participate in the activities participated in various sports and art activities with OCEM (Autistic Children Education Center) students after a short training. For example, 18 volunteer students aged between 16 and 18 attending OCEM, 10 students aged 12 to 19, with different arts and sports activities have come together at events. Together, the two groups performed activities such as step, percussion, solo and choir music studies, playing ball, taking photos and making shapes with different kinds of dough. The results revealed that these sports and music activities increased the interaction between students with and without autism.

Art education and therapy interventions can be considered as one of the most problematic areas in special educational institutions. The problems are based on educational policies. The existence of contemporary art education among the requirements of children with autism cannot be denied. The adoption of an art-focused approach to interventions for individuals with autism spectrum disorder will lead to more positive and lasting results. Therefore, it is very important that the school administration,

which is the key point of operation in educational environments, attaches importance to art education, therapy interventions and activities and places them in their curriculum.

4. Conclusion and Recommendations

In conclusion, a literature review related to art interventions in individuals with ASD is reviewed and the aim, subject and findings of these studies are presented in the current study. In all six researches examined in the study, although different branches of art such as painting and music were discussed, it was concluded that art interventions positively affect the social and communication skills of individuals with ASD. Based on the results obtained from the study, following recommendations for further research and practices are provided:

- In this study, the keywords "autism" and "art" were used as keywords for literature review. Future studies can be carried out by using different keywords related to art such as art therapy, painting, music in different disability groups which might include mental disability, hearing impairment and learning difficulty.
- In this study, literature was searched for studies published in Turkish language. In future studies, literature can be searched in foreign sources and trends in autism and art researches in the world can be revealed.
- Current trends in autism and art researches are revealed in this study. Therefore, it may be recommended to repeat this research in different periods in the future and to determine the current research trends in that period.
- In this study, published articles in relevant databases were analyzed. Further research might examine the trends in postgraduate thesis in order to shed light for the researchers who study postgraduate.

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